

Reviews: Methods and Technologies in Fish Biology and Fisheries

Making Fisheries Management Work

Implementation of Policies for
Sustainable Fishing

Edited by

Stig S. Gezelius and Jesper Raakjær



 Springer

Making Fisheries Management Work

Reviews: Methods and Technologies in Fish Biology and Fisheries

VOLUME 8

Series editor:

Jennifer L. Nielsen

*U.S. Geological Survey,
Alaska Science Center
Anchorage, Alaska*

For other titles published in this series, go to
www.springer.com/series/6481

Making Fisheries Management Work

Implementation of Policies for Sustainable Fishing

edited by

Stig S. Gezelius

*Norwegian Agricultural Economics Research Institute (NILF),
Oslo, Norway*

and

Jesper Raakjær

*Innovative Fisheries Management (IFM),
Hirtshals, Denmark*

 Springer

Editors

Stig S. Gezelius
Norwegian Agricultural
Economics Research
Institute (NILF)
0030 Oslo
Norway
stig.gezelius@nilf.no

Jesper Raakjær
Innovative Fisheries Management (IFM)
Aalborg University Research Centre
PO Box 104
9850 Hirtshals
Denmark
jrn@ifm.dk

ISBN: 978-1-4020-8627-4

e-ISBN: 978-1-4020-8628-1

Library of Congress Control Number: 2008931412

© 2008 Springer Science+Business Media B.V.

No part of this work may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, microfilming, recording or otherwise, without written permission from the Publisher, with the exception of any material supplied specifically for the purpose of being entered and executed on a computer system, for exclusive use by the purchaser of the work.

Cover photo by Stig S. Gezelius

Printed on acid-free paper

9 8 7 6 5 4 3 2 1

springer.com

Contents

Foreword	ix
Abbreviations.....	xiii
Glossary of Fisheries Management Terms	xv
1 The Problem of Implementing Policies for Sustainable Fishing	1
By Stig S. Gezelius	
1.1 Introduction.....	1
1.2 Discourses on the Failures of Fisheries Management.....	3
1.3 Types of Resource Management.....	7
1.4 Resource Management and Distribution: The Tail Wagging the Dog?	9
1.5 What is a “Successful” Management System?.....	11
1.6 The Problem of Implementing Catch Regulations.....	12
1.7 The Problem of Implementation Drift.....	15
1.8 The Cases.....	17
1.9 What Can We Learn from a Study Such as This?.....	20
2 The Arrival of Modern Fisheries Management in the North Atlantic: A Historical Overview	27
By Stig S. Gezelius	
2.1 Introduction.....	27
2.2 1900–1960: Growing Concern About Overfishing.....	28
2.3 1960–1980: TACs Emerge as the Dominant Management Form	31
2.4 Concluding Remarks.....	36
3 Implementation of Resource Conservation Policies in the Norwegian Fisheries: A Historical Outline	
By Stig S. Gezelius	41
3.1 The Subject and the Actors	41
3.2 1945–1977: From Industry Development to Resource Management.....	44
3.2.1 Preconditions Developed Before 1945	44
3.2.2 Early Post-war Policies.....	46
3.2.3 The Development of a Legal Framework for Fisheries Management	48
3.2.4 The Emergence of an Enforcement Apparatus	54
3.3 1977–2000: The Formation of Modern Fisheries Management.....	56
3.3.1 A New International Regime for Resource Conservation.....	56
3.3.2 Catch Quotas Gain Ground as a Resource Management Tool	57

3.3.3	A Legal Framework for the Implementation of TACs – The Saltwater Fishing Act of 1983.....	60
3.3.4	Towards Alignment of Fishing Mortality with Catch Restrictions – The System Takes Effect.....	64
3.3.5	Organisation of the Resource Control	70
3.3.6	The Logistics of Information.....	76
3.4	2000 – : Globalising the Implementation Effort	77
3.5	Legitimation Strategies.....	79
3.6	Concluding Analysis: Causes of Continuity in Norwegian Fisheries Management.....	85
3.6.1	Continuity.....	85
3.6.2	The State of the Fish Stocks as a Cause of Continuity	86
3.6.3	Path Dependence and Functional Implementation as Causes of Continuity	86
The Lucky Strike of History.....	86	
Viability of Conservation Goals.....	89	
4	From Catch Quotas to Effort Regulation: Politics and Implementation in the Faeroese Fisheries	
	By Stig S. Gezelius	99
4.1	Fisheries Governance in the Faeroe Islands.....	99
4.2	The Fisheries Management Challenge.....	100
4.3	The Early Resource Management System	101
4.4	Crisis and the Requirement for Modernised Fisheries Management	102
4.5	The Effort Regulation System	107
4.5.1	Basic Features.....	107
4.5.2	Allocation of Fishing Rights.....	109
4.5.3	Fishing Days as a Resource Management Tool.....	111
4.6	Implementation of Fisheries Regulations	114
4.6.1	Implementing Fishing Capacity Policies	114
4.6.2	Implementing the Fishing Day Regime	115
4.6.3	Implementation of Measures to Protect Juvenile Fish.....	118
4.6.4	Procedures for Monitoring Fishing Mortality and Implementing Catch Quotas	119
4.6.5	Enforcement	122
4.7	How Could Effort Regulation be Adopted in the Faeroese Fisheries?	124
5	Recovery Plans and the Balancing of Fishing Capacity and Fishing Possibilities: Path Dependence in the Common Fisheries Policy	
	By Troels Jacob Hegland and Jesper Raakjær	131
5.1	Introduction.....	131
5.2	The Common Fisheries Policy.....	132
5.3	Towards a Common Fisheries Policy	134

5.4	1983 to 1992 – Muddling Through Without Change	140
5.5	1993 to 2002 – Turning the Blind Eye to an Emerging Crisis	146
5.6	Adoption of Recovery Plans – Hope for the Future?	150
5.7	Political Cleavages in EU Fisheries Policy-Making	152
6	Implementation Politics: The Case of Denmark Under the Common Fisheries Policy	
	By Troels Jacob Hegland and Jesper Raakjær	161
6.1	Introduction.....	161
6.2	The Legal and Institutional Set-Up	164
6.3	Danish Fisheries and Their Management.....	170
6.3.1	The Geographical Setting	170
6.3.2	The Fisheries and the Fish	171
6.3.3	Allocation of Fishing Rights.....	174
6.3.4	Structural Policy and the Fleet.....	179
6.3.5	Control and Enforcement.....	183
6.4	Danish Implementation Strategy – Domestic Driving Forces.....	184
6.4.1	National Room for Manoeuvre	184
6.4.2	Cleavages and Dilemmas Within Fisheries and Within Management.....	185
6.4.3	Strong Individual Actors and the Existence of Windows-of-Opportunity	188
6.4.4	Differences in Perspectives – Individual versus Collective	196
6.5	Evaluation and Implications.....	198
7	The Politics of Implementation in Resource Conservation: Comparing the EU/Denmark and Norway	
	By Stig S. Gezelius, Troels Jacob Hegland, Hilary Palevsky, and Jesper Raakjær	207
7.1	Introduction.....	207
7.2	The Development of Multiple Agendas in Fisheries Management.....	209
7.3	Mechanisms Allowing Implementation Drift	213
7.4	Mechanisms Preventing Implementation Drift	220
7.5	Conclusion	225
Index		231

Foreword

The state of the Northeast Atlantic fisheries in recent years has highlighted implementation as the Achilles heel of modern fisheries management: discards and unreported or misreported landings are in many cases recognised to effectively subvert sound conservation goals. Social science literature on fisheries management has tended to regard the implementation of resource conservation policies mainly as a question of effective enforcement. This literature regards surveillance and penalty as the key mechanism through which fishermen keep to catch restrictions and loyally report their catches. This book emerged because several years of research on fishermen's compliance had made us uneasy about this rather narrow approach to the problem of implementation. This uneasiness motivated us to widen the approach to the question of implementing conservation policies in the fisheries.

Taking Norway as an example, its fishing fleet consists of some 7,000 vessels spread along a coastline of more than 20,000 km, populated by less than 5 million people. The idea of ensuring desirable behaviour through surveillance and enforcement alone is almost absurd in such a context, as the task is impossible by any reasonable means. The Norwegian implementation system has thus had to rely heavily on the incentives provided by the rules and legitimacy created through a century of state/industry collaboration.

Different coastal states face very different conditions in terms of solving typical implementation problems such as discards and misreporting. Fisheries management systems are embedded in inert institutional and political structures and natural conditions that vary greatly among different states. Consequently, the research problem invited a comparative approach, enabling us to address variety and its causes in depth. The inertia of fisheries management systems also invited taking a historical perspective, comparing the structural conditions and processes that shaped the systems' development.

The development of this project is quite illustrative of the need to widen the perspective taken on implementation in fisheries management. In 2005, Gezelius, with his background from fisheries compliance research in Norway, contacted Raakjær, who had a background from fisheries compliance research in Denmark/ the EU, about the need for a comparative, historically-focused project that thoroughly addressed legal and administrative challenges associated with implementation of fishery resource conservation goals. Gezelius' initial idea was to compare these challenges and solutions in Norway, the Faeroe Islands and the EU. Raakjær subsequently got his colleague Troels Jacob Hegland involved. In their study of implementation in the EU context Raakjær and Hegland soon realised that the analytical perspective had to be widened even further to fully grasp the challenges of implementation in the multi-lateral context of the EU, as national political concerns and deep conflicts of interest had distinct consequences to the

implementation of conservation policies. Furthermore, in an EU context implementation of conservation policies cannot be separated from structural policies, which has added to the political sensitivity of implementation. Consequently, we had to add a new comparative dimension to the project: causes of deliberate change of political goals during implementation. It is more than likely that including more than the four cases described in this book would reveal other highly-relevant aspects of the problem of implementing conservation goals in fishing. Nevertheless, this book shall be regarded as an attempt to open a new and important research field paying careful attention to the various aspects of implementation in studies of fisheries management performance. We have no illusions in terms of providing a complete picture of this field, and we will use this opportunity to encourage other scholars to supplement our work and thus strengthen our knowledge of the often overlooked issue of implementation in fisheries management.

The research project was entitled Implementation of TACs in the Atlantic Fisheries (ITAC) and funded by the Research Council of Norway (NFR). It was carried out from January 2006 to March 2008. The research was carried out by the Norwegian Agricultural Economics Research Institute (NILF) in Oslo, Norway, and Innovative Fisheries Management (IFM), Aalborg University, located at the North Sea Centre, Hirtshals, Denmark. The research team was composed of Dr. Stig S. Gezelius (project leader) and Dr. Maria L. Loureiro from NILF, and Professor Jesper Raakjær and Troels Jacob Hegland from IFM.

This book has benefited from the contributions of a number of people outside the research team and we will in particular mention Hilary Palevsky who has commented on several chapters, and participated in preparatory discussions and provided writing assistance in relation to the comparative Chapter 7, which made it natural to include her as co-author on that chapter. We have received substantial input in turning our manuscripts into a proper book format, and we hereby express our gratitude to Dr. Frode Veggeland and Guro Skarstad at NILF for fruitful comments on Chapter 1, and Kirsten Klitkou at IFM for undertaking proof reading of Chapters 1, 5–7. Thanks also to Jens Helgi Toftum at the Faeroese Ministry of Fisheries and Marine Affairs, Jóhan Simonsen at the Faeroese Fisheries Inspection, Jakup Reinert at the Faeroese Fisheries Laboratory, Henrik Old at the Faeroese Parliament, and Óli Jacobsen at the Faeroese Fishermen's Association for their assistance in relation to Chapter 4, and Kjartan Hoydal at NEAFC for his input to Chapters 1 and 4. Thanks to Till Markus, University of Bremen, for providing useful comments particularly on the legal aspects of the CFP in Chapter 5. We are grateful to Christian Olesen, Danish Pelagic Producers' Organisation and Professor Emeritus Staffan Zetterholm, Aalborg University, for very constructive commenting on Chapter 6. Last, but not least we are thankful to all our informants in the Norwegian, Faeroese, and Danish fisheries administrations and fishing industries for setting aside time to discuss the problems of implementation in fisheries management with us. Without their input, we would never have been able to write this book together.

For all chapters authors have been listed in alphabetical order, whereas the order of the editors reflects the fact that Gezelius has undertaken the prime editorial responsibilities, and Raakjær has been assisting in this process. Finally it is our hope that you will enjoy the book as much as we did writing it.

Stig S. Gezelius and Jesper Raakjær

Abbreviations

ACFM	Advisory Committee for Fisheries Management
AdIP	Amis de la Pêche
BCF	Board for Commercial Fishing
CEC	Commission of the European Communities
CEU	Council of the European Union
CFP	Common Fisheries Policy
CPUE	Catch Per Unit Effort
DG Fish	Directorate General for Fisheries and Maritime Affairs
DAF	Danish Fishermen's Association
DoF	Directorate of Fisheries
DKK	Danish Kroner (1 DKK equals approximately 0.13 €)
DPPO	Danish Pelagic Producers Organisation
EEZ	Exclusive Economic Zone
ECJ	Court of Justice of the European Communities
EEZ	Exclusive Economic Zone
EFZ	Exclusive Fishing Zone
EP	European Parliament
EU	European Union
FAO	Food and Agricultural Organization
FIFG	Financial Instrument for Fisheries Guidance
FKA	Fartøjs Kvote Andele (vessel quota shares)
FoF	Friends of Fish
GRT	Gross Register Tonnage
GT	Gross Tonnage
ICES	International Council for the Exploration of the Sea
ICNAF	International Commission for the Northwest Atlantic Fisheries
ITQs	Individual Transferable Quotas
kW	Kilowatt
MFAF	Ministry for Food, Agriculture and Fisheries
NAFO	Northwest Atlantic Fisheries Organization
NEAFC	North East Atlantic Fisheries Commission
nm	Nautical miles (1 nm equals 1.852 kilometres)
OECD	Organization for Economic Co-operation and Development
QMV	Qualified Majority Voting
RAC	Regional Advisory Council
SSB	Spawning Stock Biomass
STACRES	Standing Committee on Research and Statistics
TAC	Total Allowable Catch
USSR	Union of Soviet Socialist Republics
UK	United Kingdom of Great Britain and Northern Ireland

VMS Vessel Monitoring System

VPA Virtual Population Analysis

WGBEAC Working Group on Joint Biological and Economic Assessment of Conservation

Actions

WWII World War II

WWF World Wide Fund for Nature

Glossary of Fisheries Management Terms¹

By-catch: catch that the fisherman takes unintentionally in addition to the *target catch* (FAO 2008). The term has, for most practical purposes, the same meaning as *incidental catch*.

Demersal fisheries: fishing for species living in the demersal zone, which can simply be characterised as water near the seabed. Cod and haddock are typical *target species* in *demersal fisheries*. Gillnets, long-lines, and bottom-trawl are commonly-applied gear in *demersal fisheries*.

Discard: To release or return fish to the sea, whether or not the fish have been brought fully on board a fishing vessel (FAO 2008). Discarded fish is often dead or dying, especially when thrown back to the sea after having been taken on board, which means that discards tend to result in unregistered *fishing mortality*.

Capacity utilisation: the extent to which *fishing capacity* is actually utilised. *Capacity utilisation* is often measured in terms of time spent fishing compared to the time that could have been spent fishing had the fleet been fully utilised (FAO 2004: 119).

Catch per unit effort (CPUE): the amount of catch that is taken per unit of *fishing effort* (e.g., number of fish per longline hook-months).

Effort regulation: formal norms (typically state regulations) that restrict *fishing effort*. The term *effort regulation* is most often used referring to restrictions on *capacity utilisation* (e.g. limitations on the number of boat-days on the fishing ground), but also applies to restrictions on *fishing capacity*. *Effort regulation* constitutes an alternative to *total allowable catch* in terms of reaching *target fishing mortality rates*.

Fishing capacity: a fishing fleet's or a fishing vessel's ability to catch fish. A fleet's *fishing capacity* may be measured in terms of the amount of fish it is able to harvest or the amount of *fishing effort* it can exert if fully utilised (FAO 2008). A fleet's *fishing capacity* is influenced by the number of vessels, their tonnage and horsepower, fishing gear technology, and fishermen's knowledge, among other things.

¹ The FAO's glossary (www.fao.org/fi/glossary/) has been the basis for the definitions used here when indicated. Some of the technical definitions have been modified to be expressed in a non-technical language and have sometimes been slightly simplified. See also www.nefsc.noaa.gov/techniques/tech_terms.

Fishing day regulations (or *sea-day regulations*): regulations regarding the number of days a vessel can spend fishing in a certain period of time. *Fishing day regulations* are a form of *effort regulation* and regulates *capacity utilisation*.

Fishing effort: the total fishing gear in use for a specified period of time (Ricker cited by FAO 2008). Simplified, *fishing effort* is a function of fishing capacity (e.g. measured in terms of GRT and KW), fishing activities (fishing time) and gear used. In effect (but not necessarily by definition), *fishing effort* is thus the product of *fishing capacity* and *capacity utilisation*. *Fishing effort* may be measured in terms of e.g. KW-days on the fishing ground (fishing days) (FAO 2008).

Fishing mortality (or *fishing mortality rate*): the proportion of a fish stock killed as a result of fishing. It is often expressed as a rate indicating the percentage of the population caught in a year (FAO 2008; NEFSC 2008).

Fishing right: a right to catch a specified quantity of fish, or proportion of the *total allowable catch* or a right to use a boat (or any other specified fishing equipment) as specified in the regulations (FAO 2008).

High-grading: the *discarding* of catch of inferior value, so that higher value fish can be landed to increase the monetary value of the catch or the quota.

Incidental catch: catch that the fisherman takes unintentionally when fishing (Clucas 1997). Incidental catch results from fishermen's limited ability to control which fish are caught in fishing gear.

Pelagic fisheries: fishing for species living in the pelagic zone, which is water that can be characterised as the open ocean, in contrast to the seabed or the coast. Herring, mackerel, blue whiting, and capelin are typical *target species* in pelagic fisheries. Purse seines and mid-water trawl are commonly-applied gear in *pelagic fisheries*.

Quota/Catch quota: a quantitative restriction on fish catch. In the context of this book, the term is general and includes *TACs*, *TAC* shares allocated to states, fleet segments, individuals or vessels, and quantitative catch restrictions (e.g. trip limits) that are applied when no *TAC* has been established.²

Structural policies: policies to regulate a fleet's size and composition. *Structural policies* usually aim to reduce *fishing capacity*. License requirements for participation in fishing are a commonly applied tool in *structural policies*. Licensing

² This definition deviates slightly from the FAO's definition of "catch quota" which is somewhat more restrictive.

schemes can be combined with e.g. buy-back programs or tradable fishing rights in order to reduce *fishing capacity*.

Target catch/target species: the type of fish that the fisherman intends to catch when fishing.

Target fishing mortality (or *target fishing mortality rate*): the political goal regarding *fishing mortality*. For example, if the goal is to harvest 20% of a stock annually, that constitutes, in non-technical terms, the *target fishing mortality*.

Total allowable catch (TAC): a political decision regarding the total quantity allowed to be harvested from a given fish stock. *TACs* are usually set annually. *TACs* are a regulatory tool for reaching the *target fishing mortality*.

References

- Clucas I. 1997. A Study of the Options for Utilization of Bycatch and Discards from Marine Capture Fisheries. FAO Fisheries Circular No. 928 FIIU/C928. Rome: FAO.
- Food and Agricultural Organization of the United Nations (FAO). 2008. www.fao.org/fi/glossary/. Accessed 18 February 2008.
- Food and Agricultural Organization of the United Nations (FAO). 2004. The State of World Fisheries and Aquaculture 2004. FAO, Rome.
- Northeast Fisheries Center (NEFSC) (U.S. Department of Commerce). 2008. www.nefsc.noaa.gov/techniques/tech_terms. Accessed 18 February 2008.

1 The Problem of Implementing Policies for Sustainable Fishing

Stig S. Gezelius

Abstract This introductory chapter outlines the research and management problems that underlie the book's case studies. It frames the implementation issue in relation to the main fisheries management discourses in social science, arguing that implementation has been a neglected field of research. The chapter subsequently outlines a typology of management systems and points to major implementation challenges associated with each type. Finally, the typology of management systems is connected to the cases selected in the study. The chapter summarises, at a very general level, the main discussions in the book.

1.1 Introduction

Prior to the introduction of 200-nautical mile (nm) Exclusive Economic Zones (EEZs) in 1977, the fish stocks of the North Atlantic were managed by the North Atlantic fisheries commissions, which mainly regulated a technical aspect of fishermen's input into the fisheries: mesh sizes. By the 1960s, however, it had become evident to managers that mesh size regulations were insufficient to meet the conservation challenges that followed in the wake of a rapidly modernising fishing fleet. This triggered a discourse on how to expand regulation beyond the traditional technical measures and impose genuine restrictions on fishing activity. Managers did not regard the choice of management form as obvious at the time, and discussed whether to begin regulating the output from fishing (catch quotas) or to develop input regulations into genuine restrictions on fishing effort.¹ Concern about the problems of distribution and of finding and agreeing on a reliable standard for estimating the relationship between fishing effort and fishing mortality² eventually led the North Atlantic fisheries commissions to opt for catch quota-based

¹ In brief, fishing effort is the amount of resources – e.g. time and gear – that can be spent on fish-catching activity. Effort regulation constitutes an alternative to total allowable catch in terms of ensuring sustainable harvesting. See the glossary for a more complete definition.

² See the glossary of technical terms for definitions of fishing effort and fishing mortality. In brief, fishing effort is the amount of resources spent on fish-catching activity while fishing mortality is the proportion of a fish stock killed as a result of fishing.

management, as described in Chapter 2. Consequently, Total Allowable Catches (TACs) became the dominant management form when the coastal states took control of offshore fisheries through the establishment of 200-nm EEZs. Catch quotas, by-catch regulations and small-fish regulations, all of which restricted the fisherman's catch, became the core of the new management regime.

In principle, the introduction of TACs was a big step forward for fishery resource conservation, because fisheries managers had acquired a tool for direct control of fishing mortality. In theory, the basis for sustainable fisheries management was further enhanced by the new EEZ regime, which brought offshore fisheries under national jurisdictions and granted control of fishery resources to the states that were most dependent on them. However, these reforms yielded few immediate results: overfishing became an increasing problem throughout the 1970s and 1980s. In the North Atlantic, it culminated in crises in several important cod fisheries in the early 1990s. FAO estimated that the number of overexploited and depleted fish stocks on a world basis grew from about 10 percent in the mid-1970s to approximately 25 percent in the early 1990s, rating the Northeast Atlantic, where the cases described in this volume are located, as one of the most severely affected areas. While the proportion of fully exploited stocks has continued to increase, the proportion of overexploited stocks has stabilised. Most of the fish stocks that account for the largest landed quantities are either fully exploited or overexploited today (FAO 2007: 29–33).

The many failures of governmental science-based management to prevent depletion of fish stocks have generated a significant amount of literature on the causes and consequences of these failures. Potential sustainability problems relating to knowledge, politics, and fishermen's compliance have all been subject to discussion. However, despite being essential to understanding the problem of ensuring sustainable fisheries management, the challenges of legal and administrative implementation of conservation policies have largely been neglected in the academic literature, inspiring this volume. There is no use in setting ambitious political targets for resource conservation, based on adequate knowledge, if the political targets are implemented subversively, and fisheries management offers many significant, and some unique, challenges in that respect.

This volume outlines some of the most important implementation challenges, as well as possible solutions, through a series of case studies. These case studies show that policies for sustainable fisheries are not associated with a unitary set of implementation challenges. However, there are typical challenges associated with specific types of management systems. An understanding of basic implementation challenges in fishery resource management consequently requires a relevant classification of management systems. This introductory chapter presents such a classification, and discusses in general terms the implementation challenges associated with each management type. Finally, the typology developed is used as a basis for classifying the cases selected for this volume.

This volume is an attempt to systematise and discuss several important questions regarding social aspects of fishery resource management. The book thus bor-

ders on several discourses regarding social obstacles and solutions to the problem of ensuring sustainability. Before proceeding to the discussion on types of management systems and implementation challenges, it is worthwhile to address a few major fisheries management discourses, and to relate our subject matter to them.

1.2 Discourses on the Failures of Fisheries Management

The enduring problem of overfishing has shaken the confidence in the ability of TAC-based management to ensure the sustainability of the Atlantic fisheries. In some respects, the discourse is back where it began in the 1960s: the efficiency of the present regime is being questioned and effort regulation is being reconsidered as an alternative route to sustainable fishing. The Faeroe Islands made a fundamental shift from catch quotas to effort regulation in 1996, and the European Union has recently included elements of the Faeroese model in its Recovery Plans for groundfish. Despite today's discourse being reminiscent of the one that took place some 40 years ago, the level of embeddedness in experience is a significant difference. It has become evident that the aim of modern fisheries management to control the natural environment through regulation of human behaviour implies great optimism in terms of knowing, predicting and controlling people and fish stocks. Efficient fisheries management presupposes that scientists provide politicians with correct predictions of fish stocks; that politicians use this knowledge to make decisions for sustainable harvesting; that the state administration implement these policies efficiently; and that the industry complies with regulations. Fisheries management is thus pictured as a causal chain of coordinated events, illustrated in Fig.1.1

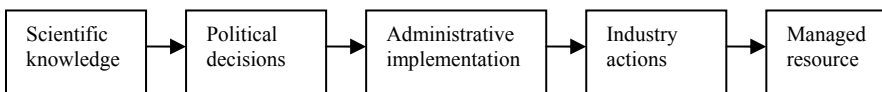


Fig. 1.1. The ideal causal chain of fisheries management

The basis for this optimistic model has been thoroughly questioned by academics over the past twenty years. The collapse of the cod stock of Newfoundland and Labrador in 1992 was blamed on faulty fisheries science (Harris 1990; Hutchings and Myers 1994; Steele et al. 1992), and social scientists addressed the socially constructed nature of apparently “objective” scientific knowledge of this stock (Finlayson 1994). Scholars have pointed to the problems of generating precise knowledge about the complex and chaotic nature of marine ecosystems, and some have challenged the idea that generalised scientific knowledge is superior to indigenous knowledge of local ecosystems (Felt 1994; Wilson et al. 1994). The political arena has also been subject to critical analysis, with some scholars pointing

to incentives for politicians to keep quotas above sustainable levels when fish stocks are diminished, arguing that distribution may have unaccepted short-term political costs for decision-makers who follow scientific advice (Sagdahl 1992; Steele et al. 1992; Gezelius 2002).

Finally, there is a large literature on the rightfulness, relevance, and effectiveness of state governance of the fish harvesting industry. Much of this has related to a general academic discourse on management of common property resources. The main source of debate is a Hobbesian justification for state governance which regards individual self-interest as an obstacle to collective rationality when private property is generated through utilisation of a common pool resource.³ In modern social theory, this idea is presented in two related versions: a model of strategic action called the “prisoner’s dilemma game” and a famous metaphor called “the tragedy of the commons”. The prisoner’s dilemma game illustrates that selfish and untrusting actors are unwilling to contribute to conservation of a shared resource as long as it is possible to exploit the conservation efforts of others.⁴ The model implies that collective action can only be ensured through efficient enforcement schemes. The metaphor of the tragedy of the commons (Gordon 1954; Hardin 1968) is a simplified version of this idea, illustrating that, in the absence of external regulation, it is unprofitable for a fisherman to reduce his fishing effort in order to conserve a resource that can be harvested by everyone. Similar to the prisoner’s dilemma game, this metaphor assumes that actors are rational and selfish. However, the model of the tragedy of the commons does not explore the actors’ strategic reasoning like game theory does, which results in an image of citizens as void of social capacity.

When regarded as analytical tools that can be used to increase our understanding of specific problems and events, the prisoner’s dilemma game and the tragedy of the commons can be useful in analyses of environmental problems. What has stirred up the academic debate is the widespread application of these models in politics as were they universally accurate descriptions of social life (Brox 1990). Two fields of fisheries management research have debated the applicability of these models. First is the literature on fishermen’s compliance, which has studied the effects of deterrence-based enforcement and alternative factors, such as citizens’ morality, on compliance (Hønneland 1998; Kuperan & Sutinen 1998; Hatcher et al. 2000; Gezelius 2002b; Nielsen and Mathiesen 2003). Second is the more general literature on the appropriateness of autonomous management by the state. Critics of autonomous state management have pointed to cases of successful community-based management of common property resources, criticising the simplistic assumptions about human rationality deployed by the tragedy of the commons and the prisoner’s dilemma game (Acheson 1975; McCay & Acheson 1987). Some of the more critical contributions have argued that the

³ A common pool resource is a resource for which there are multiple users and where use by each actor can have adverse effects upon the interests of other users (Baden 1977: 139).

⁴ For a non-technical introduction to game theory, see Dixit & Skeath 2004.

state's efforts to regulate its citizens may not only be unnecessary, but a direct cause of resource depletion through destruction of neglected social institutions (Maurstad 2000). Scholars critical of the tragedy of the commons have often advocated decentralised democracy in fisheries management, arguing that fishermen should have a genuine say in management matters. This idea has given rise to the concept of "cooperative management" of common property resources (Kearney 1984; Jentoft 1989; Pinkerton 1989; Wilson et. al. 2003). The common property discourse largely focuses on structures of authority and decision-making processes in fisheries management. However, it is also to some extent concerned with the content of political decisions, especially with regard to the institutionalisation of use rights. While neoclassical economists inspired by the tragedy of the commons and the prisoners' dilemma have advised privatisation of use rights, the cooperative management school has generally defended the common property institution. The discourse on the success factors and failures of modern fisheries management, as it relates to the causal chain outlined in Fig. 1.1, is summarised in Table 1.1.

Table 1.1. Success factors and critique in the fisheries management chain

Management level	Condition for success	Academic/public discourse
Science level	Valid knowledge	Uncertainty and the social construction of knowledge
Political level	Science-based target fishing mortalities	Decision-making procedures and willingness to make long-term priorities
Administrative level	Adequate implementation	Enforcement
Citizens' level	Compliance	Motivation and causes of compliance

In sum, actual and potential causes of the failure of modern fisheries management to create sustainability have been addressed in terms of scientific knowledge, political decision-making, and fishermen's response to regulations. However, the role of legal and administrative implementation has been insufficiently addressed in the discourse on fisheries management. The significance of implementation for successful resource management has often been reduced to a question of enforcement. This is a restrictive perspective because deliberate violations of fisheries law are far from being the only challenge in the implementation of conservation policies. One of the most pressing implementation problems regarding catch regulation does not stem from any criminal intent on the part of fishermen but from an inherent problem of fishing – unintentional fish kill. Catch which is taken unintentionally is commonly referred to as "incidental catch" (Clucas 1997). In contrast to deliberate violations of fisheries law, incidental catch creates management dilemmas in any system regulating fishermen's catches. Because monitoring and controlling fishing mortality are the fundamental tasks of fisheries management, any implementation system needs to encourage fishermen to land and register incidental catch while also preventing them from deliberately

pursuing illegal catch. Achieving this is not a simple question of enforcement. It is equally a question of constructing rules that generate incentives for desirable behaviour. In other words, implementation is not only about making fishermen comply but also about providing them with functional rules to comply with.

Monitoring and controlling fishing mortality are the core implementation tasks in catch quota-based management. The cases presented in this book illustrate that establishing a functional set of rules for the completion of these tasks is far from simple. Multiple factors need to be taken into account when establishing rules to monitor and control fishing mortality, due to the tendency for regulatory measures to provide incentives for deliberate violations of fisheries law. The Norwegian system reflects the recognition that an acceptable level of compliance cannot be achieved through enforcement alone, but must be realised through the incentives that are provided by the rules. However, Norway is a showcase for the large legal and administrative capacity required to implement such rules. While several structural factors have facilitated implementation in Norway, the EU constitutes a contrasting case in that respect due to the responsibility of a large number of member states to implement EU regulations. The EU's heterogeneous setting for implementation has generated rules representing the least common denominator for what can be implemented at the national level, the result of which leaves much to be desired in terms of monitoring and controlling fishing mortality. The Faeroese Islands solved some important problems in terms of monitoring fishing mortality when they abandoned TAC-based management and switched to a system of effort regulation in the mid-1990s, but they were also faced with new implementation challenges in terms of controlling fishing capacity and regulating effort according to the target fishing mortality rates.

It can be argued that legal and administrative implementation is the Achilles heel of modern fisheries management. Chapter 2 shows that, despite this, the question of implementation was not a major concern when TACs emerged as the dominant management form in the North Atlantic. The choice of solution was governed by the challenge that dominated fisheries management at the time: to find a comprehensible standard for limitation of fishing mortality that also provided for politically-feasible distribution among members of the North Atlantic fisheries commissions. The North Atlantic fisheries experienced a rapid growth in fishing effort, while fisheries managers lacked political means to take much-needed joint action to conserve increasingly overfished stocks. The focus, naturally, was on science and politics. No one had any experience with implementation, and implementation systems were subsequently developed through trial and error. The process of learning by trial and error has now gone on for some thirty years. This volume seeks to summarise past experience and outline lessons to be learned.

The academic fisheries management discourse has followed the problem definition at the management level to a great extent. The common property literature emerged with the expansion of state regulation; the compliance literature emerged with governmental enforcement schemes, and criticism of fisheries science

emerged with conspicuous signs of scientific failure in fisheries management. The timing of this volume is no coincidence in that perspective. After some 30 years of trial and error in the implementation of resource conservation policies, the true scale of this challenge has become evident in many fisheries management systems. It is time for this challenge to be addressed systematically.

1.3 Types of Resource Management

Resource scarcity in fishing can be understood as the inability of a fish stock to sustain unregulated harvesting. The essence of fisheries management is that scarcity of fishery resources calls for political decisions that limit fishermen's access to these resources. Consequently, we need to distinguish between resource scarcity, which refers to the experienced limited nature of the natural resource, and regulated scarcity, which refers to political decisions that limit citizens' access to this good (Gezelius 2002).

Resource scarcity in fishing arises from the relationship between three main components. Two of these relate to the potential input into the fisheries and one relates to the potential output from fishing. The first input component is the capacity of humans to catch fish, generally referred to as fishing capacity. Fishing capacity can be understood as the potential fishing effort of a fleet. Fishing capacity may for example be measured in terms of the number and sizes of fishing vessels, or the amount of gear. The second input component is the actual utilisation of this capacity, generally referred to as capacity utilization. Capacity utilisation can be measured in terms of time spent fishing compared to the maximum time that could have been spent had the fleet been fully utilised (FAO 2004: 119). Actual fishing effort can be regarded as the product of fishing capacity and capacity utilisation.⁵ The potential output from fishing is naturally also determined by the third component: the abundance and availability of the natural resource. The natural resource is experienced as limited once it is unable to endure the fishing effort that would have been made in the absence of regulation.

Regulated scarcity may relate to any, or all, of the three components of resource scarcity, as is outlined in Table 1.2. It may relate to fishing capacity through licensing schemes that limit citizens' rights to own or rebuild vessels for use in fishing. Such regulations are generally referred to as structural policies. Regulated scarcity may also relate to capacity utilisation, for example through restrictions on fishing time (e.g. closed seasons or fishing day regulations), restrictions on fishing space (closed areas), or technical measures (e.g. gear restrictions). Restrictions on capacity utilisation are often simply referred to as "effort regulation". Finally, regulated scarcity may also relate directly to the outtake of the natu-

⁵ See the glossary for more complete definitions.

ral resource. Quotas for fish catches or fish landings, by-catch regulations, and small-fish regulations are typical examples.

Table 1.2. The bases and forms of regulated scarcity in fisheries management

The components of resource scarcity	Forms of regulated scarcity
Fishing capacity	Input restrictions: structural policies
Capacity utilisation	Input restrictions: effort regulations
Fisheries resource	Output restrictions: quotas on catches and landings

TACs have dominated the discourse on resource conservation, but the difficulty of implementing target fishing mortalities through catch quotas has pushed some states to apply the other two forms of regulated scarcity in resource management. Hegland and Raakjær's chapters on the EU's Common Fisheries Policy (CFP) and its implementation in Denmark (Chapter 5 and 6) and Gezelius, Hegland, Palevsky and Raakjær's chapter on implementation politics (Chapter 7) describe how the EU has continued to rely heavily on its structural policies in resource management, partly due to the inability to implement a functional catch quota system. Chapter 4 describes how the Faeroese state abandoned TAC-based management due to implementation failures, and introduced a system that relied almost entirely on effort regulation instead. Norway (Chapter 3) is a contrasting case, having detached its structural policies from its resource management policies, relying on catch restrictions as the dominant resource management tool. However, the differences between management systems in terms of the main type of regulated scarcity should not obscure the fact that most systems to some extent combine different forms. For example, the fishing day system of the Faeroe Islands presupposes strict structural policies. In some cases the EU combines quotas for fish landings with fishing day regulations. Certain input regulations, such as mesh size regulations and closed areas, are applied in most management systems, including those who rely strongly on output regulation.

Table 1.3. Purposes of resource management measures

Management purpose	Typical management measure
Catch quantity	Quotas, fishing days, structural policies
Catch composition	Small fish regulations, by-catch regulations, mesh-size regulations, closed areas

Combinations of different forms of regulated scarcity are often related to the fact that most fishery resource management systems fulfill two purposes: control of catch quantity and control of catch composition. Each of these purposes is fulfilled through specific types of management measures, as outlined in Table 1.3. Most measures applied to control catch composition are common to most systems. Table 1.3 shows that modern fisheries management systems mainly differ in terms of measures applied for the purpose of regulating catch quantity. We may thereby define our criterion for classifying management systems and selecting cases for

this study: we focus on the main type of regulated scarcity applied for the purpose of controlling catch quantity.

1.4 Resource Management and Distribution: The Tail Wagging the Dog?

Regulated scarcity generates distributional conflicts of interest. The chance of satisfying interest groups is reduced as scarcity increases, and distribution thus becomes increasingly costly from a political perspective. Choosing a management form is therefore not only a question of feasible implementation, it is also a question of solving distributional tasks. Distributional challenges have often led to inflated TACs, as described in Hegland and Raakjær's chapter on the CFP (Chapter 5). Likewise, political concerns about distribution may sometimes also overshadow the need for adequate implementation of conservation policies.

The three principal management forms outlined in Table 1.2 have distinct characteristics as distributional tools. TACs are well suited to meeting distributional challenges because the value of catch quotas is relatively predictable and difficult for interest groups to manipulate. Catch quantity is a simple unit of negotiation and compromise. This is not so for capacity utilisation: distribution of fishing days among interest groups easily triggers questions regarding the actual fishing capacity of each group. For the same reason, structural policies imply distributing rights whose value is difficult to assess and, consequently, to agree on. Hegland and Raakjær's chapter on the CFP shows that, although the EU relies heavily on structural policies in resource conservation, distributional challenges have ensured the continued importance of TACs. Gezelius' chapter on the Faeroese demersal fisheries presents a different case because the Faeroese demersal stocks are exclusively national. Consequently, the Faeroese government has sole responsibility for distributing fishing rights, which makes it less dependent on management models that are suited to distributional negotiation. Therefore, unlike the EU and Norway, the Faeroe Islands have been able to part with TAC-based management in demersal fisheries in favour of effort regulations.

Unlike catch quotas and fishing day regulations, structural policies imply regulating scarcity at a fundamental level, reducing the core of the management problem: the fleet's overcapacity. Consequently, structural policies potentially reduce the need for future regulation and distribution. However, in practice, overcapacity is always relative to a fluctuating fisheries resource. This entails that almost any system will have to apply additional regulatory schemes, at least periodically. Downsizing fishing fleets is also politically costly, and the major North Atlantic fisheries have yet to see a case of overfishing adequately solved through structural policies alone. The enduring overcapacity in the fleet has entailed that resource conservation continues to depend on restrictions on capacity utilisation and/or catch quantities.

States that perceive themselves as having managed to implement catch quotas satisfactorily have toned down the importance of structural policies to resource conservation, as described in Chapter 3. However, even when detached from resource conservation policies, structural policies often have distinct bearings on resource management because they apply allocation of harvesting rights as a means of downsizing the fleet. In order to reduce the political costs of excluding fishermen from the industry, some states have left the reduction of capacity to constructed markets where fishermen trade their long-term rights to catch fish. For example, Norway has applied a system of *de facto* tradable quotas for this purpose (Hersoug 2005) and Denmark has lately gone down a largely similar road (see Chapter 6). In Norway's case, catch quotas are attached to vessels, which entails that fishermen can sell their quotas by selling their vessels. After buying a vessel, the buyer may transfer the quotas from the newly-bought vessel to his old vessel, and the seller may subsequently buy his vessel back without the quotas. This removes one fishing vessel from the fishing fleet, leaving another vessel with a double set of quotas. A consequence of this policy is that the structural policy rests on continued TAC-based management and distribution in the form of vessel quotas. Generally, using tradable fishing rights, whether this be catch quotas or fishing days, as a means of downsizing a fleet ties long-term structural policies directly to the chosen resource management form. Such policies make the resource management form very difficult to change at a later stage. Structural policies consequently tie the management system to the implementation challenges associated with the chosen management form. Handling these challenges at the administrative level subsequently becomes the only available key to resource conservation.

Unlike structural policies, catch quotas and effort regulation require infinitely-repeated distribution of scarce fishing rights. However, the political costs of repeated distribution can be reduced through long-term obligations, i.e. political "contracts" on allocation principles, such as the EU's principle of relative stability, Norway's long-term principles of distribution between fleet sectors, or, at the inter-state level, the long-term agreements in the international fisheries commissions. Such long-term distribution policies are often fragile and hardly achieved compromises. They therefore tend to create significant institutional inertia, much similar to that associated with structural policies.

In sum, solving distributional challenges tend to imbue the management system with institutional inertia. David (1985) used the term "path dependence" to describe situations where past choices influence the costs associated with present choices. This term is highly relevant to understanding fisheries management and the challenge of implementation. Once policy-makers have chosen to manage resources through a given form of regulated scarcity, and have established the necessary structures for distribution, it becomes politically costly to part with the chosen form of regulated scarcity. The question of successful resource management is consequently often reduced to a question of implementing existing policies.

Distributional conflicts of interest may also affect implementation directly. Hegland and Raakjær's chapters on the CFP and Danish implementation show

how distributional conflicts of interest feed into the implementation of supranational policies. This stems from a central feature of international policy-making: the delegation of implementation to interested parties. The pervasive political challenge of preventing conflicts of interest from subverting resource management aims feeds into the implementation process when political agencies fulfil implementation tasks.

1.5 What is a “Successful” Management System?

The case studies presented in this volume regard implementation as key to successful fisheries management. However, success is a tricky concept to deal with in relation to fisheries management, because it cannot reasonably be made into a simple question of goal achievement. The reason for this is that the ultimate resource management goal – robust fish stocks – is influenced by many factors outside the control of humans. Fisheries management can only control events caused by people. Natural factors may lead to stock decline despite a sensible management system, and vice versa. A fisheries management system should therefore be evaluated for what it is: an instrument for collective action. A management system can thus be regarded as successful to the extent that it generates desirable human behaviour.

Human behaviour is arguably a more fruitful and fair criterion of success than fish stock robustness. However, it is not necessarily easier to measure, especially if fisheries science is included in our notion of a management system. The inclusion of science implies regarding valid knowledge as a precondition for desirable behaviour, which doubles the trouble by requiring evaluation of knowledge as well as behaviour. Although we may choose to consider science as external to the system being evaluated, it is still difficult to map fishermen’s behaviour. The scope and ambition of this volume thus needs some clarification.

The main challenge of implementation is to provide proper incentives for regulated actors to act so that political aims are reached. This volume analyses implementation systems by addressing the intended and unintended incentives that the systems create for regulated actors, and assessing the functionality of these incentives with regard to resource conservation aims. Each case study describes a different system for realising resource conservation targets, addressing their solved and unsolved problems in terms of ensuring desired collective action. We thus aim to shed some light on the question of the maturity of the systems addressed. These analyses are driven by a comparative, historical and contextual approach to the cases, focusing on the conditions that shaped their development.

1.6 The Problem of Implementing Catch Regulations

Chapter 2 describes how TACs emerged as the dominant tool for resource management in the North Atlantic fisheries. The contributions to this volume largely revolve around the difficulty of implementing TACs adequately. The chapter on Norwegian fisheries management (Chapter 3) describes the incremental development towards a system capable of handling the implementation challenges of a catch quota-based regime. Other cases illustrate how TAC implementation problems have led states to rely on alternative or supplementary forms of resource management. Hegland and Raakjær's chapter on the CFP (Chapter 5) describes how the EU's failure to properly implement a catch quota regime has led to a continued focus on structural policies in resource management. The chapter on the Faeroe Islands (Chapter 4) describes how implementation failure in TAC-based management resulted in a complete change to the form of regulated scarcity applied in resource management – a change made possible by a political setting for distribution that made the Faeroese system much easier to change than its Norwegian and EU counterparts. Consequently, the development of fisheries management systems in the Northeast Atlantic has been driven in various ways by the problem of implementing TACs for the purpose of resource conservation.

TAC Implementation is directly linked to the two core tasks of fisheries management: monitoring and controlling fishing mortality. Implementing TACs is largely a question of providing incentives for fishermen to act so that fish kills are accurately reported and kept within legal limits. There are two major obstacles to achieving this aim. First are the incentives provided by quota systems to deliberately misreport fish kills. Individual quotas have been introduced in response to the incentive among fishermen to increase fishing effort in order to catch the greatest possible share of the TAC (Gordon 1954). Individual quotas remove this incentive to increase effort, thus improving the economic efficiency of fishing. However, these quotas are also infamous for generating incentives that subvert the monitoring of fishing mortality. Having an individual quota entails an incentive to land only the most valuable fish and, consequently, discard fish of inferior value. This problem, commonly referred to as “high grading”, is an enduring implementation challenge in systems that rely on individual catch quotas. Individual quotas also generate incentives to conceal excessive catch through unreported, illegal sales, or falsification of information on the species caught.

The problem of fisheries crime has been a topic of fisheries research since the emergence of modern fisheries management systems in the 1980s. The early academic literature was dominated by economists, who mainly considered implementation as a question of ensuring sufficiently deterrent enforcement (Sutinen and Andersen 1985; Anderson and Lee 1986; Blewett et al. 1987; Furlong 1991). This perspective was greatly extended in the late 1990s, as scholars began to focus on normative influences on fishermen's compliance, such as fishermen's perceptions of the legitimacy of regulations and enforcement (Hønneland 1998;

Kuperan & Sutinen 1998; Hatcher et al. 2000; Gezelius 2003; Nielsen & Mathiesen 2003). Over the years, there has been significant literature on deliberate violations of fisheries law. However, little has been written about the second obstacle to efficient monitoring and control of fishing mortality: the inevitability of unintended violations of catch regulations. The unintended violations caused by incidental catch represent a significant implementation challenge to any system managing fisheries through catch regulations, such as catch quotas, small fish regulations and by-catch regulations. Incidental catch is mainly a problem in demersal fisheries where several year classes or species swim together, but it is also experienced in pelagic fisheries when schools of fish are followed by predators. A major problem in such multi-species fisheries is that targeting one species is difficult without also catching other species. When the quotas for one species have been filled, fishermen will still often get by-catch of this species when targeting other types of fish. Even in purely single species fisheries, unintentional fish kills often result from fishermen's difficulty controlling catch sizes. Controlling and estimating the exact quantity of fish trapped is often difficult, which regularly results in unintended exceeding of quotas (Gezelius 2006). Unintentional fish kills are one of the most difficult problems for an implementation system to deal with. It can be argued that inadequate legal and administrative tools for responding to the problem of unintentional fish kill has been a major cause of the failures of the EU and the Faeroe Islands to implement TACs efficiently in the groundfish sector (Gezelius 2008).

Incidental catch can be described as a two-level implementation problem (Gezelius 2008). First is the problem of establishing principles of criminal liability that take the randomness of fish kills properly into account. Second is the challenge of doing so without generating incentives to deliberately conceal fish kills or exceed catch limits. With regard to criminal liability, incidental catch is a problem of defining the concept of "due care" in relation to fishing. The inability to fully control the legality of catches distinguishes the fisheries from most other fields regulated by criminal law. Just principles of criminal liability prescribe that law sanctions citizens' deliberate acts rather than the unforeseeable consequences of acts. Consequently, establishing clear and acceptable criteria of due care is important to the legitimacy of fisheries law enforcement. However, doing so is also difficult because the random nature of fish kills makes it difficult to establish whether illegal catch is the result of intention, criminal negligence, or bad luck.

The second problem consists of the tendency of liability criteria to generate incentives for fisheries law violations that subvert the monitoring and control of fishing mortality. Applying the principle of due care actively means that fishermen with illegal catch cannot be punished unless they are proven to have acted carelessly according to regular normative standards. In principle, this approach entails that fishermen who do their best to obey the law have nothing to fear when reporting their illegal incidental catch. This reduces incentives for fishermen to conceal illegal incidental catch through misreported landings or discards. While feasible on paper, functional application of the principle of due care is difficult in

practice, because the unpredictable nature of fishing often makes it very difficult to prove criminal negligence or criminal intent, which reduces the risk of punishment; the purpose of which is to deter fishermen from careless fishing and deliberate pursuit of illegal catch. A solution to this problem would be to apply a principle of strict criminal liability, implying that illegal incidental catch is always regarded as a result of criminal negligence. Strict criminal liability efficiently removes any judicial loophole that could provide incentives for the deliberate pursuit of illegal catch. However, the problem of strict criminal liability is the incentives it creates with regard to incidental catch: it urges fishermen to conceal illegal incidental catch by means of discards or misreporting, which subverts the monitoring of fishing mortality.

In other words, a major problem in the implementation of catch regulations is that incentives to land and report illegal incidental catch tend to create incentives to pursue such catch, while removing incentives to pursue illegal catch creates incentives for discards and misreporting. Implementation of catch regulations requires establishing legitimate principles of enforcement that manage to balance these two concerns.

Chapter 3, which addresses the Norwegian management system, outlines one possible solution to this dilemma: non-penal forfeiture of illegal incidental catch. Norwegian management authorities are authorised to confiscate all illegal catch regardless of the fisherman's criminal liability. For example, a fisherman who incidentally catches illegal quantities of haddock while targeting cod knows that he must forfeit all illegal haddock. However, he also knows that he is entitled to keep the legal part of his catch and that he does not risk being fined, unless he was obviously careless. Thereby, the management system reduces incentives for pursuing illegal catch without creating incentives to conceal incidental illegal catch through discards. The non-penal forfeiture of illegal incidental catch is essential to the implementation of the Norwegian ban on discards. The Norwegian system of non-penal forfeiture rests on the understanding that illegal catch is not private property, and consequently not protected by private property rights. Fish caught illegally are regarded as resources lacking a rightful owner (Government of Norway 1976, 2006).

The EU does not have similar legal provisions as Norway in relation to incidental illegal catch. One of the obstacles against establishing provisions for non-penal forfeiture in the EU is that all national legislations must provide for governmental confiscation regardless of the fisherman's criminal liability. For example, Denmark applies the principles of the Danish Penal Code in relation to confiscation of illegal catch, implying that catch only can be confiscated when a punishable act can be proven in court (Government of Denmark 2006a, b). In response to the judicial and administrative problems represented by incidental catch, the EU has avoided regulating fishermen's catches and rather regulated their fish landings (EU 1997, 2002a, b, 2003). Fish landings result from the fishermen's deliberate choices to a far greater extent than catches. Consequently, landing regulations are much easier to implement than catch regulations in a

heterogeneous legal and administrative setting like the EU. However, the result of the EU's regime of landing regulations is that fishermen are required to discard catch that exceeds quotas or catch composition regulations, which subverts the basic purposes of fisheries management: to monitor and control fishing mortality. The EU is currently trying to alter this policy, aiming to introduce a ban on discards (EU 2007). However, it has yet to come up with a feasible solution to the judicial and administrative challenges of implementing such a ban (Gezelius 2008).

1.7 The Problem of Implementation Drift

Several chapters in this volume show that the challenge of implementing resource conservation goals sometimes goes significantly beyond the realm of law and administration. Hegland and Raakjær's chapters on the CFP and its implementation in Denmark describe blurred distinctions between politics and implementation in the EU's multi-level management system. These chapters show that while political decision-makers may regulate scarcity in order to resolve a prisoner's dilemma among resource users, the prisoner's dilemma tends to re-emerge once implementation tasks are delegated to interested parties, which in this case are the member states. Hegland and Raakjær's chapter on Danish CFP implementation also describes how limited political and public attention paid to fisheries politics nationally leaves significant room for strong individuals and shifting alliances of interested actors to shape national implementation to fit their own goals. They illustrate how this in several cases has resulted in a national implementation discourse governed by other concerns than conservation. Consequently, effective implementation of supranational resource management policies requires mechanisms that reduce the ability of politicians or interest groups at the state level to subvert the basic goals of these policies. The problem of implementation is thus not only a technical question of effective pursuit of given goals but also a political question of disciplining member states into loyalty towards these goals. The question of effective administration will gain key importance only when this political challenge is adequately dealt with.

Chapter 7 in particular describes how the underlying prisoner's dilemma game among EU members generates challenges for the EU in terms of preventing member states from subverting the EU's conservation goals at the implementation stage. This problem of "implementation drift"⁶ is relatively complex, and an attempt to understand it consequently invites combining several theoretical perspectives. The simple rationalist prisoner's dilemma model explains how incentives for non-compliance arise, but it takes the mechanisms through which these incentives

⁶ Chapter 7 defines implementation drift as "the process of redefining political goals and pursuing alternative political goals during implementation".

influence national policies for granted. It is argued that rational choice theory offers far too narrow frames of interpretation to understand the processes through which problems of implementation drift are created and solved. Chapter 7 thus also draws on theoretical schools that differ greatly from the simple models of rational choice theory in order to shed light on the question of how implementation practices are shaped. This analysis combines theoretical schools that are often regarded as representing incompatible views of the world. However, such incompatibility depends on the reductionistic adoption of the basic assumptions of rational choice theory, which is something that the analysis strictly avoids. Recognising the importance of self-interested rationality does not imply viewing rational choice theory as being anywhere near an adequate description of the human mind and of social interaction. Chapter 7 thus draws on a Foucauldian tradition in order to explain how national and international power relations shape national implementation discourses, determining the extent to which these implementation discourses are open to reformulation of political goals. The problem of implementation drift is greatly reduced when the implementation discourse is strictly framed as a matter of civil service, implying that goals are regarded as a given (see also Chapter 3). The question of implementation drift becomes pressing once the distinction between politics and civil service is blurred in the national implementation discourse. Chapter 7 compares and explains Danish and Norwegian implementation discourses and analyses how these discourses influence the risk of implementation drift.

When the implementation discourse facilitates implementation drift, rationalist incentives for national compliance with supranational goals become important. Drawing on principal-agent theory, Chapter 7 thus addresses rational incentives for member-state loyalty towards supranational goals when such loyalty is not embedded in the normative frames of the implementation discourse. The main question from this perspective is thus how supranational principals can establish control and enforcement schemes to ensure compliance at the state level. The analysis in Chapter 7 suggests that at present the EU is not well-equipped for this task.

Once the question of supranational control and enforcement is addressed, the relevance of institutions and politics re-emerges. This is because the ability of supranational principals to build proper enforcement arrangements ultimately depends on the ability of member states so inclined to build effective coalitions for that purpose. Further, the ability to build effective political coalitions for management reform depends on the supranational decision-making rules, such as voting rules and member state veto rights. Chapter 7 describes the power of blocking minorities, and emphasises the importance of understanding coalition and network formation in the EU context.

The comparative explanatory analysis of Chapter 7 thus draws on multiple theoretical traditions, all of which revolve around various concepts of power and direct our attention to power-related conditions for action: national autonomy, divisions of authority between political agencies and the civil service, and power relations between the state and industry stakeholders.

1.8 The Cases

The cases presented in this volume are cases of regulation of modern fisheries by modern state apparatuses. The implementation challenges we address are thus not related to the functionality of basic state institutions such as the loyalty of civil servants and the independence of the courts. We have thus limited our scope to the legal and administrative design of the fisheries management systems. Within this set of potential cases, we have selected management systems that rely on different forms of regulated scarcity in catch quantity control, allowing us to compare challenges and solutions associated with these management forms.

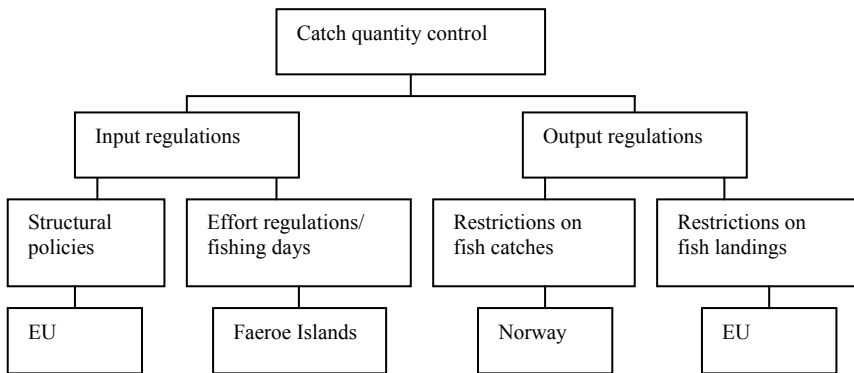


Fig. 1.2. Classification of cases

Figure 1.2 illustrates the selection and classification of cases. We distinguish between input regulations and output regulations in catch quantity control. Looking at input regulations, we distinguish between two types: structural policies and effort regulation/fishing days. Structural policies are mainly covered by Hegland and Raakjær’s chapters on the CFP and its implementation in Denmark. Effort regulation in the form of fishing days is mainly covered by Gezelius’ chapter on the Faeroe Islands. Output regulations are often referred to simply as catch quotas, but this label potentially obscures significant management differences. Generally, “to catch fish” means to trap it and bring it onboard, which implies that catch quotas regulate fish kills. However, the EU’s quotas are not set for the fish caught, but for the fish landed. It is thus imprecise to label the EU’s output regulations “catch quotas”. The EU’s output regulations are, in more precise terms, landing quotas. While the EU’s policy has implied required discards of illegal catch, the Norwegian system of regulating catches is legally associated with a ban on discards. The division of output regulations into “restrictions on fish catches” and “restrictions on fish landings” is thus more than conceptual hair-splitting; it is a significant dis-

inction in resource management. Hegland and Raakjær's chapter on Denmark addresses a management system based on landing regulations, while Gezelius' chapter on Norway describes a case of catch regulation.

This book begins with an outline of the development of modern fisheries management in the North Atlantic: Chapter 2 describes how TACs became the dominant standard in modern fisheries management. Subsequent chapters analyse how the management regimes of coastal states evolved in different directions from this starting point, becoming different forms of resource management. Chapter 3 describes Norway, which responded to implementation challenges in TAC-based management by gradually developing its implementation system to monitor and control fishing mortality. Chapter 4 describes the fundamental changes in Faeroese fisheries management, eventually leading to a system of effort regulation, as a contrasting case to Norway. Chapter 5 and 6 describe the EU's CFP and its implementation in Denmark. Compared with Norway and the Faeroe Islands, the EU lacked conditions for effective TAC implementation as well as political flexibility in terms of switching to a system of effort regulation, resulting in a deadlock in terms of resource conservation. Chapter 7 contains a specific comparison of Norway and the EU/Denmark in terms of implementation drift. As argued in Chapter 6, Denmark represents a moderate example of member states departing from EU goals in CFP implementation. The analysis of implementation drift in Denmark is consequently used as basis for a general analysis of obstacles to effective CFP implementation in the EU. Each case study thus constitutes a part of a whole, but the chapters have been written so that they can be read separately, including the comparative Chapter 7, which entails a certain overlap between chapters in terms of arguments and data.

The different forms of fisheries management addressed in this volume have evolved under different structural, political and legal conditions. As argued above, the political setting for distribution and the legal and administrative capacity for implementing catch regulations are especially important in order to understand the different paths taken by the states with regard to developing their management systems. While the capacity for implementation has been decisive in terms of the states' needs to change their management form, the political setting for distribution has been equally decisive to their ability to do this. The cases presented in this volume consequently represent significant differences in terms of continuity and change.

Norway is a case of long-term incremental development of catch quota-based management. The Norwegian system is path-dependent in the sense that catch quota-based management is embedded in bilateral and multilateral agreements on distribution (Government of Norway 2007a), fragile industry compromises regarding distribution between fleet sectors (Sagdahl 1992; Gezelius 2002), and structural policies (Government of Norway 2007b). However, this path dependence has not been experienced as much of a problem because Norwegian managers and industry have never had strong reasons for parting with TAC-based management. The enduring faith in TAC-based management is largely due to the fact that

Norway has developed a relatively functional system for implementing catch regulations over the years. This development has been facilitated by the Norwegian tradition of corporatist government, which has made industry organisations receptive to fulfilling implementation tasks imposed by the government. The chapter on Norway describes how this system has facilitated the implementation of legislation that balances the need for preventing illegal fishing against the need to encourage fishermen to land and report illegal incidental catch. The continued faith in Norway's management model is arguably also connected with the absence of lasting fisheries crises. The resource situation has never given the industry, managers and general public strong reasons to doubt the system's ability to ensure sustainable fisheries.

The EU, as described in the chapters by Hegland and Raakjær, is another case of path dependent TAC-based management. The EU's regulation of catch quantities through TACs is tied up in a hardly-acquired compromise on distribution among the EU's member states, preserved in the principle of relative stability. However, this path dependence has been significantly more uncomfortable for the EU than it has for Norway. Lacking Norway's conditions for implementation of catch regulations, the EU has had great difficulty in making its system work as a resource conservation tool. The necessity of making regulations that can be implemented in a large number of member states has left the EU with a system of landing regulations and mandatory discards which is relatively simple to implement but which subverts conservation aims. Consequently, TACs mainly function as a distributional tool in the EU. The poor state of the EU's fish stocks is widely perceived as a result of faulty management, but the political inertia of the EU's system for distribution and the demanding and complex setting for implementation make it difficult to find feasible solutions. The EU has consequently combined different forms of regulated scarcity in resource management – structural policies, landing quotas, fishing days – to a greater extent than any other case addressed in this volume.

The Faeroe Islands are a different and interesting case in terms of path dependence and response to management failure. The Faeroe Islands have been anything but a case of continuity and institutional inertia in fisheries management, revolutionising its management system twice in three years in the mid-1990s. While most states in the North Atlantic introduced TAC-based management around 1977, the Faeroe Islands continued to manage their demersal fish stocks through closed areas, closed seasons and gear restrictions until these fisheries collapsed in the early 1990s. The crisis resulted in the establishment of TAC-based management and ITQs in 1994. As the Faeroe Islands faced the typical implementation problems associated with this system – illegal discards and misreported landings – they abandoned the entire model and managed their demersal fisheries through a combination of structural policies, fishing day regulations and closed areas from 1996. The Faeroe Islands have thus emerged as a pioneer in the application of effort regulation in resource management. They have displayed an extraordinary flexibility compared to the other cases addressed in this volume, which reflects the

relative absence of path dependence in the system. Unlike the EU and Norway, the Faeroese demersal fish stocks are exclusively national and, consequently, managed and allocated by a single government. The Faeroese political autonomy in terms of distribution has left the government room to make radical changes in management form. The short history of TAC-based management also created few political and institutional ties nationally. As a result of this, the Faeroe Islands are a case of radical change in response to crisis, unlike the other cases presented in this volume.

The different management forms generate different unintended incentives for fishermen and, consequently, face different implementation problems. Effort regulations through individual fishing days create incentives to continuously increase the fishing capacity of the vessels, hence potentially increasing the fundamental problem of overcapacity. TACs generate similar incentives unless they are distributed through individual quotas. Systems that apply individual catch quotas reduce the incentive to increase fishing capacity, but in doing so they generate other unfortunate incentives, such as high-grading and misreported landings, which are largely avoided in systems based on fishing day regulation. Each of these management forms makes implementation easier in some respects and more demanding in others. This volume compares national experiences with implementing these management forms, and aims to increase knowledge on the conditions for their functionality as instruments for collective action. The comparative case approach has been chosen for its ability to sensitise us to issues that otherwise would be taken for granted, thus increasing our ability to point out significant conditions.

An ever-present challenge when studying management systems is that the targets refuse to stand still: the systems change while we describe them. Volumes such as this consequently risk becoming historical snapshots, mainly serving as documentation of the systems' characteristics at a specific time. The authors of this volume have taken two steps to avoid such a fate. First, the case descriptions offer explanatory historical outlines that should make them interesting in the years to come. Second, the lessons learned from analysing and comparing the conditions that shape problems and solutions should keep these cases relevant to fisheries managers and students of fisheries management.

1.9 What Can We Learn from a Study Such as This?

This chapter began by pointing to the optimistic assumptions of knowledge that underlie modern science-based fisheries management. Within the theory of science, such optimism is often referred to as a "positivist" theory of knowledge. The positivist view implies that scientific theory may express law-like truths about the world, given proper empirical testing. The idea that humans can simulate the causal laws of nature through abstract modelling, and thereby predict nature, is embedded in this conception of scientific knowledge. In fisheries, this optimistic

view of knowledge is manifest in the use of abstract models of fish stock dynamics for the purpose of prediction. The concept of “target fishing mortality” expresses the idea that it is feasible for humans to predict the development of fish stocks by processing data about the past in models that reflect the causal laws of nature.

While models applied by marine scientists are explicitly institutionalised as part of the management system’s knowledge base, the models of human behaviour have largely, in Foucauldian terms (1999), emerged as tacit discursive structures that legitimise government and enforcement by the state. The prisoner’s dilemma game and the tragedy of the commons have often been tacitly considered models accurately simulating real life human behaviour, thus justifying state management and deterrence-based enforcement. The application of social theory in fisheries management has thus reflected an optimistic view of scientific knowledge not unlike that of the marine sciences. However, this use of social theory has generated much resistance among social scientist because, unlike the natural sciences, most social sciences have abandoned the positivist conception of knowledge. As a result of an enduring discourse on the basic premises of science,⁷ the concept of theory is ambiguous in modern social science, reflecting highly-divergent ideas of knowledge (Mjøset 2005).

Rational choice theory, typically represented by neoclassical economics, applies abstract models, based on a simple and limited set of assumptions about the human mind, in order to simulate human behaviour. The prisoner’s dilemma game and the tragedy of the commons have been developed, and are often applied, within this school of thought. While many scholars, including the authors of this volume, would agree that the prisoner’s dilemma game and the tragedy of the commons can often contribute to our understanding of past events, these models become highly controversial once they are regarded as reliable predictions about the future. In such cases, the criticism of these models is not only related to their simplistic assumptions, but also to the epistemological status ascribed to these models (Brox 1990). Most social scientists today have abandoned the idea that models simulating human action can accurately predict future events. Many sociologists and anthropologists have largely abandoned the ambition of large-scale

⁷ An early modification of the positivist concept of theory was presented by Glaser & Strauss (1967) through their notion of grounded theory, the core idea of which was to generate testable hypotheses on the basis of qualitative studies of past events. Throughout the 1960s and 1970s, social science was also shaped by philosophical influences from hermeneutics and phenomenology, which basically restricted the ambition of social science to the interpretation of past events rather than the testing of predictions about the future. The application of hermeneutics was consistent with the interpretative and historical orientation of the classical sociology of Max Weber (1978 [1921]). However, it was followed by a more radical approach, which emphasised that knowledge was a product of concepts and more or less tacit ideas generated and reproduced by culture. This idea entered social science through the phenomenological sociology of Berger & Luckmann (1967), and has been expressed radically by post-modernists who have not only rejected the idea that social change could be accurately predicted, but have rejected the idea of valid knowledge altogether.

generalisation, arguing that social science can only generate reliable knowledge of events subject to empirical study. Much qualitative, case-oriented and historical research is based on the view that social science is better suited to the task of understanding the past than to predicting the future. According to this view, hypotheses of social life mainly serve as intellectual tools that enhance our capacity to describe and understand the past (Boudon 1991). This view of social theory implies that the models of social science are no epistemological equivalent to the models of fish stock dynamics and, consequently, social scientists cannot present universal definitions of problems and solutions in fisheries management.

One pertinent question is thus: can a volume such as this, based on historical case studies, yield general lessons for fisheries management, which are useful to the making of choices for the future? This volume is motivated by an affirmative answer to this question, but this is an answer with modifications. History has given us little reason to believe there is any such thing as a universally-functional fisheries management system. The successes and failures of a given management model always depend on an indefinite number of conditions. While humans may never be able to design a management system that works well under all conditions, we may continuously increase our understanding of the conditions that influence the functionality of a given management model. Such understanding can best be generated through empirical study of past experience. After some 30 years of catch quota-based fisheries management, there is now a significant amount of experience to draw on, and this is what inspired the study that underlies this volume. The ambition of this volume is to increase the readers' capacity to see problems and solutions in the specific settings they address, based on experience described in this book. The book aims to point out possible management approaches and the conditions that explain their failures and successes. These insights may well be regarded as grounded theory, derived from case-specific experience (Glaser & Strauss 1967; Ragin 1994). However, they may best serve as a set of critical questions that researchers, managers and politicians should pose when considering alternative fisheries management paths. The complexity of real world settings makes it practically impossible to control for every factor that potentially changes the nature of a given causal relationship and, consequently, the validity of this knowledge must always be critically assessed in the specific case to which it is being applied.

References

- Acheson, J. M. (1975). The Lobster Fiefs: Economic and Ecological Effects of Territoriality in the Maine Lobster Industry. *Human Ecology*, 3(3), 183–207.
- Anderson L. G., D. R. Lee (1986). Optimal Governing Instrument, Operation Level, and Enforcement in Natural Resource Regulation: The Case of the Fishery. *American Journal of Agricultural Economics*, 68(3), 678–690.
- Baden, J. (1977). A Primer for the Management of Common Pool Resources. In G. Hardin and J. Baden (eds.), *Managing the Commons* (p. 137–146). San Francisco: W. H. Freeman and Company.
- Berger, P. L., Luckmann, T. (1967). *The Social Construction of Reality: A Treatise in the Sociology of Knowledge*. London: Penguin.
- Blewett E., Furlong W., Toews P. (1987). Canada's Experience in Measuring the Deterrent Effect of Fisheries Law Enforcement. In J.G. Sutinen and T.M. Hennesey (eds.), *Fisheries Law Enforcement: Programs, Problems and Evaluations* (pp. 170–207). Kingston: University of Rhode Island.
- Boudon, R. (1991 [1986]). *Theories of Social Change: A Critical Appraisal*. Cambridge: Polity Press.
- Brox, O. (1990). The Common Property Theory: Epistemological Status and Analytical Utility. *Human Organization*, 49(3), 227–235.
- Clucas I. (1997). A Study of the Options for Utilization of Bycatch and Discards from Marine Capture Fisheries. FAO Fisheries Circular No. 928 FIIU/C928. Rome: FAO.
- David, P. A. (1985). Clio and the Economics of qwerty. *American Economics Review*, 75, 332–337.
- Dixit, A., Skeath, S. (2004). *Games of Strategy*. New York: Norton & Company.
- EU (European Union) (1997). Council Regulation (EC) No 894/97 of 29 April 1997 laying down certain technical measures for the conservation of fishery resources. Brussels: EU.
- EU (European Union) (2002a). Council Regulation (EC) No 2371/2002 of 20 December 2002 on the conservation and sustainable exploitation of fisheries resources under the Common Fisheries Policy, Articles 20 and 21. Brussel: EU.
- EU (European Union) (2002b). Communication from the Commission to the Council and the European Parliament on a Community Action Plan to reduce discards of fish. COM/2002/0656 final. Brussels: EU.
- EU (European Union) (2003). Council Regulation (EC) No 2287/2003 of 19 December 2003 fixing for 2004 the fishing opportunities and associated conditions for certain fish stocks and groups of fish stocks, applicable in Community water and, for Community vessels, in waters where catch limitations are requires. Brussels: EU.
- EU (European Union) (2007). A policy to reduce unwanted by-catches and eliminate discards in European fisheries. Communication from the Commission to the Council and the European Parliament. COM(2007) 136 final. Brussels, 28.3.2007. Accompanying documents: SEC(2007) 380; SEC(2007) 381.
- Felt, L. F. (1994). Two Tales of a Fish: The Social Construction of Indigenous Knowledge Among Atlantic Canadian Salmon Fishers. In L. C. Dyer, J. R. McGoodwin (eds.), *Folk Management in the World's Fisheries: Lessons for Modern Fisheries Management* (pp. 251–286). Niwot, Colo.: University Press of Colorado.
- Finlayson, A. C. (1994). *Fishing for Truth: A Sociological Analysis of Northern Cod Stock Assessments from 1977–1990*. St. John's: ISER.
- Food and Agricultural Organization of the United Nations (FAO) (2004). *The State of World Fisheries and Aquaculture 2004*. Rome: FAO.
- Food and Agricultural Organization of the United Nations (FAO) (2007). *The State of World Fisheries and Aquaculture 2006*. Rome: FAO.
- Foucault, M. (1999). *Diskursens orden*. Oslo: Spartacus.

- Furlong W. J. (1991). The Deterrent Effect of Regulatory Enforcement in the Fishery. *Land Economics*, 67(1), 116–129.
- Gezelius, S. S. (2002). Environmental Sustainability and Political Survival – A Comparative Analysis of the Cod Fisheries of Canada and Norway. *Environmental Politics*, 11(4), 63–82.
- Gezelius, S. S. (2002b). Do Norms Count? State Regulation and Compliance in a Norwegian Fishing Community. *Acta Sociologica*, 45(4), 305–314.
- Gezelius, S. S. (2003). *Regulation and Compliance in the Atlantic Fisheries: State/Society Relations in the Management of natural Resources*. Dordrecht: Kluwer Academic Publishers.
- Gezelius, S. S. (2006). Monitoring Fishing Mortality: Compliance in Norwegian Offshore Fisheries. *Marine Policy*, 30(5), 462–469.
- Gezelius, S. S. (2008). Management responses to the problem of incidental catch in fishing: A comparative analysis of the EU, Norway, and the Faeroe Islands. *Marine Policy*, 32(3), 360–368.
- Glaser, B. G., Strauss, A. L. (1967). *The Discovery of Grounded Theory: Strategies for Qualitative Research*. New York: Aldine de Gruyter.
- Gordon, H. S. (1954). The Economic Theory of a Common Property Resource: The Fishery. *The Journal of Political Economy*, 62, 124–142.
- Government of Denmark (2006a). Bekendtgørelse af Straffeloven. LBK nr 1000 af 05/10/2006 (Gældende). Article 31; Chapter 9; Article 75. Copenhagen: Ministry of Justice.
- Government of Denmark (2006b). Bekendtgørelse af fiskerilov. LBK nr 372 af 26/04/2006. Article 130; Article 132. Copenhagen: Ministry of Food, Agriculture and Fisheries.
- Government of Norway (1976). Ot.prp. nr. 39 (1975–76). Lov om endring i lov av 16. juni 1972 nr. 57 om regulering av deltagelsen i fisket. Oslo: Ministry of Fisheries.
- Government of Norway (2006). *Prosjekt salgslag/Fiskeridirektorat: En kartlegging av salgslagenes og Fiskeridirektoratets virke på de områder en har felles ansvar for ressurskontrollen*. Delrapport A. Bergen: Directorate of Fisheries.
- Government of Norway (2007a). St. meld. nr. 32 (2006–2007). Om dei fiskeriavtalene Noreg har inngått med andre land for 2007 og fisket etter avtalene i 2005 og 2006. Oslo: Ministry of Fisheries and Coastal Affairs.
- Government of Norway (2007b). St. meld. nr. 21 (2006–2007) Strukturpolitikk for fiskeflåten. Oslo: Ministry of Fisheries and Coastal Affairs.
- Hardin, Garret. (1968). The Tragedy of the Commons. *Science*, 162, 1243–1248.
- Harris, L. (1990). *Independent Review Of The State Of The Northern Cod Stock*. Ottawa: Department of Fisheries and Oceans.
- Hatcher, A., Jaffry, H., Thébaud, O. Bennett, E. (2000). Normative and Social Influences Affecting Compliance with Fisheries Regulations. *Land Economics*, 76(3), 448–461.
- Hersoug, B. (2005). *Closing the Commons: Norwegian Fisheries Management from Open Access to Private Property*. The Hague: Eburon.
- Hutchings, J. A., Myers, R. (1994). What can be learned from the collapse of a renewable resource? Atlantic cod, *Gadus Morhua*, of Newfoundland and Labrador. *Canadian Journal of Fisheries and Aquatic Sciences*, 51(9), 2126–2146.
- Hønneland, G. (1998). Compliance in the Fishery Protection Zone around Svalbard. *Ocean Development and International Law*, 29(4), 339–360.
- Jentoft, S. (1989). Fisheries Co-management: Delegating government responsibility to fishermen's organizations. *Marine Policy*, 13(2), 137–154.
- Kearney J. F. (1984). Atlantic fisheries, coastal communities: Fisheries decision-making case studies. In C. Lamson, A. J. Hanson (eds), *Dalhousie Ocean Studies Programme*, (pp. 165–204). Halifax: Institute for Research and Environmental Studies.
- Kuperan, K., Sutinen, J. G. (1998). Blue Water Crime: Deterrence, Legitimacy, and Compliance in Fisheries. *Law & Society Review*, 32(2), 309–337.
- Maurstad, A. (2000). To Fish or Not to Fish: Small-Scale Fishing and Changing Regulations of the Cod Fishery in Northern Norway. *Human Organization*, 59(1), 37–47.

- McCay, B. J., Acheson, J. M. (1987). Human Ecology of the Commons. In B. J. McCay, J. M. Acheson (eds), *The Question of the Commons: The Culture and Ecology of Communal Resources* (pp. 1–36). Tucson: The University of Arizona Press.
- Mjøset, L. (2005). Can grounded theory solve the problems of its critics? *Sosiologisk Tidsskrift* 13, 379–408.
- Nielsen, J. R., Mathiesen, C. (2003). Important Factors Influencing Rule Compliance in Fisheries – Lessons from Denmark. *Marine Policy*, 27(5), 409–416.
- Pinkerton, E. (1989). Introduction: Attaining Better Fisheries Management through Co-Management – Prospects, Problems, and Propositions. In E. Pinkerton (ed.), *Co-Operative Management of Local Fisheries* (pp. 3–36). Vancouver: University of British Columbia Press.
- Ragin, C. C. (1994). *Constructing Social Research*. Thousand Oaks: Pine Forge Press.
- Sagdahl, B. K. (1992). *Ressursforvaltning og legitimitetsproblemer: En studie av styringsproblemer ved forvaltning av norsk-arktisk torsk*, Bodø: Nordland Research Institute.
- Steele, D. H., Andersen, R., J. M. Green (1992). The Managed Commercial Annihilation of Northern Cod. *Newfoundland Studies*, 8(1), 34–68.
- Sutinen J. G., P. Andersen (1985). The Economics of Fisheries Law Enforcement. *Land Economics* 61, 387–397.
- Weber, M. (1978 [1921]). *Economy and Society*. Berkeley: University of California Press.
- Wilson, J. A., Acheson, J. M., Metcalfe, M., Kleban, P. (1994). Chaos, complexity and community management of fisheries. *Marine Policy*, 18(4), 291–305.
- Wilson, D. C., Nielsen, J. R., Degnbol, P. (editors) (2003). *The fisheries co-management experience: Accomplishments, challenges and prospects*. Dordrecht, The Netherlands: Kluwer Academic Publishers.

2 The Arrival of Modern Fisheries Management in the North Atlantic: A Historical Overview

Stig S. Gezelius

Abstract This chapter describes how TACs emerged as the dominant fisheries management form in the North Atlantic. It points out industrial, scientific and political factors that influenced the management reform that took place during the 1960s and 1970s and ended in the wide-spread adoption of TACs as the new management form. The chapter describes the discourses in the central fisheries management arena, mainly consisting of the North Atlantic fisheries commissions and ICES, and shows how the choice of management form was shaped by that time's scientific and political challenges: the need to find a management measure with a comprehensible connection to fishing mortality which also provided for politically-feasible distribution among contracting states.

2.1 Introduction

At a time when the problems of effectively implementing Total Allowable Catches (TACs) have caused doubt about this management form's ability to ensure sustainable fishing it may be worthwhile to step back and recall how and why this management form was chosen in the first place. The purpose of this chapter is thus to give a general historical background to the management system whose challenges, failures and solutions are being addressed throughout this book. This chapter aims to highlight the historical threads of today's management discourse, helping the reader, hopefully, to keep major fisheries management problems and solutions in historical perspective. The cases presented in subsequent chapters of this book are all from the Northeast Atlantic. Consequently, this chapter has a slight bias towards focusing on that region. However, fisheries management modernisation was driven by the same actors and events on both sides of the North Atlantic, and these actors and events were connected to the extent that this modernisation process should be regarded as one single process covering the entire North Atlantic region. The historical outline presented in this chapter thus emerges as a general brief history of the development of modern fisheries management in the North Atlantic.

2.2 1900–1960: Growing Concern About Overfishing

The introduction of the steam engine in the fishing fleets, and the ensuing evolution in the use of trawl technology from the end of the 19th century generated a dawning awareness of the potential for overfishing. This concern triggered some early attempts to regulate fish harvesting in the North Atlantic, such as the North Sea Convention established in the wake of the 1881 North Sea Fishery Conference. However, despite the fact that concern about resource conservation was voiced already at the 1881 conference, the focus of attention was the social conflicts that resulted from resource scarcity. Consequently, the main efforts were directed at dispute settlement and arrangements to avoid gear conflicts (Blake 1997; Johnston 1985; Sen 1997).

A more significant outcome from a long-term perspective was the growing need for scientific knowledge on the biology of the oceans. The International Council for the Exploration of the Sea (ICES) was established in 1902 for the purpose of promoting research of the oceans and marine living resources mainly in the North Atlantic. Overfishing, and especially the landings of immature fish, were among the main concerns of ICES from the beginning, leading it to advise closed areas and minimum size regulations from the 1920s, and develop standards for mesh sizes and small fish regulations in 1934 (Engesæter 2002; Griffith 1999). ICES has been a core institution in the development of modern fisheries management. Its focus on overfishing contributed significantly to the formation of new international management institutions after WWII and it became the central arena for the development of theoretical tools that paved the way for TAC-based management in the 1960s (Rozwadowski 2002).

The concern about overfishing became strong enough among policy makers during the interwar years to generate attempts to build international institutions to deal with the problem. The British Government was particularly active in this process. It started voicing concern for the state of the fish stocks of the North Sea in the 1930s, and hosted a conference in 1937 that aimed to implement the ICES recommendations of 1934 (Engesæter 2002). However, the resulting convention was never brought into force due to the impending war. A similar attempt made in 1943 also failed (Johnston 1985). Not until after WWII were significant international institutions established for the management of fishery resources in the North Atlantic. These institutions can rightfully be labelled the cradle of modern fisheries management. They were shaped during a period when resource conservation, a concern that long had been voiced by ICES, seriously entered the political agendas of the North Atlantic states and the marine sciences made highly-significant progress. These institutions eventually became arenas for decisions that shaped today's management systems.

After the two failed initiatives, the British Government made a third attempt when the war had ended. The vastly improved conditions for international institution-building following the end of the war gave significantly better results than the

previous efforts. In 1946 the British Government initiated the International Conference on Overfishing, which resulted in the Convention for the Regulation of Meshes of Fishing Nets and the Size Limits of Fish, known as the 'Overfishing Convention'. The convention was signed by Belgium, Denmark, France, Iceland, Ireland, Netherlands, Norway, Poland, Portugal, Spain, Sweden, and the United Kingdom, and established the Permanent Commission for implementation purposes. The two previous international fishery conferences had considered the whole of the North Atlantic, but the Overfishing Conference of 1946, following a suggestion of the USA, restricted itself to the Northeast Atlantic. A separate Convention was subsequently created for the Northwest Atlantic in 1949. The International Convention for the Northwest Atlantic Fisheries, which established the International Commission for the Northwest Atlantic Fisheries (ICNAF), was signed by Canada, Denmark, France, Iceland, Italy, Norway, Portugal, Spain, United Kingdom, and the USA, and entered into force in 1950 (ICNAF 1951, 1968). The conservation measures employed by ICNAF were similarly modest as those of the Overfishing Convention, focusing on minimum mesh sizes in addition to generation of fishery statistics. The ICNAF Convention also authorised the commission to prescribe 'an over-all catch limit for any species of fish' (Article VIII), but it did not take effect until after a long discussion on conservation measures in the 1960s (Anderson 1998; Cushing 1977; Government of Norway 1975; Government of the UK 2006; Johnston 1985; ICNAF 1968; Lamson et al. 1990).

In the early post-war period, exclusive national control over fisheries in the north Atlantic was usually limited to the territorial waters, stretching three or four nautical miles (nm) off shore. Although Iceland's unilateral establishment and enforcement of a 12 nm national fishing zone in 1958 eventually precipitated similar steps by other states¹ (Government of Norway 2003; Nordstrand 2000), the expansion of the distant water trawl fleets operating off shore meant that resource conservation still could only be achieved through management of the high seas. Consequently, resource conservation was essentially a matter of international politics. The Atlantic fisheries commissions thus became the political arenas for the development of modern resource management. The Atlantic fisheries commissions came into being and expanded during an era of scientific progress, technological modernization, and economic and administrative growth. The role of these commissions in reshaping fisheries management was thus also a result of broad modernisation processes in the North Atlantic states that created needs and abilities for fishery resource management.

The management regimes of the early post war period initially had limited abilities to meet the emergent conservation challenges. One of the reasons for this was that these regimes focused on measures to restrict the efficiency of fishing rather than measures to restrict catch or fishing activity directly. Several delegations to the 1946 Overfishing Conference had voiced the need for stricter conservation measures, such as closed areas or limitations on fishing effort or fish

¹ For a more thorough outline of this process, see Chapter 5, footnote 8.

landings, but these suggestions met great resistance and failed to influence the Convention (Driscoll & McKellar 1979; Johnston 1985: 361–363). The Overfishing Convention did not enter into force until 1953, and by that time, it had become generally recognised that the Convention was insufficient in terms of dealing with the present challenges, among other things because it did not apply to herring, which was in danger of becoming overfished (Driscoll & McKellar 1979; Johnston 1985: 361–363). After four years of consultation, the 14 contracting parties of the Overfishing Convention (the Federal Republic of Germany and the USSR in addition to the twelve original signatories) signed the North East Atlantic Fisheries Convention in 1959. The new convention, which entered into force in 1963, also restricted itself to the Northeast Atlantic, but enlarged the convention area and encompassed all fish stocks within it. The new convention established the North East Atlantic Fisheries Commission (NEAFC) for the purpose of reviewing the fisheries and recommending conservation measures to the contracting states. Each contracting state had one vote in the Commission and recommendations adopted with no less than two-thirds of the delegations were binding for all member states, unless the state made use of a specific objection procedure. Article 7.1 of the Convention granted the Commission the right to make recommendations on mesh sizes and other fishing gear regulations, size limits of fish, and closed areas and seasons. Article 11 stated that recommendations should to the extent possible be based on ICES scientific advice.

However, the most interesting aspect of the Convention related to Article 7.2. This article emerged as a manifestation of the joint recognition among contracting states that the conservation measures in Article 7.1 might not be sufficient to protect fish stocks from overfishing in the future. It is also a manifestation of the perceived difficulties associated with identifying and agreeing on more adequate conservation measures at the time. Article 7.2 stated that:

Measures for regulating the amount of total catch, or the amount of fishing effort, or any other kinds of measures for the purpose of the conservation of fish stocks in the Convention area, may be added to the measures listed in paragraph (1)... on a Proposal adopted by not less than a two-thirds majority of the Delegations... and subsequently accepted by all Contracting States in accordance with their respective constitutional procedures. (NEAFC 1959, Article 7.2).

In effect, Article 7.2 provided an opportunity for the contracting states to develop NEAFC's management regime, without decisively pointing out the direction of such development. The Convention had barely entered into force before it became clear to contracting states that mesh size and small fish regulations were insufficient to protect the stocks, and discussions on the direction of future fisheries management began.

2.3 1960–1980: TACs Emerge as the Dominant Management Form

Although there had been some previous examples of catch quotas in the Pacific halibut fishery and the Antarctic whaling industry, it was the discussions in the North Atlantic fisheries commissions in the 1960s which focused the attention of administrators and scientists on the need to restrict fishing intensity, and which generated the common view that catch quotas were the best way to do this (Gulland 1984). The management discourse that preceded the adoption of TACs in NEAFC was influenced by processes in NEAFC's twin commission – ICNAF. Several NEAFC members had played a part in the development of both fisheries regimes in the North Atlantic. Seven states (Denmark, France, Iceland, Norway, Portugal, Spain and the UK) had been among the original signatories to the Overfishing Convention of 1946, the ICNAF Convention of 1949, as well as the NEAFC Convention of 1959. In addition to the dual memberships of several states, ICNAF and NEAFC had mutual observer status at each other's annual meetings. Both commissions had strong links to ICES and also to the Food and Agricultural Organization (FAO) of the United Nations, which attended the commissions as observers (Government of the UK 2006; ICNAF 1951, 1968; Johnston 1985; NEAFC 1965; Permanent Commission 1955). Consequently, the discourses on fisheries management proceeded largely in tandem across these two commissions.

The late 1950s and early 1960s saw a rapid increase of fishing effort in the Northwest Atlantic, especially by the USSR. Scientists within ICES and ICNAF's science committee responded to this capacity increase with warnings about the inability of the present mesh size regulation regime to protect fish stocks from overfishing (Rozwadowski 2002: 189). The political discourse on new management measures began at ICNAF's annual meeting in June 1964. Based on the recognition that current management measures were insufficient, the ICNAF commission asked its scientific committee to review various options for resource conservation and present a report to the next annual meeting. In 1965, ICNAF presented to its members a fishery expert paper authored by two scientists, Wilfred Templeman and John Gulland² (1965), that concluded that present management measures were insufficient and that action had to be taken to restrict fishing, either through limitations on effort or catch quotas.

² Templeman and Gulland were involved in the scientific work under ICNAF's Standing Committee on Research and Statistics (STACRES). Unlike NEAFC which relied entirely on ICES advice, ICNAF had its own science committee, although there was great overlap of scientists between ICNAF and ICES. John Gulland at the Fisheries Laboratory, Lowestoft, UK, also played a key role in ICES where he was among the pioneer scientists in the modelling of fish stock dynamics in the 1960s. He left to work for the FAO in 1966, and continued his advisory role in ICNAF as member of a follow-up working group which recommended the adoption of TAC-based management (Rozwadowski 2002; WGBEAC 1968).

The discussion in ICNAF soon influenced NEAFC's agenda. According to unpublished internal minutes³ of the Norwegian NEAFC delegation, the British and Norwegian delegations, both of whose governments were represented in ICNAF, had informal discussions before the 1965 Annual Meeting of NEAFC regarding a planned UK initiative to raise the issue of restricting fishing intensity in the Northeast Atlantic. At that time, the Liaison Committee of ICES, which provided NEAFC with scientific advice, had pointed to the effects of fishing intensity on the arctic cod and haddock stocks and argued that the stocks would benefit from decreased intensity of fishing (NEAFC 1965). The British delegation subsequently proposed to the NEAFC's 1965 Annual Meeting that the contracting states should substantively discuss the question of reducing fishing intensity, and that this should be on the agenda for NEAFC's next annual meeting. At this time it was not agreed which management measures should be adopted, and there was great uncertainty in terms of what the various measures would entail in terms of administration, economy and biology. Following the UK's proposal, the question of restricting fishing intensity entered NEAFC's formal agenda for the first time at the annual meeting of 1966, where the UK continued its role as the prime mover.

The question of which management form to choose was subsequently addressed at the 1966 annual meetings of both Atlantic fisheries commissions. The NEAFC delegations generally felt that the information available at the time was insufficient to decide on new conservation measures, and instead decided to study the issue further in liaison with ICNAF and the FAO. The UK, which also played an active role in ICNAF on this issue, presented a paper to ICNAF's delegations in 1966 which agreed with the Templeman and Gulland report that some form of direct limitation of either total effort or total catch was the only reasonable alternative (WGBEAC 1968). The 1966 annual meeting of ICNAF established the Working Group on Joint Biological and Economic Assessment of Conservation Actions (WGBEAC), charged with the evaluation of these two management alternatives.

WGBEAC was equally divided between biologists and economists. It consisted of 16 people from the FAO, the Organization for Economic Co-operation and Development (OECD), national fisheries administrations, science and industry, and met twice during 1966/1967 in London. Recognising that restrictions on fishing in one area implied a risk of redeploying fishing effort in another, as certain fishing fleets operated in both the Northwest and the Northeast Atlantic, the working group concluded that conservation measures had to be assessed and established for the entire North Atlantic. The working group presented its report to ICNAF's 17th annual meeting in 1967 (WGBEAC 1968). Copies of this report were circulated at NEAFC's annual meeting the same year (NEAFC 1968).

In the working group's discussion on the pros and cons of a system based on effort regulation versus a system based on catch quotas, it was emphasised that, although restrictions on effort in principle was the most rational approach from an economic point of view, it was extremely difficult to find a reliable, standardised

³ Norwegian Ministry of Fisheries and Coastal Affairs, archives.

and agreed measure for the relationship between fishing effort and fishing mortality. The working group was, for example, concerned about the scientific problems of estimating the precise effects of new technologies on fishing mortality. It also pointed to political problems following from the multi-national character of major fisheries, arguing that agreement on the weighting factor to be used for changes in gear used by specific countries would be difficult. Similarly, it pointed to the insufficiency of current statistics to provide for adequate control of national implementation of effort regulation schemes. Consequently, it advised that the effort regulation approach 'be set aside for the present' (WGBEAC 1968: 52–56). The working group considered that a system of catch quotas would not entail similar problems, although it recognised that it was hardly possible to include discards in the catch quota. The main problem with catch quotas was perceived to be the need to adjust these from year to year in order to keep a constant fishing mortality rate, requiring currently updated reliable scientific data and willingness of states and industries to adjust. The working group concluded that the problems of a TAC-based approach were manageable, and advised that this approach be chosen, beginning with a catch quota covering the cod and haddock stocks in the ICNAF area and northern part of the NEAFC area. The report concluded decisively that the economic benefits of these measures would quickly evaporate unless the commissions undertook the task of distributing the quotas among the member states. It also pointed to the probable need for the member states to undertake some form of sub-national distribution of quota shares, and recommended that they introduced limited entry licensing schemes to ensure economic efficiency. In the years to come, the recommendations of this report were implemented as the cornerstones of fishery management in the North Atlantic: total allowable catches for the purpose of fish stock protection, combined with limited entry licensing schemes for the purpose of economic efficiency.

Negotiations regarding fisheries management modernisation took place in the days of the cold war and on the basis of no prior experience with the proposed management alternatives. The choice of management form was shaped by the challenges of the time: the need to find a management measure with a comprehensible connection to fishing mortality which also provided for politically-feasible distribution among contracting states. The main challenge of the day was to achieve agreement among states on much-needed joint action to reduce overfishing. Consequently, focus was directed at the processes preceding regulation: generation of scientific knowledge and political agreement. The problem of implementing the resulting regulations, which dominate today's discourse, were not among the main worries expressed in these early advisory reports.

The modernisation of fisheries management during the late 1960s and early 1970s emerged as interplay between scientific progress and practical politics. The late 1950s saw several developments that were crucial to the modernisation of fisheries management. At the technological level were the application of echo sounder and asdic technology in fisheries and fisheries research. By the late 1950s, the echo sounder had become useful technology in surveys of fish stock abun-

dance, improving the ability of marine scientists to estimate stock sizes (Rozwadowski 2002: 157). This period also saw the publishing of key theoretical contributions that paved the way for science-based restrictions on fish harvesting. Beverton and Holt's (1957) seminal monograph *On the 'Dynamics of Exploited Fish Populations'*, completing work that began by the end of WWII, provided a mathematical model of fish population dynamics in response to fishing pressures, allowing scientists to calculate quantitatively the probable effects of fishing on fish stocks and thus provide advice to managers on fisheries regulations. This modelling work was mostly finished by the early 1950s, and had to some extent been disseminated through lectures, although the actual monograph was not published until 1957 (Rozwadowski 2002: 158–165). In 1954, Scott Gordon published his famous economic model of human behaviour in unregulated fisheries, predicting that unregulated fishing would lead to economic inefficiency. Gordon argued that free fishing would lead fishermen to increase their fishing effort beyond optimal levels, and that fishermen would also increase their fishing capacity suboptimally unless the state limited entry to the fisheries and allocated catch right to the individual fishers (Gordon 1954). Schaefer (1957) included Gordon's insights into a more properly developed model of fish stock dynamics, illustrating the relationships between fishing effort, net economic yield, and total catch. This model, named the Gordon-Schaefer model after its inventors, became an important part of the academic foundation for modern fisheries management (Holm 1996: 128). The 1950s thus saw the development of basic tools for scientific advice on harvesting restrictions in the form of e.g. TACs, as well as the development of models that connected models of fish stock dynamics to models of human behaviour. Thereby, scholars had provided the theoretical tools and justifications for linking biological knowledge to politics. Given this period's optimism regarding the ability of both natural and social sciences to provide adequate knowledge and the strong faith in the state's ability to govern for the common good, these theoretical contributions paved the way for the fisheries management revolution that took place throughout the following two decades.

The 1965 Templeman and Gulland report was arguably an important channel for transferring the basic insights of the Gordon-Schaefer model to fisheries managers. The Templeman and Gulland report did not contain references, but it clearly expressed the ideas of Gordon and Schaefer, emphasising the need to reduce fishing pressure and to combine general catch restrictions with limited entry schemes and quota allocations in order to reduce economic inefficiency arising from fishermen competing for their shares of a total quota. The Templeman & Gulland report thus presented to national fisheries administrations a bio-economic management paradigm that was to become dominating in fisheries management.

The writing of the Templeman and Gulland advisory report to ICNAF coincided with Gulland's development of important statistical methods for calculating the strengths of year classes – so called Virtual Population Analysis (VPA). This method, simplified in Pope's 'cohort analysis', was an important addition to the works of Beverton and Holt, improving the scientific tools for estimating the ac-

tual size of a fish stock. VPA and the cohort analysis thus further facilitated the provision of scientific catch quota advice (Cushing 1977: 233; Rozwadowski 2002: 182–194). VPA was especially suited to TAC-based management because it allowed scientists to calculate stock size in actual tonnage. Fisheries managers proved highly receptive to the idea that scientific advice could be provided in the relatively simple form of a figure of the tonnage that sustainably could be harvested from a fish stock, compared to the more complex and politically-sensitive advice on desired fishing effort by different gear and vessel types (Rozwadowski 2002: 188–190). That said, the quantitative measures of stock size provided by VPA, could in principle be equally useful in an effort regulation regime, provided that this regime also focused on target fishing mortality rates.⁴ The relative merits of management based on TACs versus management based on effort regulation were debated within ICES until the early 1970s (Holm and Nielsen cited by Hersoug 2005; Rozwadowski 2002: 189). The TAC-based model was recommended largely because it was better suited to meet the practical political demands for feasible allocation and administration (WGBEAC 1968: 52–56).

ICNAF largely adopted the recommendations of WGBEAC at the 1967 annual meeting, setting up a Standing Committee on Regulatory Measures with the task of finding a procedure for fixing and distributing annual catch quotas. ICNAF set its first TAC in 1969, applying to the haddock fisheries in 1970. Two years later it set TACs for eight stocks, including cod and herring, and also began to allocate quota shares among member states. By 1975 TACs applied to 55 fish stocks in the area (Blake 1997; Cushing 1977; ICNAF 1968; Rozwadowski 2002: 191). In NEAFC, there was concern about the lack of scientific evidence upon which new management measures could be based, as well as potential economic and administrative problems. It is important to note that despite significant developments within scientific methodology precise scientific estimates of stock size and forecasts for their development had yet to be developed at this point (Nordstrand 2000). NEAFC's annual meeting of 1967 agreed that the issue should be examined further in the light of the work done by ICNAF (NEAFC 1968). NEAFC's annual meeting of 1968 set up an Ad Hoc Study Group to examine the possibility of restricting fishing on the cod and haddock stocks in the Northeast Arctic. The Study Group focused on a system based on catch quotas, and suggested that allocations be based on the record of past catches, as well as dependence of coastal states on the fisheries and the claims of new entrants.

The following discussion centred on the legal aspects, as NEAFC had to go through the procedure of Article 7.2 in order to add the new measures discussed to the list of Article 7.1. The procedures set out in Article 7.2 were demanding because they required a proposal supported by no less than two-thirds of the delegations followed by acceptance by all member states. Consequently, authorising NEAFC to use catch quotas was a potentially-slow process. Meanwhile, a crisis

⁴ Chapter 4 on Faeroese fisheries management describes such a regime. Basically, this system converts fishing effort into catch quantity, calculating fishing mortality per unit of fishing effort.

emerged in the Northeast Atlantic herring fisheries. Scientists had been concerned about the state of the North Sea herring since the mid 1950s and were alarmed by signs of decline of the Atlanto-Scandian herring in the early 1960s. However, the view that this decline was caused by fishing had yet to gain strong foothold within ICES. NEAFC's debate on management modernisation focused on the demersal fish stocks, and no one predicted the collapse of the Atlanto-Scandian herring fishery that came in 1968/69 (ICES 2006; Rozwadowski 2002: 178–182). The Atlanto-Scandian herring crisis came at a point when NEAFC was already in the process of adopting TAC-based management, but the states that were most dependent on the Atlanto-Scandian herring were unwilling to wait passively for an amendment to Article 7.1 to take effect. Consequently, Iceland, Norway, and the USSR, began discussions outside the NEAFC framework in the autumn of 1970 regarding a catch quota for Atlanto-Scandian herring, agreeing on a quota for 1971 (Government of Norway 1971; NEAFC 1971). Similarly, the three states mainly active in the Northeast Arctic cod and haddock fisheries – Norway, the UK, and the USSR – attempted outside the NEAFC framework to agree on the total allowable catch and distribution for these demersal stocks. Catch quotas for the arctic cod fisheries took effect for the first time in 1974, through the tripartite agreement between the UK, the USSR and Norway. However, this agreement broke down when the USSR withdrew due to excessive fishing from non-signatories, and NEAFC took over the task. At the annual meeting in June 1974, NEAFC set the quotas for North Sea herring for the 1974–1975 season, and for several other pelagic and demersal stocks for 1975. Allocations between contracting states were based on historical catch performances, with certain percentages set aside for coastal state preferences and special needs. When the national 200-miles Exclusive Economic Zones (EEZs) were established in 1977, NEAFC ceased setting measures for resource conservation (Christensen and Hallenstvedt 2005: 247). NEAFC 1969; 1970; 1971; 1973a, b; 1974; 1975a, b; 1977; 1978). From then on, the task of ensuring sustainable harvesting of the fish stocks of the Northeast Atlantic was taken on by national states and bi-lateral and multi-lateral fisheries commissions. The Northeast arctic cod came to be managed by the Norwegian-Russian fisheries commission from 1977. NEAFC lost its significance to fisheries management for many years, but the processes that took place in the North Atlantic fisheries commissions in the 1960s and 1970s shaped management regimes that have dominated the North Atlantic fisheries ever since.

2.4 Concluding Remarks

The discourse on management reform in the North Atlantic fisheries commissions is better understood taking into account some general developments within science and governance at the time. The management discourse in the Atlantic fisheries commissions took place at a time when the marine sciences were developing and

unchallenged in terms of providing the best possible knowledge of fish stocks. All sciences, including the social sciences, were still greatly influenced by the positivist theory of science. The positivist view implied a belief in the ability of science to accurately model the dynamics of fish stocks and the behaviour of people. The positivist view thus implied a belief in the ability of man to predict and control the future. As Rozwadowski (2002) has shown, this optimism was clearly pronounced in ICES in the early post-war period, resulting in great faith in the ability of science to ensure rational exploitation of marine resources.

This optimistic view of knowledge was accompanied by another significant trend: the expansion of state administrations. The first decades after WWII were marked by significant growth in the tasks undertaken by the states and pertinent growth in the states' administrations (Flora 1986). The expansion of state regulation of the fishing industry was interesting in this respect because it was, to some extent, driven by needs that emerged from unintended consequences of state policies. The European states played active roles in the reconstruction and modernisation of economic life after WWII. As is illustrated by several cases in this volume, modernisation of fishing fleets was often encouraged through state policies aiming to increase social welfare and food security in the post-war period. These policies contributed to an unprecedented growth in fishing capacity and, consequently, fishing effort. Problems of overfishing emerged as an unintended by-product of this fleet modernisation, and the management discourse of the 1960s reflected increasing awareness of the need for governmental action to reduce these unintended effects. Consequently, resource management emerged as a second major task for the states alongside industry development.

The creation of modern fisheries management can thus be seen as resulting from the combination of two dominant mindsets: faith in the ability of science to model social and natural causal chains, and faith in the ability of the state to govern these causal chains for the common good. As has been described in Chapter 1, both of these mindsets were challenged to an increasing extent by academics from the mid 1970s onwards: the positivist stance was largely abandoned within the social sciences, the tragedy of the commons thesis was challenged, and the reliability and relative superiority of scientific knowledge were questioned. However, by the time these criticisms had become significant in the public debates, basic management choices had been made and structures had been built that created a great degree of path dependence in fisheries management.

This path dependence was embedded in two types of structures. First were the political, legal and administrative structures built to solve distributional and implementation tasks. As will be described thoroughly in the following chapters, these structures were sometimes outcomes of hardly-achieved political compromises and significant investments in negotiation, legislation and administration. Consequently, they were not easily changed. Second was the structure of the discourse at management level. From the late 1960s, the discourse on fisheries management was predominantly a discourse about governmental TAC-based regulation. The question of overcapacity remained important because it created

challenges in terms of implementation and distribution of TACs, but TAC-based management constituted the frame of the management discourse. For example, when the 1966 ICNAF working group advised that the option of managing fisheries through effort regulation ‘be set aside for the present’ (WGBEAC 1968: 56), its intention was probably not to exclude this option from the future fisheries management discourse. However, this is to a great extent what happened. Almost 20 years after the discussion took place in the Atlantic fisheries commissions, one of the key advisors in this process – a fisheries scientist that co-authored both the ICNAF advisory reports described above – commented that the process had led to a somewhat single-minded focus among managers on TACs, as well as the unfortunately-widespread belief that ‘catch quotas are the only correct way to manage a fishery’ (Gulland 1984).

In Foucault’s terms (1999), the order of the fisheries management discourse had largely been shaped by 1970. Management perspectives challenging the state-centred, TAC-based management approach were marginal in the discourse influencing fisheries management in the 1970s and 1980s. It would take a series of crises in TAC-managed fisheries, with ensuing legitimisation problems, before the management discourse was significantly extended. The fisheries crises in the early 1990s, followed by increasing sensitiveness to implementation challenges, have in some cases paved the way for the inclusion of alternative management perspectives through, for example, increased emphasis on user-group participation, application of fishing day regulations and Marine Protected Areas, from the 1990s onwards. However, despite these new trends, governmental TAC-based management has by and large held its ground as the dominant paradigm of the fisheries management discourse.

References

- Anderson, E. D. (1998). The History of Fisheries Management and Scientific Advice: The ICNAF/NAFO History from the End of World War II to the Present. *Journal of Northwest Atlantic Fishery Science*, 23 (October), 75–94.
- Beverton, R. J. H., & Holt, S. J. (1957). *On the Dynamics of Exploited Fish Populations*. Fisheries Investigations, Series 2. Lowestoft (UK): Ministry of Agriculture, Fisheries and Food.
- Blake, R. (1997). The International Fishery off Canada’s East Coast in the 20th Century. In J. E. Condon & C. Corbin (eds.), *How Deep is the Ocean?* (pp. 207–222). Sydney: University College of Cape Breton Press.
- Christensen, P. & Hallenstvedt, A. (2005). *I kamp om havets verdier: Norges Fiskerilags historie*. Trondheim: Norwegian Fishermen’s Association.
- Cushing, D. H. (1977). The Atlantic fisheries commissions. *Marine Policy*, 1(3), 230–238.
- Driscoll, D. J., & McKellar, N. (1979). The Changing Regime of North Sea Fisheries. In C. M. Mason (ed.), *The Effective Management of Resources* (pp. 125–167). London: Frances Pinter.
- Engesæter, S. (2002). The importance of ICES in the establishment of NEAFC. ICES MSS (Marine Science Symposia) Vol 215. Copenhagen: ICES.
- Flora, P. (1986). Introduction. In P. Flora (ed.), *Growth to Limits* Vol. 1, (pp. XI–XXXVI). Berlin: Walter de Gruyter.
- Foucault, M. (1999). Diskursens orden. Spartacus, Oslo.

- Gordon, H. S. 1954. The Economic Theory of a Common Property Resource: The Fishery. *The Journal of Political Economy*, 62, 124–142.
- Government of Norway (1971). Forskrifter om fangstbegrensning av atlanto-skandisk sild. 8. jan. Oslo: Ministry of Fisheries.
- Government of Norway (1975). Fiskeridirektoratet 75 år. Bergen: Directorate of Fisheries.
- Government of Norway (2003). Ot. prp. nr 35 (2002–2003) Om lov om Norges territorialfarvann og tilstøtende sone. Oslo: Ministry of foreign affairs.
- Government of the UK (2006). List of signatures and accessions to the Convention for the Regulation of the Meshes of Fishing Nets and the Size Limits of Fish. www.fco.gov.uk: UK Foreign and Commonwealth Office.
- Griffith, D. G. (1999). The Evolution of ICES. Lecture. Copenhagen: ICES.
- Gulland, J. A. (1984). Control of the amount of fishing by catch limits. In *FAO Fisheries Report* No. 289 Supplement 2. Rome: FAO.
- Hersoug, B. (2005). Closing the Commons: Norwegian Fisheries Management from Open Access to Private Property. The Hague: Eburon.
- Holm, P. (1996). Kan torsken temmes? Moderniseringsprosesser i fiskerinæringa 1935–1995. In E. O. Eriksen (ed.), *Det nye Nord-Norge: Avhengighet og modernisering i nord*, (pp. 109–142. Bergen: Fagbokforlaget.
- ICES (International Council for the Exploration of the Sea) (2006). ICES advice 2006. Copenhagen: ICES.
- ICNAF (International Commission for the Northwest Atlantic Fisheries) (1951). *Annual Proceedings* Vol 1. Washington: Department of State.
- ICNAF. (1968). *Annual Proceedings* Vol. 17. Dartmouth: ICNAF.
- Johnston, D. M. (1985). The International Law of Fisheries. A Framework for Policy-Oriented Inquiries. New Haven: New Haven press.
- Lamson, C., McConnell, M., Russel, D., Townsend-Gault, I., & VanderZwaag, D. (1990). Managing Fishery Resources Beyond 200 Miles: Canada's Options to Protect Northwest Atlantic Straddling Stocks. Halifax: Oceans Institute of Canada.
- NEAFC (North East Atlantic Fisheries Commission) (1959). *North-East Atlantic Fisheries Convention*. London: NEAFC.
- NEAFC (1965). *Report of the third meeting*. London: NEAFC.
- NEAFC (1968). *Report of the Fifth Meeting and the Second Special Meeting on International Control, May 1967*. London: NEAFC.
- NEAFC (1969). *Report of the seventh meeting*. London: NEAFC.
- NEAFC (1970). *Report of the eighth meeting*. London: NEAFC.
- NEAFC (1971). *Report of the ninth meeting*. London: NEAFC.
- NEAFC (1974). *Report of the Special Meetings*. London: NEAFC.
- NEAFC (1973a). *Report of the tenth meeting*. London: NEAFC.
- NEAFC (1973b). *Report of the eleventh meeting*. London: NEAFC.
- NEAFC (1975a). *Report of the mid-term meeting November 1974 and the Special Meeting, Bergen January 1975*. London: NEAFC.
- NEAFC (1975b). *Report of the twelfth annual meeting*. London: NEAFC.
- NEAFC (1977). *Report of the mid-term meeting, November 1976*. London: NEAFC.
- NEAFC (1978). *Report of the fifteenth annual meeting, July 1977*. London: NEAFC.
- Nordstrand, L. (2000). *Fiskeridirektøren melder: Fiskeridirektoratet 1900–1975*. Bergen: Directorate of fisheries.
- Permanent Commission (1955). *Report by the president on the fourth meeting of the permanent commission, held in London sept. 1955*. London: Permanent Commission.
- Rozwadowski, H. M. (2002). *The Sea Knows No Boundaries: A Century of Marine Science under ICES*. Copenhagen: ICES.

- Schaefer, M. B. (1957). Some Considerations of Population Dynamics and Economics in Relation to the Management of the Commercial Marine Fisheries. *Journal of the Fisheries Research Board of Canada*, 14(5), 669–681.
- Sen, S. (1997). The evolution of high-seas fisheries management in the north-east Atlantic. *Ocean & Coastal Management*, 35(2–3), 85–100.
- Templeman, W., & Gulland, J. A. (1965). Review of possible conservation actions for the ICNAF area. *Annual Proceedings (ICNAF)*, 15, 47–56. Dartmouth: ICNAF.
- WGBEAC (Working Group on Joint Biological and Economic Assessment of Conservation Actions) (1968). Report of the Working Group on Joint Biological and Economic Assessment of Conservation Actions. *Annual Proceedings (ICNAF)*, 17, 48–91.

3 Implementation of Resource Conservation Policies in the Norwegian Fisheries: A Historical Outline

Stig S. Gezelius

Abstract This chapter presents the history of Norwegian fisheries management since 1900, focusing on the system for implementing resource conservation goals. It describes how the Norwegian implementation system has developed incrementally in response to new implementation challenges and outlines in detail the system for handling the most difficult legal and administrative issues in TAC-based management. The chapter seeks to explain the continuity and incremental growth of the Norwegian implementation system, as well as the role of fishing industry organisations in developing it. It argues that the nature of the development of the Norwegian implementation system has been shaped by Norway's level of national autonomy in fisheries management, the division of authority between the Parliament and the fisheries administration, and the power relationship between the fisheries administration and the key industry organisations.

3.1 The Subject and the Actors

This chapter describes the historical development of the Norwegian system for implementing Total Allowable Catches (TACs). The focus is on resource conservation, meaning that the much-discussed question of allocation is addressed only to the extent that it is directly relevant to the implementation of conservation targets. The chapter describes the essential features of the Norwegian system for implementing TACs and offers explanations for how these features developed. An important characteristic of the Norwegian implementation system, influencing this chapter's descriptive approach, is that it has developed through incremental changes to regulatory details rather than through a large general plan. Consequently, the fundamental ideas of the implementation system must be sought after in regulatory details that may appear to be insignificant at first glance, especially to readers who are unfamiliar with fisheries management. The incremental nature of this development has meant that solutions for the present have largely been built upon the structures of the past. Consequently, understanding the specifics of

the Norwegian implementation system requires delving into the historical development of the structures that eventually shaped it. A major goal of this chapter is thus to link regulatory specifics to the ideas and structural conditions that shaped them. Explaining regulatory detail in the light of their structural conditions implies a historical approach to the implementation system. Catch quotas were introduced in Norwegian fisheries management in the early 1970s, but beginning this outline at that point would lead us to ignore some fundamental conditions that have shaped the implementation system. Consequently, this chapter begins with a description of certain important pre-WWII events that later became crucial to the implementation of TACs in Norway.

This chapter is motivated by the lack of systematic and explanatory descriptions of the Norwegian system for implementing TACs in relation to resource conservation. However, there is rich literature covering a number of other significant aspects of Norwegian fishing and fisheries management, also for English readers. Consequently, I do not give a general descriptive introduction to the Norwegian fishing industry. Readers looking for such a background can easily find this elsewhere.¹ I will limit the introductory background to a brief presentation of the main actors that have shaped the development of the implementation system and the basic relationships between them.

The incremental nature of the development of the Norwegian implementation system is a result of practically-oriented management. The development of the Norwegian implementation system has above all focused on solving specific problems at the practical level. This is reflective of the fact that the practitioners of fisheries management (the fisheries administration) and the regulated actors (the fishing industry) have been the key actors in this process. Four central actors have shaped the development of the Norwegian system for TAC implementation: the Ministry of Fisheries and Coastal Affairs (which I will mostly refer to as the Ministry of Fisheries²), the Directorate of Fisheries, the Norwegian Fishermen's Association, and the fishermen's sales organisations.

The Ministry of Fisheries and Coastal Affairs, headed by the Minister of Fisheries, is located in Oslo and has overall administrative responsibility for fisheries management. It draws up general fisheries policies and proposed laws, and is responsible for implementing fisheries legislation. Today's fisheries legislation mostly consists of enabling acts giving the Ministry of Fisheries and Coastal

¹ For a general introduction to the Norwegian fisheries in English, see Hersoug 2005. Hersoug's book also gives a thorough outline of the allocation aspect of Norwegian fisheries management. General descriptions in English of industry, industry organisations, and management can also be found in, for example, Apostle et al. 1998, Gezelius 2003, and Hallenstvedt 1995. For Norwegian readers, specialised historical descriptions have been given of the Directorate of Fisheries (Nordstrand 2000) and the fishing industry organisations (Christensen & Hallenstvedt 1990, 2005; Hallenstvedt & Dynna 1976; Johannesen & Misje 2002).

² The Ministry of Fisheries changed its name into Ministry of Fisheries and Coastal Affairs in 2004. I will mostly refer to it as the "Ministry of Fisheries" because that was its name through most of the period described in this chapter.

Affairs extensive authority in terms of regulating the fisheries. The Ministry of Fisheries and Coastal Affairs currently employs a staff of approximately 110 people. However, the Ministry is not the centre of implementation of conservation policies. This centre is constituted by the Directorate of Fisheries, which is organised as a separate unit under the Ministry of Fisheries and Coastal Affairs and located in Bergen. The Directorate of Fisheries is the executive and advisory unit of the Ministry of Fisheries and Coastal Affairs. It is responsible for the day-to-day regulation of the fisheries, issuing more than 250 regulations per year. It also has the main responsibility for the enforcement of fisheries regulations, and provides advisory services for the fishing industry. In addition to its central office in Bergen, it has a number of regional and local offices fulfilling enforcement and advisory tasks along the coast. The Directorate of Fisheries presently has a staff of approximately 450 people, 250 of whom work in regional or local offices.

The Norwegian Fishermen's Association is the main industry organisation representing the interests of fishermen. It includes inshore fishermen, offshore fishermen, vessel owners, and crews throughout Norway. After the offshore sector joined the Norwegian Fishermen's Association in the 1960s, the Norwegian Fishermen's Association has had a virtual monopoly on representing the interests of fishermen.³ The organisation has strong influence on Norwegian fisheries politics and is formally and informally consulted by the Ministry of Fisheries and Coastal Affairs and the Directorate of Fisheries on all significant matters. The fisheries administration has treated the Norwegian Fishermen's Association as the main voice of the fish harvesting industry and included it in decision-making to the extent that it has emerged as the government's fisheries management partner. The Ministry of Fisheries and Coastal Affairs and the Directorate of Fisheries have considered the dominant position of the Norwegian Fishermen's Association to be a significant advantage because it reduces the heterogeneity of industry advice (Gezelius 2002a, 2003; Christensen and Hallenstvedt 2005). While the Norwegian Fishermen's Association voices the interests of fishermen in relation to political and administrative agencies, the fishermen's sales organisations protect the fishermen's interests in the market. There are five sales organisations for groundfish, each one covering a specific geographical area. In addition, there is one sales organisation for pelagic fish in all of Norway. The sales organisations are owned by fishermen and have law-protected monopolies in their respective areas regarding the purchase of fish from fishermen. These monopolies imply that fishermen are only allowed to sell their fish through a fishermen's sales organisation. In practice, the fishermen sell their catch to private fish buyers who operate under the instructions of the sales organisations and act on their behalf when dealing with the fisherman. The sales organisations were established to give the fishermen control over

³ The Norwegian Coastal Fishermen's Association was established in 1987 in response to the influence of the offshore interests on the Norwegian Fishermen's Association. Although the Norwegian Coastal Fishermen's Association gradually has become accepted as a legitimate industry voice, it has never managed to threaten the dominant political position of the Norwegian Fishermen's Association.

fish prices⁴ and to secure payment for their catch. Although they were established for the purpose of market regulation, the sales organisations have to an increasing extent been instructed to undertake tasks related to the implementation of government policies. The sales organisations constitute a centralised structure for handling the data and money-flow relating to the first-hand trade of fish. Consequently, they have become important actors in the Norwegian system for TAC implementation.

A large share of the data for this chapter have been generated from government documents, mainly acts, regulations and preparatory papers covering Norwegian fisheries management throughout the 20th and 21st centuries. Important data have also been drawn from previously published studies largely based on fieldwork among fishermen and interviews with key informants in the fisheries administration, the Coast Guard, the Norwegian Fishermen's Association and the sales organisations (Gezelius 2002a, 2003, 2006, 2007a). The key informants in these studies were selected on the basis of their positions and work tasks and were generally offered anonymity. More thorough descriptions of methodology can be found in the cited publications. These data have been supplemented with ad hoc personal communication with management personnel regarding specific issues during the writing of this paper, as indicated in citations. Needless to say, the works of a number of other authors, cited in the regular manner, have been of great value.

3.2 1945–1977: From Industry Development to Resource Management

3.2.1 Preconditions Developed Before 1945

The end of World War II opened a period of increasing fishing capacity and expansion of the Norwegian state apparatus, which makes it a natural starting point for an outline of the construction of modern fisheries management in Norway. However, several institutions that were built before WWII facilitated the post-war development. When the Ministry of Fisheries was established in 1946, a fisheries administration had been in place under various other ministries for almost 50 years. The late 1800s and early 1900s saw an expansion of the use of engines in the Norwegian fishing fleet, allowing fishermen to use more efficient gear than in previous years. This development triggered a need for management and

⁴ The sales organisations set minimum prices for fish based on market analyses. Minimum prices are set following negotiations with the fish buyers' organisation, but the sales organisations are authorised to set prices when an agreement cannot be reached.

knowledge of marine fish stocks. Consequently, the Directorate of Fisheries, which is organised under the Ministry of Fisheries and Coastal Affairs, and is responsible for enforcement and technical aspects of fisheries management today, was established in 1900 under the name The Fisheries Board (*Fiskeristyrelsen*). The Directorate of Fisheries was constructed at the same time as the International Council for the Exploration of the Sea (ICES), and development of marine science became one of the core tasks of the young Norwegian fisheries administration. The fact that the Director of Fisheries discovered the significance of year classes to the periodic changes in the fisheries, which is a cornerstone in modern TAC-based management, illustrates the strong connection between science and management in this period. The marine biologist Johan Hjort was Director of Fisheries from 1906 to 1916, and made his seminal discovery in 1913.

Apart from fisheries science, the early tasks also included fishing industry development and administration of fisheries law. The Directorate of Fisheries established a quality control for fish in 1903, which was the beginning of a control system that developed into today's enforcement of catch quotas. The Act on Tagging and Registration of Fishing Vessels was decided upon in 1917⁵ and implemented beginning in 1920 (Government of Norway 1917; Nordstrand 2000). The early regulatory responses to the modernisation of the Norwegian fisheries in the late 19th and early 20th century mainly aimed to solve or reduce conflicts between the users of different gear types, but also included some pure conservation measures for lobster, salmon, and marine mammals (Hallenstvedt & Dynna 1976; Nordstrand 2000).

Perhaps of greatest consequence for the government's future capacity to implement resource management policies was the organisation of the fishing industry that took place during the inter-war years. This organisation process reflected and created tight and enduring connections between the fishing industry and the state. The organisation of the first hand trade of fish was to become especially important to implementation. Economics hardships in the fishing industry during the 1920s generated attempts by fishermen to organise the first hand trade of fish, which led to the establishment of the first fishermen's sales organisation in 1927. The fishermen fought for law protection of their sales organisations, which eventually led the establishment of the Raw Fish Act in 1938 (Christensen & Hallenstvedt 1990; Johannesen & Misje 2002). A new version of this was established in 1951⁶ and is still in effect. The Raw Fish Act ensures the fishermen's sales organisations a law-protected monopoly on first-hand trade of fish. Consequently, fishermen can only land fish to buyers that operate through sales organisations, and all fish buyers must act according to the rules of these sales organisations. In practice, the buyer acts on behalf of the sales organisation when dealing with the fisherman. When receiving catch from the fisherman, the buyer sends sales notes to the sales organisation, which subsequently pays the fisherman. This system has entailed that all

⁵ In Norwegian, this act was called *Lov om registrering og merking av fiskefartøyer*.

⁶ In Norwegian, this act is called *Lov om omsetning av råfisk (Råfiskloven)*.

fish landings are traded through a centralised system of law-protected organisations which are required to report catch statistics to the Directorate of Fisheries (Nordstrand 2000: 177). The purpose of the Raw Fish Act was to enhance the market position of fishers, granting them control over fish prices and securing their payment. However, the organisation of first-hand trade of catch has greatly facilitated the monitoring of fishing mortality, and became an important factor in the implementation of the Norwegian resource management system that began to evolve some 40 years later.

Another significant development was the founding of the Norwegian Fishermen's Association. The Norwegian fish harvesting industry had traditionally been organised in several local organisations at the county level. However, the government, which wanted to consult a unitary fish harvesting industry, initiated a process leading to the merging of the local organisations into the Norwegian Fishermen's Association in 1926. By the early 1970s, this organisation represented the entire fish harvesting industry, including owners and crew in both inshore and offshore fisheries (Hallenstvedt & Dynna 1976). The Norwegian Fishermen's Association has demonstrated a remarkable capacity to arbitrate between conflicting industry interests and, by so doing, present uniform advice to the government. Consequently, the Norwegian Fishermen's Association has become indispensable to the government in terms of handling the distributional issues that accompany modern TAC-based management. It has significant influence on governmental harvesting regulations. It also has a significant role in implementation by communicating regulations back to the industry. It will be argued that the role of the Norwegian Fishermen's Association has made implementation of fish harvesting regulations much easier for the state by improving state/industry communication and increasing the legitimacy of state policies.

3.2.2 Early Post-war Policies

As described in Chapter 2, questions of overfishing and resource conservation attained increasing attention in the international fisheries commissions during the first decades after World War II, and the need to restrict fishing capacity and/or regulate catch quantities became generally recognised among the contracting parties. The attempts to coordinate conservation efforts in the Atlantic fisheries commissions emerged in response to modernisation efforts at the national level. Therefore, the development in fisheries management at the international level moved, in some respects, in the opposite direction of the policies at the national level. While the need to reduce fishing pressure received increasing attention, also from Norwegian managers, in the North Atlantic fisheries commissions from the late 1950s, the Norwegian domestic fisheries policies continued to focus mainly on modernising the fishing industry. This policy was driven by the belief that the traditional combination of farming and seasonal inshore fishing was economically inefficient,

and that future demands for profitability and a stable supply of fish required developing a Norwegian offshore trawl fishery (Government of Norway 1957a).

The introduction of freezer technology represented an opportunity for the Norwegian fish processing industry, which was located far from its export markets, to export fresh products and to rationalise traditional conservation methods. Consequently, the government initiated and promoted the development of freezer plants, a number of which were built during the 1950s. The new freezer plants depended on stable access to fish landings, which became an important motivation for government policies encouraging the development of the trawl fishery. The Norwegian fishing fleet was owned by fishermen, which meant that there had not been enough concentrated capital to develop a significant trawl fishery. Neither was there any great interest in the industry for building or buying trawlers. Consequently, the government actively promoted the expansion of the trawler fleet by softening up the traditional licensing policy that had only allowed fishermen to own fishing vessels, offering loans, and initiating test fisheries. With these policies in place, the trawler fleet expanded throughout the 1960s, contributing to a growing political concern about overcapacity (Hersoug 2005; Holm 1996; Nordstrand 2000: 300–316).

In the early post-war years, Norwegian fishermen harvested from stocks that were in good conditions due to the pause in fishing caused by the war. Consequently, overfishing was not a major concern in the early days of these modernisation programmes. Norway had attended the international fishery conferences of the 1930s and 1940s and signed the agreements. However, it was among those states that were resistant to regulatory restrictions on fishing, as it saw the requests for such regimes largely as attempts by other states to gain increased control of fisheries resources. None the less, reports from British scientists warning about overfishing in the North Sea brought the attention of Norway's fisheries administration to the issue.

The question of overfishing started to become a genuine concern among Norwegian fishery managers in the late 1950s and gradually turned Norway into a supporter of stricter regulation during the following decade. However, this growing concern was not initially manifest in domestic politics because national control of fishery resources was practically non-existent at the time. The North Atlantic fisheries commissions were the main arena for conservation policies. In the late 1950s, Norway voiced the need for stricter management of the arctic cod stock in the Permanent Commission.⁷ In a speech held in 1964, the Director of fisheries recognised that conservation of fish stocks had become the main question for many fisheries in the North Atlantic, and strongly supported the development towards stricter regulatory measures that had just began in ICNAF.⁸ He expressed

⁷ The Permanent Commission was the forerunner of the North East Atlantic Fisheries Commission (NEAFC). A closer description of these institutions has been given in Chapter 2.

⁸ The International Commission for the Northwest Atlantic Fisheries (ICNAF) was the forerunner of the Northwest Atlantic Fisheries Organization (NAFO).

his belief that management in the form of catch quotas was the most desirable outcome of this process (Government of Norway 1975a; Sunnanå 1964). The concern about resource conservation continued to increase from then on.

The national policy to increase Norway's fishing capacity can thus be regarded as a combination of two mechanisms. On the one hand, it was a rational adaptation to a prisoner's dilemma situation created by more or less open access to fishery resources beyond territorial waters during the first couple of decades after WWII. On the other hand, and perhaps more importantly, it was a result of political priorities that had been made when resource conservation only had a marginal place on the agenda. The inertia of these principal political priorities entailed that it took time before concerns about overfishing influenced fisheries policies significantly. While Norwegian fisheries policy was mainly oriented towards industry development in the 1950s and 1960s, it addressed resource conservation to an increasing extent from the 1970s (Nordstrand 2000). In the early 1970s, the question of catch quotas and fishing effort had become dominating on the agendas of the international fisheries commissions, and the question of overfishing had become a major concern for fisheries managers.

3.2.3 The Development of a Legal Framework for Fisheries Management

Norwegian fisheries law had traditionally been a fragmented set of region- and species-specific acts. Work to gather the fragmented fisheries legislation into unified national laws began in the 1930s. Several laws on pelagic fisheries were replaced by the Herring and Sprat Fisheries Act in 1937.⁹ This act focused almost entirely on detailed arrangements to solve and avoid various types of user conflicts on the fishing grounds, which had grown more intense following the introduction of the purse seine and motors in the fishing fleet. Article 37 contained regulations on closed areas and seasons and minimum size of fish, but these regulations were mainly motivated by quality and marketing rather than conservation (Government of Norway 1937a, b). In 1939, the government started to work on similar simplifications for the remaining fisheries. This work was unfinished when the war came, and was resumed in 1947. At that time, the fish harvesting practices of Norwegian fishermen were still managed through more than twenty different laws.

Several regional fisheries laws had been established from the 17th century to avoid gear conflicts and to ensure order on the cod fishing grounds. From the late 19th century, these were accompanied by national laws aimed to meet conservation challenges following technical modernisation. Legislation regulating the use of potentially-harmful gear types in saltwater fisheries developed gradually. A prohibition of the use of explosives in fishing came in place in 1911. An act from

⁹ In Norwegian, this act was called *Lov om sild- og brislingfiskeriene*.

1914 restricted the use of certain gear types, and authorised the government to use small-fish regulations. Acts concerning minimum sizes of plaice and halibut were passed in the 1930s. Following the 1937 London fisheries conference regarding mesh sizes and minimum fish sizes in demersal fisheries, a new Act on Preservation of Salt Water Fish¹⁰ was created that adopted standards set at the London Conference and merged several previous acts concerning gear restrictions and small-fish regulations (Government of Norway 1938, 1954). A separate act on the conservation of lobster had also been established since 1923.

The work to create a more surveyable and unified legal framework eventually led to the creation of the Salt Water Fishing Act of 1955,¹¹ which mainly applied to the demersal fisheries (Government of Norway 1954, 1955). This act adopted its basic framework from the Herring- and Sprat Fisheries Act, and concentrated mainly on regulation of potential user conflicts. However, Article 4 of the 1955 Saltwater Fishing Act also included the conservation measures of previous legislation concerning harmful fishing gear. As an adaptation to the ICNAF Convention in 1949, which Norway had signed, Article 4 also authorised the Ministry of Fisheries to set catch quotas for the purpose of conserving fish stocks or complying with international agreements. The provision for catch quotas did not reflect the Norwegian political agenda of the day. Serious discussions on how to restrict fishing pressure had not yet begun. The fundamental discussion on quotas and effort regulations took place in the Atlantic fisheries commissions during the following fifteen years. In that respect, the provision for catch quotas in the ICNAF convention and the Saltwater Fishing Act of 1955 were ahead of the political processes that led to their implementation.

While previous legislation outlined the specific conservation rules to be observed in fishing, the Saltwater Fishing Act of 1955 used an enabling article that authorised the Ministry of Fisheries to apply a defined set of conservation methods and to define the detailed content of conservation rules (Government of Norway 1954, 1955). Over the following decades, delegation of this authority became the general mode of managing Norwegian fisheries. Consequently, fisheries regulations set by the fisheries administration became the legal tool used for detailed management of fishery resources. The content of Article 4 in the Saltwater fishing act was included in the Herring and sprat fisheries act through an amendment in 1957, extending the same authority into these fisheries (Government of Norway 1957b).

The 1950s also saw the development of the first general legal framework to regulate access to the fisheries. Since 1917, all vessels used for the purpose of commercial fishing had been required to be marked and included in a national register of fishing vessels. The 1917 act implied no restrictions on access to the fisheries as such, but became an important tool in the implementation of future access restrictions. Trawl fishing required a licence from the Ministry of Fisheries

¹⁰ In Norwegian, this act was called *Lov om fredning av saltvannsfisk* (6 May 1938).

¹¹ In Norwegian, this act was called *Lov om saltvannsfiskeriene*.

following a special Act on Trawl Fisheries from 1951¹² (Government of Norway 1951b), but the first general legal step in the direction of access restrictions in fishing was the preliminary act of 1956 on the right to own fishing vessels (Government of Norway 1956). This act stated that a license from the Ministry of Fisheries was required in order to acquire ownership of a registered fishing vessel or to register a new vessel. No unregistered vessel could legally be used for commercial fishing. In practice, the access policy was not notably restrictive: government regulations allowed vessels under 50 feet to be included in the register without a specific permission, and individuals and companies fulfilling the law's requirement of at least three years of fishing as their main occupation were allowed to register and fish with their vessels. However, this legislation became the basis for more restrictive policies when crisis struck the herring fisheries in the late 1960s. The herring crisis resulted in an amendment to the preliminary act of 1956 authorising the Ministry of fisheries to cease registering new vessels. The Ministry began to use this new power in 1970, when it stopped registering new purse seiners (Government of Norway 1992: 27).

As we have seen, political concern about overcapacity and overfishing emerged during the 1960s. The government, which had actively promoted modernisation of the fishing fleet, began to worry about the consequences of unregulated expansion of the fishing fleet, began to worry about the consequences of unregulated expansion of new efficient fishing methods. The discourse in the Atlantic fisheries commissions on new management measures, described in Chapter 2, was followed by a perceived need to improve the legal tools for controlling input into the fishery. Consequently, a new enabling Act on Regulation of Participation in the Fisheries (Participation Act¹³) was passed in 1972, replacing the preliminary act from 1956. This act increased the possibilities for the Ministry of Fisheries to control expansion of the fishing fleet for the purpose of conservation or rational utilisation of fish stocks, as well as its authority to give dispensation from the legal requirements for registration. In addition to the system of general fishing licences, the new act authorised the government to regulate access to each specific fishery through licensing schemes, and to require that fishermen obtain government permission before they could modify fishing vessels significantly. It also authorised the Ministry of fisheries to set catch quotas and to distribute these among the fishermen. Consequently, the halt in registering new purse seiners, which had been introduced in 1970, was replaced by a licensing scheme in 1973 (Government of Norway 1971a, 1972a, 1992).

The Participation Act represented a national adaptation to the ongoing regulatory processes in the North Atlantic fisheries commissions. However, it appears that the influence on Norwegian legislation of the discourses in ICNAF and NEAFC went beyond merely required legal adaptations. In effect, the 1972 Participation Act authorised the government to implement the management principles recommended by the ICNAF Working Group on Joint Biological and Economic

¹² In Norwegian this act is called *Lov om fiske med trål*.

¹³ In Norwegian, this act is called *Lov om regulering av deltakelsen i fiske (Deltakerloven)*.

Assessment of Conservation Actions in 1967: resource conservation through catch quotas, supplemented by limited entry licensing for the purpose of economic efficiency.¹⁴

The Participation Act continued the development of the corporatist management model that has been typical of the administration of the fisheries, as well as other Norwegian industries. The Norwegian Fishermen's Association was concerned about the ability of the industry to adapt to forthcoming policy changes and began deliberations regarding regulation procedures with the fisheries administration in 1970 (Christensen and Hallenstvedt 2005: 235). These deliberations eventually led to the establishment of two advisory councils. Articles 7 and 10 of the Participation Act of 1972 established that licensing schemes for specific fisheries, catch quotas, and distribution of these quotas could only be decided after consultations with a board of representatives from the fishermen's unions. The Licensing Committee, which consisted of representatives from government and industry (four out of eight members were from the Norwegian Fishermen's Association), was established in 1972 for the purpose of counselling the government on these issues. A specific Regulatory Committee, consisting of representatives from the fishing industry, science and government, to advise the Ministry of Fisheries on resource management issues followed in 1973 (Hoel et al. 1991; Government of Norway 1981a; Nordstrand 2000).

Catch quota-based management emerged gradually in Norwegian fisheries management beginning in 1970. This policy reform was by no means unilateral. As outlined in Chapter 2, the use of TACs followed directly from negotiations that had taken place in the North Atlantic fisheries commissions since the mid-1960s. These negotiations had been generated by increasing concern about capacity increase and overfishing on both sides of the North Atlantic, but especially within ICNAF which was the leading arena for the introduction of TACs. However, by the late 1960s, the severe concerns about the fish stocks in the Northwest Atlantic had been accompanied by a crisis in the Northeast Atlantic fisheries: the collapse of the Atlanto-Scandian herring stock in 1968/69. The catches of North Sea herring was also in decline. The crisis in the herring fisheries created a severe problem of overcapacity in the pelagic fishing fleet and an ensuing need for managing the pelagic fisheries in the region (Hersoug 2005; Rozwadowski 2002: 178–182). The states that were most dependent on the Atlanto-Scandian herring were unwilling to wait for agreement within NEAFC and, consequently, established the first catch quotas outside the NEAFC framework. Consequently, the Norwegian Ministry of Fisheries set a quota for mackerel fished for fishmeal and oil in 1970 (Government of Norway 1970). Following an agreement between Norway, Iceland, and the USSR, a regular TAC for Atlanto-Scandian herring was established for 1971 (Government of Norway 1971b; NEAFC 1971). A catch quota for capelin was set for 1972 (Government of Norway 1972b).

¹⁴ This ICNAF working group has been described in Chapter 2.

The emergence of TAC-based management soon raised questions of distribution and efficient utilisation of quotas, and resulted in industry demands for vessel quotas.¹⁵ Discussions about the use of vessel quotas began as early as 1972, and reflected concern about inadequate legal tools for implementation. Initially, the Ministry of Fisheries was reluctant to introduce vessel quotas because existent law only addressed illegal catch in relation to punishable acts, meaning that catch exceeding quotas could only be confiscated after prosecution and subsequent court decision (Government of Norway 1976c). However, due to pressure from the industry, vessel quotas were applied in the capelin fisheries in 1973–74, and later also in herring and mackerel fisheries, without legal provisions for non-penal confiscation of catch. The early experiences with vessel quotas made clear to managers that they needed a system for handling unintended exceeding of quotas. Discussions on how to handle this issue began in 1974 through dialogue between the Ministry of Fisheries, Directorate of Fisheries, and the major industry organisations. These discussions resulted in several amendments to the Participation Act in 1976, which gave the fishermen's sales organisations an important role in the implementation of the catch quota system. The Ministry of Fisheries could now authorise the sales organisations to estimate vessel quotas and the sales organisations became responsible for administrating catch exceeding these quotas. Catch exceeding a vessel quota would now be calculated and confiscated by the sales organisation, which also would keep the value of the catch, regardless of the fisherman's criminal liability.

A core question was whether confiscating catch from fishermen who were not liable to punishment was consistent with the Norwegian Constitution. This new provision for catch confiscation was based on the view that fishermen do not own catch that they are not legally permitted to take. Consequently, confiscation of illegal catch was not considered confiscation of private property and, thereby, not as penalty. It simply regulated the ownership to values that had no owner. Consequently, it was considered that such confiscation would not violate the Norwegian Constitution (Government of Norway 1976c).

The amendment enabling the sales organisations to confiscate catch regardless of the fisherman's criminal liability marked the beginning of a management practice that later was extended and became a key element in the Norwegian system for implementing TACs: non-penal confiscation of illegal catch. The amendment concerning catch confiscation was significant in two important ways. First, it established a system for the confiscation of catch as an administrative, non-penal, arrangement to handle the problem of catch incidentally exceeding quotas. Consequently, illegal catch could now be confiscated regardless of the ability of

¹⁵ A vessel quota is a quota allocated to one specific vessel in contrast to, for example, a quota allocated to a group of vessels. Vessel quotas imply that each vessel is allocated a specific share of the TAC, which entails that it will not have to compete with other vessels in catching this share. Thereby, vessel quotas increase the predictability for fishermen and reduce the competitiveness of fishing. In Norwegian management, the term "vessels quota" is used instead of "individual quota" (IQ) because quotas are allocated to vessels rather than individuals.

enforcement personnel to prove criminal negligence. The fact that landing illegal catch was not followed by penalty, such as fines or confiscation of the legal part of the catch, also reduced the incentives for discarding¹⁶ illegal catch. This reform also established a system for administration of the value of illegal catch. Discarding illegal catch was still mandatory according to the Saltwater fishing act of 1955, but this new system facilitated a radical change of that policy, enabling implementation of the ban on discards that began to emerge ten years later. Notably, the desire to reduce discards became prevalent among policy makers at the time when these amendments to the Participation act were made (Government of Norway 1975c; 1976c, d). Although it would take several years before the concern about discards resulted in a legal ban, the authorisation and preparation of the sales organisations to administer landings of illegal incidental catch became a central condition for the implementation of this ban later. Second, the amendments meant that the implementation of catch quotas had become a joint state/industry endeavour. It marked a significant expansion of the role of the law-protected fishermen's sales organisations. Originally, their task was to secure a strong market position for the fishermen through monopolies on first hand trade. With the introduction of catch quotas, this centralised system became a handy instrument in resource management and made the fishing industry a responsible partner in the new resource management regime.

Disillusionment regarding the capacity of international commissions to effectively regulate fisheries contributed to the breakthrough of the principle of 200 nautical miles Exclusive Economic Zones (EEZs) at the third session of the United Nations Conference on the Law of the Sea in 1975. The basic idea was that the coastal states were given the right to manage and utilise the resources within exclusive zones stretching 200-nautical miles off shore, which roughly covered the states' continental shelves. This exclusive right included setting TACs and distributing them. The Act on Norway's Economic Zone was passed in December 1976, and the EEZ was established from January 1977. This act was nothing short of a revolution in terms of national control of fishery resources. By comparison, Norway's control over fisheries had been limited to the 4 nm territorial sea until 1961 when Norway established its 12 nm Fishing Zone (Government of Norway 1976b, 2003d). The Act on Norway's Economic Zone gave Norwegian citizens the exclusive right to utilise marine living resources, and authorised the Ministry of fisheries to regulate catch quotas, fishing effort, and the access of foreign fishermen within an exclusive zone of 200 nautical miles covering most of the continental shelf. On the other hand, the government believed that an adequate legal framework for fisheries management was already in place, and the act establishing the EEZ introduced nothing new in terms of the state's authority to manage fisheries apart from extending this authority to 200 miles (Government of Norway 1976a,b, 1978a, 1980, 1983a; Sen 1997). However, the administrative structures for fisheries management were developing, and the establishment of TAC-based

¹⁶ In this chapter, to discard fish means to release or return fish to the sea (see glossary).

management and national control over offshore fisheries through the new EEZ soon called for significant reform of fisheries law.

3.2.4 The Emergence of an Enforcement Apparatus

The Directorate of Fisheries reorganised and expanded in the early post-war years, and this trend continued during the 1960s and 1970s, as the fisheries gradually became regulated. The establishment of the 200 nm EEZ in 1977 was a watershed event in Norwegian fisheries management. Resource conservation was about to become a national responsibility, and a major political task, to a much greater extent than previously. At the same time, the fisheries administration reorganised and became much better suited to handle the challenge.

Until the 1970s, Norwegian fisheries laws mainly served as legal tools for promoting orderly fishing – solving and avoiding conflicts among fishermen on the fishing grounds. Consequently, an enforcement apparatus was established towards the end of the 19th century to ensure orderly fishing in the great seasonal fisheries – especially cod and herring. The supervisors enforced fisheries regulations ensuring order on the fishing grounds, but also served as advisors for the industry. This was the beginning of an advisory apparatus that developed throughout the 20th century, reflecting the state's role as promoter of industry development.

The advisory service became formalised through a separate act in 1972,¹⁷ and was reformed into a coherent state administration under the Directorate of Fisheries in the early 1980s, keeping its dual tasks of supervising seasonal fisheries and providing industry advice (Government of Norway 1971c, 1978a, b, 1980, 1982a; Nordstrand 2000). The advisory service consisted of municipal fishery advisors headed by regional Chiefs of fisheries. In addition, the advisory service had fisheries boards on municipal and county levels.

The growing amount of regulations concerned with resource conservation and the emergent system of catch quotas required not only supervision of the large seasonal fisheries, but also permanent supervision and enforcement. Extending the control tasks of the advisory service was not regarded as the best answer to this challenge. Therefore, the enforcement of the state's resource conservation measures – the resource control – was left to the second major regional branch of the Directorate of Fisheries. This branch consisted of the quality control for fishery products that had developed since 1900 – the control service. The control service had expanded and encompassed an increasing number of agencies throughout the 20th century, as new products became subject to control. The entire apparatus reorganised and merged into a single administrative unit under the Directorate of

¹⁷ This act, which was called *Lov om rettledningstjenesten i fiskerinæringen*, was passed 11 June 1971 and entered into force in January 1972.

Fisheries in 1977. The administrative apparatus originally built for the purpose of quality control covered the entire coastline and, by the late 1970s, it included approximately 130 regular employees in addition to a central staff at the Directorate of fisheries and several laboratories. The quality control had traditionally been performed as random checks at fish plants and fishing vessels along the coast. The same administrative apparatus and control procedures were used in the resource control as it gradually became a more important task. The control service thus was responsible for monitoring compliance with mesh size regulations, small fish regulations, closures of fisheries, and catch quotas (Government of Norway 1978b; Nordstrand 2000).

Despite these enforcement tasks, the resource control was still marginal compared to the quality control in the late 1970s, and there was no effective enforcement of catch quotas. The fisheries administration lacked adequate regulations, experience, and educated personnel for the purpose of quota implementation. It took another decade before a reasonably effective quota control began to emerge. However, the central and regional fisheries administration that had been built since the turn of the century undoubtedly made it much easier for the Directorate of fisheries to eventually adapt to the new tasks.

The two regional branches of the fisheries administration developed into representations of the state's shifting roles. The advisory service continued to represent the state's traditional role as facilitator and promoter of industry development. It enforced 'old school' harvesting regulations aimed to handle potential conflicts among fishermen. The control service, with its increasing emphasis on resource control, was gradually shaped by the state's new role as resource manager and enforcer of regulated scarcity. This administrative structure and division of labour lasted for some 20 years until the two branches of the regional administration merged in 1998. The regional branch of the Directorate of Fisheries is generally referred to as the outer administration (*ytre etat*).

The outer administration of the Directorate of Fisheries was tasked with land-based control and supervision of the seasonal fisheries, which generally took place close to shore. With regard to sea-based controls, the Navy has played a role in Norwegian fisheries enforcement since 1907, when it assumed the task of keeping foreign fishing vessels out of Norway's territorial waters. From the late 1920s, it also started to provide services to the fishing fleet under offshore and distant water fisheries, and undertook the task of guarding fishing gear in international waters when gear conflicts between trawlers and fixed gear users became an issue. When a NEAFC agreement on mutual inspection of fishing vessels entered into force in 1970, the Navy became responsible for this task. The Navy thus had a significant history of fisheries law enforcement when quota implementation first required an apparatus for at sea inspections several years later. The establishment of the 200nm EEZ in 1977 implied important new tasks for sea-based enforcement of sovereignty and monitoring of the fisheries. These new tasks resulted in the establishment of the Coast Guard in 1977 (Christensen and Hallenstvedt 2005; Norway

1975b). The Coast Guard became a key agency in sea-based fisheries law enforcement.

3.3 1977–2000: The Formation of Modern Fisheries Management

3.3.1 A New International Regime for Resource Conservation

The preliminary outcome of the negotiations on the new Convention on the Law of the Sea allowed for 200 nm EEZs and made resource conservation a coastal state responsibility. In addition, it required states that shared stocks to co-operate for the purpose of conservation. The subsequent establishment of the 200 nm EEZs in 1977 marginalised NEAFC in fisheries management. However, by that time the Atlantic fisheries commissions had ensured the breakthrough of catch quotas as the dominant way to manage fisheries (see Chapter 2). Consequently, the new regime of bi-lateral and multi-lateral resource management that emerged from the mid 1970s built on this management strategy.

The establishment of the Norwegian 200 nm EEZ did not entail that the most important fish stocks were brought under exclusive Norwegian jurisdiction. Norwegian fishermen still harvested mainly from stocks that migrated between the EEZs of Norway and other states. Consequently, the establishment of the new EEZ took place along with a series of bi-lateral and multi-lateral negotiations for the management of shared stocks. Norway and Russia (USSR) had traditions of co-operation through the tripartite agreements for the 1971 herring fisheries and the 1974 cod fisheries (see Chapter 2), and of scientific collaboration, which had existed since the 1950s. Continuing their collaborative relations, Norway and Russia signed agreements on fisheries management in 1975 and 1976, establishing a joint fisheries commission responsible for setting and sharing TACs for the shared stocks in the Barents Sea: northeast arctic cod, haddock, and capelin. This collaboration also includes mutual exchange of quotas on exclusively-national stocks. Similarly, Norway and the EU made an agreement on the management of fish stocks in the North Sea, the Norwegian Sea and West of the British Isles in 1977. Similar to the agreement with Russia, TACs are set and distributed for several shared demersal and pelagic stocks through annual negotiations, in addition to mutual exchange of exclusively-national stocks. Norway entered an agreement with Iceland on the management of capelin migrating between the Icelandic EEZ and the Norwegian fishing zone around Jan Mayen in 1980. A tripartite agreement between Iceland, Greenland and Norway was signed for this stock in 1989. These new institutions for resource management were supplemented by a series of bi-lateral agreements on exchange or grants of exclusive fishing rights.

The first attempts to present precise scientific estimates of stock size and development came during the 1970s, although the figures were perceived as uncertain. ICES' Advisory Committee on Fisheries Management (ACFM) counselled the bi-lateral and multi-lateral commissions on the level at which to set their TACs, but the impact of the scientific stock assessments on the quotas in these early years has been questioned (Nordstrand 2000: 399–402). While historical fishing was the dominant factor in the distribution of quotas under the NEAFC regime, the stocks' zone belonging became a crucial criterion after the extension of the EEZs. The principle of zone belonging implies that the extent to which a transboundary stock resides within a given state's EEZ determines this state's rightful share of the TAC.

The institutional structures for resource management and distribution in the Northeast Atlantic are under more or less constant negotiation, subject to shifting international politics of fishing. Norway, Iceland, Russia, and the Faeroe Islands agreed on a TAC and national quota shares for Atlanto Scandian herring in 1996, and the EU entered this agreement in 1997. However, this agreement broke down in 2003, and the parties did not manage to agree on quotas and distribution for this stock until 2007. These states have also struggled to establish a management regime for the blue whiting fisheries, which evolved rapidly from the late 1990s. An agreement for management of this stock was reached for the first time in the autumn of 2005 (Government of Norway 1983a, 1995a, 2003a, 2005a; Nordstrand 2000). Implementation of the agreed TACs has mainly been a national matter: each state sets its own regulations concerning monitoring of fishing mortality and enforcement. This has resulted in differing implementation practices, which have caused tensions regarding the perceived willingness and ability of co-operating states to implement joint decisions. The cases presented in this volume describe significant variety in terms of capacity for implementation. At the end of this chapter, we will address the increasing effort over the past few years to build an international control regime.

The question of implementation was not a major issue when the new regime for resource conservation emerged on the international arena. Until the early 1970s, the main problem was to identify and agree on basic regulatory measures (see Chapter 2). The question of implementation emerged when solutions to this initial problem became institutionalised in the late 1970s. Regulation of fishing mortality through catch quotas entailed implementation difficulties, requiring an increasing amount of resources from the Norwegian fisheries administration in the years to come.

3.3.2 Catch Quotas Gain Ground as a Resource Management Tool

The early licensing schemes for specific fisheries, notably those based on the Trawler Act of 1951, were based on the perceived need regulate the relationships between gear types and between user groups. In the early 1970s, licensing also

emerged as a measure for resource conservation. The collapse of the herring fisheries led the Ministry of Fisheries to use the authority granted it by the Participation Act of 1972 to introduce limited entry licensing for the pelagic purse seine fleet in 1973 – the year before NEAFC set its first TACs for herring. The Ministry introduced limited entry licensing in the seine fisheries for saithe in 1974 for similar reasons (Government of Norway 1981a, 1983a; NEAFC 1974). The role of limited entry licensing as a resource conservation measure faded as catch quotas gained ground in fisheries management.

The division of labour between catch quotas and capacity regulation in fisheries management resulted from disillusionment regarding the ability of structural policies to remove the need for restricting the domestic fleet's harvesting. The establishment of the 200 nm EEZ required a coherent fisheries policy, and the government outlined an ambitious "long-term plan for the Norwegian fishing industry", which identified the major political goals, problems and solutions for the industry, in 1977 (Government of Norway 1977a). This plan saw licensing policies and catch quotas as complementary management measures. It attempted to estimate the capacity reductions needed to adapt the fleet capacity to the fishery resource base, and stated that achieving balance between fishing capacity and the fishery resource was a major goal. The basic idea of this plan was to set scientifically-based catch quotas and adapt the fishing capacity to the catch possibilities represented by these. Successfully doing so would greatly reduce the need for detailed regulations of specific vessels or fleet sectors.¹⁸ This idea was also reflected in the Participation Act of 1972, which related its provision for specific licensing schemes to resource conservation, among other things. The Participation Act also provided for TACs until 1976, which underlines that in addition to ensure profitability in fishing, it was originally intended to be a tool in resource management (Government of Norway 1971a, 1972a, 1976d).

During the 1970s, limitations on fishing capacity through licensing policies played a significant role in resource management. The long-term plan of 1977 reflected optimism in terms of adapting fishing capacity to the fishery resource after the EEZ had been extended. However, the results were disappointing. The cod stock in the Barents sea remained weak for a number of years, as did the important herring and mackerel stocks. By the early 1980s, the idea of using capacity restrictions as a tool in resource management had been abandoned. It was believed that only extremely strict licensing policies could reduce the need for regulation through catch quotas and technical fishing regulations, and that licensing schemes provided no alternative to catch restrictions. Fishery administrators began to recognise that catch restrictions likely were going to be necessary for many years to come. Consequently, the purpose of capacity restrictions became limited to ensuring profitable fishing and year round occupation for fishermen.

¹⁸ As argued in Chapter 1, removing the need for catch quotas through capacity reduction schemes was quite optimistic, as resource fluctuations tend to make at least periodic catch restrictions necessary.

From the early 1980s, following the loss of faith in the conservation abilities of structural policies, Norway's resource management was built on two pillars: total allowable catches and technical regulations, such as mesh size regulations, small fish regulations, and closed areas, aimed to minimise the content of juvenile fish in catches. The new Saltwater Fishing Act of 1983, based resource management on these two pillars, parting with structural policies as a resource conservation tool (Government of Norway 1981a: 16, 1983a). Implementation of resource conservation policies had thus been reduced to a question of implementing harvesting regulations. However, basing resource conservation entirely on harvesting regulations did not make implementation any easier. Abandoning the ambition of adapting fishing capacity to the TACs implied that vessel quotas were likely to be necessary in order to ensure economically-rational fishing. Adequate implementation of vessel quotas is one of the most difficult and complex tasks in fisheries management, because it requires systems for monitoring the vessels' catches and handling the problem of illegal incidental catch (see Chapter 1).

Perhaps the most striking feature of the long-term plan of 1977 was the lack of consideration for how the emergent catch quota regime could be implemented. The questions of how to monitor and control fishing mortality in order to realise target fishing mortalities had yet to be systematically addressed. Partly as a result of this, the question of enforcement was also not a major topic at this point of time. This is especially striking in a government white paper on the Control Service of the Directorate of Fisheries, published the same year (Government of Norway 1978b). While that paper pays much attention to quality control, and some attention to the enforcement of closed seasons and small-fish regulations, the question of how to enforce catch quotas is neglected entirely, save for the inclusion of the words "quota regulations" on a list of enforcement tasks.

The neglect of enforcement challenges was largely a result of the immaturity of fisheries law. A legal basis for quota control was still missing in the late 1970s: weighing regulations, sales note regulations, and logbook requirements had yet to be introduced. There really was not much to enforce in the way of catch quota regulations. We have seen that amendments to the Participation Act in 1976 allowed sales organisations to confiscate catch exceeding a vessel's quota. However, while these amendments placed new obligations on the fishermen's sales organisations, they did not entail new regulations for the fishermen. Thereby, the Norwegian fisheries policy and administration were still immature in terms of quota implementation in the late 1970s. The perceptions of the challenges associated with the new EEZs were largely shaped by previous problems and agendas. From a Foucauldian planning perspective, this may be seen as an example of institutionalised, inert discourse structures preventing new issues from receiving the attention they rationally could claim (Foucault, 1977, 1999).

The picture of inert institutional adaptation to the emergent TAC-based management regime is reinforced in the discourse on legal modernisation in the mid 1970s. In 1973, the government appointed a commission tasked with drafting a

new act updating and replacing the Saltwater Fishing Act of 1955 and the Herring and Sprat Fisheries Act of 1937, thus finalising a 40 years process of legal simplification and modernisation (Government of Norway 1975c). However, when the report was published in 1975, the emergent new management regime – catch quotas and extended coastal state jurisdiction – had largely outdated the new proposal already. The proposed new act largely centred on the type of problems addressed in the previous acts – measures to ensure orderly fishing. Provisions for effective implementation of catch quotas, such as catch reports and logbooks, were absent.

Despite its failure to address the new management challenges, the 1975 report launched one new interesting idea: a ban on discarding dead and dying catch. The Saltwater Fishing Act of 1955 required that illegal catch be discarded immediately. The 1975 report suggested that this requirement for discards should be limited to undersized fish and catch taken during closed seasons, for “preventive and control purposes” (Government of Norway 1975c: 23). It suggested that the Ministry of Fisheries be authorised to ban discards of all other dead and dying illegal catch. The purpose of this was to avoid the waste of resources suited for human consumption. The scientific methods for the estimation of stock size and its development, for which reliable data on fishing mortality is essential, were still in their childhood years at this time. Partly as a result of this, the need to monitor fishing mortality was not on the agenda and, consequently, not considered in relation to the question of discards, although this has become an important consideration in more recent years.

The recommendations in the 1975 report went through extensive revision before the government proposed a new Saltwater Fishing Act to *Stortinget* (the Norwegian parliament) in 1982. By 1980, adapting the amount of fish caught to the level that can be sustained by the natural resource had become a dominant problem on the agenda of the Ministry of Fisheries. Consequently, by 1982, the legal text had changed from being a detailed outline of regulations, most of which aimed to ensure orderly fishing, to become an enabling act with implementation of TACs as its focal point (Government of Norway 1980: 25, 1982b). The new Saltwater Fishing Act of 1983 represented the first steps towards building a legal framework for implementation of TACs.

3.3.3 A Legal Framework for the Implementation of TACs – The Saltwater Fishing Act of 1983

The development of fisheries law, administration and market organisation before 1983 was important because it created several important conditions for the implementation of a TAC-based management regime. However, it was not developed with that task in mind. The Norwegian management system before 1983 lacked regulations and administrative routines for monitoring fishing mortality and aligning it with catch quotas. For example, the Saltwater Fishing Act of 1955 required

that illegal catch be discarded. Consequently, discards of illegal catch was also required in the first quota-regulated fisheries in the 1970s. For example, the cod regulations of the late 1970s explicitly prohibited fishermen from bringing illegal catch onto land (Government of Norway 1977b, 1978c). Similar to today's EU system of required discards of illegal catch, this implementation practice undermined the monitoring and, consequently, the control of fishing mortality.

As we have seen, there was great uneasiness about the discards policy in the Norwegian fisheries administration. The first attempt to align fishing mortality with catch quotas came, unsurprisingly, in the long-suffering herring fisheries. After many years of crisis, a minor fishery for Atlanto Scandian herring (so called "Norwegian spring spawning herring") was opened in 1981. There was clearly a perceived need to control fishing mortality for that stock, but the present Saltwater Fishing Act required discarding of illegal catch and did not provide for a ban on such a practice. Consequently, the first attempt to keep fishing mortality within the catch quota was made through administrative procedures rather than penal provisions. The 1981 herring regulations authorised the Directorate of Fisheries to issue permits and distribute the quota, and to respond to deliberate or incidental dumping of dead herring with a corresponding quota reduction or withdrawal of permit (Government of Norway 1981b). This was not a ban against discards, but rather administrative reactions aimed to deter fishermen from killing more herring than their quota prescribed. It can be considered an attempt to formulate modern regulations under an outdated act.

At that time, a legal framework much better suited to monitor fishing mortality and keep within quota limits was already in the making. The first significant tool developed specifically for the purpose of implementing target fishing mortality rates through catch quotas was the new Saltwater fishing act of 1983, which has since constituted the legal cornerstone of fisheries resource management. The new Saltwater Fishing Act gave broad authorisation to the Ministry of Fisheries to regulate the utilisation of marine living resources based on the two newly-established pillars of resource management: regulation of catch quantities through quotas and by-catch regulations, and measures to control catch composition in order to prevent fishers from filling quotas with undersized fish. The legal provisions for vessel quotas, as well as the sales organisations' tasks in implementing them were moved from the Participation Act to the new Saltwater Fishing Act, finalising a shift towards a clear division between structural policies and resource management.

Article 11 of the Saltwater Fishing Act represented an important change to the previous requirement for dumping illegal catch, stating that *viable* fish caught in violation of the act was to be released immediately. The Ministry of Fisheries was authorised to prohibit discarding of fish and fish waste products. However, one remaining insufficiency related to the authorisation to ban release of dead and dying fish before the catch is taken onboard. This is especially relevant in pelagic fisheries, where fish often dies in the seine before it is taken onboard. While the Ministry was authorised to ban all discards of dead and dying fish that had been

taken on board, the authorisation to ban release of dead and dying fish before it is taken onboard only applied to catch taken illegally. This created an unintended loophole which, in principle, allowed for high grading of legal catch in pelagic fisheries. This insufficiency was rectified in 1988, when the provision in Article 11 to ban release of dead and dying fish was extended to all catch (Government of Norway 1988a, d).

The rationale for banning discards developed gradually. When this issue first came on the agenda in the mid 1970s, the argument related to waste of food resources (Government of Norway 1975c). The white paper preceding the new Saltwater fishing act of 1983, mentions resource waste, but also contains the first mentioning of the need to avoid “destroying the resources in the ocean” as a reason for preventing discards (Government of Norway 1982b: 23). By 1988, the rationale for preventing discards had found its modern formulation. The white paper that preceded the 1988 amendment to Article 11 of the Saltwater fishing act contains the first mention of the need for adequate data on fishing mortality as a reason for preventing discards of dead and dying fish (Government of Norway 1988a:24).

It was essential to the possibilities for implementing a ban on discards that the new Saltwater Fishing Act of 1983 continued and extended the legal provisions for non-penal forfeiture of illegal catch. This act provided for non-penal confiscation of all illegal catch, not only that which exceed a specific vessel quota. It contained three articles providing for confiscation of illegal catch, clarified through an amendment in 1988. Only one of these articles is a penal provision. Looking at the two non-penal provisions, Article 7 provides for confiscation by the fishermen’s sales organisations of catch that exceeds the vessel’s quota, while Article 11 provides for confiscation by the Directorate of fisheries of other illegal catch. In practice, the illegal catch is sold in a regular way; it is the outcome of the illegal catch that is confiscated. The confiscated outcome from sales of illegal catch belongs to the fishermen’s sales organisations, regardless of whether confiscation is done on the basis of Article 7 or 11. Confiscation according to Articles 7 and 11 are administrative measures aimed at removing the incentive for illegal fishing, not punishment in a legal sense.

The provisions for non-penal confiscation imply that fishermen may land incidental illegal catch without fear of penalty, thus removing a potential incentive to conceal such catch through discards. In order to further remove incentives for discards, the new Saltwater Fishing Act also authorised the Ministry of fisheries to allow fishermen’s sales organisations to compensate fishermen for bringing illegal catch to shore, provided that catching the fish was obviously unintended.

Articles 7 and 11 thus recognise that incidental catch is an inevitable part of fishing, and actively apply the principle of due care, which distinguishes between punishable and non-punishable violations. Recognising the inevitability of incidental catch and, consequently, applying a principle of due care is arguably important to the legitimacy of enforcement among fishermen. However, the non-penal nature of such confiscation also has another significant effect: it means that a

fisherman will know that his illegal catch will have to be forfeited regardless of the authorities' ability to prove him liable to punishment. Consequently, the practice of non-penal forfeiture removes incentives for the fisherman to take advantage of the difficulty of proving criminal liability and thus pursue illegal catch deliberately.

Only in severe cases, where a punishable act can be proven, may a process of administrative confiscation result in a police report. Because confiscations according to Articles 7 and 11 are not penal measures, dissenting fishermen appeal to the Directorate of Fisheries rather than the court (Government of Norway 2006a: 37, 183). Confiscations on the basis of Articles 7 and 11 are done on a routine basis, irrespective of the fisherman's liability to punishment. However, if the illegal catch can be proven to have resulted from criminal negligence or intent, the fisherman may be taken to court and punished following conviction. In case of conviction, confiscation can be done in the form of penalty. Article 54 provides for penal confiscation of catch, fishing vessels, and fishing gear. While confiscation according to Articles 7 and 11 only entails that the illegal part of the catch is confiscated, Article 54 provides for confiscation of the entire catch when legally and illegally caught fish is mixed (Government of Norway 1983b, 1988a).

A major question in fisheries management – how to handle the inevitable problem of incidental catch – had thereby found an answer in the new Saltwater Fishing Act. Consequently, a major reason for requiring discards of illegal catch had been removed. By recognising that illegal catch often did not qualify for criminal liability and, consequently, making landing of incidental illegal catch a non-punishable act, the Saltwater Fishing Act removed a potential incentive for fishermen to conceal illegal catch by discarding it. The administrative procedures for handling incidental catch were facilitated by the system of sales organisations that processed catch data, monitored vessel quotas, and administered the money-flow in the first hand trade of fish. The ability to create functional administrative procedures for handling landings of illegal catch became a central condition for the implementation of the ban against discards that emerged over the following years.

The Saltwater Fishing Act of 1983 was the first act to fully recognise the need to impose legal requirements on fishermen in order to implement TACs, and to back these up with suitable enforcement. Article 9 authorised the Ministry of Fisheries to issue regulations requiring fishers to report time, place, and quantity of catch, gear type, and catch value. The new Saltwater Fishing Act devoted an entire, new chapter to the enforcement of the new management regime. It divided the enforcement responsibilities between the Directorate of Fisheries, and the Coast Guard. The Directorate of Fisheries was granted inspection rights on fishing vessels and landing sites, and the Coast Guard was granted police authority and inspection rights at sea. The fishermen's sales organisations were included as a third enforcement agency through an amendment to this act in 1990. Table 3.1 describes what can be labelled the legal cornerstones for monitoring and controlling fishing mortality. The Saltwater Fishing Act is the basis for most of the important

regulations. The Raw Fish Act, as has been described above, has centralised the first-hand trade of fish through the system of sales organisation and thereby provided important organisational structures for implementation.

Table 3.1. Legal cornerstones for monitoring and controlling fishing mortality

Legal framework	Regulated activity	Regulated actors	Regulations	Function in resource management
<i>Saltwater Fishing Act</i>	Fish harvesting	Fishers Fish buyers	Quotas Catch reports Ban on discarding dead and dying fish Forfeiture of illegal catch Control Technical regulations	Provide measures to restrict and monitor fishing mortality
<i>Raw Fish act</i>	Fish landings/first hand trade	Fishers Fish buyers	Organisation of first hand trade of fish Catch and landing reports	Provides organizational basis for implementation

3.3.4 Towards Alignment of Fishing Mortality with Catch Restrictions – The System Takes Effect

The Saltwater Fishing Act of 1983 outlined the basic principles for quota implementation, but had few consequences in its own right, as these principles were only established in a series of enabling articles. The subsequent years were an intensive lesson for the fisheries administration on the problems of implementing target fishing mortality rates.

The early experiences with quota-managed fisheries in the 1980s made it clear that the management system was seriously lacking in implementation tools. Quotas generally, and vessel quotas specifically, generated several incentives for fishers to adapt in ways that undermined the purpose of the system. The insufficient implementation system resulted in significant unregistered fishing mortality, a problem which received increasing attention throughout the 1980s.

Concern about insufficient implementation resulted in the establishment of a working group to address the problem in 1986. This group consisted of three representatives from the Directorate of Fisheries and three from the Norwegian Fishermen's Association. It was tasked with mapping types of violations of fisheries law, and suggesting solutions to the problem. The composition of this

group illustrates the extent to which the corporatist tradition in Norwegian fisheries management has stretched beyond the process of general policy formation and reached into the details of implementation. This extent of stakeholder participation has resulted from a long-term deliberate policy of making the industry a partner in management.

The report of this working group, presented in 1987, outlined the typical compliance problems associated with catch quota-based management. It pointed to the practice among fish buyers, especially in the pelagic sector, of requiring fishermen to give a certain part of their catch away for free when buying their fish. This practice entailed that fish buyers received a larger amount of fish than was officially declared or was deducted from the fishermen's quotas. Consequently, the practice of giving away catch led to unregistered landings of fish. Studies of fishermen's compliance conducted later, have confirmed that this was a widespread practice in the pelagic sector in the 1980s (Gezelius 2003, 2006). This practice was often embedded in the strong bargaining position of buyers. Giving a certain amount of the catch to the buyer for free did not necessarily imply a great disadvantage for the fisherman, as the unregistered landing would not be deducted from his quota and sometimes allowed for a higher price on the registered part of the catch. This practice has often been referred to as "delivering the big hundred" (*storhundra*) among Norwegian fishermen. The 1986 working group also pointed to the practice of fishing during a closed season and having the buyer enter it informally – "write it on the wall" – until the fishery opens. The catch was subsequently reported as if it had been taken during the open season. Another practice was to exceed area-specific quotas by falsifying information on where the catch was taken. The working group also pointed out the practice of falsifying information on the species landed. This latter practice was relevant when fishing a specific species was prohibited. For example, when the quota for one species had been exhausted fishermen could continue to fish for this species while "renaming" it into a different species upon delivery. This entailed that landings of, for example, herring could be registered as landings of, for example, mackerel.

The main problem with the implementation system of the 1980s was that the regulations did not provide for adequate control. It was illegal for a fisherman to exceed his quota, and it was illegal for a buyer to sell illegal catch. Violation of these rules could only be concealed through falsification of landing reports. The problem was that giving false information on landings was not a punishable act. As today, the catch report system was based on a system of sales notes, where the fishermen and the buyer fill in information on species and quantity, among other things, when the fish is landed. However, the sales note system was only embedded in the procedural rules of the fishermen's sales organisations, not state regulations (Government of Norway 1989a). Consequently, giving false or inadequate information in sales notes entailed no risk of legal prosecution. The only state response to such practices was that the Directorate of Fisheries would occasionally write a letter to fish buyers with a large number of incorrect or inadequate sales notes (Government of Norway 1988c). The enforcement of quota regulations was

bound to remain ineffective as long as falsification of sales notes was not a punishable offence.

The inefficient implementation of catch quotas also related to discards. Although the Saltwater Fishing Act of 1983 provided for a ban, discards of dead and dying catch was still legal, and indeed required, in several fisheries in the mid 1980s, because the legal authorisation to ban discards had yet to be used by the fisheries administration. The working group of 1986 pointed to the problem of “high grading” – i.e. discarding of the least valuable fish – that followed from the incentive to make as much money as possible out of vessel quotas. The general technical regulations of 1982 had prohibited fishing, as well as retention on board, of undersized fish. Similarly, the annual cod regulations had prohibited landings of illegal catch. Both these regulations implied a legal requirement to discard fish. As we have seen, there had been attempts to prevent excessive killing of Atlanto-Scandian herring through administrative action since 1981. The provision in the new Saltwater Fishing Act to ban discards was used for the first time in the Barents Sea capelin fisheries in 1985. The administrative measures applied in the herring fisheries were also supplemented with a ban on throwing herring back to sea in 1985, and a complete ban on discards of dead and dying herring (including releasing it from seines) in 1986¹⁹ (Government of Norway 1984a, b, c, 1985). However, the opposite principle – a ban on landing illegal catch – was still in force in the trawl fisheries for Northeast Arctic cod until 1987. At that time, an effort was made to make a ban on discards the rule rather than the exception in Norwegian fisheries. In the new general technical regulations of 1986, the prohibition against keeping undersized fish onboard was removed. The prohibition against landing illegal catch was also removed from the cod regulations that applied to the fishing season of 1987. In April 1987, separate regulations banned discards of cod and haddock in the trawl- and Danish seine fisheries in the Northeast Arctic (Government of Norway 1982c, 1986a,b, 1987a). A prohibition against discarding dead and dying fish, as well as of waste products, were established for the mackerel fisheries of 1988 (Government of Norway 1987b,c).

During this intermediary period, the meaning of “catch restriction” was ambiguous. In cases where discards were mandatory, catch restrictions referred (by implication) to fish landed. In cases where there was only a ban on throwing fish back to sea, they implicitly referred to catch taken onboard; in cases where all discards of dead and dying fish were prohibited, they referred to fish killed or made incapable of survival. The perceived need to clarify this is reflected in a government white paper from 1988 discussing how the concept of “catch” should be interpreted in relation to the ban on discards. This whitepaper argued that the separation of fish from the remaining stock marked its transition into catch (Government

¹⁹ This is another example of how the development of the regulations has been ahead of the development of an enabling act in relation to discards. It is notable that the Saltwater Fishing Act at that time provided for a ban on throwing any catch back to sea, but in relation to the *release* of dead and dying catch, e.g. from seines, the provision only applied to *illegal* catch. However, the herring regulations of 1986 actually banned the release of any dead or dying catch.

of Norway 1988a: 24). In practice, the Norwegian system requiring release of viable illegal catch and banning release of dead and dying catch restricts the killing of fish following its separation from the stock.

An amendment to the general technical regulations made in August 1988 was a major step in the direction of adequately monitoring fishing mortality. It established a general ban on discards of dead and dying fish in the Norwegian EEZ, regardless of area, gear type and fleet sector. Initially, this ban applied to cod, haddock, saithe, redfish, mackerel, and herring. Capelin, whiting, blue whiting, Greenland halibut, angler, shrimp, and snowcrab have since been added to this list (Government of Norway 1988b, 1989b, 2004c). In principle, these regulations aligned catch quotas with fishing mortality and, thereby, conceptualised TACs legally as a resource management tool.

Despite regulations banning discards of dead and dying fish, the administrative procedures for implementation had yet to adequately ensure that fishing mortality and catch quotas were aligned in practice. One problem related to the absence of administrative tools suited to deduct forfeited catch from the TACs such that fisheries could be closed before the TAC was exceeded. This is a problem which remains to a certain extent even today, a point to which I will return. The second problem was how to enforce the system.

The 1986 working group's mapping of illegal practices led to the formation of a second working group in 1988, tasked with recommending improvements to the enforcement system. It consisted of representatives of the Directorate of Fisheries, the Ministry of Fisheries and the fishing industry represented by the two biggest fishermen's sales organisations. As has been described above, the sales organisations had had implementation responsibilities relating to the monitoring of vessel quotas and the confiscation of certain types of illegal catch for number of years already, and the role of the sales organisations in the implementation of conservation policies was going to expand over the next few years. Therefore, the participation of the sales organisations in the 1988 working group was more than routine hearing of industry views. It formed part of a growing state/industry partnership in the implementation of TACs. The Norwegian Sales Organisation for Pelagic Fish, which was one of the sales organisations represented in the 1988 working group, suggested to the group that falsification of sales notes ought to be illegal and that all recipients of fish landings should be required by law to keep correct landing records (Government of Norway 1988c). This recommendation was followed by Norwegian authorities, and became a cornerstone in the quota implementation system.

This process resulted in significant upgrading of the legal framework for quota implementation, which shaped the basic features of today's system for monitoring catches. In the autumn of 1989, *Stortinget* (the parliament) amended the Saltwater Fishing Act and the Raw Fish Act, extending and clarifying the authority of the Ministry of fisheries to require catch reports. The Ministry now became authorised to require detailed catch reports from fish buyers, as well as vessels processing their own catch (Government of Norway 1989a, c). The ensuing regulations

concerning vessels processing their catch onboard (Government of Norway 1989d, e) were subsequently extended to the transfer of catch between vessels at sea (Government of Norway 1996b, c). Today's regulations allow catch to be transferred over the side to vessels from specific states under detailed report requirements (Government of Norway 2005b).

The 1989 amendment to the Saltwater Fishing Act authorised the Ministry of Fisheries to define the role of the fishermen's sales organisations in resource control, and pertinent instructions followed in 1991 (Government of Norway 1991). These instructions required the sales organisations to establish control procedures for the implementation of the Saltwater Fishing Act. The sales organisations were also required to report detected illegal incidents to the Directorate of Fisheries. The fishing industry's partnership with the state in fisheries law enforcement had now become embedded in law. This amendment also extended the authorisation of the control service of the Directorate of Fisheries so as to allow for investigations of the accounts of fishing companies, control of temporary storage facilities, as well as requirement of data from vessels and companies shipping catch abroad (Government of Norway 1988a, d, 1993a). The control authorities of the Directorate of fisheries were extended further in an amendment to the Saltwater Fishing Act in 2001. The authorisation to access information needed for control purposes was extended and clarified so as to cover all relevant agencies, documents and facilities relating to trade, transport or storage of fish for commercial purposes. The authority of the Directorate of Fisheries has thus been gradually extended from controlling fishing activities to also controlling the subsequent activities (Government of Norway 2001a, b, 2007e: 113).

The 1989 amendments to the Saltwater Fishing Act enabled the fisheries administration to fix major holes in the implementation system. The following years saw the establishment of core regulations in resource management. Following the additions to the Saltwater Fishing Act and the Raw Fish Act, the Ministry of Fisheries started using its authority to establish regulations for quota control. The sales note regulation of 1990 was a landmark event in terms of solving the problem of black landings. This regulation required the buyer to weigh the catch and to fill in sales notes according to the instructions of the sales organisations. The buyer and the fisherman were required to sign the sales note and they were jointly responsible for giving correct information.²⁰ These regulations entailed that falsification of sales notes became subject to legal prosecution. For control purposes, the fisherman had to keep copies of the sales notes onboard the fishing vessel. The sales note regulations also required the buyer to keep records of their fish buys, which provides for control e.g. through comparing buys with sells. These basic principles of the catch monitoring system have remained the same since 1990. All catch has to be weighed at delivery, and signed sales notes submitted to the sales organisation with correct information on the quantity of each species landed and when and

²⁰ The fisherman has sole responsibility for the correctness of the sales note when landing fish abroad.

where it was taken. The sales organisations register all information in a data base that is accessible to the Directorate of Fisheries. However, these general principles have gradually developed into more detailed requirements. In the pelagic sector, where some buyers have been known for requiring the big hundred, manipulating scales or in other ways embezzling catch, scales regulations were introduced from the mid 1990s requiring that the scales have sealed total counters that buyers cannot reset and displays of landed quantity clearly visible to the fisherman (Government of Norway 1995b, 1996a). Fishermen have reported that these regulations greatly reduced the problem of embezzlement of catch (Gezelius 2003, 2006). These requirements apply to all Norwegian fisheries today: the buyer is required to have officially-approved scales at the wharf, with displays easily accessible to the fisherman. Today's regulations specify rules for tagging and traceability of landed catch, enabling control of buyer's warehouses and accounts (Government of Norway 2003b).

The late 1980s and early 1990s can rightfully be labelled the construction phase of today's fisheries management system. Not only were the basic implementation tools for TAC-based management established, but this was also the period when the majority of Norwegian fishermen became subject to genuine quota-based restrictions on fishing. Previously, catch quotas effectively restricted only offshore vessels: the poor conditions of the Northeast arctic cod and important pelagic stocks entailed that the cod trawlers and the purse seiner fleets became the first strictly-regulated fleets. These fleets were subject to vessel quotas in the early 1980s. However, the vast majority of fishermen, who fished inshore, were not affected by quota regulations. The cod quotas set through negotiation with Russia only applied to trawlers until 1981. The quota agreement with Russia continued to allow vessels only using passive gear (gillnets and hook and lines) to continue fishing after the national quota share had been taken. Both Russian and Norwegian authorities began to worry about the extent of Norwegian fishing within this arrangement. Consequently, restrictions on the inshore fleet in the form of closed seasons, gear restrictions and maximum quotas per vessel were introduced from 1983 in order to delimit the overstepping of the Norwegian quota (Government of Norway 1983a). However, the ability to overfish the national quota with passive gear remained until 1988 (Government of Norway 1992). Throughout the 1980s, it became clear that the condition of the Northeast Arctic cod stock was not improving, and in 1989 the stock was estimated to be at an all-time low. Up to this point, catch quotas had mainly affected the offshore fleet, but from then on, the ability for Norwegian fishers to overfish the quota with passive gear was removed (Sagdahl 1992: 50), and a vessel quota regime was introduced in this fleet as well. Thereby, the majority of Norwegian fishermen had become included in the new resource management regime.

3.3.5 Organisation of the Resource Control

As a result of the emergence of regulations for implementing TACs, the quality control of the Directorate of Fisheries was instructed to increase the priority of resource control in 1988 (Government of Norway 1989a: 20). The improved legal basis for implementation and the inclusion of the inshore fleet in the vessel quota regime around 1990 entailed that resource control became a dominant task for the control service of the Directorate of Fisheries.

Since the amendments to the Saltwater Fishing Act in 1990, the resource control has been split between three agencies: the Directorate of Fisheries, the fishermen's sales organisations, and the Coast Guard. These organisations co-operate on a regular basis in order to coordinate enforcement practices and clarify interpretations of legal rules.

The Directorate of Fisheries began its control activities under the modernised regime for quota implementation with dockside inspections. These are random spot checks where inspectors compare the data in sales notes and logbooks with landed quantities. From the mid 1990s, the Directorate of Fisheries also began to carry out random checks of fish buyers' accounts in order to monitor compliance with weighing and sales note regulations. It also inspects warehouses in order to compare changes in stored quantities with the buyers' records of purchases and sales. The gradual development towards inspection of accounts and storage facilities has required higher competence among inspectors than the traditional dockside inspections did. Consequently, the Directorate of Fisheries has found it necessary to improve the education of its inspection personnel in recent years (Government of Norway 2006a: 195–7).

From 1999, fishing vessels over 24 m have been required to install satellite tracking devices which transfer data on vessel movements to the Directorate of Fisheries. Report procedures, including reports of quantities and composition of catch, for Norwegian vessels fishing in international waters were introduced at the same time (Government of Norway 1999a, b). In 1998, an amendment to the Saltwater Fishing Act provided for the use of onboard observers for resource control, a major purpose of which was to improve the enforcement of the ban on discards (Government of Norway 1998a, b). The Directorate of Fisheries has a few onboard observers in the surveillance service for the Barents Sea fisheries.²¹ However, only three positions are devoted to this task, and observer coverage has yet to play a significant role in regular resource control (Government of Norway 2005c: 187).

The Directorate of Fisheries has regional offices responsible for resource control. The two branches of the outer administration – the control service and the advisory service – merged in 1998. The responsibility for quality control

²¹ This surveillance service was established in 1984 for the purpose of observing the densities of small fish on fishing grounds in the Barents Sea and advising the Directorate of Fisheries on closures of these fishing grounds (Hallénstvedt 1993).

was removed from the fisheries administration following the establishment of the Norwegian food safety authority in 2004, leaving resource control as the main enforcement task of the fisheries administration. Today, the Directorate of Fisheries has 7 regional offices headed by Regional Directors responsible for resource control and advisory services. Each regional office has several offices on the municipal level. The fish inspectors provide their regional offices with written reports from each inspection. In cases where the Regional Directors finds a basis for prosecution, the offence is reported to the police. From then on, the role of the Directorate of fisheries is to provide evidence and act as counselling expert in the event of a court case. The regional offices are also responsible for administrative confiscation of illegal catch according to Article 11 in the Saltwater Fishing Act. In severe cases, the process of administrative confiscation may result in a police report. Figure 3.1 illustrates the basic elements in catch quota implementation. The boxes signify the main actors. Dotted arrows indicate actions carried out, while unbroken arrows indicate flows of material and information.

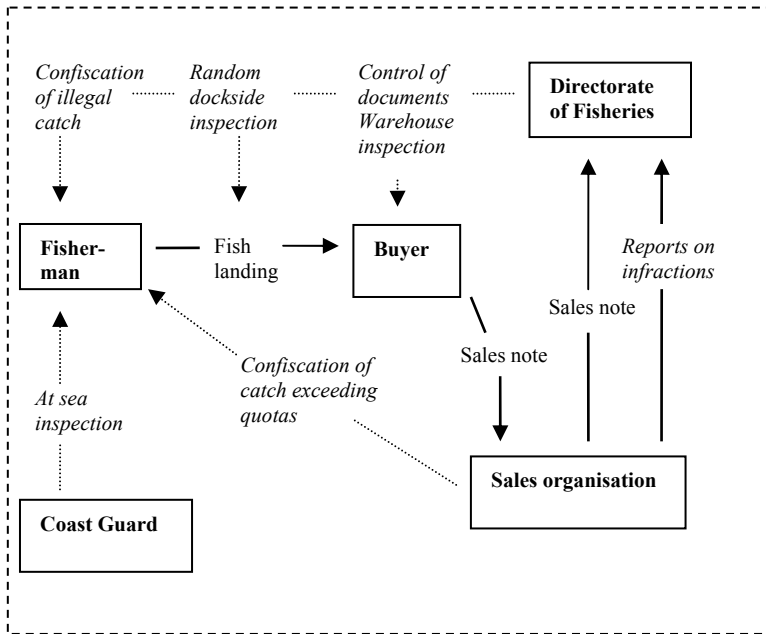


Fig. 3.1. The quota implementation system

The fishermen’s sales organisations monitor quota regulations and confiscate catch that exceeds vessel quotas. They also routinely report detected violations of fisheries law (Government of Norway 2004a). For example, the Norwegian sales organisation for pelagic fish incorporates all new regulations in their electronic fleet and catch monitoring systems, keeping track of the relationships between quotas, participation rights and landings. Much of the sales organisations’ control

is based on documents, but they also have a few inspectors who monitor fish landings at landing sites, controlling procedures for writing sales notes and procedures for weighing. The sales organisations also assist the inspectors of the Directorate of Fisheries by providing data on the registered activities of fish buyers.²² The Coast Guard is responsible for surveillance and enforcement at sea, and is granted police authority in relation to those tasks meaning that it is authorised to board and arrest vessels. It carries out onboard inspections, controlling catch composition, fishing gear and comparing logbook and sales note information, on a routine basis. It also monitors the ban on discards. It reports major infractions to the police, and functions as a witness in court cases.

Table 3.2 summarises the main problems in catch quota implementation and the current status of Norway's efforts to solve them. Reports from fishermen clearly indicate that the problem of black landings was reduced greatly when the sales note/weighing regulations were put in place. Compliance research has concluded that black landings of fish are dwindling in Norwegian fisheries. Although it used to be widespread, falsification of sales notes, which accompany black landings, is no longer generally accepted in the industry (Gezelius 2003, 2006).

Table 3.2. Problems and solutions in quota implementation

<i>Problem in quota implementation</i>	<i>Regulatory response</i>	<i>Enforcement practice</i>	<i>Implementation effectiveness</i>	<i>Informal compliance factors</i>
Preventing black sales of fish	Sales note/weighing regulations Logbook regulations	Dockside inspections Warehouse inspections Document controls	Mature system. Problem greatly reduced.	Shifting attitudes in favour of compliance among fishers
Preventing discards of dead and dying fish	Ban on discards of dead and dying fish Compensation for landing illegal incidental catch in demersal fisheries.	At sea inspections. No penalty for landing illegal incidental catch. Closed areas and caution areas to reduce catch of juveniles.	Mature regulations. Immature enforcement due to inadequate definitions of "dying fish" and problems of detection and legal evidence – few court cases.	Ban on discards has unanimous support among fishers. Reciprocity-based exchange of surplus catch in pelagic sector.

Logbook regulations were applied to certain fisheries beginning in the mid 1980s, but gained a significant role in enforcement in the early 1990s after the sales note regulations had been introduced. Vessels over 13 m are required to keep logbooks with data on the quantity of each species caught and the location and time of the catch. The logbook must be kept up-to-date, and always completed

²² Pers. comm. Norwegian sales organisation for pelagic fish.

before the vessel calls at harbour. Fishermen are required to keep the logbooks for the previous two years on board the vessel (Government of Norway 1986c, 1993b, c). A major purpose of today's logbook requirements is to reduce the incentive to falsify sales notes by increasing the risk of detection. The logbook requirements entail that a fisherman who plans to falsify his sales note must begin by falsifying his logbook. A falsified or incomplete logbook implies a risk of being detected by unannounced dockside inspections. Intentional or careless violation of logbook regulations is subject to legal prosecution, and the principle of due care is enforced strictly, bordering on a practice of strict criminal liability (Dahl 2002).

While the implementation of fish landing reports has reached a fairly mature stage, implementing the ban on discards of dead and dying fish still raises some difficulties. The main strength of today's system is that it quite effectively reduces costs of compliance. Unless he was obviously careless when catching the fish, the fisherman risks nothing in terms of legal sanctions when bringing in the catch. The illegal part of the catch is forfeited, but a compensation scheme was introduced in 1999 (Government of Norway 1999c) entailing that, in demersal fisheries, the fisherman normally receives 20% of the catch value as a compensation for bringing it to shore. Forfeited catch will not be deducted from the quotas of the fisherman. Defining "carelessness" in legal terms is difficult, but the Coast Guard uses a practice of "caution areas" in order to reduce this problem. The designation of caution areas provides information to the fishing fleet about areas with large quantities of undersized fish or high risks of illegal by-catch and function as advice that fishermen would be wise not to fish within those areas. The caution areas are not closed to fishing, but vessels who fish there risk prosecution when they end up with illegal catch (Pers. comm. Coast Guard 2005). Since 1984, the Directorate of Fisheries has also had an apparatus to ensure timely closing of areas with high densities of juveniles in the Barents Sea (Hallenstvedt 1993). Both of these measures aim to decrease the risk of illegal catches. They also reduce the risk of fishermen filling their quota with unprofitably small fish. Consequently, they are assumed to reduce discards.

Regulation wise, the system for preventing fish discards is arguably fairly mature, because it reduces incentives to discard illegal incidental catch without creating great incentives to pursue such catch deliberately. However, enforcement of the ban on discards is still a difficult matter. While the system quite effectively reduces the fisherman's costs of complying with the ban on discards, it is arguably less effective in terms of imposing costs on fishermen who do not comply. This ineffectiveness of enforcement relates primarily to three factors. First is shaky knowledge and thus a vague legal definition of when fish should be considered "dying". This is mostly a problem in the pelagic fisheries, where release of fish usually takes place before the catch is taken onboard. The annual regulations in pelagic fisheries have thus stated, in general terms, that release of dying fish is illegal and supplemented this with a final limit related to the fishing operation. Until 2004, this limit took the form of a statement saying that catch cannot be released

after pumping of the catch from the seine into the vessel has begun under any circumstances. Due to the inadequate definition of “dying fish”, only this final limit was enforced, and the fishermen perceived releasing fish prior to this point to be legal. In the mackerel fisheries in 2004, the mention of the pumping operation as a final limit to the release of fish was removed from the regulations. Instead, the Coast Guard arranged meetings with fishermen informing them of how the concept of “dying fish” would be interpreted in enforcement: the Coast Guard would start reacting to instances where catch was released after the fish had been concentrated to the point where it began jumping in the seine. This implied a stricter enforcement practice because fish normally starts jumping in the seine before the pumping operation begins. The second factor concerns insufficient clarification of the principle of due care in relation to unintended dumping as a result of torn seines and cod ends. Consequently, the requirement for display of due care has yet to be enforced in such cases. Third is the fact that it is often difficult to find out, and virtually impossible to prove, who discarded the catch, because this requires direct observation of the act of discarding. This problem is also especially significant in pelagic fisheries, as fish is usually discarded before it is taken out of the water. Fatty fish, such as herring, floats to the surface when dead, which increases the risk of detection. However, catches are often made when the fish concentrates right before darkness, and discarding is difficult to detect at night. Mackerel, for example, sinks immediately, which makes detection almost impossible unless there are observers onboard. Arguably, this problem can only be properly solved once gear is developed that allows fishers to estimate size and quality of the catch while the fish is still viable, thus removing the incentive to delay release until the fish is dead or dying (Gezelius 2006). These difficulties in proving criminal liability resulted in an absence of court cases related to discards in pelagic fisheries for a number of years. As a result of the efforts of enforcement authorities to fix these inadequacies, the Coast Guard has over the past couple of years reported a few vessels for discarding pelagic fish (Gezelius 2006; Government of Norway 2004b).²³

The state’s approach to resource control in fisheries aims to be non-provocative. No enforcement personnel carry arms, and incidents of violence are extremely rare. Coast Guard personnel, although operating in military uniforms, are instructed to behave in a polite and non-provocative manner. During

²³ In December 2007, the Government published the proposal for a new act – Act on the Management of Wild Marine Living Resources (*Havressursloven*) – to replace the Saltwater Fishing Act of 1983. The proposal suggests that the rules regarding discards are made somewhat stricter. The Ministry of Fisheries and Coastal Affairs proposes that fishermen are required by law to bring all catch to shore, regardless of viability. The purpose of this is to simplify enforcement by making it less dependent on judgement of the catch’s viability. However, the need to make exceptions to this general rule is recognised, as is the legitimate need of purse seiners to release viable catch from the seine early in the seining operation (Government of Norway 2007e). Consequently, the extent to which the new and stricter rules against discarding solve the present enforcement problems in the pelagic sector is unclear.

fieldwork in the offshore fishing fleet in 2003 and 2004 (see Gezelius 2006), the author witnessed a gentle and communicative enforcement practice among Coast Guard personnel, and cooperative responses among fishermen. In offshore and distant water fisheries, the Coast Guard also provides certain services, such as information on the regulations of other states, medical services, and scuba divers in cases of emergency. Consequently, the Coast Guard does not only act as enforcer, but also as a support for the fleet, which likely contributes to cooperative attitudes among fishermen and, thereby, eases enforcement.²⁴

Violations of fishing regulations are usually violations of the Saltwater Fishing Act, which provides for three types of legal sanctions: fines, confiscation of catch, vessel, and gear, and imprisonment. Previously, imprisonment could only be used in cases of repeated violations or aggravating circumstances and was limited to a maximum of 6 months. Media attention to fisheries crime resulted in a sharpening of the provisions for imprisonment in the Saltwater Fishing Act in 2001. There is now a regular provision for 6 months in prison, and aggravating circumstances can result in a maximum of two years in prison. A typical penalty in fisheries court cases consists of a fine for the fisherman and confiscation of valuables belonging to the fishing company. In practice, confiscation often functions as a fine, as the Saltwater Fishing Act provides for confiscation of the monetary value rather than the physical items.

Minor infractions, and especially those resulting from negligence, are often not reported to the police and, consequently, are settled outside the court system. The most common way for the Directorate of Fisheries or the Coast Guard to deal with such cases is to issue a warning. The Participation Act has also provided for withdrawal of licenses when the conditions for the license are no longer fulfilled. However, when fisheries law enforcement entered the agenda in the late 1980s, the fisheries administration was reluctant to use such sanctions due to the questions of legal protection they raise (Government of Norway 1989a: 24). This policy has changed in recent years, and administrative sanctions have started playing a certain role in fisheries law enforcement. The new Participation Act of 1999 increased the possibilities for administrative sanctions, stating that the required license to own a fishing vessel can be permanently or temporarily withdrawn in cases where the vessel has violated fisheries law. Today, the Directorate of Fisheries occasionally uses temporary withdrawal of fishing licences as an alternative to prosecution through the court system (Government of Norway 1999d, 2003c; pers.comm. Directorate of fisheries and the Coast Guard).

²⁴ I owe to Jesper Raakjær the point that combining enforcement with other services may also have undesirable effects, as vessels fishing illegally may be reluctant to call for help.

3.3.6 The Logistics of Information

The Norwegian management model is based on the ideal of aligning catch restrictions with fishing mortality. Achieving this is demanding in terms of administrative efficiency. It is not sufficient to ensure that all fish killed during fishing is landed and reported. The logistics of catch information must also be efficient enough to ensure that governing agencies are kept up to date on the relationship between landed quantities and Norway's total quota. Time lags in information transfer represent a danger of overfishing the TAC.

In today's system, the fish buyer transmits the sales note to a fishermen's sales organisation. The sales organisations subsequently transmit sales note data electronically to the Directorate of Fisheries once or twice per week. The Directorate of Fisheries then updates its catch statistics database on basis of this information. Quota information is transmitted from the Directorate of Fisheries to the sales organisations daily (Government of Norway 2006a).

A significant problem in quota implementation has related to a provision in the Raw Fish Act that allows fishermen to process their own catch. This provision entails that not all catch is sold at the time of landing, which has resulted in significant time lags since sales notes are not transmitted until the catch is sold. This problem has been on the agenda since 1996 and resulted in new regulations on catch report procedures in 2003. These regulations required the transfer of landing notes to the sales organisations in cases where the fish was not sold at the time of landing. The system of landing notes is currently being implemented electronically by the sales organisations (Government of Norway 1951a, 2003b, 2006a: 31–34).

A similar problem relates to forfeited catch. Catch that is confiscated administratively is not subtracted from the individual quotas of the fishermen, in order to remove incentives to discard. However, aligning catch quotas with fishing mortality requires subtracting forfeited catch from the total Norwegian quota. At present, Norway has no system in place to ensure that aggregate data on fish landings, including forfeited catch, can be continuously compared with Norway's total quotas. This is not a major problem in the pelagic sector, because individual quotas in the offshore fisheries amount to slightly less than Norway's total quota. This prevents illegal, forfeited catch from resulting in overfishing of the total quota. The fact that all catches are sold through a centralised auction system also ensures efficient transfer of landing data. Norway's total quotas for herring and mackerel have not been greatly overfished in recent years (Government of Norway 2006a: 190–91). However, the system has yet to function adequately in demersal fisheries, which has less efficient procedures for transfer of data on fish landings. The lack of computerised tools allowing for real-time comparison of data in the central catch statistics database with total quotas makes it difficult to keep an up-to-date overview (Government of Norway 2006a; pers. comm. Directorate of fisheries).

The potential problem of overfishing is enhanced by the quota system applied in the inshore cod fisheries. In recent years, inshore fishermen have been granted one quota that covers cod, saithe, and haddock. This increases flexibility and reduces by-catch problems, but makes overfishing of favoured species difficult to prevent. This system of one single vessel-quota for these three species was removed in the regulations for 2007 (Government of Norway 2007d).

3.4 2000– : Globalising the Implementation Effort

Most major fish stocks harvested by Norwegian vessels are either straddling or highly migratory, which means that they are shared with other countries. Consequently, a functional national implementation system is insufficient to ensure sustainable resource management. Realisation of conservation targets requires that all major harvesting nations implement catch restrictions with a certain degree of effectiveness. There are many potential legal and administrative obstacles to achieving this, but one obstacle is especially significant because of its potential to reduce the efforts of other states: the incentive to free-load on the conservation effort of others. In theory, asymmetrical implementation efforts could lead to a prisoner's dilemma-like logic in resource management, where free riders subvert the general willingness by states and companies to carry the costs of conservation.

These dangers of asymmetrical implementation have been conspicuous in the Norwegian public discourse on illegal and unregistered fishing of Northeast Arctic cod, which is managed jointly by Norway and Russia, in recent years. In Norway, it is generally believed that Norwegian implementation of catch regulations for this stock works reasonably well and that illegal fishing for this stock by Norwegian vessels is not a major problem today. However, there has been great concern about illegal and unregistered fishing by foreign, especially Russian, vessels in recent years. ICES (2007) estimated that the unreported catches amounted to approximately 25% of the official catches in 2006. Transshipment of catches from the Barents Sea to cargo ships, which transport the catches to European ports for sale, is considered as the most common way of avoiding quota control in these fisheries. Illegal fishing of Northeast Arctic cod has caused much frustration in the Norwegian fishing industry, and has resulted in industry organisations arguing that Norway should withdraw from its management agreement with Russia (*Fiskaren* 2006b; NRK 2006). The feeling of being exploited by free riders and losing out in a prisoner's dilemma game has also been expressed in the Norwegian fisheries press, as illustrated in this leading article in Norway's biggest fishing industry newspaper.

The Norwegian fishing industry is being robbed by obeying the law.... Russian fishers have done as EU fishers have for years, fished on an official quota and landed

unofficially. The only growing stock, at a time when the ocean offers excellent conditions for production, is the saithe. But, notably, we manage the saithe stock ourselves. (Leading article *Fiskaren* June 7 2006a, my translation).

States in the Northeast Atlantic require foreign fishing vessels to report their catch when entering or leaving their EEZs so as to keep track of catch taken within their EEZ. Norway has required catch reports from foreign vessels since 1977. In 1994, it also introduced a requirement for foreign vessels to report to specific control points after having finished fishing, allowing for inspection. Requirements for satellite tracking, established through agreements among coastal states in the North-East Atlantic, have increased the enforceability of these regulations (Government of Norway 2007a; ICES 2007). However, such measures do not solve problems of illegal, unregulated and unreported (IUU) fishing in international waters or in the waters of neighbouring states. The concern about foreign IUU fishing has triggered a Norwegian diplomatic effort to establish an effective international control regime. This has included the establishment of several bilateral agreements, as well as an active role in NEAFC.

As described in Chapter 2, the establishment of national control over offshore fisheries through the introduction of 200 nm EEZs in 1977 deprived the North-East Atlantic Fisheries Commission (NEAFC) of its main resource management functions. However, the UN agreement on the management of straddling fish stocks and highly migratory fish stocks, established in 1995, renewed the significance of the international fisheries commissions and improved the legal foundation for international resource management, including control and enforcement (UN 1995). The significance of NEAFC has been reinforced by the increasing concern over foreign IUU fishing in recent years. In 2005, NEAFC established a so-called “black list” of fishing vessels banned from fishing in the NEAFC area. In 2007 this ban was also extended to the EEZs of NEAFC’s member states. In addition to being banned from fishing, black listed vessels are denied access to ports and services in NEAFC states. The Northwest Atlantic Fisheries Organization (NAFO) has established a similar measure (Government of Norway 1993d, 2007a, b). Norway established legal provisions for the exclusion of black listed vessels from port services, landing and transshipment of catch at Norwegian ports in 2006. In addition to these multi-lateral arrangements, Norway has since 1998 unilaterally black listed foreign vessels perceived to undermine Norwegian conservation efforts through unwanted fishing in waters outside Norwegian jurisdiction. Black listed vessels are permanently denied fishing rights in Norwegian waters (Government of Norway 1966, 1998c, 2006b, 2007e).

The establishment of the NEAFC black list was followed by the agreement on the NEAFC Scheme of Control and Enforcement in 2006, which entered into force the following year (Government of Norway 2007a; NEAFC 2007). This agreement was a significant step forward in terms of international quota control. It establishes measures to monitor fishing activities and transshipment of catch in international waters. Importantly, the agreement also establishes a regime for port

state control to prevent landings of illegal catch. This regime requires all vessels intending to land frozen catch in a foreign NEAFC port to notify the port state in advance and provide it with catch data. The port state is subsequently committed to contact the ship's flag state in order to verify that the catch has been legally taken. If the legality of the catch cannot be verified, the port state is committed to deny landing. It is also committed to carry out inspections of at least 15% of the landings or transshipments in its ports. These inspections shall include comparison of the data in the ship's prior notification of landing with the actual quantities landed or transhipped. Information on quotas and landings are transmitted to NEAFC's online database for purposes of transparency (Government of Norway 2007a, c; NEAFC 2007).

Norway actively promoted the establishment of the port state control regime, and currently works within the FAO system to build a similar regime on a global scale (Government of Norway 2007a). The Norwegian participation in efforts to establish multi-lateral implementation systems has been accompanied by a number of bi-lateral control agreements. Norway has control agreements with most major fishing nations in the North-East Atlantic, and has begun to update these to allow for the exchange of information on fish landings from third-state vessels (Government of Norway 2007a).

3.5 Legitimation Strategies

At the time when the EEZs were established and the state undertook the task of resource management, the Norwegian Fishermen's Association organised the entire fish harvesting sector and had become the government's dominant industry partner. The Norwegian Fishermen's Association had been a prime advocate for the development of important parts of the legal and administrative system, such as the establishment of the fishermen's sales organisations in the 1930s, the establishment of a Ministry of Fisheries in 1946, and the development of the advisory service of the Directorate of Fisheries. The Norwegian Fishermen's Association had been chosen by the government as the sole counterpart to the state in the annual negotiations for subsidies to the fishing industry through the Basic Agreement of 1964 (Hallenstvedt & Dynna 1976: 272–283). The close connection between the industry organisations and the state administration were reinforced by the extensive exchange of personnel across state/industry boundaries. Several Fisheries Ministers have had prominent positions in the Norwegian Fishermen's Association, including chairman and secretary general. For example, Klaus Sunnanå, the Director of Fisheries from 1948 to 1973 and one of the most influential civil servants in the history of Norwegian fisheries management, had a past as secretary in the Norwegian Fishermen's Association (Government of Norway 1975a; information from the Norwegian Fishermen's Association).

As the focal point of governance moved from industry development to resource management, and intra-industrial conflicts of interest thereby became politically-dominant, the Norwegian Fishermen's Association became a crucial actor in the legitimation of fisheries policies based on its strong position as counsellor for the Ministry of Fisheries. The relationship between the Ministry of Fisheries and the Norwegian Fishermen's Association thus developed into a mutually-beneficial political exchange. The Ministry of Fisheries secured an enduringly strong position for the Norwegian Fishermen's Association by granting it genuine and partly exclusive influence on management policies. In return, the Norwegian Fishermen's Association undertook the politically-hazardous task of transforming conflicting interests into uniform industry advice. Consequently, it provided management policies with the legitimacy that goes with industry support, and relieved the Ministry's political leadership of the political stress that goes with arbitration (Gezelius 2002a).

The Norwegian Fishermen's Association is granted influence at all levels in fisheries policy formation, beginning with the decisions on TACs. The main industry organisations are consulted in forming the Norwegian position in the international quota negotiations. The Norwegian Fishermen's Association and two other industry organisations (one representing the offshore crews and one representing the processing industry) are also active members in the Norwegian delegation in international quota negotiations (Government of Norway 2005a). The position of the Norwegian industry organisations as adequate delegation members is quite unique in this context, as the industry organisations of counterpart states generally only have status as observers.

Once the TACs have been set, the process of setting the annual regulations for the fleet begins. The Directorate of Fisheries prepares recommendations on regulations to be presented to the Regulatory Meeting. The Regulatory meeting replaced the Regulatory Council in 2006. The Regulatory Council was a body of industry organisations established for the purpose of counselling the Minister on regulations set under the Saltwater Fishing Act. It was established following the Saltwater Fishing Act of 1983, replacing the previous Regulatory Committee. It was headed by the Director of Fisheries and consisted of thirteen members. One seat was occupied by the Director of Fisheries and one seat was occupied by the counties. The remaining eleven seats were occupied by representatives from the main industry organisations. The Norwegian Fishermen's Association was the dominant actor with five members in the council (Government of Norway 1997, 2005b). The advice of the council was presented directly to the Ministry of Fisheries, which makes the final decisions. The Minister of Fisheries almost always followed the advice of the Regulatory Council, which relieved him/her of the political stress associated with autonomous decisions. This practice provided an incentive for council members to reach a negotiated consensus, as they had less control over the outcome of state arbitration. The Regulatory Council most often managed to provide advice through negotiated consensus, but in cases where this was not possible, the different positions were communicated to the Ministry of Fisheries with

a record of the votes, allowing the Minister to follow the majority when he/she needed legitimization of controversial decisions. However, a legal requirement for a minimum 40% representation of women in advisory boards led to the temporary abolishment of the Regulatory Council in 2006. The Regulatory Council was replaced with the Regulatory Meeting. While the Regulatory Council was a closed hearing forum limited to a defined set of active participants and an additional set of observers, the Regulatory Meeting is an open hearing forum. The former members of the Regulatory Council are specially invited to the meetings, but the meetings are now open to any organisation which registers within the deadline. All participants have the right to speech, and there is no voting. The Directorate of Fisheries organises the meeting. The minutes from the meeting are sent to the Ministry of Fisheries and Coastal Affairs. The advice from the Directorate of Fisheries is transferred separately. Some industry organisations have voiced a wish to return to the previous Regulatory Council, but the future form of these hearings is currently somewhat uncertain.²⁵ The wish of some industry organisations to return to the previous arrangement of the Regulatory Council is unsurprising because the new hearing forum arguably shifts the balance of power from the industry to the Directorate of Fisheries and the Ministry of Fisheries. The strictly framed negotiations and uniform advice of the Regulatory Council gave its representatives a level of influence which is difficult to achieve in the Regulatory Meeting. Potentially, this shifting balance of power also makes decision-making more politically-costly for the Minister of Fisheries.

The provision of unitary industry advice has been an important feature of this corporatist system. The organisational structure of the Norwegian Fishermen's Association is reminiscent of a political party, and controversies are settled through voting procedures. This includes the highly-controversial question of setting principles for quota distribution among fleet sectors. The Regulatory Council traditionally based its quota allocation advice on guidelines set by the Norwegian Fishermen's Association. The Minister of Fisheries could thus distribute quotas on the basis of uniform industry advice, from which the Minister rarely departed. Provided that the Norwegian fishermen's Association continues to handle the allocation issue, its advice is likely to continue to have decisive influence on the allocation decisions of the Ministry of Fisheries and Coastal Affairs. Regulations are continuously updated, and there is ongoing dialogue, at formal and informal levels, between the fisheries administration and the Norwegian Fishermen's Association on these matters. This corporatist system is based on a model for fisheries management aimed to minimise the political costs for state agencies. Uniformity of industry advice and a government practice of following this advice are the core elements of this low-cost approach. This legitimization strategy implies that the state has exchanged some of its political autonomy for political peace.

Consequently, tensions between the state and the industry have been reduced at the cost of generating great intra-industrial conflicts that have often threatened the

²⁵ Source: Pers. comm. Directorate of Fisheries 2 January 2008.

unitary structure of the Norwegian Fishermen's Association. The genuine and often decisive influence that the main industry organisations have received in return for their willingness to carry political costs potentially increases internal tensions due to the importance of their advice. On the other hand, this influence has also provided the various interest groups with incentives for continuing to support their organisations.

The corporatist model of fisheries management does not only apply to bottom-up advisory processes. It also applies to implementation. The enforcement responsibilities of the fishermen's sales organisations are embedded in law, which gives the sales organisations certain semi-governmental features. The Norwegian Fishermen's Association also fulfils implementation tasks at a more informal level. The Fishermen's association is often the fisherman's main source of information regarding fisheries regulations. The tight connections between this union and the fisheries administration entails that local union leaders are kept up to date on regulatory changes. This function has been institutionalised in the offshore sector where the Directorate of Fisheries transmits new regulations to the vessel owner's association which faxes them to the fishing companies.²⁶ New regulations are also published on the homepages of the Norwegian sales organisation for pelagic fish.

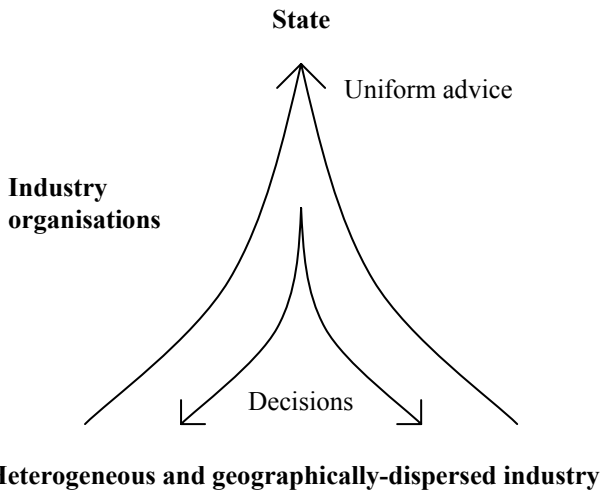


Fig. 3.2. Industry organisations as a communication funnel

Consequently, the industry organisations function as a two-way communication funnel between the state and the industry, as is illustrated in Fig. 3.2. This

²⁶ Pers. comm. Directorate of Fisheries and the Norwegian Fishing Vessel Owners Association.

communication funnel aggregates views and interests into unitary advice upwards and spreads information on decisions downwards, which contributes to the blurring of perceived distinctions between state and industry. This corporatist model has thus counteracted the development of polarised and antagonistic state/industry identifications (Gezelius 2003). These identifications have relevance for implementation. I have argued elsewhere that building shared state/society identifications is important in order to generate normatively-based compliance, documenting the existence of an informal social norm among Norwegian fishers requiring them to obey fisheries law, as well as a relative absence of antagonistic state/industry identifications in the industry (Gezelius 2002b, 2003, 2006). The corporatist structures of fisheries management and the extensive exchange of personnel between the industry and the state thus also have possible implementation relevance through their ability to increase fishermen's identification with the state and thereby facilitate informal norms of compliance.

If we consider the role of the fishing industry from the introduction of TACs in the early 1970s and until a reasonably coherent implementation regime had been constructed some 25 years later, it is evident that the industry was not included as an afterthought to the construction of the TAC-implementation regime, but rather constituted an essential partner in this construction process from the beginning. The sales organisations were granted implementation tasks in the early years of TACs in the mid 1970s, and the Norwegian Fishermen's Association and the sales organisations were significant actors in the making of the implementation regime during the period of its basic construction: the 1980s and the 1990s. Arguably, this has promoted a joint state/industry identity in relation to the Norwegian TAC-implementation system, as well as a sense of shared responsibility. The Norwegian discourse regarding the effectiveness of Norwegian implementation compared to other states also suggests a fair degree of shared pride in terms of what has been achieved. A somewhat extreme manifestation of this was the proclamation by a Norwegian Minister of Fisheries in the mid 1990s that Norway was the "world champion of fisheries management" (Hersoug 2005: 4). A similar view was recently expressed by Norway's current Minister of Fisheries and Coastal Affairs, Helga Pedersen: "We have the best fisheries management in the entire world".²⁷

The long-term policy of the fisheries administration to promote shared state/industry identifications must be considered to have been relatively successful. This relative success can hardly be ascribed to the fisheries administration alone, as it has been facilitated by a political culture that is the most trusting and supportive in Europe in terms of citizens' attitudes towards their national government and politicians (Aardal 1999; Aardal et al. 1999; Miller & Listhaug 1998). This political culture has, in turn, been promoted by a national idea largely constructed around the main legal institutions – the Constitution, the Constitution Day and the *Storting* (Norwegian parliament) – which became the most prominent na-

²⁷ Helga Pedersen to NRK *Dagsrevyen* (national Television news), March 13, 2008 (my translation).

tional symbols alongside the flag during the 19th century (Seip 1997; Sørensen 1998a, b). This means that the project of counteracting conflicting state/industry identifications in the fishing industry could build upon a political culture that was receptive to the idea of state/society partnerships. The content of the national idea thus has facilitated the social norms of law-abidingness that can be observed in the industry today.

Table 3.3. Historical development of the management system

	1900–50	1950–60	1960–70	1970–80	1980–90	1990–
<i>Development of resource management</i>	Resource management of secondary importance	Awareness of overfishing. Focus on technical measures.	Discussions on reformed management regimes: TACs versus effort regulations.	International negotiations over access, management rights and quota shares	Implementation becomes a pressing issue. Development of a basic framework for quota implementation.	Incremental improvement of the implementation system
<i>Resource management form</i>		Technical measures	Technical measures	Catch quotas, technical regulations, structural policies	Catch quotas and technical measures	Catch quotas and technical measures
<i>Main government task</i>	Industry development	Industry development	Industry development	Industry development/ resource management	Resource management	Resource management
<i>Conditions for quota implementation</i>	Establishment of sales organizations, fishermen's union. Strong state/industry connections. Building of central and regional fisheries administration.	Expansion of fisheries administration.	Fleet sectors merge in a single dominant union. Partnership with the state formalized in the Basic Agreement.	National control over continental shelf. Reorganisation of regional control services. Establishment of the coast guard.	Modernised legal framework. Formalisation of industry role as advisor and implementer in resource management.	Development of enforcement apparatus. Sales organisations fulfil key tasks.

3.6 Concluding Analysis: Causes of Continuity in Norwegian Fisheries Management

3.6.1 Continuity

The development of the Norwegian management system has gone through several distinct phases, each roughly coinciding with one decade, as is illustrated in Table 3.3. The 1960s were a period of deliberation on the principal choices of fisheries management within the framework of the Atlantic fisheries commissions. These discussions ended in a breakthrough for TACs as the preferable management tool. The 1970s were a period of bi-lateral and multi-lateral discussions on the principles for setting and distributing TACs. This period saw the first TACs and national allocations in the Northeast Atlantic. The 1980s were the period of learning how to implement the system at the national level. Aligning fishing mortality with catch quotas is the fundamental problem in TAC implementation and, consequently, the question of effective monitoring and restriction of fishing mortality gained a prominent place on the agenda during this decade. The focus on these issues resulted in the establishment of the basic legal and administrative frameworks for catch quota implementation. The 1990s were the period of fixing holes in the implementation system, and the first decade of the new millennium has been a period of globalising the implementation effort.

Norwegian fisheries management implementation has been subject to constant change, but changes have typically been evolutionary rather than revolutionary. Continuity has thus been a hallmark of Norwegian fisheries management. This continuity relates to the basic management approach of conserving fishery resources through catch regulations, but also to the institutional structures for implementation. The past few years have been marked by confidence crises and radical reorientations in the management of many North Atlantic fisheries, but Norway represents a case of comparable stability in this context. The TAC-based management model is by and large undisputed in the public debate. As of yet, alternative management regimes are scarcely discussed outside academic forums. The Norwegian management system has evolved through gradual change of implementation schemes rather than radical change of the basic management principles.²⁸ There have been no disruptive crises of confidence in the system's ability to

²⁸ The recently-proposed Act on the Management of Wild Marine Living Resources, aimed to replace the Saltwater Fishing Act, confirms this picture. This proposed act continues the existent implementation system while fixing perceived holes in the present implementation system. For example, it proposes that the Sales Organisations are given extended authority to fulfil their control tasks, that the Ministry of Fisheries and Coastal Affairs is authorised to require registration by all actors receiving fish landings (not only buyers), and to require traceability of catches (Government of Norway 2007e).

manage fishery resources, and implementation failures have usually been addressed as matters of fixing the holes in a system that is perceived as basically-sound. The dynamic of this continuity has been outlined in this chapter, but it is worthwhile addressing some factors explaining this apparently unique continuity.

3.6.2 The State of the Fish Stocks as a Cause of Continuity

The continued trust in the system is partly contingent on the absence of enduring resource crises in Norwegian fisheries in the post-EEZ period. After the recovery of the herring fisheries which collapsed in the late 1960s, the pelagic fisheries have not faced severe depressions. Periodic fluctuations, especially in the capelin fisheries, have not undermined the basic trust in the system. The cod fisheries went through a crisis in 1989–90, but the stock apparently recovered rapidly, and Norway emerged as an exceptional case of successful management in the 1990s when crises in the cod fisheries were widespread in the North Atlantic. Norwegian fisheries management has thus been considered relatively successful. The extent to which the viability of the fisheries is due to competent management, resilient fish stocks, pure luck or a combination of these is debatable, but there is no doubt that the continuity of the fisheries management system has been facilitated politically by the absence of enduring fishery resource crises.

3.6.3 Path Dependence and Functional Implementation as Causes of Continuity

The Lucky Strike of History

Apart from the uncontrollable biological and oceanographic factors, successful TAC-based management depends on two main factors: TACs set on the basis of sound scientific advice and implementation ensuring that the fishing mortality does not exceed the TACs. In the Norwegian public debate, most attention is paid to the question of the soundness of scientific advice and how it relates to the TACs. The view that aligning fishing mortality with TACs represents unmanageable implementation problems has never gained foothold in the Norwegian discourse. The general view is also that Norway has come a long way compared to most other states in achieving this. Although the faith in Norway's superior implementation may contain a national bias, it arguably also relates to the fact that certain historical conditions gave Norway a head start in the implementation of the new TAC-based regime. When TAC-based resource management emerged in the mid 1970s, a basic institutional infrastructure for implementation had already been established. The outer administration of the Directorate of Fisheries, which had

been developed for the purposes of industry development and quality control, was also well suited to resource control. Consequently, when the perceived need for resource control became pressing in the late 1980s, this apparatus simply took on these new tasks. Moreover, the centralised organisation of the first-hand fish market, established in the late 1930s, provided for easy registration of catch quantities and, consequently, for monitoring quotas. It also offered a handy solution to one of the most difficult questions in TAC-based management – how to administer landings of illegal incidental catch. Because the system of fishermen’s sales organisations offered a solution to this problem, it was relatively easy for the state to implement a ban on discards of dead and dying fish. The market organisation thereby facilitated the monitoring of fishing mortality.

The strong connections between the fishermen’s sales organisations and the state made it possible to delegate enforcement and other implementation tasks to these organisations, counteracting polarised state/industry identifications in matters of resource management. Similarly, the unitary structure of the fishermen’s union and its tradition for close interaction with the state provided for uniform industry advice that was influential to the extent that the fishing industry emerged as the state’s equal partner in resource management, facilitating informal compliance norms.

In sum, the structures of the market, industry and administration that had been constructed throughout the 20th century offered solutions to some of the biggest problems of TAC-based management. This had nothing to do with historical foresight, but resulted from more than 70 years of incremental development mainly motivated by problems other than resource management. When resource management emerged as a major challenge, the existent institutions and traditions of politically-low-cost management proved useful, as is illustrated in Fig. 3.3.

Looking at the system for implementation of conservation policies, Norwegian fisheries management is, in Lindblom’s (1959) terms, a case of a management system muddling through, incrementally adapting to new challenges through trial and error. It is also, in David’s (1985) terms, a case of path dependent development, meaning that solutions for the future are largely built upon the structures of the past. Such incremental and path dependent development is not special to the implementation of resource conservation policies. It is arguably a general feature of Norwegian fisheries management. For example, Hersoug (2005) has used the same theoretical labels to describe the development of the Norwegian system for allocating fishing rights.

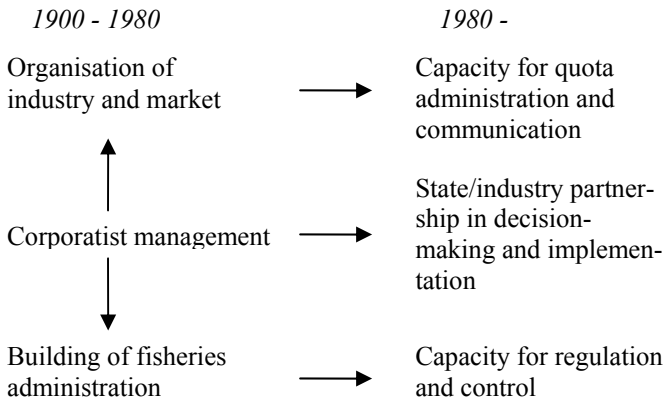


Fig. 3.3. Historical factors in management continuity

The rationality of path dependency relates to the often high costs associated with building new structures. Even when new structures may function more effectively than old ones, the costs of establishing these often outweigh the benefits. Throughout the development of the Norwegian implementation system, using the existent organisational structures often emerged as the least costly option in the short term. Consequently, the organisation of the administration and industry that took place from the early 1900s had a decisive impact on the shape of the system for catch quota implementation. However, the apparent viability of this system can hardly be accounted for by path dependence alone. It is essential to the continuity of the system that the existent organisation of the market, industry and administration, by chance, proved fairly suitable for the task. They allowed for regulations that otherwise could have been difficult to implement. A significant amount of resources have thus been invested in the development of a regulatory framework enabling these organisations to implement management policies. Consequently, this path dependence also applies to fisheries law. Today's fisheries legislation consists of a complex set of regulations constructed on the basis of several coordinated laws that are manifest in organisations and routines. This set of institutions has evolved as a long-term project of trial and error. It would take strong reasons to change the basic structures of this system today. The experiences of the system's functionality vis-à-vis the industry and, apparently, the fish stocks do not represent strong reasons for change at present.

Viability of Conservation Goals

We have seen that the Norwegian government has assumed responsibility for industry development and resource conservation. The conservation task has also been followed by significant challenges related to the distribution of fishing rights (Christensen and Hallenstvedt 2005; Hersoug 2005; Sagdahl 1992). At the political level, especially in relation to TAC levels, concerns about the industry's short-term survival and distributional problems have represented a potential challenge to resource conservation as the dominant political value (Gezelius 2002a; Jentoft 1991:11–16; Sagdahl 1992). However, previous research on state/industry interaction in relation to implementation (Christensen et al. 2007; Gezelius 2003), as well as the research underlying this study, has not yielded any data to indicate that conservation goals are changed or challenged to any great extent at the implementation stage.²⁹ Chapter 6 on implementation politics in Denmark and the EU presents a contrasting case to Norway in this respect. It is reasonable to hypothesise that the apparent robustness of conservation goals in the implementation process is one significant condition for continued faith in the functionality of the Norwegian resource management system and thus for its continuity. In the following, I will argue that this relative robustness results from distinct structures of power in Norwegian fisheries management.

Following the emergence of TACs as a resource management form in the early 1970s, the implementation system to a great extent developed through interaction between four main agencies: the Directorate of Fisheries, the Ministry of Fisheries, the Norwegian Fishermen's Association and the sales organisations. The development of the Norwegian implementation system has thus emerged as an incremental bottom-up process to a great extent, driven by the state administration and the industry organisations. New regulations have typically emerged in response to experienced insufficiencies in present implementation. The process of constructing the implementation system has thus had a practical rather than an ideological orientation. However, the bottom-up nature of this construction process is embedded in the combination of two consciously-chosen traditions in Norwegian governance. First is the corporatist tradition, which emphasises negotiation and cooperation between industry organisations and the state. Second is the tradition for delegating decision-making power to the state administration through enabling acts. Norwegian acts are often quite general and relatively short, authorising the state administration to decide upon regulatory specifics. The implementation system has thus largely developed through regulations, while general legal amendments have provided the necessary extensions of the administration's regulatory authority. This combination of corporatist governance and enabling legisla-

²⁹ This finding relates to the construction of the implementation system. As of yet, there are no studies of how formal implementation structures shape administrative decisions at the micro level in the fisheries management system. For example, the extent to which informal social norms and values influence Norwegian fisheries inspectors' decisions to report or ignore observed infractions has not yet been studied.

tion has entailed that important decision-making processes related to conservation policies and implementation have taken place at low levels of the Norwegian hierarchy of authority.

TAC implementation could in principle be disturbed by the agendas of shifting fisheries ministers under such a system, potentially undermining conservation goals. However, significant factors prevent a change of goals at the implementation stage. The enabling legislation, which leaves responsibility for setting and implementing TACs to the Ministry of Fisheries, is crucial to understanding the robustness of the conservation agenda in implementation. Norway's TACs are mostly consensus decisions made through negotiations between the Norwegian Ministry of Fisheries and the main Norwegian industry organisations on the one hand, and the delegations of counterpart states on the other. The consensus nature of conservation decisions and the central role of the Ministry of Fisheries and industry organisations in the decision-making process entail that the main actors in implementation are also responsible for the conservation policy, which strongly discourages reopening the political discussion at the implementation stage.³⁰ It can also be argued that the long-term, routine nature of TAC-based management has enhanced the enabling legislation's capacity to keep decision-making at low levels in the hierarchy. The TAC regime has existed and evolved over a period of many years, despite shifts in the administration's political leadership. The system for implementing this regime has similarly evolved incrementally in the direction of increased effectiveness, despite several changes of government. It appears that the routine, long-term, complex, and technical nature of TAC-based management has entailed that operating this management system has to a great extent been defined as an administrative responsibility. Consequently, the development of the implementation system has largely emerged as an incremental bottom-up process, relatively uninfluenced by the shifting agendas of political leadership.³¹ Studies have concluded that the Norwegian administration generally displays a large degree of loyalty towards original political aims in the implementation process (Christensen et al. 2007: 120–133), and the data in this study largely confirm that picture. The data suggest that the implementation agenda has largely been shaped by the administration's perceived need for improved implementation tools.

³⁰ There are exceptions to the loyal implementation of bilateral/multilateral agreements. The annual agreements between Norway and the EU regarding herring in the North Sea and Skagerak include a separate herring quota to be caught exclusively in Skagerak. Norway has wanted to remove this spatial separation of quotas for several years, but it has remained part of the agreement due to the EU's wish. Norway has subverted this arrangement at the implementation level by not enforcing it. Non-compliance with the North Sea/Skagerak division line is widespread in Norwegian herring fisheries (Gezelius 2007: 418).

³¹ Although independence of shifting political agendas appears to be the general picture, there have been some observable deviations. One of the most conspicuous deviations came from Norway's Minister of Fisheries in 2001–2005, Svein Ludvigsen, who shut down the fisheries crime hotline, arguing that it promoted "squealing" (Norw. *angiveri*).

These two traditions – enabling legislation and corporatist management – reflect significant confidence in the competence and willingness of organised interests and civil servants to take responsibility for the common good. Although these traditions entail a risk of losing transparency and public control in fisheries management, it can be argued that they have certain advantages in terms of implementing conservation policies. When comparing the history of Norwegian implementation with that of the European Union, the reader may be struck by the extent to which Norwegian implementation of TACs has been treated as a question of administrative realisation of predefined political aims, rather than as a political tug-of-war regarding the political concerns that will rule the implementation agenda. It may be even more striking to observe the extent to which Norwegian industry organisations appear to have accepted resource conservation as the dominant goal to be pursued in the implementation of conservation policies. The state administration and the general public have continued to perceive the Norwegian Fishermen’s Association and the sales organisations as reasonably responsible actors in the conservation discourse, and the loyalty of the sales organisations in fulfilling implementation tasks has never been questioned. Chapter 7 specifically addresses the mechanisms through which alternative political agendas feed into the process of implementing conservation policies, but it appears that Norwegian implementation of conservation policies has been comparatively resistant to such influences.

It can be argued that the responsibility for conservation decisions carried by core actors in the implementation process represents a strong disincentive for industry organisations to question political goals at the implementation stage. However, in order to explain the apparent robustness of conservation goals at the implementation level, it may be helpful to go a step further and consider what the institutionalisation of implementation as an administrative issue means in terms of the implementation “discourse”. The concept of “discourse”, which stems from Foucault’s work (1977, 1999), refers to the often implicit normative boundaries of a given field of human interaction. These normative boundaries define the legitimate participants of a specific type of discussion. They also define, for example, the legitimate factors, the legitimate perspectives, and the legitimate values that can be applied to a discussion. It can be argued that the combination of enabling legislation and the specific form of Norwegian corporatist management has shaped the implementation discourse so that it has become relatively unresponsive to debate regarding political goals. The manifest tradition for keeping implementation strictly at the administrative level frames implementation as a purely administrative, as distinct from political, discourse. The Foucauldian perspective implies that, once framed as an administrative discourse, implementation is defined as a topic to be addressed among administrators complying with the norms of administration. Consequently, the question of implementation is framed within the mindset of the civil service. This frame greatly reduces the room for deliberation regarding the political aims to pursue when designing the implementation system. Actors and perspectives that are unsuitable to this frame, such as stakeholders

suggesting a change in the fundamental goals to be pursued, will be disciplined or excluded from the discourse. Consequently, the implementation of conservation policies is likely to remain focused on conservation aims.

It can easily be imagined that the corporatist tradition potentially disturbs the administrative approach to implementation. However, although interaction between the industry and the state is a prominent feature of Norwegian fisheries management, this is not an equal relationship in terms of authority. The decision-making power lies with the state administration, while the industry organisations mainly serve as advisors. The corporatist management system is thus asymmetrical. This asymmetry means that the influence of the industry organisations depends on the extent to which they are included and taken seriously by the state administration. Consequently, the corporatist management model applied in Norwegian fisheries can be regarded not only as a channel for industry influence but as the state's "hostage" in disciplining the industry organisations: in order to remain influential, the industry organisations must adhere to the state administration's frame of discourse. Thereby, the asymmetrical relationship between the state administration and the industry organisations has restricted and shaped the state/industry dialogue in a manner that leaves little room for changing the primary political goals at the implementation stage.

In short, enabling legislation reflects and ensures that implementation is framed as a purely administrative discourse at state level, while asymmetrical corporatism has disciplined the industry organisations into adopting this frame of discourse. Consequently, the industry has emerged as a relatively loyal partner of the state administration in terms of keeping to the conservation goals in the implementation of conservation policies. The Norwegian implementation discourse is thus a result of the direct transfer of conservation goals from the bilateral and multilateral arenas in which they are negotiated to the level of national administration. By contrast, Chapters 5 and 6 illustrate the ability of alternative agendas to subvert conservation aims whenever implementation of international conservation goals becomes a matter of national politics.

References

- Aardal, B. (1999). *Velgere i 90-årene*. Oslo: NKS-Forlaget.
- Aardal, B., Valen, H., & Opheim, I. (1999). *Valgundersøkelsen 1997: Dokumentasjonsrapport*. Oslo: Statistics Norway.
- Apostle, R., Barret, G., Holm, P., Jentoft, S., Mazany, L., McCay, B., & Mikalsen, K. (1998). *Community, State, and Market on the North Atlantic Rim: Challenges to Modernity in the Fisheries*. Toronto: University of Toronto Press.
- Christensen, P., & Hallenstvedt, A. (1990). *På første hånd: Norges Råfisklag gjennom 50 år*. Tromsø: Norges Råfisklag.
- Christensen, P., & Hallenstvedt, A. (2005). *I kamp om havets verdier: Norges Fiskarlags historie*. Trondheim: Norwegian Fishermen's Association.
- Christensen, T., Egeberg, M., Larsen, H. O., Lægreid, P., & Roness, P. G. (2007). *Forvaltning og politikk*. Oslo: Universitetsforlaget.

- Dahl, I. (2002). Uaktsom overtredelse av saltvannsfiskeloven §53. *Lov og Rett* nr. 9/10, 606–619.
- David, P. A. (1985). Clio and the Economics of qwertz. *American Economic Review*, 75(2), 332–337.
- Fiskaren* (2006a). Leading article. June 7 2006.
- Fiskaren* (2006b). -Mildt sagt uenig med Fiskebåt. www.fiskaren.no. Accessed 19 January 2006.
- Foucault, M., (1977). *Discipline & Punish: The Birth of the Prison*. New York: Vintage Books.
- Foucault, M. (1999). Diskursens orden. Oslo: Spartacus.
- Gezelius, S. S. (2002a). Environmental Sustainability and Political Survival: A Comparative Analysis of the Cod Fisheries of Norway and Canada. *Environmental Politics*, 11(4), 63–82.
- Gezelius, S. S. (2002b). Do Norms Count? State Regulation and Compliance in a Norwegian Fishing Community. *Acta Sociologica*, 45(4), 305–314.
- Gezelius, S. S. (2003). *Regulation and Compliance in the Atlantic Fisheries: State/Society Relations in the Management of Natural Resources*. Dordrecht: Kluwer Academic publishers.
- Gezelius, S. S. (2006). Monitoring Fishing Mortality: Compliance in Norwegian Offshore Fisheries. *Marine Policy*, 30(5), 462–469.
- Gezelius, S. S. (2007). Three Paths from Law Enforcement to Compliance: Cases from the Fisheries. *Human Organization*, 66(4), 414–425.
- Government of Norway (1917). Lov av 5. desember 1917 nr.1 om registrering og merking av fiskefartøyer (Act on Tagging and Registration of Fishing Vessels). Oslo: Stortinget.
- Government of Norway (1937a). Innstilling fra komiteen til revisjon av lovene om sildefiskeriet. Oslo: Stortinget.
- Government of Norway (1937b). Lov av 25. juni 1937 om sild- og brislingfiskeriene (Herring and Sprat Fisheries Act). Oslo: Stortinget.
- Government of Norway (1938). Ot. prp. nr. 16. (1938). Om lov om fredning av saltvannsfisk (Act on Preservation of Salt Water Fish). Oslo: Ministry of trade.
- Government of Norway (1951a). Lov av 14. desember 1951 nr. 3 om omsetning av råfisk (Raw Fish Act). Oslo: Stortinget.
- Government of Norway (1951b). Lov av 20. april 1951 om fiske med trål (Act on Trawl Fisheries). Oslo: Stortinget.
- Government of Norway (1954). *Innstilling fra komiteen til samling og revisjon av fiskerilovene*. Stortingsforhandlingene. Oslo: Stortinget.
- Government of Norway (1955). Lov av 17. juni 1955 om saltvannsfiskeriene (Salt Water Fishing Act). Oslo: Stortinget.
- Government of Norway (1956). Mellombels lov av 29. juni 1956 nr. 8 om eieomsretten til fiske- og fangstfarkostar. Oslo: Stortinget.
- Government of Norway (1957a). *Innstilling fra Torskfiskeutvalget*. Oslo: Ministry of Fisheries.
- Government of Norway (1957b). Lov om endringer i lov av 25. juni 1937 om sild- og brislingfiskeriene. Innstilling og vedtak. Oslo: Stortinget.
- Government of Norway (1966). Lov 17. juni 1966 nr. 19 om forbud mot at utlendinger driver fiske m.v. i Norges territorialfarvann. Oslo: Stortinget.
- Government of Norway (1970). Forskrifter om forbud mot fangst av makrell. 23. april. Oslo: Ministry of Fisheries.
- Government of Norway (1971a). Ot. prp. nr. 22. Om lov om regulering av deltakelsen i fisket (Participation Act). Oslo: Ministry of fisheries.
- Government of Norway (1971b). Forskrifter om fangstbegrensning av atlanto-skandisk sild. 8. jan. Oslo: Ministry of Fisheries.
- Government of Norway (1971c). Lov av 11. juni 1971 om rettledningstjenesten i fiskerinæringen. Oslo: Stortinget.
- Government of Norway (1972a). Lov av 16. juni 1972 nr 57 om regulering av deltakelsen i fisket. Oslo: Stortinget.

- Government of Norway (1972b). Forskrifter om regulering av fiske etter lodde i 1972. 29. feb. Oslo: Ministry of Fisheries.
- Government of Norway (1975a). Fiskeridirektoratet 75 år. Bergen: Directorate of Fisheries.
- Government of Norway (1975b). NOU 1975: 50. Oppsynet med fiskeri- og petroleumsvirksomheten. Oslo: Universitetsforlaget.
- Government of Norway (1975c). NOU 1975: 31. Kodifikasjon av fiskerilovgivningen. Oslo: Universitetsforlaget.
- Government of Norway (1976a). Ot. prp. nr. 4 (1976–77). Om lov om Norges økonomiske sone. Oslo: Minister of ocean law and fisheries jurisdiction.
- Government of Norway (1976b). Lov om Norges økonomiske sone. Oslo: Stortinget.
- Government of Norway (1976c). Ot.prp. nr. 39 (1975–76). Lov om endring i lov av 16. juni 1972 nr. 57 om regulering av deltagelsen i fisket. Oslo: Ministry of fisheries.
- Government of Norway. (1976d). Vedtak til lov om endring i lov av 16. juni 1972 nr. 57 om regulering av deltagelsen i fisket. Oslo: Stortinget.
- Government of Norway (1977a). St. meld. nr. 18 (1977–78). Om langtidsplan for norsk fiskerinæring. Oslo: Ministry of fisheries.
- Government of Norway (1977b). Forskrifter om regulering av fiske etter torsk nord for 62° n. br. i 1977. Oslo: Ministry of fisheries.
- Government of Norway (1978a). *Rettledningstjenesten i fiskerinæringen*. NOU 1978: 44. Oslo: Universitetsforlaget.
- Government of Norway (1978b). St. meld. nr. 107 (1977–78). Om Fiskeridirektoratets kontrollverks organisering og oppgaver. Oslo: Ministry of Fisheries.
- Government of Norway (1978c). Forskrifter om regulering av fiske etter makrell og lodde i 1978. Oslo: Ministry of Fisheries.
- Government of Norway (1980). St. meld. nr. 43 (1979–80). Om rettledningstjenesten i fiskerinæringen. Oslo: Ministry of Fisheries.
- Government of Norway (1981a). NOU 1981:3. Konesjonsordninger i fiske. Oslo: Universitetsforlaget.
- Government of Norway (1981b). Forskrifter om regulering av fisket etter norsk vårgytende sild i 1981. Oslo: Ministry of Fisheries.
- Government of Norway (1982a). Lov om rettledningstjenesten i fiskerinæringen og om endringer i visse andre lover. Oslo: Stortinget.
- Government of Norway (1982b). Ot. prp. nr. 85 (1981–82). Om lov om saltvannsfiske. Oslo: Ministry of fisheries.
- Government of Norway (1982c). Forskrift om maskevidde, bifangst og minstemål m.m. i saltvannsfiske. Oslo: Ministry of Fisheries.
- Government of Norway (1983a). St. meld. nr. 93. Om retningslinjer for fiskeripolitikken. Oslo: Ministry of fisheries.
- Government of Norway (1983b). Lov om saltvannsfiske. Oslo: Stortinget.
- Government of Norway (1984a). Forskrift om regulering av vinterloddefisket i Barentshavet i 1985. Oslo: Ministry of Fisheries.
- Government of Norway (1984b). Forskrift om regulering av fisket etter norsk vårgytende sild i 1985. Oslo: Ministry of Fisheries.
- Government of Norway (1984c). Forskrift om regulering av trålfisket etter torsk nord for 62° n.br. i 1985. Oslo: Ministry of Fisheries.
- Government of Norway (1985). Forskrift om regulering av fisket etter norsk vårgytende sild i 1986. Oslo: Ministry of Fisheries.
- Government of Norway (1986a). Forskrift om maskevidde, bifangst og minstemål m.m. i saltvannsfiske. Oslo: Ministry of Fisheries.
- Government of Norway (1986b). Forskrift om trålfiske etter torsk nord for 62° n.br. i 1987. Oslo: Ministry of Fisheries.
- Government of Norway (1986c). Forskrift om oppgaveplikt for fiske og fangstfartøy. Oslo: Ministry of fisheries.

- Government of Norway (1987a). Forskrift om forbud mot utkast av torsk og hyse i Norges økonomiske sone utenfor det norske fastland. Oslo: Ministry of Fisheries.
- Government of Norway (1987b). Forskrift om regulering av fisket etter makrell i Norges økonomiske sone sør for 62° n.br., i EF-sonen i Nordsjøen og i Skagerak i 1988. Oslo Ministry of Fisheries.
- Government of Norway (1987c). Forskrift om regulering av fisket etter makrell i Norges økonomiske sone nord for 62° n.br., i internasjonalt farvann og i færøysk sone i 1988. Oslo Ministry of Fisheries.
- Government of Norway (1988a). Ot. prp. nr. 77 (1987–88). Om lov om endringer i lov 3. juni 1983 nr. 40 om lov om saltvannsfiske m.v. og i visse andre lover. Oslo: Ministry of fisheries.
- Government of Norway. (1988b). Forskrift om endring av forskrift om maskevidde, bifangst og minstemål m.m. i saltvannsfiske. Oslo: Ministry of Fisheries.
- Government of Norway (1988c). Kontroll av reguleringsbestemmelser. Forslag fra arbeidsgruppen til tiltak og revisjon av lover og forskrifter. Notat. Bergen: Directorate of fisheries.
- Government of Norway (1988d). Besl.O. nr. 36. Vedtak til lov om endringer i lov 3. juni 1983 nr. 40 om lov om saltvannsfiske m.v. og i visse andre lover. Oslo: Stortinget.
- Government of Norway (1989a). Ot.prp. nr. 81 (1988–89) Om lov om endringer i lov av 3. juni 1983 nr. 40 om saltvannsfiske m.v. og i lov 14. desember 1951 nr. 3 om omsetning av råfisk. Oslo: Ministry of fisheries.
- Government of Norway (1989b). Forskrift om maskevidde, bifangst, fredningstid og minstemål m.v. ved fangst av fisk og sild. Oslo: Ministry of Fisheries.
- Government of Norway (1989c). Besl. O. nr. 2. Vedtak til lov om endringer i lov av 3. juni 1983 nr. 40 om saltvannsfiske m.v. og i lov av 14. desember 1951 nr. 3 om omsetning av råfisk. Oslo: Stortinget.
- Government of Norway (1989d). Forskrift om fangstrapportering m.m. for fartøyer som tilvirker egen fangst av sild og makrell, 19. sept. Nr. 944. Oslo: Ministry of fisheries.
- Government of Norway (1989e). Forskrift om fangstrapportering m.m. for torsketrålere. 16. jan. Nr. 16. Oslo: Ministry of fisheries.
- Government of Norway (1991). Salgsorganisasjonenes kontrollplikt. Instruks 20. feb. Oslo: Ministry of fisheries.
- Government of Norway (1992). St. meld. nr. 58 Om struktur- og reguleringspolitikk overfor fiskeflåten. Oslo: Ministry of fisheries.
- Government of Norway (1993a). Ot. prp. Nr. 90 (1992–93). Om lov om prisregulering ved import av fiskevarer m.v. Oslo: Ministry of fisheries.
- Government of Norway (1993b). Forskrift om oppgaveplikt for fiske- og fangstfartøy. Oslo: Ministry of Fisheries.
- Government of Norway (1993c). Instruks for føring av fangstdagbok. Bergen: Directorate of Fisheries.
- Government of Norway (1993d). Forskrift om forbud mot landing av fisk andre særskilte tiltak mot ulovlig, rapporter og uregulert fiske. Oslo: Ministry of Fisheries.
- Government of Norway (1995a). St. meld. nr. 49 (1994–95). Om dei årlege fiskeriavtalene Noreg inngår med andre land. Oslo: Ministry of fisheries.
- Government of Norway (1995b). Forskrift om endring av forskrift om sluttseddel/bryggeseddel og mottaksjournal, 13. mars Nr. 249. Oslo: Ministry of fisheries.
- Government of Norway (1996a). Forskrift om endring av forskrift om sluttseddel/bryggeseddel og mottaksjournal, 17. okt. Nr. 988. Oslo: Ministry of fisheries.
- Government of Norway (1996b). Forskrift om endring i forskrift om fangstrapportering m.m. for torsketrålere som kan tilvirke fangst om bord. 7. nov. Nr. 1019. Oslo: Ministry of fisheries.
- Government of Norway (1996c). Forskrift om endring i forskrift om fangstrapportering m.m. for fartøy som kan tilvirke fangst av sild og makrell. 7. nov. Nr. 1020. Oslo: Ministry of fisheries.
- Government of Norway (1997). Instruks for Reguleringsrådet. Oslo: Ministry of fisheries.

- Government of Norway (1998a). Ot. prp. nr 58 (1997–98) Om lov om endring i lov 3 juni 1983 nr. 40 om saltvannsfiske m.v. Oslo: Ministry of fisheries.
- Government of Norway (1998b). Lov om endringer i lov 3 juni 1983 nr. 40 om saltvannsfiske m.v., 17 juli Lov nr. 57. Oslo: Ministry of fisheries.
- Government of Norway (1998c). Norwegian Black List. Bergen: Directorate of Fisheries. www.fiskeridir.no.
- Government of Norway (1999a). Forskrift om satelittbasert overvåking av fiske- og fangstfartøys aktivitet, 7. april Nr. 387. Oslo: Ministry of Fisheries.
- Government of Norway (1999b). Forskrift om registrering og rapportering ved fiske i farvann utenfor noen stats fiskerijurisdiksjon, 30. juni Nr. 1499. Bergen: Directorate of fisheries.
- Government of Norway (1999c). Forskrift om endring i forskrift om inndragning av fangst og anvendelse av inndratte midler, 17. mars Nr. 362. Oslo: Ministry of fisheries.
- Government of Norway (1999d). Lov om retten til å delta i fiske og fangst (deltakerloven), 26. mars nr. 15. Oslo: Stortinget.
- Government of Norway (2001a). Ot. prp. nr. 92 (2000–2001) Om lov om endringer i lov 3. juni 1983 nr. 40 om saltvannsfiske m.v. og lov 14 desember 1951 nr. 3 om omsetning av råfisk (kontrolltiltak). Oslo: Ministry of fisheries.
- Government of Norway (2001b). Lov om endringer i lov 3. juni 1983 nr. 40 om saltvannsfiske m.v. og lov 14 desember 1951 nr. 3 om omsetning av råfisk (kontrolltiltak). Oslo: Stortinget.
- Government of Norway (2003a). St. meld. nr. 43 (2002–2003). Om dei fiskeriatvalene Noreg har inngått med andre land for 2003 og fisket etter avtalene i 2001 og 2002. Oslo: Ministry of fisheries.
- Government of Norway (2003b). Forskrift om opplysningsplikt ved landing og omsetning av fisk. Bergen: Directorate of fisheries.
- Government of Norway (2003c). Report on the Norwegian system of sanctions. In Working group of control experts on methods and procedures for weighing pelagic fish, *Weighing and inspection of landings of pelagic fish – including the pilot project*. Bergen: Directorate of Fisheries.
- Government of Norway (2003d). Ot. prp. nr 35 (2002–2003) Om lov om Norges territorialfarvann og tilstøtende sone. Oslo: Ministry of foreign affairs.
- Government of Norway (2004a). Salgsorganisasjonenes kontrollplikt J-117-2004. Bergen; Directorate of Fisheries.
- Government of Norway (2004b). Kommisjonen for tiltak mot utkast av fisk – Rapport med anbefalinger. Bergen: Directorate of Fisheries.
- Government of Norway (2004c). Forskrift om utøvelse av fisket i sjøen, 2004-12-22 nr 1878. Oslo: Ministry of fisheries.
- Government of Norway (2005a). St. meld. nr. 39 (2004–2005). Om dei fiskeriatvalene Noreg har inngått med andre land for 2005 og fisket etter avtalene i 2003 og 2004. Oslo: Ministry of fisheries.
- Government of Norway (2005b). Forskrift om rapportering av fangst for norske fartøy. 16. feb nr. 151. Oslo: Ministry of fisheries and coastal affairs.
- Government of Norway (2005c). Lov om forvaltning av villlevende ressurser : Havressursloven. NOU 2005: 10. Oslo: Statens forvaltningstjeneste.
- Government of Norway (2006a). Prosjekt salgslag/Fiskeridirektorat: En kartlegging av salgslagenes og Fiskeridirektoratets virke på de områder en har felles ansvar for ressurskontrollen. Delrapport A. Bergen: Directorate of Fisheries.
- Government of Norway (2006b). Ot.prp. nr. 98 (2005–2006) Om lov om endringer i lov 17. juni 1966 nr. 19 om forbud mot at utlendinger driver fiske m.m. i Norges territorialfarvann og i lov 3. juni 1983 nr.40 om saltvannsfiske m.v. Oslo: Ministry of Fisheries.
- Government of Norway (2007a). St. meld. nr. 32 (2006–2007). Om dei fiskeriatvalene Noreg har inngått med andre land for 2007 og fisket etter avtalene i 2005 og 2006. Oslo: Ministry of fisheries.

- Government of Norway (2007b). IUU-liste på fiskeridir.no. Press release 30 April 2007. Bergen: Directorate of Fisheries. www.fiskeridir.no.
- Government of Norway (2007c). Informasjon om gjennomføringen av havnestatskontroll i Norge. Bergen: Directorate of Fisheries.
- Government of Norway (2007d). Forskrift om endring av forskrift om regulering av fisket etter torsk, hyse og sei nord for 62°N i 2007. Bergen: Directorate of fisheries.
- Government of Norway (2007e). Ot. prp. nr. 20 (2007–2008) Om lov om forvaltning av villlevende marine ressurser (Havressurslova (Act on the Management of Wild Marine Living Resources)). Oslo: Ministry of Fisheries and Coastal Affairs.
- Hallenstvedt, A. (1995). Organisational Structure Norwegian Fisheries. Notat nr. 5. Bodø: NORUT.
- Hallenstvedt, A., & Dynna, B. (1976). *Fra Skårunge Til Hovedsmann: Med Norges Fiskarlag gjennom 50 år*. Trondheim: Norwegian Fishermen's Association.
- Hallenstvedt, A. (1993). Ressurskontroll i norsk fiskeriforvaltning. In *Ressursforvaltning og kontroll – kontrollpolitikk og virkemidler i de nordiske land og i EF*, edited by Abraham Hallenstvedt. Nordiske Seminar- og Arbeidsrapporter 1993:583 (pp. 119–146). Copenhagen: Nordic Council of Ministers.
- Holm, P. (1996). Kan torsken temmes? Moderniseringsprosesser i fiskerinæringa 1935–1995. in *Det nye Nord-Norge: Avhengighet og modernisering i nord*, edited by Erik Oddvar Eriksen. (pp. 109–142) Bergen: Fagbokforlaget.
- Hersoug, B. (2005). Closing the Commons: Norwegian Fisheries Management from Open Access to Private Property. The Hague: Eburon.
- Hoel, A. H., Jentoft, S., & Mikalsen, K. H. (1991). Problems of User-Group Participation in Norwegian Fisheries Management. Occasional Papers no A 56, Tromsø: Institute of Social Sciences, University of Tromsø.
- ICES (International Council for the Exploration of the Sea) (2007). *ICES Advice 2003, Book 3*. Copenhagen: ICES.
- Jentoft, S. (1991). *Hengende snøre: Fiskerikrisen og framtiden på kysten*. Oslo: Ad Notam forlag.
- Johannessen, A., & Misje, M. (2002). “Rott jer sammen” – Norges Sildesalgslag 1927–2002. Bergen: The Norwegian Sales Organization for Pelagic Fish.
- Lindblom, C. (1959). The science of muddling through. *Public Administration Review*, 19(2), 79–88.
- Miller, A. M., & Listhaug, O. (1998). “Policy Preferences and Political Distrust: A Comparison of Norway, Sweden and the United States.” *Scandinavian Political Studies* 21, 161–187.
- NEAFC (North East Atlantic Fisheries Commission) (1971). *Report of the ninth meeting*. London: NEAFC.
- NEAFC (North East Atlantic Fisheries Commission) (1974). Report of the Special Meetings. London: NEAFC.
- NEAFC (North East Atlantic Fisheries Commission) (2007). Scheme of Control and Enforcement. London: NEAFC.
- Nordstrand, L. (2000). *Fiskeridirektøren melder: Fiskeridirektoratet 1900–1975*. Bergen: Directorate of fisheries.
- NRK (2006). Overfiske ødelegger torskebestanden. 14 November 2006. www.nrk.no.
- Rozwadowski, H. M. (2002). *The Sea Knows No Boundaries: A Century of Marine Science under ICES*. Copenhagen: ICES.
- Sagdahl, B. K. (1992). *Ressursforvaltning og legitimitetsproblemer: En studie av styringsproblemer ved forvaltning av norsk-arktisk torsk*. Bodø: Nordland Research Institute.
- Seip, J. A. (1997). *Utsikt over Norges historie*. Oslo: Gyldendal.
- Sen, S. (1997). The evolution of high-seas fisheries management in the north-east Atlantic. *Ocean & Coastal Management*, 35(2–3), 85–100.

- Sunnanå, K. (1964). Kyststatens problemer i forbindelse med internasjonale fiskerireguleringer. In Foredrag under den 9. nordiske fiskerikonferansen, Reykjavik 22.-26.6 1964 (pp. 22–34).
- Sørensen, Ø. (1998a). Når ble nordmenn norske? In Ø. Sørensen (ed.), *Jakten på det norske – Perspektiver på utviklingen av en norsk nasjonal identitet på 1800-tallet* (pp. 11–16). Oslo: Ad Notam Gyldendal.
- Sørensen, Ø. (1998b). Hegemonikamp om det norske – Elitenes nasjonsbyggingsprosjekter 1770–1945. In Ø. Sørensen (ed.), *Jakten på det norske – Perspektiver på utviklingen av en norsk nasjonal identitet på 1800-tallet* (pp. 17–50). Oslo: Ad Notam Gyldendal.
- UN (United Nations) (1995). Agreement for the implementation of the provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the conservation and management of straddling fish stocks and highly migratory fish stocks. New York: United Nations.

4 From Catch Quotas to Effort Regulation: Politics and Implementation in the Faeroese Fisheries

Stig S. Gezelius

Abstract This chapter outlines the history of Faeroese fisheries management, particularly emphasising the two great management reforms in the mid-1990s that made the Faeroes a pioneer nation in Northeast Atlantic fisheries management. The chapter shows how the typical implementation challenges associated with catch quota-based management – incidental catch, discards, and misreporting – led the Faeroese Home Government to abandon TACs and resort to a system of effort regulation in the cod sector. The main implementation challenges and applied solutions regarding the applied effort regulation system are discussed. Finally, the chapter explains the unique development of Faeroese fisheries management.

4.1 Fisheries Governance in the Faeroe Islands

The Faeroe Islands are a group of islands in the Northeast Atlantic with a population of approximately 48,000 people. They are part of the Kingdom of Denmark, but have been a self-governed territory for approximately 60 years. German occupation of Denmark and British occupation of the Faeroe Islands during WWII partly dissolved Faeroe/Danish bonds, which resulted in a significant degree of self-governance being granted to the Faeroe Islands through the Home Government Act of 1948 (Toftum 1994). Section 1 of the Home Government Act states that: “The Faeroes are a self-governing nation within the Danish State”. The Home Government Act defines the boundaries for self-governance and ascribes decision-making authority to the Faeroese Home Government, which consists of the Faeroese Parliament, which is the legislative authority, and the executive Faeroese government. The Faeroese Parliament currently consists of 32 elected members. The executive government consists of six ministries and the Prime Minister. The Home Government is basically a parliamentary system equal to that of Denmark.

The Home Government Act outlines the policy areas to be considered “Faeroese special affairs”, implying that the Home Government may undertake the responsibility for decision-making and funding of these policy areas whenever decided by the Home Government or the Danish state. The Home Government has been responsible for managing the fisheries in Faeroese waters since 1948, and this authority was extended out to 200 nautical miles (nm) off shore following the establishment of the 200-nm Exclusive Economic Zone (EEZ) in 1977 (Toftum 1993). Today, the Faeroe Islands are self-governed in matters of marine living resources management within its 200-nm EEZ, trade, fiscal policy and research, among other areas. The fisheries are a key element of Faeroese self-governance, as the Faeroese economy is entirely dependent on this industry. 95% of Faeroese exports and almost 50% of the GDP stem from fishing and fish farming.

Policy areas that are not subject to the authority of the Home Government are considered “Common Affairs of the State”, and are handled by the Danish state subject to consultations with the Home Government. The Home Government may take responsibility for such tasks upon agreement with the Danish state. A High Commissioner heads the Danish administration on the Faeroes.

The Home Government Act enables the Faeroese Home Government to negotiate directly with other states in matters of special interest to them, provided that the Danish Ministry of Foreign Affairs is consulted. Consequently, the Faeroe Islands negotiates its own fisheries agreements with the EU and other states in the Northeast Atlantic. It also occasionally represents itself on international fisheries commissions. It has chosen not to join Denmark in EU membership, which ensures continued control and autonomy in relation to fishery resources within the 200-mile zone. In matters of fisheries management, the Faeroe Islands thus largely functions as if they were an independent state (Government of the Faeroe islands 1948, 1994a, 2004a; www.tinganes.fo 2006).

The Home Government includes a Ministry of Fisheries and Maritime Affairs with the responsibility for implementing the Parliament’s decisions. The Ministry has a staff of some 24 people headed by the Minister of Fisheries and Maritime Affairs. In addition is the Faeroese Fisheries Inspection, which is organised as a separate unit under the Ministry. The Fisheries Inspection, with its staff of 14, is responsible for monitoring licenses, fishing days, catch quotas, logbooks, small fish requirements, fish trade and scales, and satellite tracking of fishing vessels.

4.2 The Fisheries Management Challenge

Fisheries in Faeroese waters were mainly performed by distant water fishing nations from the late 19th century until the establishment of the 200-nm EEZ in 1977. The right of British trawlers to fish as close as 3 nm off the Faeroese coast was established in an agreement between the Danish and British governments in 1901. Other distant water fishing nations benefited from similar rights

until 1959. Consequently, the Faeroe Islands fished relatively little in domestic waters. In the late 19th century, the Faeroe Islands began to develop a distant water fishing fleet of large trawlers and purse seiners operating almost entirely outside Faeroese waters. The Faeroese fisheries zone was extended to 12-nm in 1964, but the Faeroese fishing fleet predominantly operated in distant waters until the 200-nm EEZ was established in the North Atlantic in the late 1970s. The new EEZ regime had great consequences for the Faeroe Islands. The Faeroese fleet of more than 20 large trawlers and several purse seiners was deprived of its traditional fishing grounds, while new possibilities emerged in domestic waters following the establishment of a 200-nm Faeroese EEZ in 1977.

The entrance of the fishing fleet into domestic waters was a great challenge to this small, fishery-dependent society. Several schemes for state subsidies to the fishing industry were consequently established in the mid-1970s. This included financial stimulation of investments in the fleet, enabling the industry to rebuild distant water fishing vessels into trawlers suited for fishing in domestic waters. Price subsidies were allocated through the Raw Fish Fund, which was established in 1975 for the purpose of stabilising fish prices, and became an important market regulation tool. The price subsidies made it attractive for Faeroese vessels to land catches on the Faeroe Islands, and the fleet restructured to land fresh fish for the expanding domestic file industry. As a result, there was a great movement of Faeroese fishing effort to domestic waters, and the number of fish factories on the islands increased from 15 to 23 between 1979 and 1989.

The government subsidies were initiated in response to the adjustment crisis of the mid 1970s, but became permanent arrangements that contributed to overcapacity in the Faeroese fishing fleet. The Raw Fish Fund was originally intended to be self-funding, reallocating money from periods of prosperity to periods of recession, but soon became a channel for regular state subsidies. Government payments through the fund constituted 5–10% of the Faeroese Treasury's annual earnings (Toftum 1994: 55). In addition to the social concerns, the survival of this fleet was also important to the two Faeroese banks which, for a great part, had financed the fishing fleet (Cruz et al. 2006; Government of the Faeroe Islands 1993; ICES 2006; Toftum 1994; pers. comm. 6).

4.3 The Early Resource Management System

The Faeroe Islands are a latecomer to modern fisheries management. Resource management was scarcely on the political agenda before 1977, and the regulatory measures introduced after the establishment of the 200-mile EEZ were largely old-school technical regulations, not unlike those applied by ICNAF and NEAFC in the 1960s and early 1970s. These regulations did not restrict catches or fishing effort, but focused on influencing catch composition through mesh

size regulations, small-fish regulations, closed areas and periodic fishing bans (see Toftum 1993: 90).

Faeroese fishing inside the 200-nm EEZ became regulated through the Act Relating to Fisheries in the Fishery Territory of 29 March 1978. Faeroese fishing in distant waters and foreign fishing in Faeroese waters were regulated by separate acts established the same year (Government of the Faeroe Islands 1978a, b, c; Toftum 1994). The Act Relating to Fisheries in the Fishery Territory authorised the executive government to issue regulations relating to fish size, closed areas and seasons, fishing gear, quotas and fishing effort, following negotiations with the Faeroese Parliament. However, unlike other nations in the Northeast Atlantic, the Faeroese government did not adopt catch quota-based management after the establishment of the 200-mile EEZ, but stuck to technical regulations. Consequently, there were no restrictions in terms of the quantity of fish caught or the amount of fishing effort. The regulatory regime only consisted of measures that sought to affect catch composition, i.e. reduce the outtake of undersized fish through closed areas and seasons, mesh size regulations and the like. There was also no direct control of the development of fishing capacity until a licensing system came into place in 1987, which meant that the management authorities had no means of controlling fishing mortality.

To some extent the price subsidies were used as a resource management tool. The Raw Fish Fund reduced price differences between high-value species, such as cod and haddock, and low-value species, such as saithe and redfish, in order to create more sustainable allocation of fishing effort. The resource management function of the Raw Fish Fund became formalised by law in 1983 (Toftum 1994). However, no genuine attempt to regulate fishing mortality directly was made until 1994, following a major crisis in the Faeroese economy.

4.4 Crisis and the Requirement for Modernised Fisheries Management

Faeroese fishermen have predominantly fished cod, haddock and saithe in a mixed fishery in Faeroese waters. These stocks are managed by the Faeroe Islands and fished almost entirely by Faeroese fishermen, and the management debate has primarily concerned these fisheries (Cruz et al. 2006). The Faeroese cod catches averaged some 30,000 tonnes annually from 1977 to 1985, haddock catches varied around some 14,000 tones, while saithe catches increased steadily to approximately 50,000 tonnes annually in the 1980s. However, recruitment to the cod and haddock stocks dropped in the early 1980s, and catches began to decline in the late 1980s.

By the early 1990s, the vulnerability of the Faeroese economy had become evident. Enduring overcapacity in the fishing fleet and consequent overfishing caused the Faeroese Home Government to reduce industry subsidies. Consequently, the

price subsidies, which had increased steadily since 1978 and peaked at some DKK 460 million in 1989, were reduced by half from 1989 to 1992. The Raw Fish Fund was abolished in 1990, and direct price subsidies were by and large removed (Toftum 1994). The purpose of this policy was to gradually adapt the fishing capacity to the fish stocks and thereby to build a profitable fishing industry. The Faeroese Home Government aimed to ensure sustainable and profitable fishing without using catch quotas, due to concerns about the well-known implementation problems associated with TAC-based management: discards and black landings (pers. comm. 7). However, the effects of the cutbacks on the industry were reinforced by a simultaneous severe drop in the market prices of cod. These economic factors coincided with a decline in the Faeroese cod fisheries that was unprecedented in the 20th century. Cod catches dropped to approximately 6,000 tonnes in 1992 and 1993, and haddock followed a similar pattern, as illustrated in Fig. 4.1. ICES' Advisory Committee for Fisheries Management (ACFM) considered these stocks to be in a very poor state and recommended full closure of these fisheries in 1993. The ACFM was also concerned about the low spawning stock of saithe, for which catches had declined since 1990 (Government of the Faeroe Islands 1993a; ICES 2006; ICES catch statistics database; Toftum 1994). The combined effect of these developments was that the Faeroese Home Government's plan to ensure a smooth reform of the Faeroese fish harvesting industry was undermined.

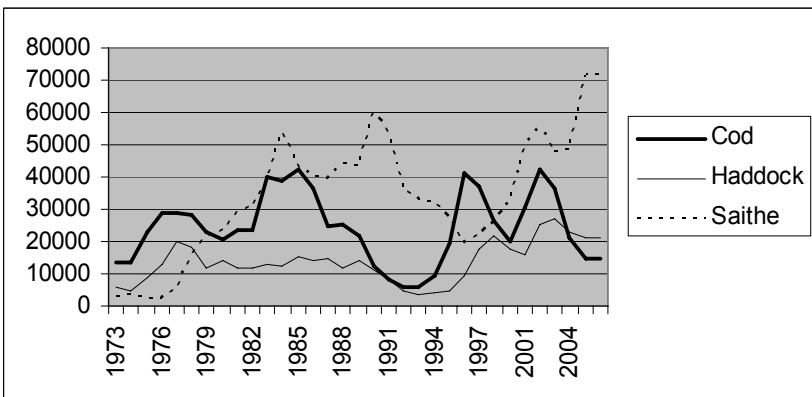


Fig. 4.1. Faeroese groundfish catches¹ ICES Subareas Vb1+2

The development of a capital-intensive fishery in domestic waters was accompanied by vertical integration of processing plants and large vessels. Approximately two-thirds of the trawlers and liners shared ownership with the fish processing industry, and these companies, as well as the fisherman-owned coastal fleet, faced

¹ Source: ICES catch statistics database. Data from 2000 are missing.

severe financial hardship when fish stocks and prices declined. The number of fish processing plants dropped from 23 in 1989 to 14 in 1993, and the number of deep sea trawlers declined from 74 in 1989 to 55 in 1993. Increased export of salmon and processed fish products counteracted severe decline in foreign trade, but this could not prevent the crisis from spreading to the entire Faeroese economy. The two Faeroese banks, which had invested heavily in the fishing industry, were threatened by a collapse (Government of Faeroe Islands 1993a; Jacobsen 1997; Toftum 1994; pers. comm. 6).

At this point, the Faeroese economy had to be rescued by the Danish state. The Danish government saved the banks from bankruptcy, and merged them in the process, through loans of some DKK 1.7 billion. The Danish loans were managed by the Financing Fund (*Financieringsfonden*) of 1992, which was owned by the Faeroese Government but had a Danish majority on the board (Government of the Faeroe Islands 1992; pers. comm. 7). The Danish rescue operation was linked to political requirements with significant consequences for Faeroese fisheries management. The crisis in the fishing industry was in large part blamed on the subsidies that had contributed to overcapacity in the fleet and the absence of effective resource conservation measures (Toftum 1994; pers. comm. 6). As a result of Danish requirements, an agreement was entered into between the Danish state and the Faeroese Home Government in the autumn of 1992, with a supplementary agreement drawn up in the winter of 1993, committing the Faeroese Home Government to establish a Structure Committee, tasked with recommending “a net reduction in capacity aimed to make fishing a self-supported profession based on e.g. the biologically-optimal catch level in Faeroese waters and on the conditions of a market economy” (Government of the Faeroe Islands 1993f, author’s translation). The Structure Committee was to present its recommendations by July 1993, and the Faeroese Home Government declared its willingness to revise its legislation according to these recommendations (Government of the Faeroe Islands 1993f).

In accordance with this agreement, the Faeroese Government established the Structure Committee in February 1993 for the purpose of assessing the structure of the Faeroese fishing fleet with regard to sustainable harvesting and optimal utilisation of fish stocks. The Committee had seven members; the Faeroese government appointed five representatives from government and industry and one economist, while the Financing Fund appointed one Danish fisheries economist. The Committee presented its recommendations within the July 1993 deadline (Government of the Faeroe Islands 1993a: 3).

The Danish requirements gave the Faeroese Home Government, which already had initiated a process of reducing overcapacity, a tight deadline in terms of resolving the capacity problems. Consequently, time became a critical factor in deciding the form of resource management. The head of the Structural Committee recalls that the committee only had two genuine options: to restrict the number of vessels in each vessel category by government decision or to leave the structuration

process to the market through a system of Individual Transferable Quotas (ITQs).² As that there was no time for hearings, the committee abandoned the first of these options. By this time, Iceland had implemented a system of ITQs, and the early reports were positive. Consequently, the Structure Committee decided, without great internal disagreement, to opt for a system of ITQs. In terms of resource management, this meant that the existing technical regulations were supplemented with TAC-based management. The committee recognised that complete closure of the cod and haddock fisheries, as had been advised by ICES, was not economically possible, but recommended cautious harvesting for the purpose of rebuilding the stocks (Government of the Faeroe Islands 1993a; Toftum 1994; pers. comm. 7).

The process ended in the Faeroese Home Government passing the Commercial Fisheries Act in 1994. This act replaced the fisheries management acts of 1978, as well as a relatively new act on fishing inside the baselines (Government of the Faeroe Islands 1990a), and was the first uniform legal framework for fisheries management in the Faeroe Islands. This act established a management system based on TACs and ITQs in the Faeroese fisheries that entered into force in 1994.

The Faeroe Islands introduced catch quota-based management, which applied to cod, haddock, saithe, and redfish, at a time when the faith in this form of management was shaken throughout the North Atlantic. TAC-based management had been in place in most of the North Atlantic groundfish fisheries for over a decade, and the results had been poor. The Northeast Arctic cod fisheries, managed by Russia and Norway, were hit by crisis in 1989. The Northern cod stock off Canada's East coast collapsed in 1992, and severe problems faced Iceland's cod fisheries in the same period. Faeroese fishermen had also witnessed the poorly-managed North Sea cod fisheries for a number of years. The early 1990s can justly be called the first period of crisis for TAC-based fisheries management. Consequently, the late introduction of TAC-based management in the Faeroe Islands meant that there was an awareness of the weaknesses of the system. Faeroese fishermen had witnessed the extensive discarding that was institutionalised practice in the EU, and there was concern about discards under catch quota-based management. On the advice of the Structure Committee, and unlike the EU, the Faeroe Islands consequently included a ban on discarding in the Commercial Fisheries Act in 1994. Article 42 even established especially strict procedures of penal confiscation following illegal discarding (Government of the Faeroe Islands 1993a; 1994b; ICES 2006; pers. comm. 3, 4, 6).

Although many were aware of the potential by-catch problems and incentives for illegal discarding and black landing that were associated with TAC-based management, the poor accessibility of fish meant that the catch quotas had little impact on the present fisheries, and the system could thus be introduced without great resistance from the industry.

² ITQs mean that individual catch quotas can be traded among license holders, so that fishermen and vessels may, in effect, be bought out of business.

The overall catch quotas for the Faeroese fleet were set by the Parliament every year for each fish stock. These quotas were subsequently distributed between five vessel groups according to a system of fixed relative shares. The offshore vessels had individual quotas based on fixed shares of the group quota, while the inshore vessels fished directly off their group quotas. ITQs were adopted with certain restrictions. Individual quotas could be sold or rented out to other Faeroese license holders, but only for one year at a time, and no one could own more than 10% of all Faeroese quotas. The government was authorised to establish regulations for the purpose of implementation, such as sales note and logbook requirements, and to carry out surveillance and checks on land and at sea.

The Faeroe Islands soon faced many of the typical problems associated with TAC-based management. First was the problem of setting adequate TACs on the basis of reliable predictions of fish stock development. Contrary to expectations, the abundance of cod in Faeroese waters increased rapidly from 1994 onwards. Fishermen got increasing catches of cod and claimed that it was becoming abundant throughout Faeroese waters. The subsequent dispute regarding TACs and scientific stock estimates was conspicuous in the 1995 quota negotiations, where representatives from the fishing industry proposed a TAC of 19,000 tonnes, almost twice the figure recommended by ICES (Jacobsen 1997). The Parliament settled for a quota of 18,500 tonnes, which, in hindsight, proved to be sustainable.

Opinions on why the cod fisheries recovered so quickly differ. Fishermen argue that the entire cod crisis was a result of migration rather than stock decline, while Faeroese fisheries biologists mainly ascribe the rapid recovery to exceptionally strong year classes in 1992–1994 and the fact that Faeroese cod matures quickly (Jacobsen 1997; Cruz et al. 2006).

The combination of rapidly-growing cod catches and small quotas presented the Faeroe Islands with the second major problem of TAC-based management: implementation. Cod, haddock and saithe are caught in a mixed fishery in Faeroese waters. Consequently, the problem of by-catch became increasingly difficult for Faeroese fishermen to handle as cod became more abundant. Catching alternative species was often impossible without exceeding the cod quotas. Ceasing fishing was thus often the only legal option, which emerged as yet another threat to the fishing industry.

This was a source of significant resistance against the quota system, as many communities depended entirely on their local fish plant and fishing vessels for employment. In this situation, the traditional implementation problems of catch quota-based management became pressing. There was concern about cod being discarded illegally and sales notes being falsified for the purpose of concealing excessive by-catch. Based on information from the industry, the misreporting was estimated to be some 18% of total cod landings in 1995 (ICES 2006: 32). The inability of the Faeroese Fisheries Inspection to properly enforce the new regime generated a debate over the very principles of the present system, which had been regarded with scepticism from the beginning. The fishing industry requested that the present system be changed. In November 1995, the Government agreed to

establish a Planning Committee (*Skipanarnevndini*), made up of representatives from government, industry and science tasked with recommending changes to the fisheries management system in Faeroese waters. The urgency of reform was reflected in the committee's deadline – 1 February 1996 – and the almost incredible speed at which the new system entered into force – 1 June 1996 (Cruz et al. 2006; Government of the Faeroe Islands 1996; Jacobsen 1997; pers. comm. 3,4,6).

The Planning Committee's report, finalised within the deadline, summarised the main criticisms that had been raised against the quota system. The most critical comments concerned the implementation problems: economic incentives for fishermen to falsify catch data and discard fish, subverting the reliability of data on fishing mortality. The problem of utilising quotas as a result of by-catch problems was also mentioned. The committee also emphasised the questions that had been raised regarding the feasibility of providing reliable scientific advice under catch quota-based management.

People within the fishing industry had consulted the fisheries administration in search of alternative management systems, and learned about the enforcement advantages of effort regulations compared to catch quotas. The Planning Committee consequently proposed that TAC-based management be abandoned in favour of a system based on effort regulation. It advised that fish catches could be managed through a system of fishing days allocated to license holders, and emphasised that this system would solve the problems of discards and of unregistered fish landings. It recommended that the system of fishing days be supplemented with the traditional measure of closed areas. The committee assumed that a combination of fishing days and closed areas would be easier to monitor and enforce than catch quota-based management (Government of the Faeroe Islands 1996). The economic crisis had resulted in a significant reduction to fishing capacity, so it was decided that the number of licenses would be frozen at the present level, and, in order to continue management on market conditions, license holders were permitted to trade their allotted fishing days. The Danish Government accepted that the new system complied with the 1992/1993 agreements. The Faeroe Islands thus changed their management system radically for the second time in three years (Government of the Faeroe Islands 1993f; pers. comm. 7).

4.5 The Effort Regulation System

4.5.1 Basic Features

Following the recommendations of the 1995 advisory committee, the Commercial Fisheries Act was amended so as to establish a new management regime from June 1996. Similar to the Norwegian system and the previous Faeroese system, the new Faeroese regime was constructed to combine measures that sought to

influence catch quantity with measures to affect catch composition. However, the new system represented a radical change in terms of the methods used to restrict catch quantity. In contrast to TAC-based management, the new Faeroese regime did not regulate the output from fishing directly, but sought to ensure long-term sustainable output through restrictions on input into the fishery. The 1996 reform constructed the resource management system that is used in the Faeroe Islands today. This system is based on two pillars:

1. Fishing pressure is regulated through restrictions on fishing effort rather than catch quotas. The effort regulations consist of two main elements:
 - a. Limited entry licensing is used in order to regulate the number of participants. The Commercial Fisheries Act of 1994 requires two licenses in order to fish commercially. First is the harvesting license, which is a permanent licence that qualifies specific vessels for participation in commercial fisheries. Second is the fishing license which grants the owners of vessels with harvesting license the right to participate in specific fisheries. Fishing licenses are renewed every year. Catch quotas and fishing days are allocated to holders of fishing licenses. In 1997, the number of harvesting licenses was frozen at the number already existing in the system (Cruz et al. 2006; Government of the Faeroe Islands 1994b).
 - b. License utilisation is regulated through restrictions on fishing time. Instead of a catch quota, license holders are granted a certain number of fishing days. This number is specified in each year's fishing license. The combination of 1a and 1b ensures a significant level of control of the fishing effort of the Faeroese fleet. The fishing days system primarily applies to fisheries for cod, haddock, and saithe in Faeroese waters, and mainly concerns vessels that primarily target these stocks (Cruz et al. 2006). Faeroese fisheries from the highly-migratory fish stocks, such as herring, mackerel, and blue whiting, which are managed jointly with other states, are still managed through TACs, as are Faeroese fisheries in distant waters following exchange of fishing rights with other states. Fishing days and catch quotas can be sold among license holders permanently or for one year at the time (Government of the Faeroe Islands 1994b).
2. Catch composition is regulated through technical regulations aimed to protect juvenile fish. The main measures are permanent or temporary closures of specific spawning and nursery areas, and regulations regarding minimum mesh sizes and maximum shares of juvenile and undersized fish. The ban on discards in Faeroese waters has been kept³ (Cruz et al. 2006; Government of the Faeroe Islands 1993b; 1994b; Niclasen 2006; pers. comm. 3,4,5).

³ The Faeroese ban on discards is a general ban on throwing catch over board. In practice, catch thrown over board is seldom viable.

4.5.2 Allocation of Fishing Rights

Although the catch quota system was abandoned in Faeroese demersal fisheries, the allocation issues still had to be resolved in relation to fishing days and spatial access rights. The division of the Faeroese fishing fleet into regulated groups thus remained an important element of Faeroese fisheries management. The Faeroese Commercial Fisheries Act divides the Faeroese fishing fleet into six main groups:

- Group 1. Single trawlers over 400 HP (12 harvesting licenses in 2006).
- Group 2. Pair trawlers over 400 HP (29 harvesting licenses in 2006).
- Group 3. Long liners over 110 GRT (25 harvesting licenses in 2006).
- Group 4. Coastal vessels over 15 GRT (65 harvesting licenses in 2006).
- Group 5. Coastal vessel under 15 GRT (593 harvesting licenses in 2006).
- Group 6. Others (8 harvesting licenses in 2006) (Cruz et al. 2006; Government of the Faeroe Islands 1994b).

In order to construct legitimate guidelines for distribution among fleet sectors, and following the advice of the Planning Committee, catch data for the various vessel groups were compared for a reference period of 10 years (1985–1994) estimating each group's average relative share of each species. Guidelines for the target distribution of the main species between the vessel groups were subsequently set out in the Commercial Fisheries Act, as shown in Table 4.1. The data for each group's number of fishing days during the reference period were used to translate the relative shares of catch into relative shares of fishing days. In practice, realising the target fish allocations through distribution of fishing days has proven to be very difficult, and the aims have not been reached in terms of species allocation (Cruz et al. 2006).

Groups 2–5 are regulated through the fishing day system. Group 1, the large single trawlers, mainly fishes around the edge of the continental shelf, targeting redfish, saithe, blue ling and deep-water species. The fishing was good around 1996, and this group saw little need for inclusion in the fishing day system. Consequently, Group 1 is not regulated by fishing days, but by closed areas and by-catch quotas for cod and haddock. Group 6 includes, for example, deep-water gill netters targeting Greenland halibut and angler fish off the continental shelf, and purse seiners and trawlers operating in distant waters. Consequently, Group 6 has insignificant catches of the main groundfish species and has thus not been included in the fishing day system. Group 2, pair trawlers, mainly targets saithe with significant by-catch of cod and haddock. It is regulated by fishing days. Group 3, the big long liners, mainly fishes cod and haddock in winter, and ling and tusk in summer. It is regulated by fishing days. Group 4 consists of small trawlers and coastal long liners that mainly target cod and haddock. It is also regulated by fishing days. Group 5 consists of vessels that use hook and line gear in cod and haddock fisheries on the continental shelf. It is also regulated by fishing days. Within

Groups 2–5, fishing days are allocated to individual license holders, except for part-time fishermen (Group 5B) who fish from a joint share of fishing days. Individual allocation allows for trading. Fishing days can be bought and sold among license holders, except for those in Group 5. The fishing day price is set by the market and thus varies with the profitability of the fisheries.

Table 4.1. Target allocations of catch as specified in the Commercial Fisheries Act

	Cod	Haddock	Saithe	Redfish
Group 1	4%	1.75%	13%	90.5%
Group 2	21%	10.25%	69%	8.5%
Group 3	23%	28%		
Group 4	31%	34.5%	11.5%	0.5%
Group 5	20%	23.5%	6%	
Group 6	1%	2%	0.5%	0.5%

The fishing day system works within a set of spatial boundaries in order to fulfil its biological intentions. One basic element is the distinction between the ‘inner’ and ‘outer’ fishing day territory; the latter covers deeper waters with deep living species. A fishing day applies to the inner fishing day territory, and can be exchanged for three days on the outer fishing day territory. The purpose of this arrangement is to encourage Faeroese vessels to target deep-water species rather than the traditional demersal stocks.

The distinction between the inner and outer fishing day territory is supplemented with several special areas that are temporarily or permanently closed to specific groups of vessels. Trawlers over 400 HP (Group 1) are not allowed to fish inside the 12-nautical mile limit, and are also excluded from several areas that are closed to trawling. Small trawler access is also limited inside the 12 mile zone; only a few permits are allocated on seasonal basis, subject to by-catch restrictions for cod and haddock. Trawling is also forbidden in waters shallower than 200 m on the Faeroe Bank. Only vessels under 90 tonnes are allowed to fish inside the 6-nautical mile limit (Cruz et al. 2006; Government of the Faeroe Islands 1993a; 1994b; 2005a; Løkkegaard et al. 2004; Niclasen 2006; www. fishin.fo 2006; pers. comm. 6). All vessel groups are subject to certain types of spatial regulations, such as periodic closure of spawning grounds, although they are used most extensively for large, technically advanced vessels.

Fishing days and spatial regulations are supplemented with gear restrictions, such as a ban on beam trawls and Danish seines, and mesh size regulations. All of the groups are subject to maximum shares of juvenile and undersized fish (Government of the Faeroe Islands 1993b, c; 1994b; 2004b; 2005b; 2006).

4.5.3 Fishing Days as a Resource Management Tool

Dropping the catch quota system did not imply abandoning the principle of target fishing mortality rates based on scientific stock estimates. Effort regulation is simply another means of realising these targets – with less troublesome and costly implementation and more flexibility for the fleet. The Planning Committee suggested that approximately one-third of a healthy fish stock could be harvested sustainably every year. According to this advice, target fishing mortality rates for the Faeroese stocks of cod, haddock and saithe were set at F0.45 for each stock, which corresponds to annual catches of 33% of the exploitable stock. The data on catches and fishing days from the ten-year reference period were used to calculate the average fishing mortality per vessel per fishing day (the vessels' catchability) in each group. This was subsequently used to transform the target fishing mortality rate into fishing days.

Unlike TAC-based management, the target fishing mortality under the Faeroese system is set as a long-term average, stretching over several years, meaning that the fishing mortality may vary significantly in relation to the F0.45 target for a given year without subverting management aims. The advantage of long-term targets is that fishing mortality becomes less sensitive to random errors in annual stock estimations (Cruz et al. 2006; ICES 2006; pers. comm. 5). However, there are great variations in fishing mortality for the main groundfish stocks, and the average fishing mortality for cod has been significantly higher than F0.45. Several factors may have contributed to this. It is believed that technological advances and fishermen's learning have generated a certain increase in fishing capacity despite regulations preventing growth in tonnage. Some also express uncertainty about the extent to which the average catchability of the ten-year reference period is representative (Cruz et al. 2006; pers. comm. 5). Fishing mortality for haddock has been below F0.45, while saithe, which has displayed great variation in fishing mortality since the introduction of the effort regulation system, has been above this limit since 2000.

Self-regulated fishing was an important idea underlying the effort regulation system. The intention was that fishermen who were allowed a certain number of days at sea, rather than fixed quotas per species, would choose fishing times and target species according to market prices and the availability of fish. In a mixed fishery, fishermen would thus switch target species according to their abundance and price, leading to more sustainable and profitable fisheries.⁴ At present, there is doubt about the extent to which the Faeroese system has actually functioned as planned in this respect (Cruz et al. 2006).

⁴ The leader of the Planning Committee pointed out that the inertia constituted by fleet characteristics and gear types prevents free switching between target species and that the Faeroese Government was aware of this limitation when it constructed the fishing day system (Pers. comm. 7).

According to interview data, the sustainability of the F0.45 target was not subject to scientific investigation when it was set, but has remained the target fishing mortality in Faeroese cod fisheries. There is some disagreement among scientists regarding the sustainability of current Faeroese groundfish management. ICES' North-Western Working Group, in which Faeroese scientists participate, has argued that the effort regulation system has been consistent with the precautionary approach and that the current target fishing mortality is sustainable (ICES 2005a; 2006). However, the ACFM has not accepted this viewpoint, concluding that F0.45 is inconsistent with the precautionary approach. Scientists argue that, at any rate, the current target is above the economically-optimal level (ICES 2005b; pers. comm. 5).

The number of fishing days for each fishing year (September – August) is set by the Parliament through an amendment to the Commercial Fisheries Act. The amendment is issued in August after an advisory process, simply illustrated in Fig. 4.2, where management, industry and science have their say. Scientific advice is provided to the Ministry of Fisheries and Maritime Affairs by the Faeroese Fisheries Laboratory every July. Simultaneously, industry advice is provided to the Ministry of Fisheries and Maritime Affairs by the Committee on Fishing Days, which includes representatives from all vessel groups. The Ministry of Fisheries and Maritime Affairs subsequently prepares a recommendation for an amendment to the Commercial Fisheries Act and hands it over to the Parliament. This proposal is handled by the Parliament's Committee for Industry, which may also consult interested parties directly, before the Parliament makes its final decision.

Scientists have recommended significant reductions to the number of fishing days for several years, while the industry has been more resistant to change. The Parliament's decisions have generally been more in line with the views of the industry than those of the scientists, which has resulted in smaller and more incremental reductions to fishing days than those prescribed by scientific advice. This practice cannot be fully understood unless one takes the great social importance of the fishing industry into consideration. Weighing potential consequences for fishing communities is not the task of marine scientists, whose advice focuses strictly on biology. The Parliament has followed a practice of incremental reductions of fishing days in order to allow the industry to adapt. According to interview data, the number of fishing days was also relatively high in the beginning in order to politically facilitate the effort regulation reform (pers. comm. 6). Despite disagreement regarding the number of fishing days, the basic system of effort regulation has broad support within industry and marine science in the Faeroe Islands today.

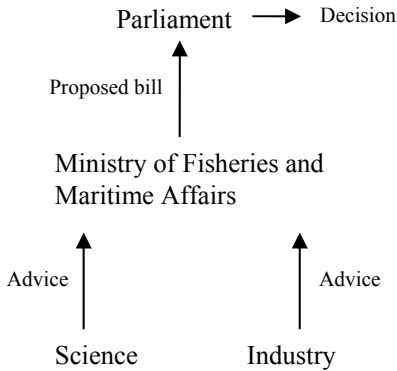


Fig. 4.2. Procedures for deciding the number of fishing days

Compared to Norway's system for setting and allocating catch quotas, the Faeroese system for setting and allocating fishing days emerges as more open in relation to elected politicians and the general public. This is largely due to different forms of fisheries legislation. The Norwegian Saltwater Fishing Act is almost entirely an enabling act, defining the authority of the Ministry of Fisheries. The same is true of the Faeroese Commercial Fisheries Act to a lesser degree. The number of fishing days and the allocations are set by the Faeroese Parliament, implying a relatively broad and open political process. In contrast, Norway's TACs⁵ and quota allocations are set by the Ministry of Fisheries and Coastal Affairs following extensive consultations with industry, implying that decisions regarding resource conservation and allocation have been taken out of the democratic political arena and delegated to the corporative administrative arena. On the other hand, Faeroese decision-makers are also highly sensitive to political pressure and advice from industry, which entails that the fishing industry has a major influence on decisions. Consequently, there are notable differences in terms of national decision-making structures, but they have not resulted in essential differences in terms of the industry's role in resource management. In Chapter 2, I emphasised the mechanism of legitimation through industry participation, potentially increasing compliance, as a significant factor in the implementation of Norwegian regulations. This mechanism can be hypothesised to be relevant to the Faeroese case as well, although I have not come across Faeroese data that has shed light on this question.

⁵ Apart from saithe, TACs for major fish stocks are set in international negotiations where the Norwegian position is prepared and represented by the fisheries administration and industry organisations.

4.6 Implementation of Fisheries Regulations

4.6.1 Implementing Fishing Capacity Policies

Controlling the fishing capacity of the fleet is essential to the success of the effort regulation system. The fishing capacity policy of the Faeroe Islands pursues two major aims: preventing growth in fishing capacity and maintaining a diversified fleet structure. Preventing increasing fishing capacity is a major challenge under the fishing day regime, because this regime creates incentives for fishing companies to invest in vessels and technology so as to get more out their allotted fishing time. Freezing the number of licenses in 1997 was an important measure in order to counteract growing capacity, as it solved potential problems represented by large numbers of new entrants to the fishery. However, keeping the number of licenses fixed is not sufficient to control fishing effort, because the fishing effort represented by one fishing day depends entirely on the nature of the vessel. Building bigger and more technologically-advanced vessels can easily undermine conservation aims. Consequently, the Home Government had to regulate the capacity of the vessels that used the fishing rights. These regulations concern vessel size and, for trawlers, engine power. A new vessel generally must not have greater fishing capacity than the old vessel it replaces. In cases where vessels are rebuilt, they can be extended with a maximum of 15% given a cut in fishing days. Licenses may also be merged so that two licenses are effective on one vessel, provided that capacity increase is compensated for through a cut in fishing days.

Simple and feasible administration was emphasised when this system was created, which implied finding a clear and simple method for measuring fishing capacity. Consequently, fishing capacity is defined in terms of the length, width and depth of fishing vessels. A permit is required for replacing the engine in trawlers, in order to avoid capacity increase. Apart from this, the system does not take technological advance into account, which likely results in a hidden increase in fishing capacity due to technical improvements and growth in fishermen's knowledge as to how to utilise their assets most efficiently. In 2005, the development in fishing capacity was calculated by a committee that concluded that the total fishing capacity of the fleet had increased, although there were significant variations between groups, some of which had had a small decrease. At present, the Faeroe Islands lack adequate procedures for monitoring changes in fishing capacity that results from technological modernisation and changing fleet structure following trade of fishing days within the established vessel groups (Cruz et al. 2006: 11; Government of the Faeroe Islands 2005c). Faeroese scientists estimate an annual increase in fishing capacity of 2–5% (pers. comm. 5). The absence of adequate data on the effects of technological advances on fishing capacity has reportedly made justification of drastic reductions in fishing effort difficult. Despite these difficulties, the number of fishing days has been cut by more than 20% since the system was introduced (Pers. comm. 7).

ICES North-West Working Group considers that the Faeroese effort management system has been consistent with the precautionary approach under the current conditions, but warns about unintended increase in fishing mortality following the increased efficiency of fishing vessels. It recommends that the system be improved in terms of monitoring and controlling fishing fleet efficiency in order to ensure sustainability without continued reductions to the number of fishing days (ICES 2006).

4.6.2 Implementing the Fishing Day Regime

Despite measures to control fishing capacity, Faeroese fish stocks are not believed to be able to sustain unregulated harvesting by the Faeroese fleet. Consequently, measures that seek to prevent growth in fishing capacity are supplemented with measures to restrict the utilisation of this fishing capacity. Restrictions on fishing time and fishing space are the main means of regulating capacity utilisation.

Looking at the restrictions on fishing time, two factors are essential in implementing the fishing day regime: to regulate transfer of fishing days between vessels with different fishing capacities and to ensure compliance. With respect to transfers of fishing days, the main challenge in a system where fishing days can be traded among license holders is to prevent increasing effort as a result of large vessels buying fishing days from small ones. The Faeroe Islands use two types of regulations to counteract increased fishing effort as a result of fishing rights trade. First are regulations that restrict trade among vessels with significantly different characteristics, as outlined in Fig. 4.3. These regulations, which have become stricter since the introduction of the system, also aim to preserve a diversified fleet structure. They divide the over-15 tonne-fishing fleet into four groups: trawlers over/under 110 tonnes, and hook and line vessels over/under 110 tonnes. Fishing days can be sold permanently or for one year at a time among vessels within each group, but not between groups. As an exception, fishing days can be sold across the four groups during the last three months of the fishing year, so as to allow for full utilisation of fishing days. As for vessels under 15 tonnes (usually vessels under 40 feet), individual fishing days are allocated to full-time fishermen (Group 5A), while part-time fishermen (Group 5B) fish from a joint share of fishing days. Fishing days for Group 5 are not transferable. Harvesting licenses may never be transferred across vessel groups (Government of the Faeroe Islands 1994b; pers. comm. 2,3,4,5,6). Second is a conversion key for keeping fishing effort constant when fishing days are transferred between vessel types. When a vessel transfers a given number of fishing days to a larger boat, the latter will not achieve the right to use all of them, but only a share reflecting the differing fishing capacities of the vessels. All fishing day transfers must be reported to the Faeroese Fisheries Inspection, which controls the legality of the transfer (Government of the Faeroe Islands 1994b; 1995). A fisherman can only sell fishing days if he used no less

than 60% of his fishing days the previous year (Government of the Faeroe Islands 1994b: Article 14).

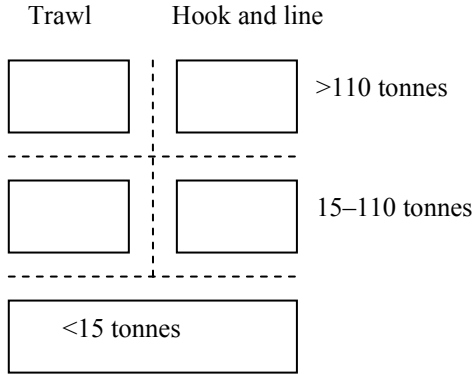


Fig. 4.3. Boundaries for trade with fishing days

In relation to compliance, effective implementation of fishing day regulations requires constant monitoring of the fleet's movements. The Faeroese fisheries authorities use one system for vessels over 15 tonnes (i.e. Groups 1–4, and 6), and another one for those under 15 tonnes (Group 5). All vessels over 15 tonnes are required to have certified satellite tracking gear installed. The tracking gear must subsequently be approved by the Fisheries Inspection. The skipper is responsible for ensuring that the gear is operational and functions adequately during fishing. The Fisheries Inspection is authorised to perform unannounced checks of the vessel's tracking gear (Government of the Faeroe Islands 2004c). Vessels over 15 tonnes are required to notify the Fisheries Inspection when they begin and end a fishing trip. In practice, the vessels provide this information in the form of numerical codes transmitted by cell phone. The codes indicate that they are beginning a fishing trip and what type of fishing they perform. A fishing day is counted from the time the vessel leaves the harbour. A new code is transmitted when the vessel returns to harbour, indicating the end of the trip. The satellite tracking system ensures near-100% control, as the Fisheries Inspection compares these notifications with satellite tracking data every day. Satellite tracking data yield information indicating whether vessels are fishing or not, which ensures control. There is a separate code for non-fishing trips, for example when vessels test fishing gear, but enforcement personnel report that vessels seldom use this code.

In addition to the satellite tracking and notification systems, is the logbook requirement for all vessels over 15 tonnes. Each vessel must keep its logbook updated and submit it to the Fisheries Inspection after each fishing trip. The Fisheries Inspection checks logbooks, among other things, through spot checks at landing

sites (Government of Faeroe Islands 1995; 2004d; pers. comm. 3,4). Implementation of the fishing day system is perceived as being simple and very effective for vessels over 15 tonnes.

Vessels under 15 tonnes are not subject to satellite tracking requirements. Neither are they required to notify the Fisheries Inspection at the beginning and end of a fishing trip. Fish buyers report on behalf of these vessels when they send sales notes to the fisheries authorities. By and large, vessels under 15 tonnes fish on a day-trip basis. One fish landing is thus counted as one fishing day, meaning that one fishing day is deducted for each sales note submitted. There are several possibilities for circumventing the fishing day regulations for these vessels. One problem is the possibility for vessels to ice catch over night and subsequently deliver two days' catch in a single delivery. Another potential problem is the possibility for fish buyers to enter fish landings informally for several days, and subsequently report them all on a single sales note. Unlike vessels over 15 tonnes, this vessel group is not required to keep logbooks, meaning that there is little risk of detection following plans to falsify information on the number of days spent fishing. While the control of vessels over 15 tonnes is considered to be effective, there is considerable room for improving control of the inshore fleet (pers. comm. 3,4).

Effective implementation of the fishing day regime requires the monitoring of fishing capacity which, as we have seen, is a difficult task. In principle, capacity increase can be taken into account through the annual scientific advice on fishing days, and compensated for through reduced number of fishing days. Faeroese scientists monitor the catchability of the fleet through logbook data on time spent fishing and gear used but, reportedly, this material is not sufficient to yield accurate knowledge on the efficiency of the fleet. One of the reasons for this insufficiency is that logbooks are not required for vessels in Group 5, meaning that scientists have to rely on the data provided in sales notes (Government of the Faeroe Islands 2004d; pers. comm. 5). The Faeroese system is thus not mature in terms of monitoring fishing capacity. This represents an obstacle to successful implementation of the fishing day regime. In the autumn of 2006, there was a process of updating the Commercial Fisheries Act aiming to address this problem (pers. comm. 6).

ICES' North-West Working Group has also pointed to a more general potential problem associated with resource management through fishing day regulations. This problem relates to the apparently increased willingness of Faeroese cod to attack bait when natural food is scarce. This means that it may become easier to catch cod when the natural conditions for stock growth are poor. The fishing day system may thus generate high fishing mortality when there are good reasons to reduce fishing mortality (ICES 2006).

4.6.3 Implementation of Measures to Protect Juvenile Fish

The measures to protect juvenile fish include area closures and small fish regulations, supplemented with certain restrictions on gear. The area closures, which supplement fishing days in restricting capacity utilisation, aim to protect spawning grounds and juveniles, and are an essential component of Faeroese fisheries management. Three control elements ensure compliance with area closures. First is the satellite tracking system which monitors the movements of all vessels over 15 tonnes. Second is the at-sea enforcement represented by the Danish Coast Guard and two Faeroese inspection vessels. Third is informal social control among fishermen. Faeroese enforcement personnel emphasise that the small and transparent nature of the fisheries community constitutes a significant element of control (pers. comm. 3,4). The informal control is facilitated by GPSes, digital maps and radars, which ensure that fishing vessels monitor each other's movements. This monitoring ensures that violation of spatial restrictions entails a big risk of detection.⁶

The basic idea of the fishing day system has been to avoid regulating fishermen's catches directly, so as to prevent the incentives for discards and misreporting that follow from a vessel quota regime. However, the present Faeroese system contains one exception to this practice: small fish regulations. Vessels under the fishing day system are subject to restrictions regarding the maximum amount of small fish in catches, which means that the Faeroese fishing day system does not entirely escape the implementation problems associated with incidental catch (see Chapter 1). Faeroese fisheries regulations distinguish between two types of small fish. They are characterised as "juvenile" and "undersized" fish respectively. "Undersized fish" is juvenile fish under a certain size limit, subject to stricter regulation. For example, juvenile cod is defined as cod smaller than 50cm. A maximum of 30% juvenile cod is allowed in each haul. Codfish under 40cm is characterised as "undersized", and commercial fishing vessels are allowed a maximum of 5% undersized cod on each trip. Discards are illegal (Government of the Faeroe Islands 1993b; 2005b). Unavoidably, this entails incidental catches of illegal quantities of juvenile fish. In principle this could raise problems of criminal liability, as it is almost impossible for fishermen to remove the risk of catching juvenile fish completely. However, fishermen are required to report incidents of illegal quantities of juvenile fish to the Fisheries Inspection, and the potential problem of criminal liability has been resolved by relating enforcement to this requirement. When a fisherman reports illegal quantities of juvenile fish in a haul, the Fisheries Inspection investigates the fisheries in the area in order to decide whether or not to close the area temporarily. The Fisheries Inspection also notifies nearby vessels about the report. Fisheries closures are announced over the Faeroese Radio (Government

⁶ I have not come across data regarding the effectiveness of informal social control in Faeroese fisheries, but a study from Norwegian fisheries shows that compliance with spatial regulations is subject to strict informal social control among fishermen (Gezelius 2007).

of the Faeroe Islands 1993d). In practice, incidental catch of juvenile fish is not met with formal sanctions if the fisherman complies with his reporting obligations. This means that liability is in practice related to the fisherman's deliberate omission to report, rather than the incidental catch of juvenile fish.

Unlike regulations regarding juvenile fish, regulations for undersized fish do not specify legal quantities for each haul, but rather quantities per fishing trip. The fisherman is always responsible for complying with trip limits for undersized fish (Government of the Faeroe Islands 2005b; pers. comm. 4, 5). This means that a fishing vessel with a haul of undersized fish must take extra care for the rest of the trip in order not to exceed the trip limit. The use of the trip limit thus implies a requirement for fishermen to display due care. Fishermen who exceed the trip limit for undersized fish risk prosecution. In principle, this creates an incentive for fishermen to discard undersized fish when the trip limit has been exceeded. The implementation of regulations regarding undersized fish thus constitutes an exception to the Faeroese policy of avoiding management practices that may create incentives for discards. The Fisheries Inspection has not documented discards of undersized fish. Consequently, it does not consider this potential incentive for discards to be a significant problem in practice (Pers. comm. 8).

The Fisheries Inspection controls small fish regulations based on risk analysis. Certain fishing grounds are known to host juvenile fish, and checks are carried out most frequently in these areas (pers. comm. 3,4). The Fisheries Inspection also checks mesh sizes, according to specific technical procedures. Compliance is potentially facilitated by the fact that these procedures are established in regulations that are available to the public (Government of the Faeroe Islands 1989).

4.6.4 Procedures for Monitoring Fishing Mortality and Implementing Catch Quotas

Arguably, the effort regulation system solves many problems associated with monitoring fishing mortality compared to a catch quota-based system, because the effort regulation system removes major incentives to discard catch and falsify information on fish landings. However, adequate monitoring of fishing mortality is equally as important under the effort regulation system as it is under catch quota-based management.

The Faeroese system for monitoring fishing mortality is based on weighing regulations and sales note regulations, which is similar to Norway. Given the reduced incentives to falsify landing information, the procedures for monitoring fishing mortality have been somewhat simplified, compared to Norway. The fact that the problems of discards and misreporting of fish landings is greatly reduced under the effort management regime entails that administration of fish landings is largely a question of managing information. For example, the system for

administrative confiscation of incidental catch that can be found in Norway is much less relevant in the Faeroese system.

The Faeroese market for first-hand trade of fish is geographically and organisationally decentralised. There are between 20 and 30 fish buyers spread over three islands, operating independently of each other and who receive all necessary permits directly from the fisheries management authorities. Unlike Norway, there are no sales organisations or centralised systems at the industry level, apart from the fish auction, for managing catch information and catch values. Anyone who wants to buy fish is free to do so in principle, but is required to apply to the Fisheries Inspection for registration and authorisation as fish buyer. A fish buyer must have his weighing methods and procedures for completing weighing- and sales notes authorised in order to receive a permit. This includes using approved authorised scales, and weighing notes and sales notes that are authorised by the Fisheries Inspection. It has been possible since 1990 for fishermen to sell catches at a fish auction where buyers bid for the catch (Government of the Faeroe Islands 1990b; 1993e). Both the auction and the fish buyers are required to inform the Fisheries Inspection about landed quantities and species (Government of the Faeroe Islands 1999).

Unlike Norway, the fish buyer has sole responsibility for signing and providing correct information on sales notes, and the fisherman does not sign it. Instead, the fish buyer is required to have at least two individuals responsible for correct completion of weighing and sales documents. These individuals sign the documents, certifying that the information is correct. The fish buyers are also required to assure themselves that vessels selling fish are registered in the Faeroe Islands and hold fishing licenses (Government of the Faeroe Islands 1994c; pers. comm. 3,4). Fish buyers submit sales notes directly to the fisheries management authorities, usually electronically. In contrast to quota-regulated fisheries, giving the fish buyer sole responsibility for providing correct sales emerges as reasonably functional in fisheries regulated through a fishing day system because fishermen rarely have incentives to falsify landing data, while such incentives may still exist for fish buyers willing to sell fish on the black market.

The absence of centralised market organisations also entails that the Faeroese industry does not have tasks directly related to administration and control of fisheries regulations, unlike Norway. The Fisheries Inspection performs spot checks of landing sites, controlling weighing procedures. This includes comparing warehouse stocks with sales notes and fishermen's logbooks. The Fisheries Inspection does not have local offices, but operates entirely out of Torshavn. Scales are also subject to official technical controls (Government of the Faeroe Islands 1994c; pers. comm. 3,4).

The monitoring of catches is enhanced through strict regulations concerning over-the-side sales. As a general rule, over-the-side sales are prohibited for Faeroese vessels and exceptions require a special permit. Foreign vessels fishing in Faeroese waters are not allowed to transfer catches to other vessels while at sea, but have to do this at designated Faeroese ports, allowing for inspection.

The Faeroe Islands have agreements on catch statistics exchange with Iceland, Norway, Denmark and Scotland, ensuring transfer of catch data from Faeroese vessels landing catches in these states. In the Northeast Atlantic, it is the norm that vessels fishing in the EEZs of foreign states submit information on their fishing activity and catch to the coastal state. Faeroese distant water fishing vessels are required to submit copies of these catch reports to Faeroese authorities, ensuring that they are kept updated on catches (pers. comm. 3,4).

In Norwegian TAC-based management, the logbook functions as a control measure that ensures that plans to falsify sales notes entail a risk of detection. The question of criminal liability has been an enduring source of controversy between Norwegian fishermen and the state because it can be difficult to estimate catch quantities accurately is at sea (Gezelius 2007). As in Norway, Faeroese logbook regulations require fishermen to enter catch quantities while at sea. However, in practice, catch figures only serve as a means of control in the offshore pelagic sector, which fishes from internationally-managed, quota-regulated stocks. Unlike Norway, the Faeroese Fisheries Inspection does not operate with margins of error with regard to catch quantities in enforcement of logbook regulations. Faeroese enforcement personnel report that logbook errors are not a significant problem in the pelagic sector (Pers. comm. 3,4).⁷ Errors are more frequent in the Faeroese demersal fisheries, but these errors do not result in penalties because they are assumed to be unintended by fishermen operating under the fishing day system.

Unlike Norway, the Faeroe Islands do not have institutions that remove criminal liability from illegal catch; in principle, the fisherman is liable for all illegal catch. In contrast to the Norwegian Saltwater Fishing Act, the Faeroese Commercial Fisheries Act does thus not provide for administrative, as distinct from penal, confiscation of illegal catch: illegal catch is only confiscated in the form of penalty. Given the ban on discards, in principle this could generate conflicts regarding criteria for criminal liability. However, this has not reportedly been a significant problem on the Faeroe Islands. There are two reasons for this. First, vessels under the fishing day system are allowed to catch whatever they get, save for limits set in small fish regulations for which enforcement practices are described above. Second, vessels under catch quota regulations may buy quota shares from other licence holders to solve problems of illegal incidental catch. It is mainly pelagic fisheries that are subject to TACs, and these are single-species fisheries, meaning that by-catch is usually not a major problem. Incidental catch in pelagic fisheries is mostly an issue of vessels unintentionally exceeding their quotas. In principle, a fishing vessel that has exceeded its quota is criminally liable, but fisheries enforcement practices provide for transfer of quotas between license holders to increase the flexibility of this potentially-rigid system. A vessel that has exceeded its

⁷ A study of Norwegian offshore pelagic fisheries has concluded that errors in at-sea catch estimates are quite common. These errors are usually within the margins accepted by enforcement authorities, but occasionally exceed these margins (Gezelius 2006). This study of the Faeroe Islands has not generated data to suggest why logbook errors are not perceived to be a problem in Faeroese pelagic fisheries.

quota unintentionally while displaying due care has three days to buy quota shares from another license holder. No prosecution follows if it manages to buy the necessary rights within the deadline. However, it may be difficult to buy surplus quotas near the end of the season when the TAC is almost taken, and vessels that fail to do so are taken to court (Government of the Faeroe Islands 2004b; pers. comm. 3,4). Unlike Norway, a vessel exceeding its quota risks prosecution although it acted with due care without criminal intent. In theory, this can generate incentives for discards of illegal incidental catch. It also raises questions regarding the justness of liability criteria. The Faeroe Islands have utilised the flexibility of tradable catch quotas to solve these problems at the practical rather than the principle level. Fisheries enforcement personnel report that large quotas for vessels operating in TAC-managed fisheries have eased the enforcement of quota regulations. The sheer size of the vessel quotas may thus have prevented the latent problems of discards and of the perceived injustice from becoming manifest to any significant extent.

4.6.5 Enforcement

The Faeroese Fisheries Inspection has the overall responsibility for enforcing the Commercial Fisheries Act, and conducts all inspections on land. Inspections at landing sites include spot checks of logbooks, catch composition in relation to small fish regulations, scales and warehouses. Selection of vessels and landing sites are based on risk analysis, meaning that vessels with a criminal record are more likely to be inspected. At-sea inspections are carried out by Faeroese inspection vessels and the Danish Coast Guard, according to a cooperation agreement. The Commercial Fisheries Act also provides for onboard observers, but this is only used to a limited extent, predominantly in distant water fisheries in the Northwest Atlantic (NAFO area) and in the blue whiting fisheries (Government of the Faeroe Islands 1994b; pers. comm. 3,4).

The Fisheries Inspection is authorised to board vessels at sea, controlling cargo, gear and documents, and to bring vessels to harbour for more thorough inspection. It is also authorised to close fishing grounds temporarily in order to protect juvenile fish. It has access to all locations where catches are stored, transported, or processed. Those responsible for these catches are under legal obligation to assist fish inspectors in performing their tasks.

Unlike Norway, the fish buying industry does not have direct enforcement responsibility, but the Commercial Fisheries Act constructs strong incentives for fish buyers to play a role in enforcement. The basis for this incentive is the prohibition against keeping, transporting, and processing fish caught in violation of the act. The ban on discards could thus represent a problem in principle, as it leaves fishermen no legal option but to land the catch. However, fish buyers free themselves of liability by informing the Fisheries Inspection about the illegal catch and

who landed it (Government of the Faeroe Islands 1994b). In fisheries regulated by the fishing day system, illegal incidental catch usually has to do with juvenile and undersized fish. With regard to juvenile fish, the fisherman in practice also absolves himself of liability by fulfilling his obligation to report the incident to the Fisheries Inspection.

In the Norwegian case, we saw that the penal provisions in fisheries law only concern illegal catch that evidently is taken intentionally or in violation of the principle of due care, and that the general practice is not to prosecute fishermen landing incidental catch when they comply with catch report regulations. Norway has done this in order to solve the potential problems of discards and of misreporting of illegal incidental catch. The Faeroe Islands have taken quite another route in response to this problem. Unlike Norway, Faeroese fisheries law enforcement is based on a principle of strict criminal liability with regard to illegal catch: in principle all illegal catch is considered a violation of the principle of due care (Government of the Faeroe Islands 1994b; pers. comm. 1). The legitimacy of this practice relies on the effort regulation system, which ensures that incidental catch usually is not illegal. Consequently, and similar to Norway, incidental catch can normally be landed without risk of prosecution as long as adequate information is provided to the authorities. The enforcement of regulations concerning juvenile fish has the same effect.

The Faeroese Commercial fisheries act provides for three forms of penalty: fines, confiscation and withdrawal of licenses. Unlike the Norwegian Saltwater fishing act, it does not contain a separate provision regarding imprisonment. Fines may be used in response to violation of all the major resource conservation regulations, including regulations regarding fishing days, catch quotas, catch report procedures, closed areas, small fish, fishing gear, fishing capacity, and the ban on discards.

In accordance with the principle of strict criminal liability, confiscation is only dealt with in penal provisions. The court may confiscate catch value and gear following violations of gear regulations, catch quotas or by-catch regulations. Discards and fishing in closed areas are regarded as particularly severe, and the Commercial Fisheries Act has a special penal provision for these violations, stating that all catch and all gear are always confiscated. The fact that the law does not allow exceptions is regarded as somewhat problematic, and is being dealt with in the ongoing revision of the act (Government of the Faeroe Islands 1994b; pers. comm. 3,4). Forfeited values are distributed 50/50 between the Danish and the Faeroese treasuries.

The Commercial Fisheries Act provides for simplified penalty procedures: the police and the head of the inspection vessel are authorised to fine and confiscate given the offender's consent. However, these procedures are rarely applied in practice; the inspection agencies almost always operate through the court system. The Faeroese Fisheries Inspection uses warnings to a limited extent, but reporting to the police is the most common reaction to violations. The procedures for this are almost similar to those in Norway: fish inspectors in the field report

detected violations to the central office in Torshavn, which decides whether to file a report with the police. The Coast Guard has police authority at sea, as in Norway, meaning that the skipper makes independent decisions regarding police action. The Fisheries Inspection provides the police with evidence and advises the prosecuting authority (pers. comm. 3,4).

The Commercial Fisheries Act authorises the Fisheries Inspection to withdraw fishing licenses temporarily when license holders are accused of violating resource conservation regulations. This sanction is decided outside the court system at the administrative level, and is equal to the Norwegian procedures for administrative withdrawal of licences. Like Norway, the Faeroe Islands did not apply this provision until recently. It is currently only applied in cases where license holders violate their obligation to report illegal quantities of juvenile fish, as described above. When detected, this violation immediately results in two weeks' suspension of a fishing license, and the license holder risks three weeks' suspension the second time he is discovered. Within a week, the license holder may require that his case be tried in court. The Commercial Fisheries Act also provides for administrative withdrawal of the harvesting- and fishing licenses of fishermen who have been convicted by a court, but this provision has not been applied in practice because the prosecuting authority regards such a double penalty as problematic (pers. comm. 1,3,4).

4.7 How Could Effort Regulation be Adopted in the Faeroese Fisheries?

The choice situation facing the Faeroe Islands in the mid-1990s had certain similarities with to the one facing the Atlantic fisheries commissions in the 1960s: technical regulations had proven insufficient and managers considered applying either TACs or effort regulation. However, there were two notable differences from the situation of the 1960s. First, the Faeroe Islands were able to base their choice on experience. The late introduction of TACs meant that Faeroese government and industry witnessed implementation failures of TAC-based management in other states before it was introduced in Faeroese waters. This provided a much more solid basis for scepticism than the Atlantic fisheries commissions and, for example, Norway and the EU had in the virgin years of TACs. Consequently, the implementation problems associated with illegal discards and black landings came as no surprise to the Faeroes, but rather reinforced existing scepticism. Second, the Faeroe Islands faced a comparatively simple allocation task, which made it easier to depart from TAC-based management. As described in the previous chapters, catch quotas are a relatively clear and agreeable standard for distribution, compared with fishing effort. The fact that the fish stocks were exclusively national entailed that the authority to allocate fishing rights rested in the hands of one central decision-maker: the Faeroese Home Government. The allocation issue, which

played a significant role in the decision of the Atlantic fisheries commissions to opt for TAC-based management, could thus be given lower priority in the Faeroese case.

The Faeroe Islands have been the first nation in the Northeast Atlantic to abandon TAC-based fisheries management in favour of effort regulation as the primary resource management tool. Two institutional factors set the Faeroe Islands apart from the other cases in this study in a way that sheds light on its so far unique response to crisis in TAC-based management: the relative political autonomy in fisheries management, and the small fisheries administration.

Looking first at political autonomy, it is notable that the groundfish stocks targeted by Faeroese fishermen are exclusively national stocks. This has enabled the Faeroe Islands to choose a management system independently of the preferences of other states. It has also relieved pressure on the Faeroese Home Government in terms of finding politically-manageable international allocation tools. National control of demersal fish stocks has also entailed that Faeroese fisheries management is not tied to bilateral or multilateral institutions to the same extent as e.g. Norway and EU members, which manage most fish stocks jointly with other states. This autonomy made it relatively easy for the Faeroe Islands to part with TAC-based management after its introduction.

It can be argued that political autonomy has been a decisive but ambiguous factor in the Faeroese management reforms. The 1994 reform was shaped by a loss of political autonomy: Faeroese economic dependence enabled Denmark to require quick solutions to the problem of overcapacity, which undoubtedly worked in the favour of the ITQ option. However, while the agreement between the Danish and Faeroese governments was extremely strict in terms of time frames, it left significant room for adaptation in terms of applied management measures. Consequently, when the Faeroe Islands wanted to change the chosen form of fishing mortality restriction, they had the autonomy necessary to reshape the system according to their perceived needs. Therefore, despite the consequences of their temporary loss of economic independence, a high degree of political autonomy and a low degree of path dependence are hallmarks of Faeroese fisheries management compared to the other cases described in this volume.

The relative path independence of TAC-based management in the Faeroe Islands was not only related to the system's independence of international agreements, but also to the age of the management structures. The political autonomy of the Faeroe Islands in matters of fisheries management enabled them to postpone the introduction of catch quotas for a number of years. Consequently, catch quota-based management had yet to be deeply rooted in inert national management structures when its implementation problems became evident. Unlike Norway, the Faeroe Islands had not built complex administrative structures for the implementation of catch quotas by the mid-1990s. This meant that effective implementation

was difficult but also that there was little path dependence in terms of implementation structures. The entire system could consequently be changed at a comparatively low cost.

As a result of the system's path independence, the Faeroe Islands had a genuine choice between developing the administrative structures required to implement TACs or adopting a management model that was easier to implement. The first of these options was never really considered. This was undoubtedly rooted in pessimism, inspired by the EUs management failure, regarding the possibilities of constructing a system capable of implementing catch quotas effectively. However, this explanation may not be entirely sufficient because Norway was an example of reasonably successful TAC-based fisheries management at the time. The Faeroese pessimism was arguably also rooted in the second institutional factor explaining the unique development of Faeroese fisheries management: the small fisheries administration. While Norwegian fisheries management shows that TACs can be implemented to a reasonable extent, it also illustrates that it is administratively demanding to do so. The Faeroe Islands, with their small fisheries administration and absence of centralised organisations for first-hand trade of fish, needed a system that was simple to manage. Their relative autonomy provided the freedom to opt for a solution adapted to their limited administrative capacity.

Norway is a contrasting case to the Faeroe Islands in terms of responding to crisis in TAC-based management. The Norwegian cod crisis in 1989 brought the very same implementation problems to the attention of Norwegian managers as those facing their Faeroese counterparts a few years later: black landings, discards and falsification of sales notes. However, unlike the Faeroe Islands, the Norwegian cod crisis did not cause a debate over the viability of TAC-based management, but rather resulted in a number of incremental steps to remedy implementation deficiencies. This continuity was partly due to the fact that, unlike the Faeroe Islands, Norway manages all major fish stocks, except for saithe, jointly with other states. The management principles are consequently embedded in bilateral and multilateral agreements implemented through institutionalised procedures for political and scientific advice. The inertia of these institutions is reinforced by the undisputed position of TACs as the most politically-feasible tool for distributing fishing rights among states. Norway's cod fisheries had also been subject to catch quotas for over ten years when crisis struck, and TAC-based management was firmly institutionalised and rooted in the mind sets of managers. TAC-based management was thus embedded in much more inert structures than was the case in the Faeroe Islands. When Norway's significant administrative capacity for catch quota implementation is added to the picture, the different responses of Norway and the Faeroe Islands to crises in TAC-based management are understandable.

References

- Cruz, L.R., í Jákupsstovu, S.H., Kristiansen, A., Maguire, J.J., Reinert, J., & Toftum, J.H. (2006). Effort regulation of the demersal fisheries at the Faeroe Islands: A ten years appraisal. Paper presented at ICES Symposium on Management Strategies, Galway, Ireland, June 27–30 2006. Draft version.
- Food and Agricultural Organization of the United Nations (FAO) (2005). Fishery Country Profile: The Faeroe Islands. www.fao.org/fi/fcp/en/FRO/profile. Accessed autumn 2006.
- Gezelius, S.S. (2007). Three paths from law enforcement to compliance: Cases from the fisheries. *Human Organization*, 66(4), 414–425.
- Government of the Faeroe Islands (1948). Act no 11 of 31st March 1948 on the Home Government of the Faeroese. Torshavn: Lagtinget.
- Government of the Faeroe Islands (1978a). Lagtingslov nr. 8 af 29. mars 1978 om fiskeri på fiskeriterritoriet (Act Relating to Fisheries in the Fishery Territory). 29 March 1978. Torshavn: Lagtinget.
- Government of the Faeroe Islands (1978b). Lagtingslov nr. 9 af 29 mars 1978 om fiskeriaftaler med fremmede lande (Act on Fisheries Agreements with Foreign States). Torshavn: Lagtinget.
- Government of the Faeroe Islands (1978c). Lagtingslov nr. 55 af 22. september 1978 om regulering af færøsk fiskeri udenfor fiskeriterritoriet (Act on Regulation of Faeroese Fisheries outside the Fisheries Territory). Torshavn: Lagtinget.
- Government of the Faeroe Islands (1989). Bekendtgørelse nr. 24 af 13. april 1989 om Fiskeriinspektionen på fisketerritoriet, vedr. maskemåling. Torshavn: Ministry of Fisheries and Marine Affairs.
- Government of the Faeroe Islands (1990a). Lagtingslov nr. 77 12. juni 1990 om fiskeri på det indre fisketerritorium og i ferske vande (Act on Fisheries on the inner Fisheries Territory and in Inland Waters). Torshavn: Lagtinget.
- Government of the Faeroe Islands (1990b). Lagtingslov nr. 106 af 3. august 1990 om forsøgsauktion for fisk. Torshavn: Lagtinget.
- Government of the Faeroe Islands (1992). Aftale mellem den danske regering og det færøske landsstyre. 6. oktober 1992. Torshavn: Landsstyret.
- Government of the Faeroe Islands (1993a). Redegjørelse fra Strukturudvalget i henhold til aftale mellem Det færøske Landsstyre og Den danske Regering af 1. februar 1993 (Report from the Structure Committee). Torshavn: Landsstyret.
- Government of the Faeroe Islands (1993b). Bekendtgørelse nr. 55 af 26. marts 1993 om betegnelsen ungfisk af bestemte fiskearter samt maksimum blanding af ungfisk. Torshavn: Ministry of Fisheries and Marine Affairs.
- Government of the Faeroe Islands (1993c). Bekendtgørelse nr. 56 af 26. marts 1993 om særlige foranstaltninger til beskyttelse af ungfisk. Torshavn: Ministry of Fisheries and Marine Affairs.
- Government of the Faeroe Islands (1993d). Bekendtgørelse nr. 56 af 26. marts 1993 om særlige foranstaltninger til beskyttelse af ungfisk. Torshavn: Ministry of Fisheries and Marine Affairs.
- Government of the Faeroe Islands (1993e). Lagtingslov nr. 29 af 23. februar 1993 om offentlig auktion for fisk. Torshavn: Lagtinget.
- Government of the Faeroe Islands (1993f). Erklæring fra Færøernes Landsstyre. 1. februar 1993. Torshavn: Landsstyret.
- Government of the Faeroe Islands (1994a). Act No 103 of 26th July 1994 on the Governance System of the Faeroe Islands. Torshavn: Lagtinget.
- Government of the Faeroe Islands (1994b). Lagtingslov nr. 28 af 10 MAR 1994 om erhvervsmæssigt fiskeri (Ervervsfiskeloven) (Commercial Fisheries Act). Unofficial Danish translation. Torshavn: Lagtinget.

- Government of the Faeroe Islands (1994c). Government order no. 48 dated 14 April 1994. Regulation announced regarding catch statistics and authorisation of weighing methods. Torshavn: Ministry of Fisheries and Marine Affairs.
- Government of the Faeroe Islands. (1995). Bekendtgørelse nr. 125 af 17. august 1995 om Fiskerikontrollen. Torshavn: Ministry of Fisheries and Marine Affairs.
- Government of the Faeroe Islands (1996). Frágreiðing frá Skipanarnevndini: sett niður av Føroya Landsstýri 9. november (1995). (Report from the Planning Committee). Tórshavn 8. februar 1996.
- Government of the Faeroe Islands (1999). Bekendtgørelse nr. 85 af 18. oktober 1999 om pålagt salg ved auktion. Torshavn: Ministry of Fisheries and Marine Affairs.
- Government of the Faeroe Islands (2004a). “Færøernes Lagting”. Lagtinget 2004, www.tinganes.fo. Accessed autumn 2006.
- Government of the Faeroe Islands (2004b). Bekendtgørelse nr. 32 af 27. maj 2004 om trawlfangst indenfor 12 sømil. Torshavn: Ministry of Fisheries and Marine Affairs.
- Government of the Faeroe Islands (2004c). Bekendtgørelse nr. 45 af 06. juli 2004 om overvågning af fiskefartøjer via satellit. Torshavn: Ministry of Fisheries and Marine Affairs.
- Government of the Faeroe Islands (2004d). Bekendtgørelse nr. 54 af 31. august 2004 om fangstdagbøger for færøske fiskefartøjer. Torshavn: Ministry of Fisheries and Marine Affairs.
- Government of the Faeroe Islands (2005a). Bekendtgørelse nr. 103 af 14. september 2005 om bifangstregler for fiskefartøjer, som ikke er under fiskdagsordningen. Torshavn: Ministry of Fisheries and Marine Affairs.
- Government of the Faeroe Islands (2005b). Bekendtgørelse nr 117 af 14. november 2005 om fiskeri på fiskeriterritoriet med fiskefartøjer registreret på Færøerne. Torshavn: Ministry of Fisheries and Marine Affairs.
- Government of the Faeroe Islands (2005c). Frágreiðing frá arbeiðsbólkinum, sum varð settur at kanna fiskiorkuna á føroyska landgrunninum og á Føroya banka. Handað Bjørn Kalsø, landsstýrismanni, 4. apríl 2005. Torshavn: Ministry of Fisheries and Marine Affairs.
- Government of the Faeroe Islands (2006). Bekendtgørelse nr. 4 af 9. februar 2006 om tidsbegrænset fiskeforbud på gydeområder. Torshavn: Ministry of Fisheries and Maritime Affairs.
- International Council for the Exploration of the Sea (ICES) (2005a). Report of the North-Western Working Group. ICES CM 2005/ACFM: 21. Copenhagen: ICES.
- International Council for the Exploration of the Sea (ICES) (2005b). Report of the ICES Advisory Committee on Fishery Management, Advisory Committee on the Marine Environment and Advisory Committee on Ecosystems, 2005. ICES Advice. Copenhagen: ICES.
- International Council for the Exploration of the Sea (ICES) (2006). North-Western Working Group Report 2006. ICES CM 2006/ACFM: 26. Copenhagen: ICES.
- Jacobsen, Óli 1997. Fish and Fishery. pp. 47–59 in Lise Lyck (ed.) *The Faroese Economy in a Strategic Perspective*. NordRefo 1997:6. Stockholm: NordRegio.
- Løkkegaard, J., Andersen, J., Bøje, J., Frost, H., & Hovgård, H. (2004). Rapport om den færøske regulering af fiskeriet. Rapport nr. 166. København: Fødevarøkonomisk Institut.
- Niclasen, Jørgen (Minister of Fisheries) (2006). Faeroese fisheries: Effort system. Powerpoint presentation September 11 2006.
- Toftum, J.H. (1993). Ressursforvaltning og kontroll i Færøyske Fiskerier. In A. Hallenstvedt (ed.), *Ressursforvaltning og kontroll – kontroll politikk og virkemidler i fiskeriene i de nordiske land og i EF* (pp. 85–118). Nordiske Seminar- og Arbejdsrapporter 1993:583. Copenhagen: Nordic Council of Ministers.
- Toftum, J.H. (1994). Institusjoner i fiskeomsetningen på Færøyene: Stabilitet og endring. Arbejdsrapport. Tromsø: Norges Fiskerihøgskole.

Personal Communication

1. Marjun Magnussen, head of Law Department, Ministry of Fisheries and Marine Affairs. (October 2006).
2. Jens Helgi Toftum, adviser, Ministry of Fisheries and Marine Affairs. (October 2006).
3. Elmar Højgaard, head of Fisheries Inspection. (October 2006).
4. Jóhan Simonsen, adviser, Fisheries Inspection. (October 2006).
5. Jakup Reinert, head of Fisheries Division, Faeroese Fisheries Laboratory. (October 2006).
6. Henrik Old, fishing skipper and Chairman of the Committee for trade and industry, Faeroese Parliament. (October 2006).
7. Kjartan Hoydal, former Director of Fisheries, head of the Structure Committee of 1993 and the Planning Committee of 1995. (November 2007).
8. Martin Kruse. Faeroe Islands Fisheries Inspection. (November 2007).

5 Recovery Plans and the Balancing of Fishing Capacity and Fishing Possibilities: Path Dependence in the Common Fisheries Policy

Troels Jacob Hegland and Jesper Raakjær

Abstract The Common Fisheries Policy (CFP) of the European Union (EU) has for long been accused of being unable to provide sustainable fisheries or actually in itself being an obstacle to this. Not least the inability of the CFP to achieve a sustainable balance between available resources and fishing capacity has been an issue of debate. By looking at the historical development of the implementation of the structural and conservation policies, this chapter sets out to provide an understanding of why the EU has for long been unable to choose another course in its fisheries policy. A key aspect in relation to this is the path dependence of the system, which has to a great extent made any real reform attempts unsuccessful. Nevertheless, based on recent changes in relation to the political cleavages between member states and the outcome of the CFP reform of 2002, the chapter describes how the evermore present resource crisis has opened a window-of-opportunity which makes a change in course possible. This is to some extent evidenced by the adoption of a series of recovery plans. Whether this will be enough to provide for a bright future of the CFP is, however, questionable.

5.1 Introduction

The adoption of multi-annual recovery plans for a number of fish stocks is the latest attempt to promote sustainable fisheries management in the European Union (EU; Union)¹ and has become an integrated component of the Common Fisheries Policy (CFP). In this chapter we examine how administrative procedures around the CFP and its implementation and resulting unforeseen problems have led to the need for the adoption of this specific management tool.

We describe how historical events have to a considerable extent shaped the future course of the CFP, a process commonly referred to as path dependence. That the political process is path dependent – a key concept of the social theory of

¹ We have chosen generally to use the term European Union, although in a historical and legal context the term European Community would technically be more correct in some cases.

(historical) new institutionalism – means that choices made at an earlier stage have decisive impact on the choices which are perceived as possible or plausible at a later stage. In other words, “*once actors have ventured far down a particular path, they are likely to find it very difficult to reverse course [...] The ‘path not taken’ or the political alternatives that were once quite plausible may become irretrievably lost*” (Skocpol and Pearson 2002, p. 665).

The present chapter provides, consequently, an account of how prior decisions and developments of the CFP in previous years have influenced subsequent decisions and developments. It is, however, too narrow a perspective to focus on implementation choices in isolation; they need to be seen in a broader political context. This chapter therefore examines the different political positions surrounding the proposal and decision to adopt the recovery plans in their current shape.

The CFP was adopted January 25th 1983 by introducing a fisheries conservation policy to complement the already adopted structural, market and external policies. This marked the completion of a comprehensive package of fisheries policy regulations, which had been in the making for more than 15 years. Although the CFP has been reformed twice since 1983 one can reasonably argue that the period up to 1983 was the period where the main political decisions were taken, and the period from 1983 and onwards the period of implementation and adaptation of existing policies. Although the basic legal provisions of the CFP were revised in 1992 and 2002 they are today basically based on the same fundamental principles as when the CFP was adopted in 1983.

To set the scene for our further analysis, we initially provide a brief introduction of the main actors and decision-making procedures relating to the CFP. This is followed by a description of the process leading up to the adoption of the conservation policy in 1983. Then we investigate problematic implementation/administration of the CFP from 1983 to 2002, which made it necessary to integrate recovery plan schemes, and we look at their content and innovative components. Finally, we discuss our results and the implications in terms of future fisheries management in the EU. Overall the chapter provides the necessary background for a case of CFP implementation at national level (Denmark in Chapter 6) in the multi-level governance system of the EU.

5.2 The Common Fisheries Policy

The CFP is a European Union policy framework consisting of four pillars: conservation policy, structural policy, market policy and external issues. The focus of this chapter will be the conservation policy (including control and enforcement) and the structural policy.² These two policy areas impact most directly on the core issue of targeting fishing mortality rates in the North Atlantic. Target fishing mor-

² For those interested in a general introduction to the CFP, we refer to Lequesne (2000).

tality rates is an explicit focus of the conservation policy, but also the structural policy has *de facto* had direct implications on resource conservation, not least because of flawed implementation of total allowable catches (TACs) under the conservation policy, which has made the CFP particularly vulnerable to the problem of fleet overcapacity. The problems in the way that the EU has implemented the TAC system are to a large extent related to the setting of TACs above scientific advice, institutionalised discarding, and a control and enforcement failure.

The conservation policy aims to ensure that stocks remain at healthy levels, and the main instruments used are fixed TACs for the most important species and technical conservation measures. The TACs are divided into national quotas according to the principle of *relative stability*, which means that the member states are allocated the same fixed percentages of the different TACs every year. The question of dividing the TACs between the member states was the most sensitive part of the political negotiations leading to the agreement on the CFP. The member states are responsible for the domestic allocation of their share of the quota.

The TAC system is supported by a number of technical measures, which are directed mainly at preventing (by-) catch of juvenile fish or non-target species. Connected to the conservation policy is a policy for control and enforcement, which seeks to ensure that CFP regulations are respected. It should be emphasised that efficient control/enforcement structures are a precondition for effective implementation and administration of the CFP, irrespective of the approach adopted within the conservation policy.

The aims of the structural policy are to ensure that the industry can face international competition, increase productivity, provide a fair standard of living for those who depend on fishing for their livelihood and guarantee regular supplies at reasonable prices for consumers by adapting and managing the structural development of the fishing industry as well as processing and marketing of fish and fish products. These aims are pursued by means of a range of structural policy measures.³ In relation to fleet structure, the most important element has traditionally been Multi-Annual Guidance Programmes (MAGP) which have been implemented with financial support from the Financial Instrument for Fisheries Guidance (FIFG).

³ It is important to keep in mind that structural policies have *de facto* been resource conservation tools as well. As an example, capacity reduction targets under the structural policy have been set with reference to high fishing mortality rates (Gulland 1990; Lassen 1995), something that indicates a recognition of structural policies as supplements to the TAC system and as a means of counteracting the flawed implementation of it; particularly its inability to handle the problems associated to incidental catch, discards and illegal landings. Under the CFP it can in principle be rational for vessels to continue fishing as long as there is anything they can land legally, even though this leads to massive discarding of other species. The fact that there is no ban on discards – rather the opposite – indirectly encourages high-grading as well. This makes TAC implementation under the CFP very vulnerable to overcapacity. However, it should be mentioned that in Denmark, as an example, it is illegal to discard fish that can be landed legally, and hereby Danish regulations prohibit high-grading (see chapter 6). Nevertheless, this provision is extremely difficult to enforce.

The two main institutional actors in the decision-making system regarding the CFP are: (1) the Council of the European Union (Council), which consists of the relevant ministers from the EU member states and serves as the main legislator in the area of fisheries, and (2) the Commission of the European Communities (Commission) / Directorate General for Fisheries and Maritime Affairs (DG Fish), which serves as the EU bureaucracy seeing to the day-to-day management. The Commission has significantly more authority and political power than a traditional national bureaucracy. It is, for instance, the sole institution authorised to initiate, draft and propose legislative acts in the area of the CFP. The Commission also takes active part in the negotiations in the Council, although without the right to vote. This effectively means that it is not possible to draw a clear line between the political system and the bureaucracy / administration in the context of the CFP. This also means that inter-institutional struggles are common between the Council and the Commission over where the line should be drawn between the two institutions' responsibilities and powers.

In most cases, the CFP legislative adoption process begins with initial proposals drafted by DG Fish, incorporating to a varying extent advice received from scientists or other stakeholders.⁴ The Commission's proposal is then submitted to the European Parliament (EP), which has the right to be heard on most acts relating to the CFP. In light of the response of the EP, the Commission can – but is under no obligation to – amend the proposal before the negotiations within the Council, the final step of the legislative procedure. In the Council all member states discuss the proposal from the Commission and all member states are entitled to vote – also in the cases where they do not have a direct stake in the question at hand. Legislative acts relating to the CFP are adopted by a qualified majority voting, which means that no single member state can block proposals. In case of disputes, the Court of Justice of the European Communities (ECJ) rules on the interpretation of CFP legislation.⁵

5.3 Towards a Common Fisheries Policy

To understand the evolution of the CFP and the adoption of the scheme for recovery plans, it is necessary to investigate the fundamental principles that have guided the adoption and evolution of the CFP even before the first legal acts relating to the CFP were established in 1970. These decisions set the path for the direction of fisheries policy and management in the EU. In this respect, the international fishery commissions have had significant influence on the direction of the CFP.

⁴ For an account of how scientific advice and other types of knowledge feeds into the decision-making process, see Hegland (2006).

⁵ For a detailed description of the decision-making procedures of the EU, we refer to the numerous accounts elsewhere, e.g. Hix (1999).

Gezelius (Chapter 2) describes how discussions in the second half of the 1960s within the North East Atlantic Fisheries Commission (NEAFC) and its twin commission, the International Commission for the Northwest Atlantic Fisheries (ICNAF), in response to growing concern about overfishing, led to the decision to favour the use of catch limitations in the form of catch quotas rather than effort regulation.

NEAFC is the framework for international cooperation on the conservation of fish resources in the North East Atlantic waters outside the national fishing zones, which were still rather narrow in the end of the 1960s, extending only 12 nautical miles (nm) off shore. The fact that the national zones were so narrow meant that conservation was essentially an international issue. According to Gezelius (chapter 2) NEAFC and ICNAF consequently “*became the arenas for the development of modern resource management,*” which in the longer perspective made it all the more important when the commissions in the late 1960s opted to restrict fishing activities through catch control (outputs limitation) rather than introducing restrictions on input. Until that point in time conservation instruments had primarily been technical measures, primarily in the shape of mesh size restrictions.

Among the arguments that tipped the decision in favour of catch quotas was the focus on controlling fishing mortality. It is difficult directly to relate fishing mortality and fishing effort, whereas TACs were regarded the more feasible option in terms of finding a standardised measure of fishing mortality that states could agree on. In addition, developments within marine science at the time resulted in refined tools and models (i.e. the so-called cohort analysis) to estimate TACs, which favoured output control in terms of catch quotas. Consequently, from the end of the 1960s until the first half of the 1970s, the commissions successfully worked on implementing a TAC-based approach for the North Atlantic. As mentioned above, an important element of implementation of fisheries regulations, independent of the specific tool chosen, is to ensure compliance and put effective enforcement mechanisms in place. In this respect it is generally acknowledged that the commissions were less successful in enforcing the measures and ensuring compliance with the introduced regulations.

Since the late 1960s, fisheries management in the North Atlantic has in practice become about TACs. The choice of the North Atlantic fisheries commissions to opt for TAC-based management established a precedent that had major influence on policy negotiations and decisions in the following decades, not least in the process leading to the adding of a conservation policy to the CFP in 1983. However, let us first return to the implications of the first CFP measures adopted in 1970.

In response to the requirements of the Treaty of Rome, the Commission in 1966 drafted proposals for common regulations concerning structures and markets relating to fisheries resources. The two regulations were not adopted by the Council until 1970, however, and then only after long and hard negotiations. The two regulations did not directly touch upon how the issue of conservation should be solved. Nevertheless, a provision for “equal access” contained in the structural

policy regulation turned out to have immense importance in relation to the development of a conservation policy of the CFP. Equal access means that, as a general rule, vessels from one member state have the right to fish inside the territorial waters of any of the other member states – in principle this means “fishing up to the beaches”. According to Leigh (1983, p. 31) the adoption of the principle of equal access was not a requirement of the Treaty of Rome and the decision was therefore “*a political one and not a legal obligation*”. The obvious alternative to equal access would according to Leigh (1983) and Churchill (1977) have been the principle of “freedom of establishment”, which would have left the concerned member states in more control of their territorial waters, something that would have set a different path for the conservation policy discussion taking place a decade later.

Anyway, due to the upcoming accession negotiations with the United Kingdom (UK), Norway, Denmark and Ireland, the original six EU member states were finally able to arrive at a political agreement on the two CFP regulations including equal access on 30 June 1970. This agreement should be in place until 31 December 1982. The explanation for the sudden momentum was that the six original member states were well aware that it was in their own interest to reach an agreement before the enlargement came into place. The agreement would then be part of the *acquis communautaire*⁶, which the applicants had to accept when joining the EU. If the six member states waited, the acceding countries would be able to join the negotiations and the six original member states would not be able to get the same agreement.

It was agreed to deviate from the principle of equal access by allowing member states to restrict access within the six nm zone. In areas heavily dependent on fishing, the limit was extended to 12 nm (Leigh 1983).⁷ The provision for equal access still remains one of the fundamental principles underlying EU fisheries management and strongly contributes – together with the presence of many shared stocks and fisheries – to the prisoner’s dilemma⁸ nature of EU fisheries management, as no single member state can be certain to reap the benefits of applying a strict focus on long-term resource conservation. The fact that even this fundamental principle of the CFP was adopted as part of a manoeuvre to achieve a favourable position prior to an enlargement illustrates the importance of the EU’s unique position as a collective of states rather than an ordinary, unitary state. Deliberations and decision-making related to fisheries management are, consequently, subjected to a set of processes and incentives that do not apply to fisheries management in a unitary state. It might be argued that, in the EU, national autonomy is lost at the basic policy formation level, but regained at national implementation level (see Chapter 6).

⁶ The body of EU laws.

⁷ Certain historical rights enjoyed by other member states remained applicable even within the special 12 nm zones. For a thorough account of the geographical areas affected by the 12 miles derogation and the discussions over this issue, we refer to Wise (1984).

⁸ See Chapter 1 for an introduction to the prisoner’s dilemma logic in relation to fisheries.

Moreover, the structural policy regulation instituted the principle that the European Union should be responsible for conservation in territorial waters. The full implications of this provision were hardly recognised at the time of adoption, as the national fishing zones were rather narrow and conservation therefore essentially an international issue, as mentioned earlier. This was, however, going to change dramatically during the 1970s (Leigh 1983).

The fact that agreement between the six original member states came on the very same day as the enlargement negotiations were initiated did not go unnoticed. Norway, Denmark, the UK and Ireland all have significant fisheries interests. Especially Norway and Ireland had rich fishing grounds within their national fishing waters and were upset about the provision for equal access. The UK was critical too, but its negotiating position was affected by a well-organised distant water fishing industry, which saw the provision as a protection of UK fishing interests off the Norwegian coast in the event of a future extension of the national fishing zones. As it turned out, the issue of fisheries attracted little popular interest in Ireland, which joined the EU after a comfortable yes-vote in a referendum. In contrast, the Norwegians voted no in a referendum where the issue of fisheries proved important. This left the UK, which entered the Union without a referendum, deprived of the expected benefits of equal access in Norwegian waters. This affected the UK position and willingness to compromise in later CFP negotiations (Leigh 1983).

In the middle of the 1970s the international setting for fisheries management changed dramatically over a relatively limited number of years when coastal states, mainly in light of the increasing awareness of the risk of overfishing, began claiming larger exclusive fishing zones (EFZ). Iceland was the first major fishing nation to enlarge its EFZ,⁹ but the trend spread quickly and by the mid-1970s, it was relatively clear that the final outcome of the international negotiations on the issue would be the general institution of 200 nm exclusive economic zones (EEZ).

As a result of the changing international environment, the EU member states – in a concerted action agreed upon by the Council in The Hague on 30 October 1976 – extended their EFZs to 200 nm beginning 1 January 1977. This meant that the EU and its member states were effectively responsible for areas that were large enough to make resource conservation a significant “domestic” issue. While the

⁹ Iceland was the forerunner in enforcing its exclusive rights to fish on its continental shelf, but not the first to declare its right to do so. The move towards nationalization of the coastal seas was initiated by the United States’ Truman Declaration of 1945, which claimed rights to extract mineral resources from the seabed of the entire continental shelf of the United States. Other nations followed soon suit, most notably all the nations of South America, which claimed their territorial waters out to 200 nm in the Santiago Declaration of 1952, extending their claims not just to the seabed minerals covered by the Truman Declaration, but also to the continental shelf fisheries. Iceland gained most notoriety for its fisheries claims, however, because rather than simply making a nationalist statement, it enforced its claims by excluding British trawlers from Icelandic waters, first to a zone of 12 nm around the coast in 1958, then to 50 nm in 1972 and to 200 nm in 1975, resulting in a series of conflicts with the UK known as the “Cod Wars”. We are thankful to Hilary Palevsky for pointing our attention to this excellent example of path dependence.

so-called Hague Resolutions, the outcome of the Council meeting, contained an agreement among the member states to extend their EFZs and create a centralised EU external fisheries policy, it was not at that time possible to reach consensus on the arrangements for a conservation policy. The Commission had proposed a system of TACs divided into national quotas in continuation of what was known from for instance NEAFC and other international organisations (Leigh 1983; Wise 1984). The Commission did not propose any limitation of fishing effort besides a licensing system for fishermen. The decision not to emphasize fishing effort limitations does not seem to have caused much debate, but critical comments were nonetheless expressed towards the perceived failure to sufficiently address the effort issue:

Previous experience with the quota schemes of international fishery commissions has shown that licensing and checks on landings, although helpful, are easily evaded. What is needed is a limitation on effort. (Churchill 1977, p. 34)

As a consequence of the failure to reach agreement on a conservation policy, the Hague Resolutions contained provisions that authorised the member states – in consultation with the Commission – to adopt non-discriminatory conservation measures to protect resources in the fishery zones off their coastlines. These provisions were to provide the main mode of instituting EU conservation measures in the period from 1976 to 1983. One last noticeable element of the agreements was the “Hague preferences”, which stipulated that when implementing the CFP the Union should take into account the needs of local communities most heavily dependent on fishing. These areas included Ireland, parts of northern UK and, finally, Greenland¹⁰ (Leigh 1983; Wise 1984).

In the negotiations in The Hague and the subsequent discussions leading up to the eventual adoption of a conservation policy in 1983, Ireland and the UK were pitted against the other member states with a demand for exclusive national zones extending up to 50 nm. The Commission had initially proposed a system of exclusive national zones of 12 nm in 1976. This was, on one hand, not acceptable to UK and Ireland, which favoured larger zones. On the other hand, other member states – most notably France – argued that the national zones adopted in connection with the accessions of 1973 were derogations valid only until 1983 and that equal access ultimately ruled out the possibility of having exclusive national zones. In the end, a compromise was found which determined that equal access as decided in 1970 should continue to apply in the waters of the EU member states. However, the member states would be allowed to reserve the waters within 6 nm off the coast for their own nationals and the waters between 6 and 12 nm would also primarily be reserved for the member states’ fishermen, although member states with historic rights could continue a limited fishery. The derogations to equal access within the 12 nm zone would apply for ten years and be renewable for another ten, i.e. to the end of 2002 (Leigh 1983).

¹⁰ Greenland left the EU in 1985.

The discussion over access was obviously strongly interlinked with the second major issue relating to the conservation policy, namely the adoption of TACs and the subsequent allocation of national quota shares, which was seen as necessary for the TAC system to work without creating an unsustainable “race for fish”.¹¹ As mentioned earlier, the TAC system was from an early stage favoured over some sort of effort regulation system mainly due to the managers’ familiarity with TACs from the Atlantic commissions. However, it proved difficult to reach an agreement:

The reason for the long delay in reaching agreement is not hard to discover. For the apparently technical rubric ‘TACs and quotas’ disguises a political problem of resource distribution between member states. The sum of member states’ demands added up to more than the total amount of fish available. In the bad old days when this situation arose in the fishery commissions it led to the inflating of TACs, followed by overfishing. In the Community the excess of demand over supply led to a prolonged debate about the criteria for distributing quotas among member states and about the sharing out of specific stocks. (Leigh 1983, p. 90)

In retrospect it is easy to see that it was not only in the “bad old days” that the excess of demand over supply led to inflated TACs; the Council inherited this practice.

The conservation policy of the CFP, which was finally adopted on 25 January 1983, included the above-mentioned compromise in relation to the access provisions. In relation to TACs and quotas, allocation keys for the different stocks were found. These keys built on the consideration of three elements: historic catches of the different stocks by different member states; the Hague preferences, which favoured Ireland, the UK and Greenland; and compensation for jurisdictional losses, which referred to the losses incurred by some member states, particularly Germany and the UK, when non-member states extended their EFZs (Leigh 1983). The agreed system of allocation keys – referred to as “the relative stability” – remains today virtually unaltered¹² and stands as one of the most fundamental elements of the CFP.

Finally, in connection with the conservation policy, a control regulation, which provided the Commission with certain powers in terms of overseeing the control efforts of the member states, was adopted in 1982. However, the powers of the Commission were relatively limited. When looking at contemporary accounts of the CFP negotiations, it is striking how little attention for instance the control issue attracted in the beginning of the 1980s. The difficulties of agreeing on the basic principles seem to have overshadowed the discussions of how to properly implement the system. That the question of proper enforcement and implementation

¹¹ The discussion over allocation of quotas took more than six years and is to some extent rather technical. We will not in this chapter go into a detailed description of it, but rather refer the interested reader to Wise (1984).

¹² The only amendments made to the relative stability have been made in relation with the accession of new EU members and these amendments have not changed the relative stability between the member states originally agreeing on the CFP.

is pivotal had nevertheless been confirmed by the experiences in the Atlantic commissions.

Despite these difficulties, the EU managed to adopt a relatively coherent CFP, which was primarily designed to be able to control fishing mortality by the adoption and enforcement of TACs for a large number of stocks. Moreover, a structural policy was in place, including provisions to enable the EU to move towards a balance between resources and capacity. However, we know today that there was no reason for any particular optimism. The main political hurdles might have been passed by 1983, but the CFP was not going to prove easy to implement and administer.

5.4 1983 to 1992 – Muddling Through Without Change¹³

In the years following 1983, neither the conservation policy (including control and enforcement) nor the structural policy were implemented and administered in a coherent manner, nor did they ensure sustainable and efficient utilisation of the fish stocks in EU waters. The consequence hereof was that the problems of overcapacity and overfishing escalated further after 1983.

The structural policy was to a large extent based on the idea of “auto-sufficiency”, which was also a major driver in the creation of the Common Agricultural Policy. The idea of auto-sufficiency developed after World War II and its basic objective was to increase Europe’s internal capacity to provide food in order to ensure that the people of mainland Europe would never again starve as they did during the war. This led to an emphasis on catching more fish, i.e. by providing grants to expand and increase the fleet, without any particular consideration to the impact on the long-term sustainability of the fish stocks. This policy, based on the outdated notion that the sea was too vast for its resources to ever be exhausted, caused a massive increase in the fishing capacity of the EU fleet. The increase from 1970 to 1983 was more than 60 percent in terms of gross registered tonnage (GRT) and considerably more in terms of kilowatt (kW) engine power (Holden 1994; Commission of the European Communities 1997; Lindebo 2003).

That it was possible to expand fishing capacity without significant negative economic consequences for the individual fishermen might to some extent be due to the fact that a number of fish stocks upheld abnormally high recruitment rates from the mid-1960s and until the beginning of the 1980s. This camouflaged the magnitude of the problems of overcapacity in the fleet and made continuous increase in catches beyond “normal” or sustainable level possible (Holden 1994).

¹³ The use of the phrase ‘Muddling through’ is inspired by Lindblom (1959). Lindblom used this phrase mainly to describe the way that bureaucracies find ways through a trial and error process. We use the term less positively and refer to a situation where the trial and error process does not really lead to improvement, but merely a continued trial and error process because of the path dependence of the system.

However, there were also significant exemptions to this trend, e.g. the North Sea herring stock, which was severely fished down despite reasonable recruitment, leading to a ban on herring fishing in the North Sea from 1977. Holden (1994) offers two explanations as to why nobody within the system was able to foresee the problems that the increase in capacity subsequently caused, even though the risk of overfishing was well documented at the time. Firstly, until 1978 there was effectively no expertise on fisheries issues in the Commission to warn against this situation. Secondly, nearly all member states benefited from the funds and had no immediate interest in altering the arrangement. However, contrary to what might have been expected, the development with increasing capacity continued even in the years after the adoption of the conservation policy.

By the early 1980s (some) awareness of the need to control fishing capacity had penetrated into the system. This led to the adoption of a series of programmes, the MAGPs, aimed towards balancing the fishing capacity of the different member states' fleets to the size of the fish stocks. All MAGPs have primarily been setting targets for the future size of the fleets in terms of GRT and kW for each member state. MAGP I, in place from 1983 to 1986, set targets that were modest and basically aimed at keeping capacity constant. Nonetheless, all but two member states failed to reach their targets and overall fleet capacity continued to increase (for a description of this development in Denmark, see Chapter 6). The EU had no experience with implementing such programmes, and fleet registers and methods to measure the capacity of the member states were incomplete and inconsistent across member states. Although MAGP I was a rather limited success, it does stand as the first concrete expression of the wish to restrict the increase in fishing capacity and as such it was an indication of a fundamental, although insufficient, reorientation (Holden 1994; Lindebo 2003).

Paradoxically, the financial funds allocated under the structural policy's FIGF continued to be awarded mainly for the construction or modernisation of vessels while the amounts spent on reducing capacity through scrapping programmes were comparatively negligible. This situation lasted at least until 1987, after which the Commission according to Holden¹⁴ (1994) took a more rigorous approach and only approved grants for construction of vessels to the member states which had met their MAGP targets. However, this is a good example of how one of the two fundamental parts of the CFP can be counterproductive to the other.

For various reasons, the conservation policy, like the structural policy, was not implemented in a way that really approached the problems in the first years after 1983, though the problems were increasingly recognised. As described above, the negotiations on the conservation policy had been lengthy and extremely complicated. This caused the Commission to choose a cautious road when suggesting TACs in order to give the fragile compromise time to settle. Furthermore, in the first years the TAC agreements were well behind schedule. The TACs adopted at the meeting on 25 January 1983 were those of 1982; those for 1983 were not

¹⁴ Mike Holden held various, prominent positions in DG Fish in the period from 1979 to 1990.

adopted before late in the year. The TACs for 1984 were adopted on 31 January 1984 and, finally, those for 1985 were adopted before the beginning of the year, as has been the case since. In these first years the TACs proposed by the Commission basically reflected the actual fishing mortality at the time, a level of fishing mortality that was not biologically sustainable. In 1985, the negotiations of the TACs for 1986 were affected by the accession of Spain and Portugal on 1 January 1986. An agreement on quota allocations to the two new member states was concluded, but at the cost of setting TACs well above historic catches. In terms of using TACs to restrict fishing mortality, these first years were to a large extent wasted and consequently served as nothing more than an opportunity to get the TAC-instrument accepted and institutionalised (Holden 1994). Moreover, the TACs and quotas were hardly enforced in the early years. This meant that the recorded landings did not in any way reflect the actual landings, which were much larger than those reported. This meant that fishing mortality was effectively underestimated, which also served to disguise the problems created by the mismatch between fishing capacity and the resources available in the longer term.

It is therefore reasonable to conclude that even though a relatively coherent policy was adopted in 1983, the first years hereafter were lost in terms of sustainable fisheries management because of ineffective and inconsistent implementation/administration. Rather, the period served basically – although the importance of this should not be underestimated – to get the newly adopted CFP package institutionalised. It is noteworthy that most of the deficiencies in the implementation practice of this period can be traced back to the problems of getting a large number of different countries to cooperate. The reluctance to propose reasonably restrictive TACs was mainly based on the fear of destroying a fragile compromise, which it had taken several years of negotiation between the member states to agree on. Moreover, the failure to halt the increase in fishing capacity was to a large extent the result of the administrative difficulties of implementing programmes aiming at capacity reduction in many different member states with a number of different recording and reporting practices.

MAGP II, in place from 1987 to 1991, reflected the experience of the first MAGP where only a few of the member states had reached their targets. The Commission outlined a programme where the reductions to be achieved over the period was as modest as 3 percent in tonnage and 2 percent in power. When the increased efficiencies coming from technological development are taken into consideration, this corresponded *de facto* to an increase in fishing capacity. According to Holden (1994) the Commission stuck to modest targets – even though problems with fish stocks were now obvious – in order to at least accustom the member states to the idea of decreasing capacity, something which might facilitate compliance with more ambitious targets in later programmes. However, only five member states managed to reach even these modest targets and the Community continued in the period to provide funds for construction of vessels which by far outweighed the funds deployed for scrapping. This meant that overall capacity

continued to increase (Holden 1994; Lindebo 2003). According to the Commission the main limitations of the two first MAGPs included the following:

- Insufficient classification of the fleet into categories related to the species caught, fishery zones and methods of fishing;
- monitoring of the fleet based on a limited number of physical capacity parameters only, without any consideration of the remaining parameters and fleet activity (fishing effort);
- absence of short- and long-term objectives based on the actual situation of particular stocks;
- lack of statistical data and inadequate measures to control fishing capacity and fishing effort;
- non-obligatory status of the programmes. (Commission of the European Communities 1991, p. 28)

Holden (1994) points moreover to a specific problem in implementing the programmes, namely the fact that the member states weeded out from the registers mainly the vessels, which fished very little or not at all (see also chapter 6). For whatever reasons, the consequence was that fishing capacity – and fishing mortality – did not decrease as a consequence of MAGP I and II.

The setting of TACs in accordance with the scientific advice continued to be problematic as well. A number of specific issues¹⁵ demanded the attention of the Council in the end of the 1980s and resulted in less attention to the question of the sustainable size of TACs. Furthermore, some of these specific issues were “best” solved by setting the TACs above the scientific advice. The failure to stop the increase in capacity was clearly not the best background upon which to agree on cuts in TACs either. Holden describes the basic mechanism of TAC-setting in this way:

It is not surprising that the level of TACs is mainly determined by political decisions because politicians regard it as their responsibility to respond to the pressures from their fishing industries as they consider fit. That is democracy in action. Account is taken of the scientific advice but more often than not it has been disregarded for socio-economic reasons, which is little more than coded language for saying ‘avoiding political unpopularity’. Only when the consequence of disregarding the scientific advice would appear to be calamitous has it been acted upon, but often then not rigorously. (Holden 1994, p. 70)

Holden might as well have been writing today. Nevertheless and in all fairness, the Commission has since 1991 adopted a new strategy for proposing TACs, which are now more in line with the scientific advice provided. However, this did in general not immediately change the actual size of TACs, as the Council continued its policy of adopting larger TACs than suggested by the Commission. Moreover, enforcement of TACs and quotas remained a problem. The changing attitude within the Commission, which can mainly be attributed to personnel changes, coincided with the publications of two reports, the *Gulland report* in 1990 and *Re-*

¹⁵ These issues related to Svalbard cod, western mackerel, and North Sea cod and haddock, see Holden (1994) for specifics.

port 91 in 1991, which in very specific terms recognised and outlined the problems of the CFP.

The Gulland report (Gulland 1990) was the outcome of an expert committee set up by the Commission to give advice in relation to the preparation of MAGP III, which systematically documented and, for the first time, set figures for the overcapacity of the EU fleet. The report concluded that fishing mortality needed to be reduced by 40 percent. As a consequence, the report recommended that fishing for demersal stocks be reduced by 30 percent and fishing for benthic stocks by 20 percent. Fishing for pelagic stocks was not affected by the recommendations from the Gulland report (Gulland 1990 in Lindebo 2003).

The Commission used the Gulland report to back its proposals and the Council agreed on significant capacity reduction targets for MAGP III, which was in place from 1993 to 1996,¹⁶ reducing fishing effort by 20 percent for demersal stocks and 15 percent for benthic stocks; fishing effort for pelagic stocks was kept unchanged. This was less of a reduction than recommended by the scientists, but still substantial. In contrast to previous programmes, the reductions were not expressed in capacity, but in fishing effort – a product of capacity (GRT), engine power (kW) and number of days at sea. The member states could thereby choose to achieve part of their reduction by reducing the number of days-at-sea for vessels. Furthermore, in contrast to the previous programmes, MAGP III aimed at the largest reductions for the fleets targeting the most threatened stocks (Lindebo 2003).

In 1991 the Commission published Report 91 (Commission of the European Communities 1991) containing a review of the CFP based on the experiences from 1983 to 1990. Report 91 was meant to stimulate and provide guidance for a debate in the various Community institutions and other bodies in order for them to provide the input necessary for the Commission to propose during 1992 new rules for the period 1993–2002 (Commission of the European Communities 1991). Report 91 outlined a number of problems with the performance of the CFP from 1983 to 1990, and stated that in general terms the stocks were in danger because of excessive fishing mortality, which also negatively affected fishermen's income.

Furthermore, the Commission concluded that there was large overcapacity in the EU fleet and that most fleets had to reduce their level of activity. This was described as a latent sectoral crisis. As a consequence the Commission concluded that “[p]resent mechanisms are inadequate” (Commission of the European Communities 1991, p. III).

The Commission identified a number of problems which had contributed to the situation. These problems included: the exclusive reliance on TACs and quotas without any real control over fishing capacity, which led to a race for fish and discarding at sea; the lack of political will to ensure that the regulations were complied with; the lack of coordination and coherence between the different parts of

¹⁶ A one-year transitional programme was adopted for 1992 to provide time for negotiations in the Council after which MAGP III was amended for the period from 1993 to 1996 (Lindebo 2003).

the CFP, etc. Finally, the Commission warned about the consequences of not taking action:

“If no mandatory decisions are taken to restructure the industry and significantly reduce fishing effort, with emphasis on the ‘at risk’ fisheries, the fishing sector and connected activities risk causing a real and irreparable tear in the socio-economic fabric of the coastal and island regions heavily dependent on fishing.” (Commission of the European Communities 1991, p. 60)

The Commission furthermore identified seven main areas where the CFP could be improved. Most of the identified areas related to the setting of TACs, getting capacity under control or control and enforcement:

- distribution of responsibility at all levels, in accordance with the principle of subsidiarity, conferring responsibility on the parties concerned, in particular the fishermen's organizations which could be given the task of implementing the management measures at the appropriate level;
- more stringent regulation of access to resources by a system of licenses in order to rationalize fishing effort (by zone, species, fisheries, etc.), cutting back excess capacity and improving the planning of fishing so as to reduce over-investment and economic inefficiency;
- a new classification of fishing activities (multiannual, multispecies, and analytical TACs, as appropriate), definitions being based on existing rights and the economic and social characteristics of each fishery;
- more stringent control mechanisms, using modern technologies for vessel location and communication of information, in order to monitor the movements of certain vessels and inform the authorities concerned, while coordinating the information obtained;
- enforcing compliance with rules which are in the common interest, ideally through economic incentives encouraging good behaviour by fishermen (use of selective gear, compliance with landing standards), and deterrent sanctions at Community level (penalty quotas, withdrawal of licenses, withholding of aid, fines);
- stronger structural management, by segmentation of the fleet, on the basis of new parameters, providing a basis for the assessment and control of fishing effort, and inclusion of structural measures under the umbrella of the reform of the structural Funds;
- greater synergy between management of internal and external resources, other sources of supply and market management. (Commission of the European Communities 1991, p. V)

According to Raakjær Nielsen (1993), Report 91 clearly stated that the main problem for the CFP was that it did not ensure rational utilization of the fish resources. The instruments used in the past had created a severe overcapacity in the fleet. Thus Report 91 primarily focused on conditions that contribute to a more appropriate utilization of the fish resources in EU waters. Report 91 strongly emphasised the need to ensure a coherent balance between fishing capacity and activity and the size of the stocks, focusing on capacity reduction. Instruments that would facilitate this development were suggested. These included, for instance, multi-annual and/or multi-species TACs. Economic incentives to ensure a more appropriate utilization of the fish resources were proposed, but the Commission did not provide any guidelines on how to implement economic incentives in the management regulations.

Approaching the mid-term revision in 1992, nobody could be unaware of the severity of the situation and of the steps to be taken to approach the situation. The

goals set under MAGP III were also considerably more ambitious than in previous programmes. However, the mid-term revision of the CFP and especially the way it was subsequently implemented turned out differently than would be expected from this lead-up.

5.5 1993 to 2002 – Turning the Blind Eye to an Emerging Crisis

As described above, it was not a shortage of challenges that plagued EU fisheries managers in the run-up to the revision of 1992. The Commission had identified a number of problems in Report 91 and as a result, the Commission proposed a wider reform than what was required by the 1983 basic regulation, which merely stated that the rules of access were to be revisited. A number of new elements were added to the basic regulation of the CFP in connection with the mid-term revision. The revised basic regulation entered into force on 1 January 1993. Some of the most important new features included: the prolonging of the exceptions to equal access until 31 December 2002, which was the only issue that the Council *had* to decide on; the introduction of the possibility to adopt multi-annual TACs; the introduction of the possibility of using days-at-sea to limit fishing effort; and the adoption of a scheme for developing an EU licensing system (Council of the European Communities 1992).

In reality, the EU decision-makers did not utilise the possibilities of adopting days-at-sea restrictions or multi-annual TACs, which were mandated by the modified basic regulation adopted in 1992. The implementation of management based on days-at-sea failed mainly because of opposition to the idea of having both TACs and effort restrictions at the same time and because of the limited scientific ability to calculate the needed effort reductions. As for the question of multi-annual TACs the Commission actually came forward with a proposal in 1993. However, the Council failed to make a decision on multi-annual TACs mainly due to limitations in the scientific advice, which had been approved by authorised bodies, as well as opposition from the fishing industry (Commission of the European Communities 2001b).

As it turned out, the most important new addition of the 1992 basic regulation became the licensing system, which was subsequently amended and expanded several times and improved the ability to monitor and guide the development of the EU fleet. However, without failing to appreciate the importance of the licensing system, it seems fair to argue that the progress achieved by the 1992 revision in the most pivotal areas was only modest considering the rather obvious severity of the situation.

Following the revision of the CFP a new regulation on control measures was adopted in 1993 (Council of the European Communities 1993). Monitoring and control measures had for a long time been insufficient and the Commission stated in Report 91 that as a result of the lacking political will in this respect,

“[c]ompliance with TACs and quotas had been very limited” (Commission of the European Communities 1991, p. 22). The 1993 control regulation provided for a more integrated approach covering the different aspects of the CFP. The Commission powers to oversee the national monitoring authorities were strengthened and a requirement to impose dissuasive penalties was instituted. Moreover, the 1993 regulation opened the possibility of using modern satellite based surveillance methods (Commission of the European Communities 2001b). The control regulation has been significantly amended over the years, most significantly in 1998. The satellite-based vessel monitoring system, as an example, has over time become a key element of the EU member states’ monitoring efforts, incrementally being applied to more and more vessels. However, neither the 1993 regulation nor later amendments changed the balance between the member states and the Commission fundamentally in this area. The member states remain more or less in control of monitoring and enforcement efforts,¹⁷ although the 2002 reform did increase the Commission’s powers in the area. Moreover, as a result of the 2002 reform, a Community Fisheries Control Agency is being set up in Vigo in Spain. This institution will by means of operationally coordinating the member states’ control and inspection activities most probably strengthen the uniformity and effectiveness of enforcement without actually taking over the national control agencies.¹⁸

Overcapacity is arguably a major driver for the enforcement problems within the EU fisheries sector. Thus getting the capacity in balance with fishing opportunities must be seen as pivotal, since it is an impossible task to monitor the fleets of the member states at all times, even with the newest available technologies. The capacity reduction programmes must therefore also be understood as an important effort to reduce the incentives for breaking the rules. However, in consideration of the stark conclusions of the Gulland report, progress on this issue remained modest in the first half of the 1990s, which meant that the control authorities did not get the necessary helping hand in terms of a capacity-reduction. MAGP III led, nevertheless, to some reduction of the overcapacity of the EU fleet. According to the Commission’s Green Paper from 2001, the overall cut in the fleet was around 15 percent in terms of GRT and 9.5 percent in terms of kW (Commission of the European Communities 2001b, details are provided in Table 5.1).

¹⁷ It should in this respect be noted that the Commission has the possibility to refer cases of non-compliance to the ECJ, whose judgements are binding on the member states. The penalties can in extreme cases be significant as this excerpt shows: “*The European Commission has welcomed this morning’s decision by the European Court of Justice to request France to pay a lump sum of € 20 million and a periodic 6-month penalty of € 57,761,250 running from today, for failing to comply with a 1991 Court ruling on serious shortcomings in its enforcement of fisheries rules.*” (Commission of the European Communities 2005).

¹⁸ The fact that this is a coordinating rather than operating institution is underlined by its annual budget of around € 5 million, which is little more than half of what Denmark alone spends on control activities (Fødevareministeriet and Fiskeridirektoratet 2006; Commission of the European Communities 2006).

Table 5.1. Development of the EU Fleet 1991 – 2002 (excl. Finland and Sweden). Figures for 1991 from Commission (1997) cited in Lindebo (2003), other figures from Eurostat (2006a, b)

Year	1991	1996	1998	2000	2002
Tonnage of Fleet (1000 GRT)	2,010	1,964	1,945	1,951	1,900
Power of Fleet (1000 kW)	8,347	7,468	7,524	7,190	6,880

By the end of 1996 and MAGP III, the EU fleet had as a whole reached its targets, but this masked the fact that some member states, notably the Netherlands and the UK, had failed to reach their individual targets. Furthermore, even though most member states had reached their overall targets, this did not necessarily mean that the reductions had taken place to the required extent in the targeted fisheries (Lindebo 2003); as described earlier, MAGP III targeted the fleets fishing on the most threatened stocks. Thus although MAGP III did go part of the way towards approaching the problem of overcapacity, the problem continued to be massive. Moreover, the member states, which reached their targets, could benefit from EU grants for vessel renewal and modernisation under the FIFG, adding to the problem of increasing efficiency due to technological development.

In preparation of MAGP IV, the Commission commissioned an expert report to follow-up on the Gulland report. This expert report, known as the “Lassen report” (Lassen 1995), documented once again that fishing pressure on a number of stocks was still much too high (Commission of the European Communities 1998). Nevertheless, the Council continued to fail to sufficiently reduce capacity, just as the Lassen report documented in previous programmes, and MAGP IV turned out yet again not to ensure an appropriate reduction of the capacity of the EU fleet. According to the Commission (2001b), the targets set were not even able to counter the increases in efficiency due to technological development. That the targets were in fact modest was also evidenced by the fact that the member states’ overall targets were in general reached long before the end of the programme.

Two main issues were identified as reducing the effectiveness of the programme. One issue was the method used to calculate reductions in fishing effort:

For MAGP IV, the Commission had proposed to cut fishing effort by 30% for stocks at risk of depletion and 20% for those overfished. The Council decided that, instead of applying the proposed reduction rates to the various sections of the fleet on the basis of the stocks targeted, these rates should be weighted according to the composition of the vessel catches. This system has the perverse effect that the more a stock is depleted, the lower the proportion of the catch is likely to represent, and the lower protection that stock receives under MAGP IV. (Commission of the European Communities 2000)

A second issue was that part of the effort reduction on behalf of a member state could be achieved by means of days-at-sea schemes limiting fishing activity. These schemes were, according to the Commission, comparably difficult to control (Commission of the European Communities 2000).

The disappointing experiences with MAGPs led the EU to abandon these after MAGP IV and instead, as a result of the 2002 reform, apply a strict but relatively simple entry-exit regime from 1 January 2003.¹⁹

As the EU approached the reform of 2002, the situation had not been improved from the situation before the revision of 1992. The problems were obvious and a wider reform was required. The reason why decision-makers had failed to tackle the increasingly obvious resource base crisis was probably related to the fact that in the last half of the 1990s and in the beginning of the new millennium the fishing sector experienced favourable economic conditions, e.g. decreasing interest rates and increasing fish prices; had this not been the case, the fleet would most likely have been operating on the brink of bankruptcy (something that was also the case in Denmark, see Chapter 6). The favourable economic climate created a situation similar to the abnormally high recruitment of the stocks in the late 1970s, covering up the crisis in the sector. Thus, the fishing sector has twice been helped by external factors and thus avoided facing the consequences of too high fishing mortality. Although policymakers are not unaffected by evidence of problems of biological sustainability, they tend to be more strongly affected by socio-economic concerns, which have to some extent been masked by external factors. Furthermore, many years of justified warnings about the looming crisis had created an end-result similar to that in the story of the boy who cried wolf. The severity of the situation was consequently not really acknowledged until the cod stocks were virtually on the verge of collapse.

As part of the preparation for the reform of the CFP in 2002 the Commission published the “Green Paper on the future of the Common Fisheries Policy” (Commission of the European Communities 2001a) equivalent to Report 91. The Green Paper, evaluating the CFP at the turn of the century, painted a dark picture as it identified the sources of the problems:

As far as conservation is concerned, many stocks are at present outside safe biological limits. They are too heavily exploited or have low quantities of mature fish or both. The situation is particularly serious for demersal fish stocks such as cod, hake and whiting. If current trends continue, many stocks will collapse. At the same time the available fishing capacity of the Community fleets far exceeds that required to harvest fish in a sustainable manner.

The current situation of resource depletion results, to a good extent, from setting annual catch limits in excess of those proposed by the Commission on the basis of scientific advice, and from fleet management plans short of those required. Poor enforcement of decisions actually taken has also contributed to over-fishing. (Commission of the European Communities 2001a, p. 4)

The reform that the Commission proposed in the aftermath of the discussion on the Green Paper was much more wide-ranging than the revision in 1992. Virtually no aspect of the CFP remained untouched. On several points, the Commission

¹⁹ We will not go in detail with the entry-exit regime here. However, it deserves to be mentioned that the abandonment of the MAGPs in favour of a new approach is an indication of the increasing awareness of the implications of the EU fleet overcapacity.

proposed more extensive changes than were actually adopted by the Council in the end. In this chapter we will, however, not go into the specifics of the entire reform but only the dynamics surrounding the decision to adopt multi-annual recovery plans.

5.6 Adoption of Recovery Plans – Hope for the Future?

One of the key outcomes and innovative changes in the reform of 2002 was the decision to adopt the scheme for recovery plans.²⁰ On 19 December 2003 the European Union adopted a long-term recovery plan covering four cod stocks, including the most important in the North Sea (Council of the European Union 2004). This plan represented the first application of an instrument which had been added to the “toolbox” of the Common Fisheries Policy almost precisely one year before. The provisions for recovery plans were motivated by the alarming state of a number of stocks in the waters of the EU. The Gulland report and the Lassen report had both indicated that fishing mortality was much too high and needed to be reduced for most stocks in EU waters. The necessary decreases were typically estimated to be some 40 percent for many stocks. In the “Green Paper” the Commission reflected on the causes of the failure to successfully implement the TAC-system and thereby control fishing mortality:

To control exploitation rates of fish stocks, the CFP has almost exclusively used upper limits on the quantities of fish which may be caught in a year (Total Allowable Catches or TACs and associated national quotas) and establishment of measures such as mesh sizes, closed areas, closed seasons (technical measures). [...] Difficulties with TACs are due to the Council's systematic fixing, in some cases, at levels higher than indicated in the scientific advice, over-fishing, discards and illegal or black landings and to the over-capacity of the fleet. Moreover TACs can only play a limited role in the management of fisheries in which many species of fish are taken simultaneously by each operation of the fishing gear (the mixed or multi-species fisheries). (Commission of the European Communities 2001c, p. 8)

The objective of recovery plans is to ensure the recovery of stocks to safe biological limits, with a requirement to specify target conservation reference points. Targets are expressed in terms of: (a) population size and/or (b) long-term yields and/or (c) fishing mortality rate and/or (d) stability of catches. Recovery plans are to be drawn up on the basis of the precautionary approach to fisheries management and taking account of limit reference points recommended by the relevant scientific bodies. They must ensure the sustainable exploitation of stocks and that

²⁰ As mentioned, the 2002 reform contained several other important elements besides the provisions for recovery plans, e.g. the adoption of a strict entry-exit regime in relation to the fleet, the control agency and increased stakeholder involvement. However, here we choose to focus on the instrument of recovery plans, which is the instrument that most directly approaches the issue of fishing mortality rates.

the impact of fishing activities on marine eco-systems is kept at sustainable levels. They may cover either fisheries for single stocks or fisheries exploiting a mixture of stocks, and must take due account of interactions between stocks and fisheries. The recovery plans must be multi-annual and indicate the expected time frame for reaching the targets established (Council of the European Union 2002d).

Several novel elements are noteworthy in relation to the scheme for recovery plans. Firstly, the basic regulation requires that the recovery plans should be multi-annual in scope. This must be considered a key issue. A main problem of the conservation policy has allegedly been its failure to provide plans covering more than just a single year; something which has been criticised by both industry and conservation organisations. Secondly, the article outlining the provisions for recovery plans includes a reference to the possibility of employing “*harvesting rules which consist of a predetermined set of biological parameters to govern catch limits*” (Council of the European Union 2002d, art. 5(4)). If adopted in accordance with scientific advice (and respected in the following years), harvest rules effectively eliminate the Council’s possibility of agreeing on TACs exceeding the biological advice, which the Council has gained a reputation for doing (Commission of the European Communities 2001a). Thirdly, the regulation states that the “[r]ecovery plans shall include limitations on fishing effort unless this is not necessary to achieve the objective of the plan” (Council of the European Union 2002d, art. 5(4)). Considering the prevailing problems of over-capacity of the fleet, discards and illegal landings this means *de facto* that fishing effort limitations must be applied in most recovery plans. Direct limitation on fishing effort (input-regulations) in combination with the overall restrictions of TACs (output-regulations) has generally been ill-received by the industry, which has argued strongly against being subjected to both measures at the same time.

Introducing the scheme for recovery plans did not become *the* controversial element of the reform, although the Commission’s proposal gave rise to a debate which to a certain extent reflected general cleavages within the Council in connection with the 2002 reform. The debate regarding the recovery plans related mainly to who should be in control of setting TACs and fishing effort limitations, as well as to the role of fishing effort limitations.

The most heavily disputed part of the proposal was the Commission’s suggestion that once a multi-annual plan had been adopted by the Council and the catch and effort limits for the first year decided, the Commission itself should in the following years (under the Management Committee procedure²¹) decide on catch and fishing effort limitations in accordance with the harvest rules set out in the plan (Commission of the European Communities 2002). This proposal was unacceptable to most member states “*as decisions on catch and fishing effort limits [can] not be reduced to an arithmetic automatism*” (Council of the European Union

²¹ A Management Committee consists of member states’ representatives. If the Commission’s decision is not supported by a qualified majority in the committee then the proposal will be dealt with by the Council (European Union 2004).

2002b, p. 13). Only Sweden and the UK among the member states with fisheries interests were willing to consider the proposal (Council of the European Union 2002a, c). The proposal was consequently not accepted. It is possible that the Commission genuinely considered that the setting of TACs according to a harvest rule was a management decision, which the Council would be willing to turn over to the Commission. However, it is probably equally likely that this specific proposal should partially be seen as a bargaining chip in the larger context of reform. According to a high-ranking representative of DG Fish (Interview, November 2003) “*any Commission proposal is a sort of mixture of what we honestly believe should be the final outcome and what we need to propose in order to get the final outcome that we want.*” This conflict, however, was probably just as much rooted in the inter-institutional struggles as in fisheries. Any suggestion by one EU institution that it unilaterally expand its powers at the expense of another institution will almost always be ill-received by the institution that stands to lose power.

Another debated issue, which in part emerged from the negotiations in the Council rather than from the Commission’s original proposal, was a suggested obligation to use fishing effort limitations in recovery plans in addition to the traditional TACs. This idea found considerable support in the Council. In general Belgium, Germany, Denmark, Sweden, the Netherlands and the UK supported the Commission’s idea, and argued that fishing effort limitations could be used in parallel with TACs which in isolation had not been effective. In contrast, Spain, France, Greece, Portugal, Ireland, Italy and Finland were sceptical about the Commission’s approach to fishing effort limitations (Council of the European Union 2002c). These member states were either sceptical about the value of effort limitations in general or, at least, sceptical about the usefulness of combining TACs and effort limitations. The compromise became the following provision: “*Recovery plans shall include limitations on fishing effort unless this is not necessary to achieve the objective of the plan*” (Council of the European Union 2002d, art. 5(4)). In reality, this postponed the debate on this issue until the negotiations on individual recovery plans began. Considering the situation, fishing effort limitations will probably have to be part of most recovery plans.

5.7 Political Cleavages in EU Fisheries Policy-Making

The general political cleavages within the Council, which were also to some extent visible in the discussion regarding the recovery plans (see above), can be analysed and understood within a general framework proposed by Charles (1992), who argues that “*conflict can often best be understood as rising from natural tensions between three differing fishery paradigms (or ‘world views’), each based on a different set of policy objectives*” (Charles 1992, p. 379). Charles (1992) identifies the three paradigms to be: *conservation*, which focuses on the policy objective of resource conservation; *rationalization*, which focuses on economic performance

in the sense of productivity; and *social / community*, which focuses on community welfare in the sense of equity. The paradigms can be organised in a triangular model where each corner is occupied by a “pure” paradigm. In between the pure positions all kinds of mixtures can in theory be found.

Three different political positions²² could generally be observed in the Council in connection with the reform:²³ The Commission, which does not have the right to vote, but nevertheless plays an important role in Council negotiations and the general decision-making process, proposed a radical reform marked by a conservationist world view. A somewhat similar position was assumed by a network of member states, which informally referred to themselves as the “Friends of Fish” (FoF), composed of Germany, the UK, Sweden, the Netherlands, and Belgium (and to a lesser extent Finland which views on structural aid especially diverged from those of the rest of the network). FoF favoured a comprehensive reform, but were less radical than the Commission in terms of conservationist focus. The network’s nickname was chosen in response to the opposing group of member states who referred to themselves as “Amis de la Pêche” (AdlP), or in English “Friends of Fishing”. AdlP was composed of France, Spain, Ireland, Portugal, Italy and Greece and had been formed around December 2001 in response to the Green Paper and what they saw as an overly conservationist approach from the Commission. These member states, which to a large extent argued from a social / community perspective, engaged in an unprecedented level of coordination of strategies, meetings at high levels, publication of joint conclusions and counterproposals, etc.

In Fig. 5.1 we plot the positions within the Council using the triangular model of fishery paradigms developed by Charles (1992). The specific positioning of the different political groupings is merely indicative, as it is hardly possible to place the players in the triangle in a way that cannot be contested, especially in such a complicated process as the 2002 reform where other factors not necessarily related to fisheries also influenced the political position of the member states (e.g. jurisdiction of national authorities and balance of power between EU institutions). Moreover, it should be kept in mind that individual member states have their own hobbyhorses, which affiliation with either group does not change.

All players in the reform debate placed themselves relatively far from the rationalization corner, which is explained by the fact that the fundamental principle of relative stability, which was not seriously contested during the reform, complicates any real attempts to reform the CFP towards the perspectives of the rationalization paradigm. At national level, however, several member states have

²² Outside the main groupings in the Council, the Danes, who chaired the Council meetings in the second half of 2002 in their role of President (a position that rotates among the member states), took the relatively neutral approach, which is traditionally required from the Presidency to facilitate compromises. Landlocked Luxembourg and Austria played negligible roles in the discussions.

²³ The section about the configuration of the Council in connection with the 2002 reform draws on Hegland (2004).

adopted part of the rationalization paradigm and are increasingly using economic incentives to ensure a more appropriate utilization of their fish resources.

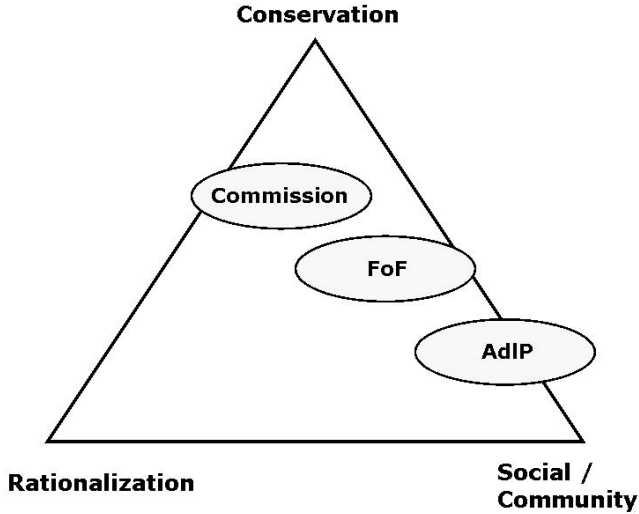


Fig. 5.1. Council configuration during the 2002 Reform. Inspired by Charles (1992)

The Commission clearly positions itself closer to the conservation paradigm with its emphasis on recovery of stocks as a dominating concern. The AdIP group largely keeps to the social / community paradigm, as they have done for two decades, prioritising socio-economic concerns over conservation. This group also has a predisposition towards various kinds of public aid to the sector, a view that places this group further from the rationalization corner than the other parties. Finally, in many of the debates, the FoF positioned themselves somewhere between the Commission and the AdIP, on most issues arguably slightly closer to the Commission.

In-depth analysis of why the different member states assumed these positions and ended up in these coalitions is a study beyond the scope of this chapter, but a few significant factors ought to be mentioned. The fisheries sector is more important for AdIP member states than for FoF member states, where conservation interests are progressively gaining weight compared to fisheries interests. Furthermore, the FoF member states are in general net financial contributors to the EU, whereas the AdIP member states are net beneficiaries, making them more supportive of subsidies in general. Moreover, the fleets of the AdIP member states are generally more in need of modernisation than those of the FoF member states. Finally, the FoF member states had more immediate experience with the crisis of resources, which has so far been most severe in the North Sea and the Baltic Sea.

An interesting fact of the 2002 reform was that it was actually possible to agree on a number of substantial changes to the CFP without significant debate. For example, this was the case in relation to multi-annual plans and to some extent the use of harvest control rules. Nevertheless, we would like to emphasise that the 1992 revision of the CFP actually provided the instruments required to introduce recovery plans. This underlines the fact that the successfulness of the measures under the CFP is primarily determined by the political will among member states to reduce fishing effort and confront and alter the present path of the CFP, rather than by the availability or absence of specific instruments.

As the account provided in this chapter substantiates, the story of the CFP is to a large extent a story of failed administration and implementation. This failure can to a large extent be explained by path dependence in the decision-making process, which has resulted in insufficient action from decisions-makers towards altering the course of the CFP and, most importantly, approaching the problem of overcapacity.

It is our understanding that the balance between the paradigms presented above has shifted in the Council in recent years. The reform in 2002 may have been the first step towards a break with the unsuccessful path of the CFP. Path breakage is usually precipitated by the occurrence of an extraordinary event/process, creating a window-of-opportunity for “path-change”. These events, which cause significant institutional changes and breaks in the path, are referred to by Hall and Taylor (1996) as critical junctures. Although the critical development in relation to the fishery resources managed under the CFP has been gradual, it is reasonable to argue that the present situation, where a number of commercially important fish stocks are on the verge of collapse, constitutes a critical juncture that may open a window for reorientation.

The CFP implementation failure of past years has recently been demonstrated by the near collapse of several fish stocks. Decision-makers are now questioning the present path and becoming motivated / forced to make changes, more actively reducing fishing capacity and activity in order to allow the stocks to rebuild. Already in 1992, the Commission expressed this opinion, and in Report 91 it proposed a number of potentially effective ways to improve the situation. The Commission thereby demonstrated its move from the social/community corner towards the conservation corner of Charles’ triangle. A decade later, however, decision-makers in the Council mostly refrained from applying new instruments and remained strongly biased towards the easy, short-term political solution of pleasing the industry and the dependent communities, a behaviour which has now in reality turned into a tragic disservice to the same industry and communities.

The FoF member states have in recent years followed the example of the Commission and increasingly realised the need to change the implementation of the CFP to allow the stocks to recover and maintain fishing communities for the future. In contrast, protection of fishing and fishing communities has to a larger extent remained the priority of AdIP member states; although an increasing understanding of the need for change can also be observed within this group. We can

thus observe a crisis-driven change in the centre of gravity for decision-making related to the CFP, especially in recent years.

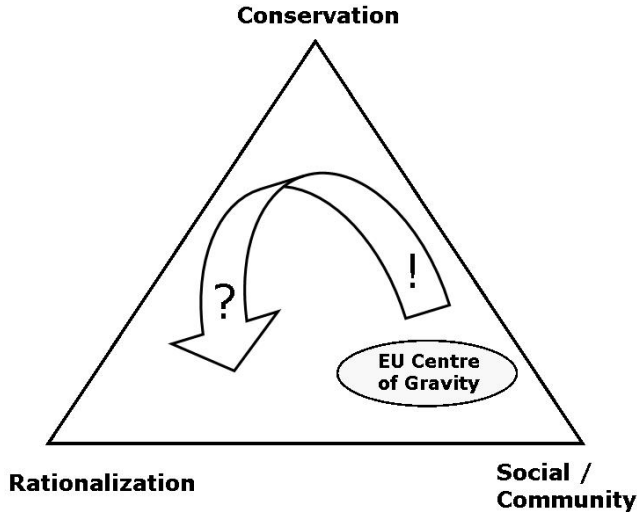


Fig. 5.2. Changes in the relative strengths of paradigms. Inspired by Charles (1992)

As illustrated in Fig. 5.2, the CFP's centre of gravity has moved, and is increasingly moving, from being firmly associated with the social/community corner towards the conservation corner. Based on domestic developments in the member states, as well as developments in other parts of the world,²⁴ it is likely that this development will eventually be supplemented by a move towards the rationalization corner.

Although we foresee that the centre of gravity will continue to move from the social/community corner towards the conservation corner, (potentially the rationalization corner) we are by no means certain of how far and at what pace, something only the coming years will show. As we have demonstrated in this chapter, two decades of implementation of the CFP have not lead to an effective administration. Even though the need for change is becoming increasingly evident and recognised, the principle of relative stability and other elements have until to now in many respects kept the system in a deadlock. The relative stability can probably be considered one of the most resilient elements creating path dependence. It is difficult to see how the CFP can be truly reorganised in an economically efficient manner without at least redefining the concept of relative stability. Whether the shock that the system has incurred will be enough to promote this development remains an open question. The way the centre of gravity has moved within the

²⁴ This is illustrated by the increasing spread of management systems building on some sort of privatised harvesting rights (see also Chapter 6).

Council nonetheless gives reasons for some optimism, at least with regard to the EU actually employing more of its available instruments in the future.

References

- Charles, A.T. (1992). Fishery conflicts: A unified framework. *Marine Policy*, 16(5), 379–393.
- Churchill, R. (1977). The EEC fisheries policy: Towards a revision. *Marine Policy*, 1(1), 26–36.
- Commission of the European Communities (1991). SEC (91) 2288 final: Report 1991 from the Commission to the Council and the European Parliament on the Common Fisheries Policy. Brussels, Commission of the European Communities, 18.1.1991.
- Commission of the European Communities (1997). COM (97) 352 final: The Annual Report to the Council and to the European Parliament on the results of the Multi-Annual Guidance Programmes for the fishing fleets at the end of 1996. Brussels, Commission of the European Communities, 11.7.1997.
- Commission of the European Communities (1998). Factsheet 3.2 Matching fleets with available resources. http://ec.europa.eu/comm/fisheries/doc_et_publ/factsheets/facts/en/pcp3_2.htm. Accessed 12 June 2006.
- Commission of the European Communities (2000). MAGP IV not effective enough in dealing with overcapacity. http://ec.europa.eu/comm/fisheries/pcp/faq2_en.htm. Accessed 12 June 2006.
- Commission of the European Communities (2001a). COM (2001) 135 final: The Green Paper. Volume 1: The future of the common fisheries policy. Brussels, Commission of the European Communities, 20.3.2001: 40.
- Commission of the European Communities (2001b). COM (2001) 135 final: The Green Paper. Volume 2a: Implementation of the Community system for fisheries and aquaculture over the period 1993–2000. Brussels, Commission of the European Communities, 20.3.2001: 25.
- Commission of the European Communities (2001c). COM (2001) 135 final: The Green Paper. Volume 2c: State of the resources and their expected development. Brussels, Commission of the European Communities, 20.3.2001: 47.
- Commission of the European Communities (2002). COM (2002) 185 final: Proposal for a Council Regulation on the conservation and sustainable exploitation of fisheries resources under the Common Fisheries Policy. *Official Journal of the European Communities*, C 203 E, 27.08.2002 (submitted to Council 29.5.2002): 284–303.
- Commission of the European Communities (2005). Press release, 12.07.05: Commission welcomes Court ruling on continued failure by France to comply with fisheries obligations. http://ec.europa.eu/comm/fisheries/news_corner/press/inf05_33_en.htm. Accessed 12 June 2006.
- Commission of the European Communities (2006). Press release, 30.10.06: EU Fisheries Control Agency adopts first work programme for 2007. http://ec.europa.eu/fisheries/press_corner/press_releases/archives/com06/com06_75_en.htm. Accessed 7 November 2007.
- Council of the European Communities (1992). Council Regulation (EEC) No 3760/92 of 20 December 1992 establishing a Community system for fisheries and aquaculture. *Official Journal of the European Communities*, L 389, 31.12.1992: 1–14.
- Council of the European Communities (1993). Council Regulation (EEC) No 2847/93 of 12 October 1993 establishing a control system applicable to the common fisheries policy. *Official Journal of the European Communities*, L 261, 20.10.1993: 1–16.

- Council of the European Union (2002a). 10796/02, working document, 31.7.2002: Proposal for a Council Regulation on the conservation and sustainable exploitation of fisheries resources under the Common Fisheries Policy. Interinstitutional file: 2002/0114(CNS).
- Council of the European Union (2002b). 13595/02, working document, 31.10.2002: Reform of the Common Fisheries Policy.
- Council of the European Union (2002c). 15414/02, working document, 12.12.2002: Proposal for a Council Regulation on the conservation and sustainable exploitation of fisheries resources under the Common Fisheries Policy. Interinstitutional file: 2002/0114(CNS).
- Council of the European Union (2002d). Council Regulation (EC) No 2371/2002 of 20 December 2002 on the conservation and sustainable exploitation of fisheries resources under the Common Fisheries Policy. *Official Journal of the European Communities*, L 358/59, 31.12.2002: 61-80.
- Council of the European Union (2004). Council Regulation (EC) No 423/2004 of 26 February 2004 establishing measures for the recovery of cod stocks, *Official Journal of the European Communities*, L 70, 31.12.1992: 8–11.
- European Union (2004). The Legislative Process.
http://europa.eu/eur-lex/en/about/abc/abc_21.html. Accessed 15 June 2006.
- Eurostat (2006a). Fishing fleet. Total power.
http://epp.eurostat.cec.eu.int/portal/page?_pageid=1996,39140985&_dad=portal&_schema=PORTAL&screen=detailref&language=en&product=Yearlies_new_agriculture&root=Yearlies_new_agriculture/E/E3/edc13584. Accessed 9 June 2006.
- Eurostat. (2006b). Fishing fleet. Total tonnage.
http://epp.eurostat.cec.eu.int/portal/page?_pageid=1996,39140985&_dad=portal&_schema=PORTAL&screen=detailref&language=en&product=Yearlies_new_agriculture&root=Yearlies_new_agriculture/E/E3/edc14096. Accessed 9 June 2006.
- Fødevareministeriet and Fiskeridirektoratet (2006). Fiskeridirektoratets resultatkontrakt 2007.
- Gulland, J. (1990). Report of an independent group of experts on guidelines for the preparation of the multi-annual guidance programmes in relation to the fishing fleet for the period 1992–1996 ('the Gulland report'). Brussels, European Commission.
- Hall, P.A., Taylor, R.C.R. (1996). Political Science and the Three New Institutionalisms. *Political Studies*, 44(5), 936–957.
- Hegland, T.J. (2004). The Common Fisheries Policy – caught between fish and fishermen? Department of International Affairs. Aalborg, Aalborg University. MA European Studies: 117 (unpublished).
- Hegland, T.J. (2006). Fisheries Policy-Making: Production and Use of Knowledge. In L. Motos and D.C. Wilson (Eds.), *The Knowledge Base for Fisheries Management* (pp. 219–237). Oxford and Amsterdam: Elsevier.
- Hix, S. (1999). *The Political System of the European Union*. Basingstoke: Palgrave.
- Holden, M. (1994). *The Common Fisheries Policy – Origin, Evaluation and Future*. Oxford: Fishing News Books, Blackwell Scientific Publications Ltd.
- Lassen, H. (1995). Report of the group of independent experts to advise the European Commission on the fourth generation of multi-annual guidance programmes ('the Lassen report'). Brussels, European Commission.
- Leigh, M. (1983). *European integration and the common fisheries policy*. London: Croom Helm.
- Lequesne, C. (2000). The Common Fisheries Policy. Letting the Little Ones Go? In H. Wallace & W. Wallace (Eds.), *Policy-Making in the European Union* (pp. 345–372). Oxford and New York: Oxford University Press.
- Lindblom, C. (1959). The Science of 'Muddling Through'. *Public Administration review*, 19(2), 79–88.
- Lindebo, E. (2003). Fishing Capacity and European Union Effort Adjustment. In S. Pascoe & D. Gréboval (Eds.), *Measuring Capacity in Fisheries* (pp. 57–80). Rome: FAO.

- Raakjær Nielsen, J. (1993). Report 1991 from the EC Commission and the Danish Fishing Industry: Are there any grounds for optimism? *Proceedings of the Vth Annual Conference of the European Association of Fisheries Economists* (pp. 107–113). Brussels, Belgium.
- Skocpol, T., Pearson, P. (2002). Historical Institutionalism in Contemporary Political Science. In I. Katznelson & H. V. Milner (Eds.), *Political Science: State of the Discipline* (pp. 693–721). New York: W.W. Norton.
- Wise, M. (1984). *The Common Fisheries Policy of the European Community*. London and New York: Methuen.

6 Implementation Politics: The Case of Denmark Under the Common Fisheries Policy

Troels Jacob Hegland and Jesper Raakjær

Abstract Denmark is among the more loyal European Union (EU) member states when it comes to national implementation of the Common Fisheries Policy (CFP). However, even in Denmark several mechanisms contribute to sub-optimal implementation of the CFP. Looking at implementation problems for a relatively loyal member state, this chapter sheds critical light on national implementation of the CFP in the EU as a whole. The chapter initially provides a description of the institutional set-up for fisheries policy-making and implementation in Denmark, including a short historical account of the development of the Danish fisheries and their management since 1983. Subsequently, the chapter provides an understanding of the mechanisms and processes behind the Danish implementation of fisheries policy, arguing that these mechanisms and processes have led to a situation where the goals agreed at the EU level are supplemented or even replaced by national priorities. The chapter concludes that in order to capture the domestic politics associated with CFP implementation in Denmark, it is important to understand the policy process as a synergistic interaction between dominant interests, policy alliances/networks and prevailing discourses. The inability of the EU to ensure that the conservation goals agreed at the EU level are loyally pursued during national implementation is one of the reasons why the EU has been struggling to keep fishing mortality rates at a sustainable level.

6.1 Introduction

Controlling the fishing mortality rates is an underlying key concern in any modern fisheries management approach. In the member states of the European Union (EU), fisheries regulations that are aimed at or have implications for controlling fishing mortality rates are to a large extent centrally imposed through the Common Fisheries Policy (CFP).¹ However, in some policy areas the member states are free to decide on the specific way of implementing the rules. Furthermore, there are differences between the member states with regard to the procedure for how to

¹ An account of the development of the CFP from its adoption in 1983 can be found in Chapter 5.

arrive at decisions on implementation. This chapter's point of departure is that the specific choices in relation to implementation influence the ability of the EU to effectively control fishing mortality rates through the CFP. This chapter will consequently look into how Denmark has implemented the CFP regulations and the driving forces for implementation choices.

A prominent feature of the Danish decision-making system is the extent to which the fisheries sector² itself, and particularly the catch industry, has managed to influence the way in which CFP regulations have been implemented. This has to a significant extent (but not only) been possible through the Board for Commercial Fishing (BCF). The BCF is an advisory institution of central importance because the responsible minister will, in line with a Danish tradition in public administration of involving stakeholders in decision-making, go a long way to follow its advice when implementing fisheries legislation (Raakjær Nielsen 1994; Raakjær Nielsen and Christensen 2006). However, at a more basic level, it is our hypothesis that there must be more fundamental, underlying drivers that determine why decisions are made in the way they are. These drivers are surely influenced by the Danish decision-making model, which focuses on stakeholder input, but it seems likely that as drivers behind fisheries management decisions they are also rooted in fundamental features of the Danish fisheries system.³ Consequently, our research will explore the implications of having the catch industry heavily involved in the decision-making process and, more importantly, try to uncover fundamental drivers in order to understand the behaviour of the fisheries decision-making system and administration over time. Using the Danish experience as an example, the chapter also looks into the implications of the fact that decisions made at the supranational level of the EU are implemented at the national level by actors with different preferences and objectives than those of the EU bureaucracy. Despite national autonomy in the implementation of EU rules, however, it is ultimately often the EU bureaucracy and not the national governments that is held accountable for the ramifications of decisions taken at a national level.

Although this chapter casts a critical light on the implementation of CFP regulations in Denmark, this does not indicate that Denmark is worse than other member states in this respect. On the contrary, Denmark is in our opinion among the most loyal member states when it comes to implementation of the CFP. This is also indicated in the evaluation of the control, inspection and sanction system that the European Court of Auditors (2007) carried out in the six member states with the largest value of catch. A simple count in the report shows that Denmark and the Netherlands each received three critical remarks, placing them as the most loyal states in terms of these aspects of CFP implementation. In comparison, Spain, Italy and the UK each received more than 10 critical remarks. France received almost 20.

² By *sector* we refer to the *catch industry*, consisting of the fleet, as well as the *processing industry*.

³ This is composed by natural, social and governance systems, following Charles (2001) and Raakjær (forthcoming).

This chapter is divided into four main sections. The first covers the legal and institutional setting for Danish implementation, beginning with the CFP (see also Chapter 5) and subsequently presenting a short introduction to the Danish system in terms of laws, institutions and legislative processes. The second describes the general evolution of the Danish fisheries system and its management from 1983 (when the full CFP was adopted) to 2007. The third section presents and outlines the main domestic drivers of Danish implementation and administrative practices, which we have uncovered during our research, as well as examples of how these drivers function and have influenced the development of policy and implementation practices. The final section synthesises the main lessons learned and provides a discussion of their possible implications.

In order to understand the evolution of the administrative practices and the Danish implementation of fisheries regulations, 11 key informant interviews were conducted, covering informants representing administration, industry and research.⁴ Only fishermen (or fishermen's representatives) who have held a high-level position within Danish fishermen's organisations were selected. The aim was to strike a reasonable balance between respondents from administration, research and industry and also to ensure that the informants had been involved with fisheries management for a substantial period of time so that they could reflect on changes over time.⁵ Furthermore, an effort was made to select informants that would supplement one another and thus contribute different views and perspectives.

The interviews were conducted from the fall of 2006 to the fall of 2007 and all were transcribed before the analysis. All 11 respondents were granted anonymity, and are thus referred to by their interviewee number (1–11, see list with experience background at the end of the chapter) rather than by name. All interviews were conducted in Danish and direct quotations are in our translation. The interviews were carried out in three rounds. The first four interviews were very open and exploratory, structured only by a very rough interview guide. This strategy was chosen mainly for two reasons: (1) we had only a vague idea of what would be the main issues based on our pre-knowledge, and (2) we wanted the informants *themselves* to assist in identifying critical themes and issues. For the following two rounds of interviews (four and three interviews respectively), a more structured interview guide was elaborated utilising the insights from the previous interviews. However, all interviews remained relatively open and the informants were always encouraged to focus on what *they* found important. In addition to key-informant interviews, a large body of legal documents, statistics and archive material from the Directorate of Fisheries was investigated.

⁴ In total 6 informants were from administration/research and 5 from industry. Furthermore, one of the authors has in his capacity first as a fisherman and later as a researcher and chairman for a larger processing plant closely followed the evolution of the Danish system since the CFP was adopted.

⁵ All informants had a minimum of 15 years of experience during the period we analyse and most have actually been involved for the entire period.

To the best of our knowledge, no research has previously been conducted focussing specifically on Danish administrative practices and the Danish implementation of CFP regulations. The relatively few works that touch upon the issues have other primary focuses (e.g. Raakjær Nielsen 1992a, b; Vedsmand 1998; Raakjær Nielsen and Vedsmand 1999; Raakjær Nielsen and Mathiesen 2003; Sandbeck 2003; Byskov 2005; Raakjær Nielsen and Christensen 2006; Hegland and Sverdrup-Jensen 2007). Consequently, the research providing the information for this chapter has been highly exploratory. This chapter thus does not claim to represent a conclusive and complete picture of the Danish administrative practice and its driving forces in the period in question. Rather, it represents a first attempt⁶ to outline some of the key-issues influencing Danish implementation and relate them to target fishing mortality.

6.2 The Legal and Institutional Set-Up

Conservation of living marine resources (the crucial conservation policy component of the CFP) is one of only a few areas where the EU has exclusive competence *vis-à-vis* the member states. This means that the member states cannot adopt their own legislation within the area of living marine resource conservation unless that power has explicitly been given back to them, and the member state cannot under any circumstances legally adopt legislation which works counter to the objectives of the EU.

The cornerstone of the conservation policy is an output-based system (see Chapter 1) setting total allowable catches (TACs) for individual (or in some cases multiple) fish stocks on an annual basis. Member states are allocated the same fixed percentages of the TACs every year, a principle known as the *relative stability*. TACs are applied in combination with technical measures that primarily aim to reduce catches of non-target species or juveniles. Regulation of fleet capacity has traditionally also been high on the agenda under the structural policy component of the CFP (see Chapter 5). In recent years, the CFP has been developed to include additional input-based elements (see Chapter 1) such as days-at-sea regulations.

The EU definition of “fishing mortality rate” is “*the catches of a stock over a given period as a proportion of the average stock available to the fishery in that period*” (Council of the European Union 2002b, Art. 3(f)). It is important to note that this definition is supplemented by the definition of “catch limit”, which is “*a quantitative limit on landings of a stock or group of stocks over a given period*”

⁶ Within the constraints of the project we were not able to go further, but the analysis and arguments presented in this chapter would benefit from further research, particularly by looking into the Directorate of Fisheries’ archives as well as those of the fishermen’s representative organisations.

unless otherwise provided for in Community law” (Council of the European Union 2002b, Art. 3(m)). This creates a situation where the EU does not actually monitor catches, but rather the landings. Consequently, it becomes difficult to assure that the agreed TAC actually results in the preferred fishing mortality rate, since fishing practices such as discarding, high-grading and unreported landings undermine this approach to control fishing mortality. This has created a muddy situation where, although scientists try to take these issues into account when they advise on TACs, the inability to directly measure their impact on the fish stocks nevertheless creates uncertainty. Furthermore, it is not uncommon that the Council of the European Union (Council) adopts TACs well above scientific recommendations. This has, it has been argued (Commission of the European Communities 2001), contributed to the development of a situation where a number of stocks in EU waters have fishing mortality rates that are far above advisable levels (Gulland 1990; Lassen 1995; Commission of the European Communities 2001).

Implementation of EU decisions is a significant part of Danish fisheries policy and management. However, this does not mean that member states have no freedom in how they choose to implement EU decisions. The member states have substantial decision-making powers in some areas, and national choices regarding implementation can significantly influence the actual fishing mortality rates. Below, we give four examples of areas in which national implementation and decisions can impact the CFPs ability to actually match TACs with target fishing mortality rates.

1. *Allocation of fishing opportunities.* Although overall TACs are adopted by the Council, it is up to the member state to decide on the method of allocating the TAC between the vessels flying its flag (Council of the European Union 2002b). Some groups of vessels are notoriously known to have higher discarding rate than others and this will affect the fishing mortality rates.
2. *Adjustment of fishing capacity.* A major cause of the EU’s struggle with much too high fishing mortality rates is the overcapacity of the member states’ fleets. Paradoxically, the EU’s Financial Instrument for Fisheries Guidance (FIFG) facilitated an immense capacity build-up (see Chapter 5 for details). It is a well-established fact that the overcapacity has been transferred into excessive fishing mortality rates, particularly because control measures have been inadequate and because allocations have not reflected fishing practices. It was not until December 2002 that an amendment to the basic structural policy regulation was adopted that specifically stated that measures under the structural policy “*shall not increase fishing effort*” (Council of the European Union 2002a, Art. 1(1)).
3. *Control and enforcement.* The member states are responsible for control and enforcement within their own waters. The basic regulation states that: “[u]nless otherwise provided for in Community law, Member States shall ensure effective control, inspection and enforcement of the rules of the Common Fisheries Policy” (Council of the European Union 2002b, Art. 23(1)). The basic regulation also outlines guidelines as to how the inspection should take place and what

elements it should contain. However, it is well-known that control and enforcement have been an Achilles heel of the CFP from the beginning (e.g. Commission of the European Communities 2001; Commission of the European Communities 2006).

4. *Measures applying only to the state's own vessels.* The member states have the right to adopt more restrictive legislation relating to the conservation and management of stocks in their own waters, but these can only be applied to the state's own vessels (Council of the European Union 2002b). In principle, more restrictive legislation should lead to lower fishing mortality rates, but this is not always the case, as it might instead be converted into higher discard rates and thereby contributing to the discrepancy between catches and landings. Denmark has for several species introduced minimum landing sizes that are higher than required by EU regulations.

The legal and institutional set-up for Danish fisheries policy and management has significantly influenced how Denmark has employed its implementation powers in relation to the CFP. The Fisheries Law of 1999⁷ can be considered the Danish equivalent to the basic regulation of the CFP. However, in contrast to the regular and significant (although not particularly successful) reform endeavours (see Chapter 5), that have contributed to regulatory development in the EU, the Danish Fisheries Law was not the result of a policy reform-process. In fact, the period from 1983 to 1999 was poor on policy developments in Denmark. Nevertheless, since the new Fisheries Law came into place, there have been wide-ranging reforms of the Danish fisheries policy (see section on allocation of fishing rights beneath). However, these reforms are still in their infancy and partly outside the remit of this chapter. They were prompted not by the Fisheries Law of 1999 itself, but rather by changes in the political environment (see section on strong individual actors beneath).

The overall legal framework and guiding principles of the fisheries policy is usually modified yearly in the Regulation Announcement, which announces the rules governing the different fisheries for the following year. This announcement is the national equivalent to the annual TAC and quota regulation of the EU, and sets out the principles regarding how to implement the Fisheries Law as well as the outcome of the EU negotiations in terms of limitations on catches and effort etc. However, following the Regulation Announcement, more specific management regulations are determined throughout the year and announced in so-called Supplement 6 communications.

⁷ From 1983 to 1999 the national Danish marine fishery policy was outlined in three main laws supported by a number of laws of relatively minor importance. In 1999, the previous laws on the subject were merged into one general Fisheries Law (Folketinget 1999) covering almost every aspect of Danish fisheries policy. However, this merge did not constitute a reform but can more correctly be termed as a legal clean up.

The day-to-day implementation of the rules is the responsibility of the minister in charge of fisheries policy. Consequently, the system is relatively centralised, as there are in principle no management decisions taken at regional level. Until 1994, the fisheries sector had its own ministry, subsequently agriculture and fisheries constituted a dual ministry from 1994 to 1996, and fisheries issues have been dealt with under the Ministry for Food, Agriculture and Fisheries (MFAF) after 1996. As the ministry has evolved to include within its purview an increasing number of topics in addition to fisheries, fisheries-specific issues have become less central to the overall ministry objectives. Rather than considering only the business aspect of fisheries management, as was common under the original pre-1994 ministry, the ministry now increasingly has to consider fisheries within the context of the overall food supply system in Denmark with significant focus on the consumer perspective.

MFAF constitutes the political level with two sections within the Department specifically dedicated to fisheries issues. Their main tasks in relation to fisheries policy and management include servicing the minister and developing policy. The objectives include sustainable exploitation of the fisheries resources, making sure that Denmark lives up to its international obligations, the protection of Danish interests in the EU and other international negotiations, and safeguarding the best possible conditions to develop and ensure structural adjustment within the Danish fisheries sector.

The Directorate of Fisheries (DoF), which was extracted from (but remains responsible to and financially dependent on⁸) the Ministry of Fisheries in 1995 after the merge with the Ministry of Agriculture in 1994, consists of a central unit, three inspectorates and four control vessels. The DoF is responsible for the day-to-day implementation and administration of fisheries management in Denmark, including enforcement and data collection.

In conducting its tasks the administration is supported and informed by a number of boards. Two of these boards are particularly important: the Board for Commercial Fishing⁹ (BCF), mandated to advise on the “*planning and development of rules on how to practice commercial fishing, as well as on the catch capacity, use of gear etc. and on the development of rules regarding the firsthand sale of fish*” (Folketinget 1999, §6, our translation), and the Board for EU-fishing (BEUF), mandated to advise on the “*position regarding the Common Fisheries Policy of the European Community and on developing the rules in the area of fisheries necessary to implement the EC legal acts mentioned under §10*” (Folketinget 1999, §5, our translation). In this chapter we focus on the BCF,¹⁰ which is

⁸ The DoF has been operating on the basis of a so-called Performance Contract signed with MFAF, which outlines its budget and the tasks to be undertaken within that budget (Fødevarerministeriet and Fiskeridirektoratet 2005).

⁹ Formerly known as the Regulation Advisory Board.

¹⁰ We have gained access to the minutes of BCF meetings. In contrast, minutes and recommendations of the BEUF are confidential as they to some extent relate to the Danish position *vis-à-vis* EU legislation, which is still under negotiation.

the most important board for implementing policy rules and regulating how the fisheries are actually carried out.

The BCF has traditionally played an important role in the day-to-day implementation of the national fisheries policy as laid out in the Fisheries Law and the Regulation Announcement, as well as in amending the overall Fisheries Law and developing the next year's Regulation Announcement. The BCF is the central stakeholder institution in the implementation of fisheries policy in Denmark and has been so for the entire period since 1983 when the CFP was adopted at the EU level. The Board consists of a number of permanent members who are listed in the Fisheries Law and can be joined by members appointed by the responsible minister either on an *ad hoc* or semi-permanent basis.

The membership of the BCF has generally been quite stable since 1983. The board has consisted of representatives of the central administration, various representatives of the fishermen (fishermen's associations and producer organisations), representatives of the processing industry, and representatives from workers' and employers' organisations. It should be emphasised that until 1994, two fishermen's associations were represented in the BCF: the Sea Fishermen's Association, which represented the larger vessels primarily situated on the west coast of Jutland and had its main office in Esbjerg, and the Danish Fishing Association, which represented the fishermen in the rest of Denmark and had a larger proportion of small-scale fishermen. In 1994, the two organisations merged and created the Danish Fishermen's Association (DFA). In addition to the members specifically mentioned in the law, the minister has recently invited the World Wide Fund for Nature (WWF) to become a member of the BCF. The BCF reflects a relatively traditional and to some extent narrow conception of legitimate stakeholders (for a discussion of the changing perception of legitimate stakeholders see Mikalsen and Jentoft 2001).

The minister often appoints members from the BCF to serve on other committees as well. This was for instance the case with the working group that was set up in May 2005 to advise on the future regulation model for the Danish demersal fisheries. It was partly based on the recommendations from this working group (Udvalget vedrørende Ny Regulering i Fiskeriet 2005) that the regulation of the demersal fisheries underwent reform in 2006/07 (see section on allocation of fishing rights below). Although this did not formally take place within the BCF (because it would be outside its remit) it seems reasonable to understand groups like this one as BCF offspring.

The institutional set-up for policy-making and implementation within the fisheries domain in Denmark can be captured by the notion of corporatism as it is commonly employed today. Whereas corporatism as a theory was traditionally associated with macro-level issues involving the state and the national organisations of employees and employers, the concept of corporatism is today used in a broader sense covering a range of policy-making models involving a significant degree of formalised stakeholder involvement (Blom-Hansen and Daugbjerg 1999). Today, corporatism is often found to be a relevant term for describing the set-up on the

meso-level in more specific policy areas. This is especially true in Denmark where there is a strong tradition of corporatism/stakeholder involvement on the meso-level without there actually being any formal macro-level corporatist arrangements (Blom-Hansen 2001).

Another concept relevant to this discussion is co-management. Co-management has been a prolific research agenda within fisheries for the last couple of decades. Co-management schemes can be captured by corporatism in its broadest sense but generally co-management schemes distinguish themselves from sectoral or meso-level corporatist arrangements by the extent of involvement of the stakeholders. In co-management schemes the stakeholders will not only be involved in making and shaping the decisions regarding the rules and their implementation, but also be actively involved in the implementation hereof. In essence, corporatism and co-management place themselves differently (but nonetheless close to each other) on a continuum ranging from, at one end, complete state-control with interest groups functioning only as outside pressure groups to, at the other end, complete self-control where all decision-making and management tasks are handed over to the fishermen themselves (see Sen and Raakjær Nielsen (1996) for more details).

A classical question in the study of user-group and stakeholder involvement in policy-making is whether these arrangements serve to further or to work against the interests of society at large. Stakeholder involvement may increase the acceptance of policies that serve the common good by providing some sort of buy-in from the members of the involved interest groups. On the other hand, stakeholder involvement may also lead to regulatory capture, where interest groups hijack the policy process and exploit the system to shape or develop policies that serve their own interests, but may not be in the best interest of the society at large. This can also be regarded an underlying theoretical question for this chapter, which we will return to in the concluding sections.

Traditionally Scandinavia has been viewed as a special case where the presence of powerful, encompassing interest organisations has had a particularly positive influence on the overall development of the societies in the post-war period. It has been argued that the key reason for the positive role, which has been played by interest organisations exerting their influence in corporatist arrangements with the state, has been the fact that the interests of the organisations have been the same as those of the societies at large – primarily overall economic growth (Blom-Hansen 2000). However in recent decades, both actors within the corporatist system as well as scholars have, according to Blom-Hansen (2000), argued that the system does not always work as it should, but rather in some instances serves to maintain structures that are in need of change. Moreover, in some areas the traditional corporatist structures have been weakened as new interests and priorities have forced their way onto the arena. This has for instance been the case in the area of agriculture where the agricultural interest organisations have been forced to accept environmental legislation (Blom-Hansen 2000; Blom-Hansen 2001).

In sum, Denmark is not without powers within the fisheries policy-area. Although the CFP outlines the overall system and provides some basic rules and

conditions, there are areas where the member states have considerable decision-making power, and it is up to the member states' administrations to implement CFP rules. This in itself provides powers, which can influence the CFP's ability to monitor and match target fishing mortality rates.

The Danish system is, as described, highly centralised, with almost all decisions taken at the national level. However, the way that the Danish political system has arrived at decisions on how to implement fisheries regulations in Denmark has, nonetheless, been heavily influenced by a national tradition of involving user-groups and stakeholders in policy-making through corporative structures. Within these structures, boards of an advisory character have at times been awarded almost *de facto* decision-making capabilities within the overall guidelines set down in the legal framework. Thus, even though we are dealing with a highly centralised system at national level, it has not exclusively been functioning in a top-down manner.

6.3 Danish Fisheries and Their Management

6.3.1 The Geographical Setting

It is a challenge to provide a short introduction to the development of the Danish fisheries and their management from 1983 to today. Although we attempt to provide a simple and informative picture, the reality is muddy and complex, and a recognition of the extreme complexity both in the natural and social components of the Danish fisheries system is a basic precondition for understanding the way Danish fisheries policy has developed and been implemented.

Fishing ports are scattered over most of Denmark, although the most important fishing ports are primarily located in Jutland. This concentration is not surprising insofar as the west coast of Jutland faces towards the North Sea, which is traditionally the most important fishing area for the Danish vessels. In 2006, a little more than half of the value of the Danish fishermen's total catch was taken in the North Sea; Skagerrak and Kattegat together accounted for around 20%; and the Belt Sea and the Baltic Sea accounted for a little less than 15% (Fiskeridirektoratet 2007). The balance was slightly different throughout the previous two decades, when the fisheries outside the North Sea, particularly in the Baltic Sea, were in general relatively more important, although the North Sea was still the most important area.

6.3.2 *The Fisheries and the Fish*

The Danish fishing fleet, which in 2005 consisted of 1,167 vessels, each with a yearly turnover of more than 216,731 Danish Kroner (DKK)¹¹ (Fødevareøkonomisk Institut 2006) and employed some 2,000–2,200 full-time fishermen (Interviewees 1 and 2), is extremely diversified both in terms of vessel sizes and fishing methods. Danish vessels use mussel scrapers, Danish seines, purse seines, nets, hooks, traps, bottom trawls and pelagic trawls. This diversification also reflects in the types of vessels represented in the Danish fleet, which ranges from wooden, one-man operated vessels under 6 m to large, highly modern combined trawlers/purse seiners over 40 m costing up to several hundred million DKK (including tradable fishing rights). In terms of tonnage, however, trawlers dominate the industry, accounting for around 2/3 of the total tonnage (Fiskeridirektoratet 2007). It goes without saying that these vessel types have very little in common besides the fact that they catch fish. This has also been a source of constant tension within the industry and the DFA in particular (see section on cleavages and dilemmas beneath).

At a very general level, the Danish fleet can be divided into three main segments: (1) the vessels engaged in pelagic fishing primarily for mackerel and herring for human consumption, (2) the vessels engaged in non-human consumption fisheries,¹² and (3) the vessels primarily fishing for demersal consumption species of which cod has traditionally been the most important. The two first segments are relatively homogenous while the third one is not. The vessels fishing for herring and mackerel for human consumption and the vessels fishing for non-human consumption species are generally large trawlers and purse seiners, and there is some overlap between these two segments. The third segment consisting of vessels mainly targeting demersal species for human consumption is the largest and most difficult to characterise, as it includes vessels of all sizes employing different types of fishing gear. One useful division is between smaller so-called “coastal” vessels with crews of 1–3 usually making short fishing trips (1–2 days) employing different types of gear, and larger vessels primarily trawlers usually having an operational crew of four (including the skipper). The larger vessels often employ a total of six people, as the crew rotates according to a system where each fisherman works for two fishing trips and then takes time off during one trip. These vessels are highly geographically mobile and can easily change gear at sea and thus target one species during the day and another during the night. (Christensen and Raakjær

¹¹ The figure 216,731 DKK is a calculated lower limit for commercial fishing vessels from the Danish fisheries statistics. Vessels landing less than the lower limit are considered as being operated on a part-time basis. The vessels in the group above the lower limit account for 97% of the turnover (Fødevareøkonomisk Institut 2006).

¹² These fisheries targeting species to be reduced into fishmeal and oil are often referred to as “industrial fisheries”, which is, however, a slightly ambiguous term. We will therefore refer to non-human consumption fisheries instead.

2006). For more information on the interaction between the different segments, see section on cleavages and dilemmas below.

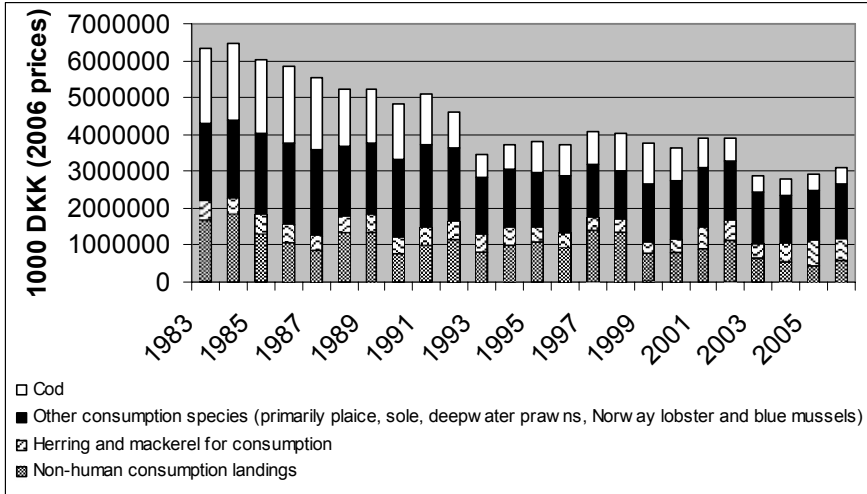


Fig. 6.1. Value of landings (domestic and abroad) by Danish vessels 1983 – 2006 in 2006 prices. Basic data from Fiskeridirektoratet (1992, 1999, 2007). Own calculation into 2006 prices based on inflation rates of the period

Figure 6.1 shows the importance based on the value of landings of the three segments, with cod depicted in a separate colour. Most notable is perhaps the fact that when calculated in 2006 prices,¹³ the value of landings has been halved since 1983. This is not primarily because fish has become a cheaper commodity, although globalisation and aquaculture etc. are changing the market and prices for some species have gone down (Raakjær forthcoming), but rather because landings in Denmark have dropped because a number of stocks have been depleted and have not been able to recreate former years' harvestable surplus. Figure 6.2 below illustrates fishing trends for the cod stocks. Several other species have developed similarly, although not as dramatically. As a result of these stock declines, the importance of the catch industry in Denmark has been severely shrinking over the last 20 years. Figure 6.1 shows that the value of landed cod in 1983 was equal to the value of all other demersal consumption species. Furthermore, throughout the period shown, demersal consumption species have accounted for some 60–75% of the total value of landings, but with the share of cod decreasing continuously except for a period at the end of the 1990s. The industry segment has accounted for

¹³ It should be emphasised that recalculating into “2006 prices” means that inflation has been taken into consideration. It has consequently nothing to do with the prices of the different species in 2006.

15–30% of the value of landings. There are two primary explanations for the fluctuations in non-human consumption fisheries: (1) non-human consumption fisheries are often conducted for short-lived species that can be plentiful one year and gone the next, and (2) in some years, vessels from the other segments have supplemented their income with non-human consumption fisheries and *vice versa*. Finally, the mackerel and herring segment has managed to increase its economic value since 1983: herring and mackerel for consumption accounted for between 8 and 9% of the value of landings in 1983 and almost 20% in 2006. There are two reasons for this: (1) the most important species, herring, has been in relatively good shape during most of the period, although recruitment has been very low since 2003, and 2) there has been political focus on utilizing herring for human consumption (historically much herring has been used to produce fish meal and oil).

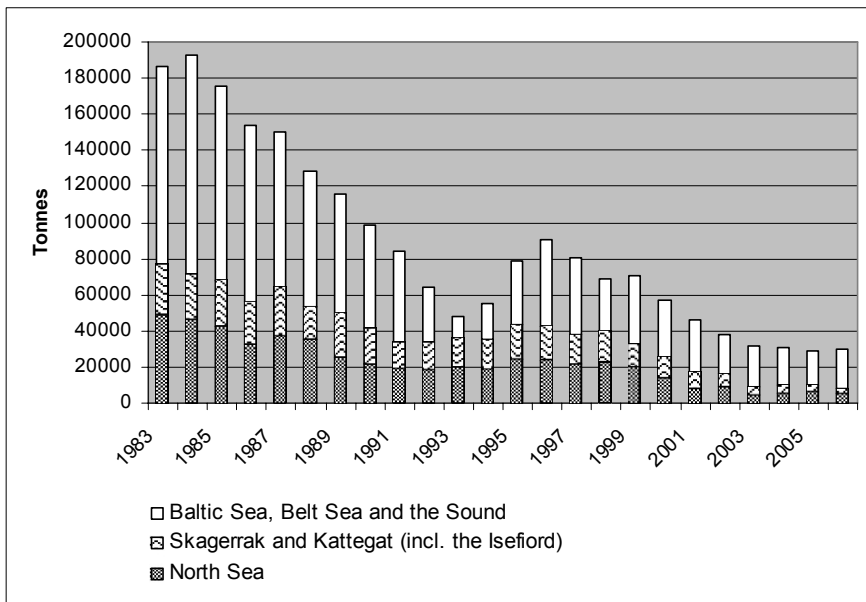


Fig. 6.2. Volume of cod caught by Danish vessels from 1983 to 2006 divided on main sea areas.¹⁴ Data from Fiskeridirektoratet (1992, 2000, 2007)

Figure 6.2 further illustrates some of the points made above and gives a concrete example of the situation that fisheries management faces today. Cod is chosen as the example because it has traditionally been the most important species for the Danish fleet. Although stock decline has reduced the importance of cod, it re-

¹⁴ Figure 6.2 does not include all Danish cod catches as some cod are caught outside the chosen areas. This has, however, been insignificant amounts in most years.

mains of central importance and is still, together with plaice, the species that many Danes associate with white fish.

Figure 6.2 shows that although decline has been the general trend for cod landings, there have been occasional regional upswings and downswings, particularly in the Baltic Sea. The Baltic Sea has traditionally attracted fishermen from all over Denmark in the winter season because this fishery was particularly profitable. Changing fishing areas like this was made possible by the flexibility offered by the traditional Danish management system with free access to quotas (see section on allocation of fishing rights below). This, however, also led to conflicts with local fishermen, a dilemma that the management authorities had to deal with and which we will explore in the following section on cleavages and dilemmas. The drastic downswing in cod in the beginning of the 1990s coincided with a severe crisis of the Danish catch industry where many vessels operated on the brink of bankruptcy. In contrast, the Danish fleet was in the beginning of the second half of the 1990s favoured by generally increasing fishing possibilities, improved fish prices and lower interest rates, which together made the fisheries quite profitable (Statens Jordbrugs- og Fiskeriøkonomiske Institut 2001; Raakjær Nielsen and Mathiesen 2003).

6.3.3 Allocation of Fishing Rights

As mentioned earlier, the Danish system for allocating fishing rights in the demersal fisheries recently underwent a wide-ranging reform, referred to as *New Regulation* or the *FKA-system*.¹⁵ As a result of the adoption of this system most Danish fisheries are now managed primarily through some form of transferable quotas. The full range of long-term effects of the reform and the new situation for Danish fisheries are difficult to outline this soon, although some effects, which will certainly have long-term implications, are already identifiable. This is especially the case for the reallocation of capacity and fishing rights across regions and fishing ports and between different fleet segments (see also section on structural policy beneath). In the following, we will initially look at the *catch quota-system*, which basically dominated the management of Danish fisheries from 1983 to 2007. After this, we will briefly describe the system of individual transferable quotas (ITQ) that was implemented for herring from the beginning of 2003 and served to a large extent as an inspiration for the reform of the demersal fisheries regulation, which was established from the beginning of 2007. At the end of the section, we will discuss *New Regulation*.

It will be impossible within this section to provide a full account of the development of the Danish fisheries management system, but we will provide a brief

¹⁵ “FKA” refers to “fartøjs kvote andele”, which means vessel quota shares.

description¹⁶ of the general development and changes in general principles over time. In order to be specific, we will to some extent use the cod fisheries as an example.

From the time quotas were introduced in Danish fisheries management until 2007, the fishing rights in demersal fisheries were primarily distributed as *catch quotas*, allocated to individual fishing vessels and varying in size depending on the length of the vessel. These quotas were to be caught within a specified, often relatively short time period and in a specified fishing area. The overall national quotas were often divided into 3 to 4 *periods* over the year to ensure that the quota was not fished up too fast as well as to meet other concerns, such as the interests of different regions, vessels using specific gear or the catch-ability of the species in the particular period. As an example, in 2005 the cod quota in the Kattegat was divided in the following periods: 50% to be caught from 1 January to 31 March; 10% to be caught from 1 April to 30 June; 20% to be caught from 1 July to 30 September; and, finally, 20% to be caught from 1 October to 31 December. This reflects that the fishing waters of Kattegat and the Baltic Sea have a peak season in the first quarter and thus attract fishermen from outside these areas due to particularly high catch per unit effort (CPUE). The cod quota in the North Sea, where fishing intensity is more equally spread over the year, was evenly distributed over three periods of four months (Fødevareministeriet 2004). The periodic share of the quota was subsequently divided into the catch quotas that should be fished within a week, a fortnight, 1 month or even two months. A catch quota was as such equivalent to an individual vessel quota, however, usually to be fished within a short period. The catch quotas were set according to vessel sizes and announced in Supplement 6 communications. When determining the sizes of the catch quotas, the amount to be taken within the period (e.g. 50% of the national quota, referred to as the “fix point”¹⁷) as well as the expected number of participants in the fishery were taken into account.¹⁸ In fisheries where the quotas were not too restrictive, the fishery was regulated as free competitive fishing within the total quota until a certain percentage of the quota had been taken (also referred to as the fix point) af-

¹⁶ It should be kept in mind that in a brief description like this, some details are deliberately left out, which a person with in-depth knowledge about the system might find important. Moreover, we have chosen not to discuss the implications of the days-at-sea regulations, which were introduced at EU level in connection with the cod recovery plan. The days-at-sea system is, of course, important and has significant implications for the management of Danish fisheries. Nonetheless, it is a centrally imposed management measure, which leaves little room for manoeuvre on behalf of the member states, and it is thus outside the remit of this chapter.

¹⁷ As an example, if the overall national quota for a species in a specific area was 1000 tonnes and the quota was equally distributed over the year in four periods; then the fix point for the first period would be 250 tonnes caught, for the second period 500 tonnes caught, for the third period 750 tonnes caught, and for the final period 1000 tonnes caught.

¹⁸ E.g. in the first half of June 2005 vessels below 6 meters were allowed to land 50 kg of cod from Kattegat; vessels 6–12 m 125 kg, vessels 12–16 m 250 kg; and vessels above 16 m 300 kg (Fiskeridirektoratet 2005).

ter which a stricter quota regime was implemented along the lines described above (Vedsmund 1998).

The system has been characterised by a high degree of openness and flexibility, in the sense that almost all vessels have in principle been allowed to participate in any fishery in any area,¹⁹ although there have been some restrictions relating to gear and size of vessels in some areas. However, the flexibility of the system was to some extent the result of the short period of the catch quotas (most often two weeks or a month), which came at the expense of possibilities for long-term planning in order to lower costs (e.g. by not fishing in bad weather) or maximise income (e.g. by adjusting catches to the market situation to obtain the highest price or fish when CPUE is high). Since catch quotas could not be “saved for later”, but had to be taken within a specific period, the vessels were forced to fish no matter the weather and land the fish no matter the price in order to obtain an income from the catch quota. The pronounced flexibility was also difficult to manage from a control perspective.

Specifically in relation to cod, the wish for more security and a longer planning horizon as opposed to flexibility to fish in different areas led, among other things, to the introduction of the possibility to obtain an annual individual catch quota in the Baltic Sea from 1995 (Fiskeriministeriet 1994). The annual catch quota, which specified an amount of cod depending on vessel size, required a license, which contained the conditions regarding how the quota should be fished. Vessels were not allowed to fish outside the Baltic Sea as long as they operated under the system of annual cod quotas, and those vessels thus gave up the flexibility of being able to switch fishing areas, gaining the security of knowing that nothing was necessarily lost if you had to stay in port for a limited time (although there were provisions outlining how a vessel could leave the system of annual quotas during the year). Alongside the annual catch quota-system a traditional catch quota-system with shorter quota periods continued to operate to uphold the flexibility of the system to the benefit of vessels only operating in the Baltic Sea on a seasonal basis. In the North Sea, Skagerrak and the Kattegat similar systems of annual catch quotas for cod (and other important demersal species) were introduced as of 2002 for the smallest (and least flexible) vessels under 15 m (Fødevareministeriet 2001).

Whereas a TAC system based on annual quotas by definition complicates planning beyond one year ahead, the traditional, short-period quota system sometimes made it difficult to plan further ahead than one week. Although the short-period system often aimed to keep the size of the catch quotas stable, this was in many cases not possible because of the uncertainty as to how many vessels would take part in the fishery. The fisherman was thus highly dependent on the strategies of other fishermen. Moreover, the traditional, short-period quota-system benefited the most flexible vessels to some extent, as they could cream off the different

¹⁹ A few fisheries have demanded a restricted entry license, most notably the fishery for blue mussels, primarily in the Liim Fiord, and the fishery for common shrimps in the Wadden Sea.

fishing possibilities, whereas the smaller, less flexible vessels had to stay behind and carry the expense of the lack of security and short planning horizon. The small vessels were also generally more sensitive to weather conditions and had to stay in port while larger vessels were fishing. However, it has been argued (Raakjær Nielsen 1992a) that the value of flexibility might have been overestimated because, at least early in the period, fishermen tended to focus on turnover rather than the contribution margin, and in many cases fishermen would probably have been better off continuing in the same fishery rather than changing to another, due to the costs associated with the change.

Finally, the traditional, short-period quota-system created an inexpedient situation where the most threatened species (e.g. cod) had to be managed with very small catch quotas to be caught over short periods to ensure that the quotas were not overfished before the next catch quota could be set – or at least to avoid having to close the fishery altogether. This was both administratively cumbersome and also a problem for the fishermen in terms of planning. In some periods the situation has been so extreme that weekly quotas of for instance down to 25 or 50 kg have been set in order to be able to keep fisheries open without risking officially breaking the quota.²⁰ However, as we will discuss in the section on strong persons, this also allowed fishermen to be at sea legally and catch fish that could then be landed illegally. Moreover, short periods, which are necessary when catch quotas are low, also increase the risk of vessels failing to catch their quota because of bad weather or other reasons, another explanation of why the periodic catch quota-system was increasingly challenged over time.

The BCF played a key-role in the implementation of the catch quota-system, as the minister normally listened very carefully to arguments regarding quota sizes and periods put forward by the industry. The industry's preference for keeping the fisheries open even if catch quotas were low was guided by the principle of not excluding vessels, which became a very important principle for the administration of the catch quota-system.

From 1983 to 1990, the herring fisheries were managed by individual quotas for licensed purse seine vessels. From 1990, they were managed by licenses allowing trawlers fully into the fisheries,²¹ accompanied by catch rations decided on a weekly or monthly basis. From 1990 to 2003, the BCF, complemented by a BCF sub-group dealing with herring, was an important body in the process of determining regulations. Denmark decided in 2002 to adopt an ITQ-system for the herring

²⁰ High-grading is illegal under Danish legislation, which since 2002 (for the main commercial species) states that all catch that can be landed legally (meaning that a quota for it is available and that the fish is above minimum landing size) shall be landed. This provision is, however, notoriously difficult to enforce. Moreover, vessels are still obliged to discard catches of fish for which they do not have a quota (Interviewees 5 and 11; Andersen et al. 2003; Fødevareministeriet 2001).

²¹ The change of the management system was made at very short notice and benefited trawlers primarily based in Esbjerg at the expense of purse seine vessels based in Northern Jutland (Dansk Institut for Fiskeriteknologi og Akvakultur et al. 1991).

fisheries. The main new feature of this system was not so much that individual quotas were given for a year at a time, which had also been done previously, but rather that the quota rights were given for a number of years and could be traded. This system introduced private ownership to fishing rights.²² The ITQ-system was implemented in 2003 for a 5-year trial period with the possibility of a 3-year extension. However, the arrangement became permanent half way through the trial period.²³ It is worth noting that even though the ITQ-system was implemented as a trial, it led to rapid structural adjustment, as the number of vessels was reduced by 50% within the first two years (Fiskeridirektoratet and Fødevareøkonomisk Institut 2005).

The latest step in the adaptation of the principles for allocating fishing rights in Denmark was taken in the fall of 2005 when a small majority in the Danish parliament agreed to develop a new regulatory system, known as *New Regulation* or the *FKA-system*, for the most important demersal species. At the same time the ITQ-system for herring was made permanent, and the parliament decided to develop similar ITQ-systems for mackerel and non-human consumption species (Regeringen og Dansk Folkeparti 2005). The new management scheme, which was implemented beginning 1 January 2007, is based on the distribution²⁴ of vessel quota shares for specific species in specific areas. Although the FKA-system imposes restrictions on the sale of fishing rights, the adoption of the system nonetheless means that almost all Danish fishing activities are now managed by means of some form of transferable quotas.

The FKA-system is relatively complex and includes a number of special elements established mainly to accommodate the different interests within the sector, in addition to ensuring that the capacity follows the quota shares. A special bonus system reserved an amount of cod and sole for vessels under 17 m making short fishing trips. In return for this extra allocation, these vessels are only allowed to transfer their rights to other coastal fishermen. This alternative system was introduced to protect the smaller vessels, as there was a fear that they would lose out in a market-based system. It has been made possible for groups of fishermen to pool their quotas, which also benefits smaller vessels because it means that they do not need to have shares for all species in all fishing areas themselves.

The political agreement on the FKA-system was to a large extent based on the input from a working group set up earlier in 2005, composed of the stakeholders and user-groups represented in the BCF. However, the working group had to work within a relatively fixed mandate since the government had already determined

²² For more information on the background of the decision, see section on strong individual actors beneath or Hegland and Sverdrup-Jensen (2007) and Christensen et al. (2007).

²³ For a detailed account of the system, see Hegland and Sverdrup-Jensen (2007) or Fiskeridirektoratet and Fødevareøkonomisk Institut (2005).

²⁴ The quota shares were distributed to the fishermen based on their fishing pattern from 2003 – 2005. *New Regulation* provides the fishermen with *de facto* ownership over their quota shares, although the system can in theory be terminated at eight years notice. However, the shares cannot be sold freely, but have to follow the capacity of the vessel.

that the reform should increase the possibility of the individual fisherman to acquire and pool together quotas (Udvalget vedrørende Ny Regulering i Fiskeriet 2005), based on the experiences from the herring fishery described above.

The FKA-system was expected to contribute to structural adjustment in the fleet, working towards a better balance between fishing capacity and fishing possibilities. As of late 2007, the first indications of the new system show an immense concentration of fishing quotas, as the number of vessels has been reduced significantly, which has resulted in a regional reallocation of the fleet, among other things. In the FKA-system, the role of the BCF has also been significantly reduced, resulting in shorter BCF meetings (Interviewee 2), as the decisions on how to fish have been individualised. The influence of the sector will, consequently, have to manifest itself in different ways in the future.

The development described above changed the system from a catch quota-system managed as a common pool resource open to any vessel to the present ITQ- and the FKA-system, where vessels' activities are locked by their quota allocation. This is a significant change from an open and flexible system to a system focussing on security and segmentation in order to ensure long-term planning. Under the previous catch quota-system it was always uncertain what the vessel's fishing opportunities would be, as this depended not only on the national quota, but also on other vessels' strategies.

6.3.4 Structural Policy and the Fleet

In terms of structural policy, Denmark has traditionally employed scrapping programmes²⁵ in order to cut capacity. This has to some extent been done in response to the (mostly modest) requirements set out in the EU capacity reduction programmes, but it has also to some extent been implemented on Denmark's own initiative to improve the economic performance of the fleet (Interviewee 1 and 3). Even though some of our respondents mention capacity reduction as a national Danish management strategy, the results have over the period been unconvincing, as we will discuss below. The development of the Danish capacity in terms of tonnage is depicted in Fig. 6.3 below.

In order to make sense of the tonnage development in terms of fishing capacity, it is necessary to take increases in efficiency caused by technological development into consideration.²⁶ The implication of this is that the capacity of the Danish fleet

²⁵ In scrapping programmes, fishermen are offered a premium for scrapping their vessel. Scrapping a vessel has always required that the vessel left the fishing fleet, and later on it also became a requirement that it was physically removed.

²⁶ There is a common understanding that efficiency over time increases by at least 2% per annum due to technological improvements. Although it is here called capacity creep, it should be emphasized, that sometimes innovations lead to larger jumps, e.g. improvements of fishing gear or pulling power.

should annually be reduced by at least 2% in tonnage just to maintain *status quo* and avoid an increase in fishing capacity. Figure 6.3 shows that many years of scrapping programmes in the Danish fleet have not even compensated for the expected creep in fishing capacity, even though the tonnage has been reduced from approximately 118,000 tonnes in 1982 to approximately 83,000 tonnes in 2006. In other words, there has most likely been a *de facto* increase in fishing capacity, which adds to the problem of securing sustainable utilization of fish stocks.

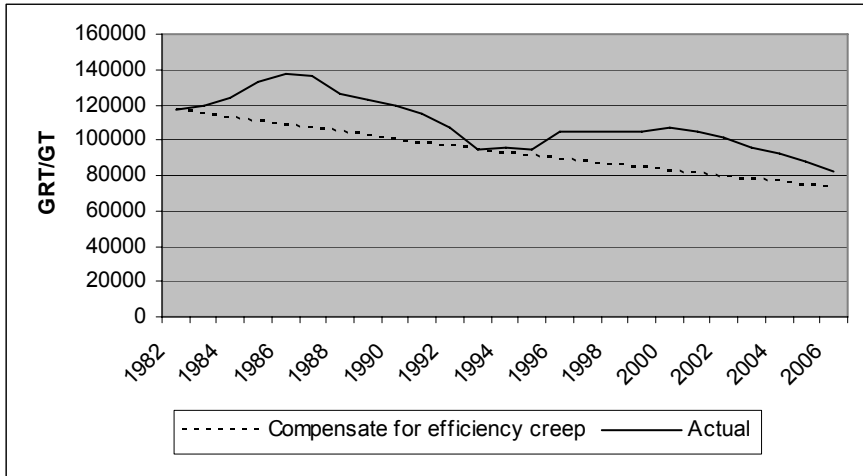


Fig. 6.3. Development of fleet capacity in Denmark from 1982 to 2006 (vessels over 5 GRT/GT).²⁷ Raakjær (forthcoming)

In relation to Fig. 6.3 it is also worth noting that the dotted line indicating how the Danish capacity should have developed to compensate for efficiency creep does not imply a balance between fishing capacity and fishing opportunities in Denmark. There are at least three reasons for this. Firstly, if the compensation for capacity creep should maintain a balance, we would have to be convinced that there actually was such a balance in 1982. This may likely be true (Vedsmund 1998), but it is not given, and if there was any lack of balance, it was probably towards overcapacity and not undercapacity. Secondly, when scrapping, there is generally a tendency towards choosing to scrap the least efficient vessels. This was also confirmed by our interviews in relation to the situation in Denmark (particularly Interviewees 1 and 7). Thirdly and most importantly, for the 1982 bal-

²⁷ Gross Register Tonnage (GRT) represents the total measured cubic content of the permanently enclosed spaces of a vessel with some allowances or deductions for exempt spaces, such as living quarters. Gross Tonnage (GT) refers to the volume of a vessel from keel to funnel measured to the outside of the hull framing and is always higher than GRT. Since 1994 GT has replaced GRT as the measurement of capacity and from 1982 to 1994 the two measurements were used in parallel. There has been a break in data for the period 1993–1995, which explains the drop and increase before and after.

ance to have been maintained merely by compensating for efficiency creep, the general fishing opportunities based on the available fish stocks would have to have stayed at the 1982 level. This has definitely not been the case. A large number of stocks relied upon by the Danish catch industry have declined since 1982, and it has been argued that several stocks were at an abnormally high level until the beginning of the 1980s and thus produced fishing opportunities that could not be maintained long-term (see Chapter 5; Holden 1994). Cod, as discussed above, is the prime example of fish stock decline in this period (see Fig. 6.2). To keep a reasonable balance between fishing capacity and fishing opportunities, the decrease in tonnage should have been even more rapid than indicated by the dotted line in Fig. 6.3. The continued failure to reach that balance has in itself contributed to the deteriorating state of the stocks, creating a self-perpetuating vicious cycle.²⁸

The significant build-up of capacity in the years 1983–1987 is noteworthy in relation to the situation that developed in Denmark. Over that short period the capacity increased by approximately 15%, laying the foundation for the continuing capacity problems in Denmark. Two interesting questions are why this was allowed to happen while the EU was implementing programmes aimed at restricting capacity (see Chapter 5) and whether anybody noticed the implications of this increase in capacity.

According to Raakjær Nielsen (1992b), the situation was caused by a combination of (1) good fishing possibilities, primarily in the cod fishery in the Baltic Sea, (2) easy access to subsidies, and (3) an aversion among fishermen to pay tax (the fishermen could avoid tax by making investments, often financed by loans). However, according to Raakjær Nielsen, the fishermen soon realised that the combination of reduced quotas for several stocks and a heavy debt burden was making fishing an unprofitable business. This generated support for refocusing the structural policy towards scrapping, and scrapping programmes consequently became central in Denmark over the following 20 years.

Raakjær Nielsen's analysis can be supplemented by information from one of our interviews. This respondent (Interviewee 6) outlined a number of additional reasons for the build-up of overcapacity. Firstly, in the beginning of the capacity build-up period there were no restrictions on entering vessels into the fleet. Although the central administration began to demand that applications were submitted containing the GT of the vessel and a budget, standard practice until the end of 1984 was that most applications were accommodated. From around 1985 it became, however, very difficult to get a license to introduce a new vessel unless

²⁸ This discussion is necessarily based on a simplified description of events, and a number of potential factors could influence the extent to which clear conclusions can be drawn. One example could be that tonnage is not necessarily a good indicator of fishing capacity. Another problem is that overcapacity does not automatically turn into overfishing, as it is possible to keep capacity in the harbour by use of for instance days-at-sea restrictions. In general, however, it seems that overcapacity is often associated with a failure to keep fishing mortality rates at the required level. All this taken into consideration, we are convinced that our conclusions are correct at a general level, even though the picture might be more nuanced than described.

capacity was removed from the fleet at the same time. This was something that few or no fishermen could afford in a situation where the catches (particularly in the Baltic Sea) were declining. However, the licenses for building new vessels that had already been granted on the basis of applications sent in before 1985 were still valid and ran for two years, and on top of that came the building period (this delay in the impact of licenses was actually noted with concern in the BCF during 1985 (Fiskeriministeriet 1985b)). As a result, new vessels continued to be built with subsidies (see Chapter 5) on old licenses until around 1987.²⁹ There was, consequently, considerable inertia in the system, which prevented speedy adaptation even though the brakes were to some extent already activated in 1984/1985. From the minutes of the meetings in the BCF during 1984 and 1985, it can be observed that the administrative practice for granting licenses to increase fleet capacity and introduce new vessels changed significantly over a relatively short period (Fiskeriministeriet 1984a). In the beginning of 1984 licenses for new vessels were generally granted as a routine matter. During April 1984, the procedures for granting licenses to new capacity were tightened³⁰ and introduction of new capacity from then on required that capacity had to be withdrawn (Fiskeriministeriet 1984b). Initially vessels under 14 m were exempted from this and larger vessels were allowed to exceed the withdrawn capacity by 15%. However, the rules were progressively tightened over time³¹ (Fiskeriministeriet 1985b).

Secondly, the respondent mentioned that even though there was an increasing awareness of the problematic situation of the resource base, this information did not penetrate down through the system as it does today. As an example of the lack of information behind decisions, the respondent described how budgets were based on participation in the open access fisheries in the White Zone³² between Sweden and the Soviet Union in the Baltic Sea at a time where the open access fishery was about to end.

Finally, the respondent mentioned that “local patriotism” and a tendency to ignore what was going on outside one’s own local community also contributed to the build-up of capacity beyond what was sustainable at a national level. The respondent indicated that many local banks gave loans for investments in vessels without taking into consideration that banks from other local communities were doing the same. The reasons for this were (1) a competition for market shares among local

²⁹ In the period from approximately 1985 to 1987, there was actually an “undersupply” of licenses to build new vessels. This meant that some vessels were actually sold immediately after having been built (Interviewee 6).

³⁰ The ministry had at this point of time received applications for new capacity amounting to 6000 GRT (Fiskeriministeriet 1984b).

³¹ The increased focus on the capacity issue led in 1985 to the setting up of a board consisting primarily of the fisheries organisations to deal with this question (Fiskeriministeriet 1985a).

³² This is known among fishermen as the Grey Zone. The conflict over jurisdiction in the White Zone/ Grey Zone between Russia and Sweden (north-east of Bornholm) lasted from 1978 to 1988 and resulted in massive overfishing of cod in the area since there was open access for all vessels.

banks, and (2) a wish to support local fishermen to the benefit of the harbour or the local community as such. On a national level, these loans turned out to be a bad strategy, especially in a period where the fishing opportunities were about to decline. On the island of Bornholm, a number of banks lost a substantial amount of money and at least one local bank actually went bankrupt because of fishermen being unable to pay back their loans.

As shown above, there are several explanations as to why capacity was allowed to build up beyond a sustainable level. This overcapacity not only steered the Danish structural policy onto a path of scrapping programmes, but also created serious problems in terms of the economy of the Danish fleet and the conservation of resources. These problems were, nevertheless, not sufficient to provoke the necessary capacity reductions, as illustrated in Fig. 6.3.

6.3.5 Control and Enforcement

In the light of the overcapacity within the Danish fleet, control and enforcement becomes a crucial element to ensure compliance with regulations. As mentioned earlier, the responsibility for control and enforcement, both on land and at sea, is within the Directorate of Fisheries (DoF). Although the DoF has also other responsibilities, control and enforcement is by far the most important; approximately 75% of its budgeted resources in 2007 were allocated for this task (Fødevareministeriet and Fiskeridirektoratet 2006).

The fact that the Danish control and enforcement responsibilities are centralised in one institution, as compared to the more common systems where several actors are involved in control and enforcement, was considered a strength by our informants (Interviewee 5 and 11). According to the informants, the strength of centralising responsibilities in the DoF is that this provides short chains-of-command, enabling fast reactions in case of control problems. Thus, this way of organising the control and enforcement activities creates a relatively short distance between those actually carrying out the inspection and those making the regulations. The DoF maintains a close relation to the political system and is therefore able to provide inputs if control problems need to be addressed on a political level. However, the fact that they are not an integrated part of the ministry, but operate on the basis of a contractual arrangement, provides a necessary distance to the political system, meaning that the minister is less able to interfere with how control should be carried out. At least in one period in the past, a minister has sent signals to the enforcement agents, which have resulted in less stringent control and massive cheating among fishermen (see section on strong individual actors). The respondents considered something like this less likely to happen under the present institutional set-up, which has been in place since 1995 (Interviewees 5 and 11).

The respondents also mentioned that even though they considered the control authorities to be relatively well equipped in terms of access to administrative and

sanctions, equipment and qualified people,³³ successive cutbacks in the DoF's budget³⁴ (Interviewees 5 and 11) create a real challenge in terms of effective enforcement, forcing the DoF to continuously think in resource saving measures, often IT-solutions. This raises doubts about the extent to which it is possible to keep the efficiency of the control at the present level. Moreover the amount of "red tape" in the DoF has had a tendency to increase, partly due to the contractual arrangement with the ministry, which requires a substantial amount of *documentation* of the work undertaken. In spite of the above, the overall perception is that the control and enforcement system in Denmark is generally of a reasonable standard given the framework provided by the CFP and that overcapacity and small quotas create incentives for non-compliant behaviour (Interviewees 2, 4, 5, 6 and 11; Kommissionen for de Europæiske Fællesskaber 2001; European Court of Auditors 2007).

6.4 Danish Implementation Strategy – Domestic Driving Forces

6.4.1 National Room for Manoeuvre

Although the CFP has predominantly influenced fisheries management in the EU by laying down the overall framework (primarily the TAC system and the underlying *relative stability*, see Chapter 5), member states and the national actors have room to manoeuvre, particularly in relation to the four areas mentioned above in Section 6.2. In these areas, national decisions and implementation practices can influence the ability of the CFP to ensure that preferred fishing mortality rates are met. Looking across the EU, it can also be observed that member states have pursued different approaches in their implementation practices. This section will address and examine the domestic driving forces that have had a major influence on the development of fisheries management in Denmark – and also to some extent have hindered formulation of a clear strategy for the future of the Danish fishing industry, including management models and desired structural development within the fishing fleet. This will be done by investigating following issues:³⁵ (a) cleavages

³³ In 1988, a formal education of fisheries inspectors was put in place, replacing a system where the inspectors were often retired fishermen. On the positive side, the respondents mentioned that this had led to more uniform control and that inspectors are now more professional than they were before. However, on the other hand, the respondents also recognised that in-depth knowledge about how fishing is carried out is maybe not as great as before (Interviewees 5 and 11).

³⁴ Delivering "efficiency gains" has been a constant demand in the public sector in Denmark in recent years, and it seems plausible that there is even more pressure for this on an organisation that is dealing with an economically shrinking industry (see Fig. 6.1). To indicate the magnitude of these budget cuts, the DoF needs to cut its costs for control by more than 15% from 2007 to 2010 (Fødevareministeriet and Fiskeridirektoratet 2006).

³⁵ These issues have also been mentioned in interviews as important domestic drivers.

and dilemmas within fisheries and management; (b) strong individual actors and the existence of windows-of-opportunity; and (c) differences in perspectives – individual versus collective.

6.4.2 Cleavages and Dilemmas Within Fisheries and Within Management

The complexity within the Danish fishing industry is significant, with fleet composition ranging from small-scale, subsistence fisheries at one end of the spectrum to company-owned, large-scale vessels at the other end. In terms of ownership structure, the Danish fishing fleet consists primarily of owner-operated vessels, but the number of capital-intensive vessels, mostly trawlers, owned by fishing firms have increased their share in recent years, a trend which has intensified since the agreement on the FKA-system in the Danish parliament in November 2005.

Although Denmark is a small country, it is not without regional differences. This has indirectly influenced the allocation of catch quotas, as geographical concerns have often been an underlying factor in the allocations. In particular, the way catch quotas are differentiated according to vessel size or distributed over the year have been employed as indirect ways of favouring certain geographical interests. The Baltic cod fishery is a good example illustrating these geographical differences (Raakjær Nielsen 1997), which can be boiled down to a question about access rights. For decades, a large number of North Sea fishermen, as well as fishermen from other parts of Denmark, have fished cod in the Baltic Sea during the winter season (more than 1200 vessels participated in the Baltic Sea cod fisheries in 1986 (Sandbeck 2003)). Fishermen from Bornholm, an island in the Baltic Sea, have likewise fished outside the Baltic Sea in the summer period. However, fishermen from Bornholm have often argued that they should have privileged access to the cod stocks in the waters around Bornholm. In practical terms, the conflict has mainly concerned the proportion of the annual quota to be caught in the first quarter, which is dealt with by the Danish administration. Fishermen from Bornholm had an interest in spreading out the fisheries over the year to ensure a stable supply to the processing industry and obtain the largest share of the Baltic Sea cod quota. Vessels from outside the Baltic Sea region had an interest in obtaining large catch quotas in the first quarter, as the CPUE is usually at its highest in this period and because these vessels had other attractive fishing alternatives outside the Baltic Sea later in the year. In this situation, the management authorities have sought to solve the dilemma by balancing the interests of the two groups in order to obtain some form of stability in the Baltic Sea cod fishery and ensure an “equitable” allocation which would please both sides and avoid conflicts.

The fishermen have similar interests regarding other issues. This was for instance the case in relation to the decision on closed days in the cod fisheries in the Baltic Sea determined by the EU to be implemented in 2006. Some closed periods were pre-decided by the EU, but the member states were given the right to decide on where to place a fixed number of additional closed days. Here the fishermen from Bornholm³⁶ stood united with the fishermen in the DFA in arguing for placing these days in the periods where very little fishing was going on, particularly during Easter, Christmas and the autumn school holidays (Fiskeridirektoratet 2006). The administration followed the advice of the fisheries associations to a significant extent, and imposed most of the closed days as recommended. Consequently, the closures had little effect in terms of reducing fishing mortality. Although this is not a surprising observation, it is a good illustration of the fact that national implementation does not necessarily support the intentions of EU legislation and may operate without conservation as the dominant objective. It should be noted that the EU is aware of this response from the member states, and adapts the principle so that in the longer perspective there will be no “free” days. The regulation may thus eventually have the desired impact.

Until 2003/2004, the policy of the DFA was that no Danish fisherman should be administratively excluded from any fishery. The DFA has thus applied the slogan: “*Danish fishing waters for Danish fishermen*” (our translation) arguing for maximum *flexibility* within Danish fisheries management. This position has been challenged for a long time, however, and since the turn of the century with increasing strength from particularly pelagic fishermen employing large-scale capital-intensive vessels. This group has made the counterargument that there is a need for *segmentation* (in terms of management) of the Danish fleet by giving fishermen in the pelagic fleet exclusive rights to a large proportion of the herring and mackerel quotas. In return, these vessels would then accept exclusion from other fisheries.³⁷ The pelagic fishermen are represented within the DFA, but they have used the Danish Pelagic Producers Organisation (DPPO) as their political platform. Through the DPPO they have argued in favour of ITQs since the 1980s, hoping to gain a longer planning horizon, which they considered necessary in order to obtain capital for modernisation of the Danish pelagic fleet, which during the late 1980s was becoming technologically outdated compared to particularly Norwegian and Scottish vessels (see Christensen et al. 2007 for details).

Flexibility, of course, has its advantages, particularly if some stocks are in decline, as flexibility allows fishermen switch fisheries without problems. However,

³⁶ The fishermen’s association from Bornholm and Christiansø, as well as the one from Grenå, left the DFA in 2005 for a variety of reasons, but particularly due to dissatisfaction with the position of the DFA regarding the principles for the new regulation of the demersal fisheries. The two associations formed the Union of Danish Fisheries Associations, which is now in the BCF alongside the DFA. The withdrawal from the DFA of these two associations is yet another indicator of the cleavages within the Danish catch industry.

³⁷ However, in reality this group had difficulties accepting exclusion from other fisheries, as it wanted to maintain its rights to participate in non-human consumption fisheries.

the flexibility has also created a domino effect at times, where a problem in one part of the fishing industry spread to other parts; e.g. in the years around 1986 (see Fig. 6.1) when the non-human consumption fishing had problems. Vessels traditionally employed in this fishery moved into other fisheries, pressuring vessels already operating there. As a result, these newly-crowded fisheries became economically unprofitable³⁸ for the vessels originally employed there. These vessels were then forced to move to yet another fishery, repeating the story there. This creates a vicious cycle where the lack of segmentation makes all fishermen worse off instead of isolating the problem within the fishery where the problems occurred. To indicate the magnitude of the problem, the operating profit of the Danish fleet could have been increased by about 10% – equivalent to DKK 350 million in 1988 (520 million in 2006 prices) – if the fishing fleet had been fishing differently and been able to avoid a situation with high shadow costs (externalities in terms of costs imposed by one fleet segment on another) (Løkkegaard 1990).³⁹

Christensen and Raakjær (2006) demonstrate the wide variations in fishermen's perceptions of their occupation, which to a large degree coincide with vessel size, and present two extremes. On the one hand are the small-scale fishermen who combine fishing with a family life keep costs at a low level and do not expect a large turnover or profit, but rather consider fishing a lifestyle. On the other hand, the group of fishermen who own large vessels with a very high geographical mobility can be characterised as dynamic investors and typical front-runners who consider fishing a business like any other.

The lifestyle- versus business-oriented approach to fishing came out clearly in the interviews as cleavages in Danish fishing; one respondent (Interviewee 10) articulated it this way:

When Bent Rulle and his predecessor were chairmen of the DFA it was all about fishing as a lifestyle. This is all right...but it belongs in a sportfishing association.

In contrast, another key-informant (Interviewee 4) presented the following view of owners of large capital-intensive vessels and the way they conduct their business:

Those Kings will in bad years modernise in order to obtain a loan that can be used for private consumption as well – and in good years they will modernise in order to avoid paying taxes.

This quotation clearly illustrates how lifestyle-oriented fishermen are critical of the approach taken by the business-oriented fishermen.

³⁸ When larger vessels are entering these fisheries, they take a large share of the quota, imposing shadow costs. In addition, smaller vessels cannot maintain their CPUE because larger vessels with more powerful gear and engines stress the fish, which thus become more difficult to catch.

³⁹ The authors are not aware that such calculations have been made since 1988, but the large prices paid for quotas under the new regulations indicate that shadow costs are still high in Danish fisheries, and that the fishermen expect these shadow costs to disappear as the quotas under the FKA-system are increasingly allocated in an optimal way.

An unarticulated objective of Danish fisheries management has always been to strike a fair balance between the different views and interests, mainly in order to avoid conflicts. This policy has created dilemmas for the national administration when implementing the CFP. It is not easy to strike the right balance between flexibility and segmentation, which is linked to the lifestyle- versus business-oriented approach to fishing, and again to a large extent represent a conflict of interest between small and large vessels. Furthermore, implementation becomes even more complicated as regional and local political concerns also need to be taken into consideration.

6.4.3 Strong Individual Actors and the Existence of Windows-of-Opportunity

In order to fully understand the dynamics of the Danish management system's evolution, it is important to recognise the importance of strong individual actors and windows-of-opportunity⁴⁰ for changing both implementation practises and the system in general. According to most interviewees fisheries policy generally attracts very little attention from the politicians. This enables strong individual actors to influence the fisheries management significantly in Denmark.⁴¹ Some of the interviewees (Interviewee 1 and 4) actually suggested that fisheries policy in Denmark might be considered an extreme case in this respect.

How can this be so? The Danish fisheries administration is highly centralised and decisions concerning major or radical changes are taken by the national parliament (*Folketinget*). Therefore, only the politicians in the parliament have a direct say. Fisheries policy and fisheries issues, however, rarely⁴² attract the interest of the 179 parliamentarians. This often results in a situation where politicians actually taking an interest in the subject find themselves in a strong position. As one interviewee put it (Interviewee 1):

⁴⁰ For a short introduction to windows-of-opportunity, see Chapter 5.

⁴¹ It is important to remember that these strong individual actors still have to operate within the frames set at the EU level.

⁴² It should, however, be noted that in a few cases fisheries issues have prompted broad interest and discussions in the parliament. An example of this is the discussions leading to the recently adopted ITQ-like vessel quota system, *the FKA-system*. The reason for the broader interest in this case seems related to the fact that the discussion over transferability and ownership of fishing rights fits well with the ideological differences between the left and right. The issue was therefore "lifted" from a discussion only relevant to fisheries to a discussion illustrating the difference between left and right. Unfortunately, according to one of our respondents (Interviewee 3), the general impression is that whenever the politicians engage more broadly the quality of the discussion is not improved. Rather, the discussions then suffer from the lack of in-depth knowledge, e.g. about the Danish competences *vis-à-vis* the EU competences in the area.

It is characteristic of the fisheries area that if there are one, two or three active persons then they can control the rest of the parliament.

Similar statements were made by several of the other respondents and the opposite view was not presented at all.

The primary explanation for the general lack of interest from the politicians in fisheries policy and implementation practices is, according to several of the interviewees, the insignificance of capture fisheries in Denmark as compared to other policy-areas. This is relatively unsurprising but has nonetheless severe implications for the implementation of fisheries policy over time in Denmark. The importance of capture fisheries in economic terms is marginal and fisheries is constantly losing out relative to other sectors of the economy. As explained previously, the catch value is in 2006 only half of what it was in 1983 if inflation is included (see Fig. 6.1 above). Furthermore, the number of fishermen has never been high enough to constitute a critical mass able to really influence anything with the votes they could mobilise. As a consequence, most politicians choose to focus on alternative, high-profile issues that affect more people and therefore potentially can deliver more votes.

The relative lack of general political interest in fisheries policy has not only strengthened the power of the few politicians that have actually taken an interest in fisheries issues, but has also paved the way for industry representatives who have often been in a strong position to influence policy (Interviewee 1, 4 and 6). However, it is important to note that until 1994 the fishing industry itself was divided in two associations, and after 2000 when the two associations merged there were strong tensions within the resulting industry-wide representative body – the DFA – in terms of policy priorities, particularly over the issue of flexibility versus segmentation. The consequence has been that fishing industry representatives have not been able to fully benefit from their favourable position and have largely resorted to aiming towards maintaining status quo.

Within the political system, and particularly due to the situation explained above, the minister is in a strong position to influence the Danish fisheries policy and implementation practices if he or she has a wish to do so. However, it should be acknowledged that there might also be good reasons for not changing the system and practices. The need for major or radical changes are usually caused by a critical situation whereby strong individuals or networks of individuals are provided with a window-of-opportunity for changing the present system or practises – or even reforming the system, which has also been the case. In the following we will take a closer look at some of the ministers – names marked in bold in Box 6.1 – in office since 1983.⁴³

⁴³ We have chosen to deal with the ministers that our respondents have referred to as strong influential individual actors, which is fully in line with our understanding from following the Danish fisheries policy process for a quarter of a century. Although it is not something that we will go into here, it is an interesting observation that the ministers responsible for fisheries throughout the period have been from the same party as the prime minister, even though there have been coalition governments in the entire period.

Kent Kirk was seen by most informants as a strong individual actor who managed to implement an agenda for fisheries policy that was very much to the benefit of the fishing port he came from, both before and during his time in office as Minister of Fisheries. Kent Kirk is a former fishing skipper from Esbjerg, where he was chairman of the local fishermen's association from 1975 and until he became minister in 1989.⁴⁴ He was a member of the European Parliament (EP) from 1979 to 1984⁴⁵ and elected to the Danish parliament in 1984–1998.

Box 6.1. Ministers responsible for fisheries in the period from 1983 to 2007

- Henning Grove, 1982–1986, The Conservative People's Party
- Lars P. Gammelgaard, 1986–1989, The Conservative People's Party
- **Kent Kirk**, 1989–1993, The Conservative People's Party
- Bjørn Westh, 1993–1994, The Danish Social Democrats
- **Henrik Dam Kristensen**, 1994–2000, The Danish Social Democrats
- **Ritt Bjerregaard**, 2000–2001, The Danish Social Democrats
- Mariann Fischer Boel, 2001–2004, Denmark's Liberal Party
- **Hans Christian Schmidt**, 2004–2007, Denmark's Liberal Party
- Eva Kjær Hansen, 2007- , Denmark's Liberal Party

Kent Kirk's interest in fisheries was self-evident. His personal commitment to the area is illustrated by the fact that he stands out as the only minister who participated in meetings of the BCF⁴⁶ himself (Interviewee 1 and various BCF minutes). However, according to several interviewees (Interviewees 4, 5 and 6) and Dansk Institut for Fiskeriteknologi og Akvakultur et al. (1991) Kent Kirk did not use his position and fisheries knowledge to forward the interests of the industry as a whole; he rather pursued the interests of the Esbjerg fleet at the expense of other regions. In the parliament, Kent Kirk formed a strong alliance with another parliamentarian, Laurits Tørnæs,⁴⁷ who also happened to be an influential former

⁴⁴ He was also member of the board of the Sea Fishermen's Association during the same period and in the latter part of the period also vice-chairman. The Sea Fishermen's Association had its main office in Esbjerg.

⁴⁵ In 1983, during his term in the EP, he claimed his place in history by carrying out one of the most publicised media stunts ever in the history of Danish and EU fisheries policy. During the final negotiations of the EU CFP in January 1983 (Chapter 5), he steered his fishing vessel into the UK 12 nm zone and began fishing. He argued that since the agreement on the new CFP had not been signed before the start of 1983, when the derogations providing for 12 nm zones ended, he was entitled to do so. He was stopped by a UK inspection vessel and severely fined; however, the Court of Justice of the European Communities later acquitted him.

⁴⁶ All of his predecessors and successors have been represented by their civil servants.

⁴⁷ Laurits Tørnæs was also long-time chairman of the Sea Fishermen's Association (1974–1987). From 1971 to 1974 he was chairman of the Fishermen's Association of Esbjerg. He was a member of Denmark's Liberal Party, the other strong party in the government coalition, and Minister of Agriculture from 1987 to 1993 (Member of Parliament from 1981). He was after this for a long-time mayor of the County of Ribe where Esbjerg is situated.

fishing skipper from Esbjerg and who supported the focus on helping the Esbjerg fishing fleet.

The Kirk-Tørnæs alliance, both members having vested interests in fisheries and strong positions in their respective parties in government, was able to obtain a strong influence on the Danish fisheries policy for around a decade (1983–1993). Their influence is exemplified by the introduction of a new generation of large trawlers in 1984/85. These trawler were introduced at a time when the overall policy was increasingly focused on reducing capacity and not issuing licenses for new vessels without the withdrawal of equivalent capacity, as described above. In 1984 permits were given to a number of Esbjerg fishermen to build new, larger trawlers.⁴⁸ The licenses were granted on the background of indicative vessel budgets that showed that the vessels would be economically viable based on fishing for species for non-human consumption outside the TAC-system in the North Atlantic. However, this fishery was not economically viable (an argument which several people had made in advance), and as a result, the new vessels made very few fishing trips to their intended fishing grounds in the North Atlantic before they were granted access to the North Sea (Interviewee 4 and 6). These vessels were first allowed in the non-human consumption fishery. However, they progressively expanded into the herring and mackerel fishery until 1990 when the management system was changed at short notice, and the vessels got equal rights to participate in the Danish North Sea herring fishery alongside the purse seiners that had until then dominated that fishery. This resulted in a *de facto* movement of fishing rights from Northern Jutland to Esbjerg, the homeport of the new trawlers. The decisions to issue licenses to build the vessels, although the budgets were not realistic, and later to grant them access to the North Sea were facilitated by Kent Kirk and Laurits Tørnæs, who “*twisted the arm of Grove* [the minister at the time]” (Interviewee 4, supported by Interviewee 6).⁴⁹ As it turned out, the way that Kent Kirk and Laurits Tørnæs advanced the interests of the Esbjerg fleet and region by allowing special treatment not only resulted in regional redistribution but also, equally importantly, increased the overall structural problem of overcapacity in the Danish fleet fishing in the North Sea and contributed to the *domino effect* described above.

Another aspect of Kent Kirk’s time in office was that he did not make the necessary effort to ensure an appropriate balance between fishing possibilities and fishing capacity and thus maintained too high levels of fishing mortality, as well as overcapacity in the fleet. At the time, there was a window-of-opportunity for change accompanying the cod crisis in the beginning of the 1990s. Kent Kirk’s predecessor, Lars P. Gammelgaard, had introduced a large analytical project aim-

⁴⁸ Popularly referred to as *super-trawlers*.

⁴⁹ It has to be mentioned that in our interviews, it was opponents of these decisions who argued that it was the Esbjerg lobby that stood behind them. In this context the interviewees were to some extent biased. However, that the Esbjerg lobby had a decisive impact on these decisions fits well with the general perception of this lobby as being very powerful at the time.

ing towards introducing ITQs in Danish fisheries, but this was disrupted during Kent Kirk's time in office. Apparently, Kent Kirk wanted to maintain *status quo* in terms of fleet capacity and designed regulations in such a way that fishermen always had a right to be at sea (e.g. weekly catch quotas of 50 kg). This left compliance with catch regulations to the conscience of the fishermen, since, at the same time, the Danish fisheries inspection was far from aggressive. It has also been argued that the minister indirectly encouraged fishermen to non-compliant behaviour⁵⁰ e.g. by obstructing civil servants from pursuing cases of non-compliant behaviour (Sandbeck 2003) and by downplaying the importance of sticking 100% to the regulations when he met with fishermen (Interviewee 4). Bjørn Westh, Kent Kirk's successor, initiated a strong law enforcement practice in order to avoid repercussions from the EU, and a large number of fishermen was caught in retrospective paper controls and penalised for behaviours they had at the time – understandably – thought were acceptable based on signals from Kent Kirk's ministry (Interviewee 4; Raakjær Nielsen and Mathiesen 2003; Sandbeck 2003).

The second minister, whose role we would like to emphasise, is Henrik Dam Kristensen, not due to his personal role in particular, but more due to his collaboration with Bent Rulle,⁵¹ who was mentioned by most interviewees as the most powerful individual actor outside the circle of national politicians. Bent Rulle managed to become extremely influential in determining how the Danish fisheries policy was administered and implemented in the period from 1994 to 2002, which to a large extent coincided with the period that Henrik Dam Kristensen was in office. It is worth mentioning that Bent Rulle on several occasions announced that the Danish minister (Henrik Dam Kristensen) was the best person to protect the fishermen's interests during negotiations concerning the CFP in Brussels. We also believe that Henrik Dam Kristensen in particular took Bent Rulle seriously because Bent Rulle in 1994 became chairman of the newly established unified fishermen's association, which for the first time gave the industry a unified voice in general and in the BCF in particular. Henrik Dam Kristensen was also likely to take Bent Rulle seriously because he as a social democrat sympathised with many of the views that Bent Rulle presented. Bent Rulle focussed on the importance of the fisheries sector in fisheries-dependent communities and on fishing as a special lifestyle worth protecting in its own right (Interviewees 4 and 6) and argued that the fisheries industry was something more than an ordinary economic sector. He

⁵⁰ Among other things, renaming of fish became a common practise. At the time Denmark had a large quota for plaice, which was rarely utilised, and it became relatively common to rename cod into plaice when landing, or renaming quota species into non-quota species. It should be mentioned that taxes were paid on the income from illegal fishing as it was sold through the normal channels and for that reason labelled grey fish.

⁵¹ Rulle is a fishing skipper from Læsø, a small, relatively fisheries-dependent island in Kattegat. In the 1980s chairman of the Fishermen's Association of Østerby. He became chairman of the Danish Fishing Association in 1991 and the first chairman of the DFA in 1994, a position he held until 2003.

was seen as a representative of the smaller and medium-sized vessels, but in the eyes of many, particularly among the larger vessels and outside the industry, also as an obstacle to progress and development in the industry. He was a very strong opponent of introducing ITQ or ITQ-like systems in Denmark, which he feared would lead to speculation and unhealthy regional displacements of capacity, among other things, and in general destroy the special, independent lifestyle of Danish fishermen.⁵² Henrik Dam Kristensen teamed-up with Bent Rulle in arguing against ITQs (Fiskeritidende 1997).

In many respects, Henrik Dam Kristensen agreed with the views put forward by Bent Rulle, although he also tended towards agreement because he did not want to go against a unified fishing industry and hereby create a conflict. Neither Henrik Dam Kristensen and his administration nor the political establishment had an interest in opposing the DFA. This conflict aversion was not only because of the corporatist traditions of decision-making in Denmark, but likely also due to the more pragmatic issue that the Ministry of Fisheries was at the time busy being merged with the Ministry of Agriculture, which to some extent created an administrative vacuum. Furthermore, Kent Kirk had recently resigned and a scandal was unfolding arguing that his efforts to ensure compliance during his time in office had been less than dedicated (Sandbeck 2003), providing further incentive for the ministry to comply with industry demands and avoid further conflict. Finally, Bent Rulle was on a personal level a very charismatic person who to a large extent managed to control the board of the DFA (Interviewees 4, 6 and 10), placing him in a strong negotiation position when dealing with the minister. After Henrik Dam Kristensen resigned as minister, Bent Rulle faced a stronger opposition from the larger vessels in the DFA, and because of his opposition to ITQs, he withdrew as chairman in 2003 to make room for a compromise candidate (Interviewees 4, 6, 8 and 9). However, that did not occur until after the ITQ-system for herring had been introduced and the direction for the future of Danish fisheries policy to a significant degree had been set (see section on allocation of resources above).

Bent Rulle's fingerprint on Danish fisheries policy is that he for a decade managed to make Danish fishermen speak with largely one voice. This, however, also explains why he did not manage to fully capitalise on his position, as he was struggling to keep the new association together and was forced to maintain some sort of balance. Maybe this partly explains why his legacy among several interviewees was that of the chairman that said "no" to everything and wanted to maintain *status quo* (Interviewees 6, 8 and 9). Most likely he would not as a chairman of the organisation have survived saying "yes" (Interviewee 4), as there was not a window-of-opportunity at the time for reforming Danish fisheries policies, and no one was really interested in solving the fundamental issue of overcapacity that in the end led to the ITQ-like FKA-system.

⁵² The first year of the FKA system has indeed resulted in large regional displacements of fishing capacity.

The third minister who particularly influenced the path of the Danish fisheries policy and its administration and implementation was Ritt Bjerregaard, also a social democrat like her predecessor, Henrik Dam Kristensen. It was during Ritt Bjerregaard's term in office that ITQs were decided on in the herring fishery for a 5-year trial period. This decision was a radical change of previous Danish practice, as it introduced direct ownership of fishing rights for the first time. It was directly in opposition to the views expressed by the former minister, Henrik Dam Kristensen, and DFA chairman, Bent Rulle. Several interviewees (particularly Interviewee 4) argued that this decision kick-started the development that culminated with the adoption of the FKA-system introduced in 2007 for the demersal fisheries.

Ritt Bjerregaard had a strong ally in the parliament in Lene Espersen,⁵³ who was elected in Northern Jutland. Lene Espersen, who had a family background in the pelagic fisheries, took a strong interest in the management of these fisheries (Interviewees 1 and 4). Interestingly enough, Lene Espersen represented a political party from the opposition, and this may have served to strengthen the alliance, as Danish governments, this one included, are almost always minority governments. The alliance between Ritt Bjerregaard and Lene Espersen was so strong that they were able to convince the parliament to introduce ITQs even though this was against the wishes of the majority of the Danish fishermen organised in the DFA (particularly those fishing for demersal species) even while strongly supported by the DPPO, the processing industry and the banks. What made it possible to force the decision through was probably a combination of: (1) the alliance of the two politicians from each side of the parliament, (2) the fact that the number of licenses issued for herring fisheries was high and increasingly recognised as an obstacle to modernisation and competitiveness of the Danish pelagic sector, and (3) the presence of a relatively active, powerful and homogenous group of vessel owners in the pelagic fisheries who were in favour of ITQs (Interviewees 1, 4 and 8; Christensen et al. 2007; Hegland and Sverdrup-Jensen 2007). In other words, the time was right, but it is likely that the decision could have been postponed by the opposition from the industry had it not been for the presence of the two politicians with a wish to make this change at the specific time.⁵⁴

⁵³ Lene Espersen, the present Minister of Justice, is the daughter of an owner of pelagic fishing vessels in the fishing port of Hirtshals in Northern Jutland. Functioning as a representative of the fishermen that lost out during the Kirk/Tørnæs period, Lene Espersen had a significant influence on the fisheries policy together with Ritt Bjerregaard.

⁵⁴ On a theoretical level, the *garbage can model* (first outlined by Cohen et al. 1972) seems to be an appropriate model for at least in part understanding the decision processes and the decision-making system behind the evolution of Danish fisheries management and implementation practices over time. A fundamental message of the garbage can model is that the different elements of a decision process – problems, solutions, participants and choice opportunities – cannot always be put into a neat chain of events leading to a well thought-through decision, as a simple, conventional model of decision-making would have us think. Rather, these four elements of a decision function as independent streams (Cohen et al. 1976). An implication of this is that “[a] major feature of the garbage can process is the partial decoupling of problems and choices. Al-

Hans Chr. Schmidt of Denmark's Liberal Party was the minister in office when the most radical reform of the Danish fisheries management system since the introduction of the CFP was adopted by the Danish parliament in 2005. Hans Chr. Schmidt took particular interest in the fisheries issues, and in his resignation speech September 2007, he specifically mentioned that dealing with fisheries issues was what he had enjoyed the most during his term in office. Denmark's Liberal Party is a strong supporter of market solutions and pursuing ITQs and ITQ-like solutions was thus straightforward for Hans Chr. Schmidt. The first important step to introduce market-based approaches was taken already in 2002 with the adoption of ITQs in the herring fishery. Even though this was for a 5-year trial period, this first implementation of ITQs became a landmark decision in the evolution of fisheries management in Denmark and in reality set the direction for the future. This direction was reinforced first by the new pro-ITQ DFA chairman from 2005. Later it was also reinforced by the broad industry support gained by the minister. Thus the window-of-opportunity for change was there during his time in office, in contrast to what had been the case for his predecessors. He merely followed his political vision with strong support from the top of the DFA and carried through the reform,⁵⁵ changing Danish fishing rights from being common property by introducing private property rights to the Danish share of the TAC for most species, including all economically important ones.

What is the lesson learned? When fisheries issues are not considered important at the relevant political level, as is the case in Denmark, such issues will only attract sporadic political interest. This places people who have an interest in and knowledge about the issues in a favourable position. This goes for politicians as well as industry representatives. Although we have not investigated this directly, it seems plausible to conclude that individual actors would not have been able to exert the same degree of influence in more important sectors of the Danish economy

though we normally think of decision making as a process for solving problems, that is often not what happens. Problems are worked upon in the context of some choice, but choices are made only when the shifting combinations of problems, solutions and decision makers happen to make action possible" (Cohen et al. 1976, p. 36). We are grateful to Interviewee 8 for making us think in terms of the garbage can model when looking for good decision-making models to describe the Danish situation.

⁵⁵ It should be mentioned that the reform was adopted by a small majority within the parliament only supported by the government coalition and its supporting party, the Danish People's Party. It is interesting to observe that the Danish Social Democrats had changed positions towards ITQs since Ritt Bjerregaard's term in office, even if they had been instrumental in introducing ITQ in the herring fishery. There was also a strong opposition within the DFA, primarily from fishermen having small and medium sized vessels, recreating the traditional cleavages in Danish fisheries. It should also be mentioned that *de jure* property rights have not been granted, as the the Parliament introduced an eight-year termination clause, but it is very unlikely that this clause ever will be used as this will require at least two consecutive parliamentary elections to change the system – and the clause is more a type of window dressing from the Government to demonstrate that the Danish fish resources have not been privatised, which they *de facto* have been by adopting the new regulation in 2005.

or on issues that attract public debate or in other countries where the fisheries sector plays a more important role in the economy or public debate.

It is difficult to determine whether this feature of the system is necessarily good or bad. Any assessment of how these individuals have influenced the development of fisheries management and implementation practises will likely depend on who is looking at the development. Nevertheless, it seems reasonable to conclude that this feature makes the system more vulnerable and prone to *ad hoc* developments due to personal preferences than systems less dependent on individuals. Furthermore, there is also a risk that necessary compromises are not made, since individuals in some cases can get their ideas through without compromise and also are likely to make it extremely difficult to develop a commonly accepted strategy or vision for the development of the fisheries sector.

6.4.4 Differences in Perspectives – Individual versus Collective

It came across in all interviews that there are different perspectives in the fishing industry towards management, and these are often driven by individual concerns rather than a wish to find collective long lasting solutions. Several of the interviewees mentioned that in Danish fisheries it is extremely difficult to agree on measures that will put some fishermen in a better position without harming other fishermen.⁵⁶ This concept was articulated by several of the interviewees as *enviousness*, explaining that a decision which put all fishermen worse off would actually stand a better chance of being accepted. These interviewees in general argued that it was a relatively simple expression of envious fishermen as one interviewee (Interviewee 6) put it:

Enviousness has controlled a lot. A lot of effort has been put into figuring out how to prevent others from gaining anything.

What might be understood as enviousness is actually, we will argue, an extreme focus on individual interests, forgetting about finding collectively correct solutions that benefit the industry at large.

Several interviewees argued that this line of reasoning was definitely not something going on only among the average fishermen, but also in leadership circles. The interviewees argued that it was standard practice to argue exclusively from

⁵⁶ This sort of decision would be along the lines of what in economic theory is known as a *Pareto improvement*. *Pareto optimality* is reached when no more Pareto improvements can be made. Examples mentioned by the interviewees included situations where some vessels were in various ways prevented from catching fish in foreign waters even though no other Danish vessels could go there to fish them (Interviewee 6), as well as fishermen arguing that other fishermen should not be allowed to catch the cod when it was at its best – if they were themselves prevented from doing so; then it was preferred that nobody caught it when it was best (Interviewee 2).

the point of view of one's own vessel in representative boards within the fisheries association (Interviewees 6 and 10). One interviewee (Interviewee 10) described it in this way:

If you are discussing whether something in the regulation should be changed it always ends up in: What does this mean to me? Will I benefit or not.

Interviewee 4 provided a more nuanced description of what goes on in the head of the fishermen:

Fishermen have always been individualists. The fishing vessel was a small society with a crew of 3, and that was the unit that the fisherman was trying to develop and do the best for. [...] So whenever a proposal was presented, the fisherman first and foremost considered: 'Hey, how will this affect my vessel, my world, my society'. And if there was anything whatsoever that could in any thinkable way conflict with his ideas, he would say 'No'.

This indicates that the driving factor is not so much about enviousness, but more likely a question of being insecure about the outcome of new measures or regulations. The philosophy seems to be along the lines of "You know what you have, but not what you will get". Many fishermen tend to evaluate a proposal on the background of their own vessel only. As most fishermen have been struggling to keep their business economically viable, it is only natural that fishermen take an individual perspective even if it would have been better in the long run, even for the individual, to take a more collective perspective. This tendency has been an important force in preventing implementation and administration practices from developing in a rational way (Interviewees 2, 6, 8 and 10). One interviewee did, however, mention that this attitude went hand in hand with the changes in society overall, which are generally moving in a liberal, market-oriented, individualistic direction (Interviewee 6).

Furthermore, several interviewees also mentioned that sector representatives (and to some extent also politicians) had a tendency to make decisions to accommodate very small groups of vessels or in extreme cases individual vessels (Interviewees 2, 8, 9 and 10). The interviewees explained this with the abovementioned preference for discussing things based on examples rather than in terms of general principles. This might also relate to the fact that in the fisheries sector the representatives are not "professional representatives" but often people active in the business. One can easily imagine that it is hard to support measures that might on a general level be the best way forward but will be difficult to explain to your fellow fisherman back home, who will immediately ask why you did not take his special situation into consideration. It is not unlikely that this could lead to a not-so-organized "*proliferation of rules and administrative practices*" (Interviewee 5), as one interviewee put it, rather than facilitate a well founded development strategy.

6.5 Evaluation and Implications

The issue of balancing fishing mortality rates with the carrying capacity of the fish stocks is important when analysing fisheries management performance. By identifying the main domestic drivers in the development of fisheries policy and implementation practices in Denmark, this chapter fits another piece into the puzzle of why the CFP has been struggling in vain to achieve preferred fishing mortality rates.

In the EU, the conservation policy component of the CFP deals with fishing mortality, with annual TACs as its major instrument. The conservation policy is supplemented by structural policy measures that aim to control the capacity and activities of the fishing fleet. As described above, there is no clear link between fishing mortality rates and the TACs because fishing mortality is never directly monitored. Only fish landings, rather than catches, are directly measured, and discards are thus not taken fully into account. Furthermore, enforcement practices in the EU have not been sufficiently restrictive to avoid illegal fishing, which has at least to some extent been provoked by massive overcapacity. Last but not least, the EU member states' ministers in the Council have for various reasons repeatedly set TACs higher than the levels advised by the scientists (see Chapter 5). These basic observations lead us to the conclusion that the CFP framework in which Danish administration and implementation operates cannot in itself ensure sustainable utilisation of fish resources in EU waters.

Furthermore, the CFP framework provides Denmark with substantial freedom to make decisions on how to *allocate fishing rights* and how to *adjust fleet capacity*. This obviously has an impact on the effectiveness of the CFP by influencing the degree to which the measures under the CFP will work as intended and will be useful to control fishing mortality. In this respect, rule compliance and enforcement practices⁵⁷ become equally important.

In order to understand the Danish policy process, it is important to recognise that fishing mortality rates and conservation measures *per se* have never been real issues in the Danish implementation. Across all stakeholders (apart from conservation NGOs), conservation concerns have been considered – at least in principle and theory – as having already been dealt with by the CFP and the TAC system. However, no stakeholder could have been unaware that such an assumption was not based on realities. Thus Danish fisheries management and implementation practices have focussed on allocating the Danish quotas and ensuring accepted management approaches. In this process, it has been considered legitimate to find ways to circumvent conservation measures when designing implementation strategies e.g. by

⁵⁷ It should be mentioned that enforcement largely remains with the member states. Raakjær Nielsen (1992a) argues that this creates a tragedy of the commons situation, as no member state wants to strictly enforce the regulations in relation to its own fishermen if there is no mechanism to ensure that other member states do so, too.

placing closed days when nobody is fishing or by setting unreasonably low catch quotas instead of closing fisheries.⁵⁸

In this chapter, we have examined the policy process by undertaking an analysis combining an institutional perspective with an actor-oriented approach and have clearly found that the policy process has been driven by case-specific, intertwined interests, networks/alliances and discourses, which all affect each other and influence policy-making.

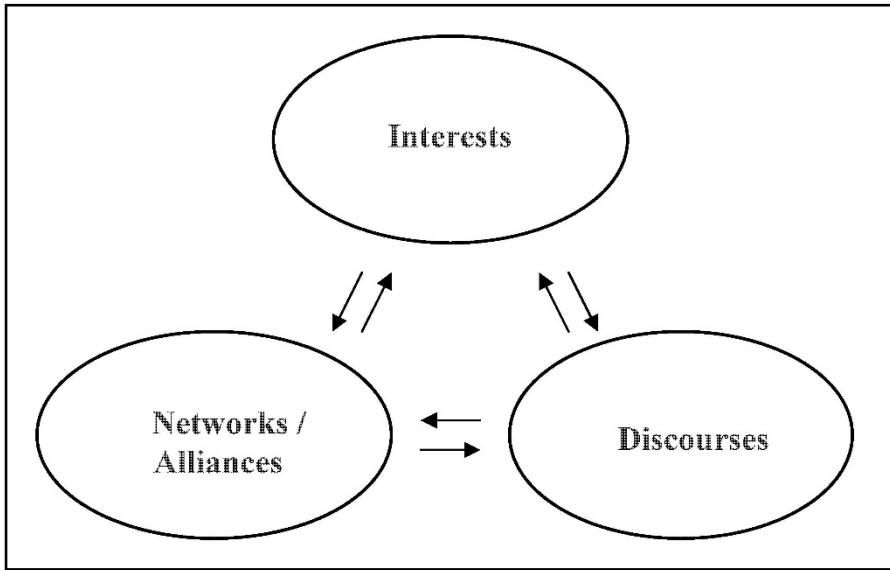


Fig. 6.4. Actor-level drivers influencing the policy process (Raakjær forthcoming)

Figure 6.4 illustrates the various actor-level drivers (working within a specific institutional setting) that influence the policy process and its logic. We will refer to the figure as we synthesize why and how the implementation of fisheries policies in Denmark has changed over time the way it has. Policy changes occur as a result of a combination of multiple interrelated elements that are shaping the process and its outcome. In this chapter, we have clearly found that the Danish fisheries policy process has been driven by *interests* – or more specifically, that different actors/groups have been pursuing different interests and there have been clashes of interests among user-groups, stakeholders, interest groups and the administration or some combination hereof. The policy process has also been driven by *networks/alliances*, by which we mean clusters of different kinds of actors with similar or compatible interests that join forces to collectively influence the outcome of the policy process. Networks/alliances can vary from tight alliances to loosely

⁵⁸ This is not unique for Denmark, and is probably the rule rather than the exception among all the EU member states.

affiliated networks mobilised for specific issues and are by nature very dynamic and change over time. The last element we include is *discourses*, which define dominant lines of reasoning. As discussed by Hajer (2002), one needs to understand the overall position as much as the actual wording of arguments to fully understand the meaning of a discourse, as arguments are used to pursue a specific purpose. When these three elements: interests, network/alliances, and discourses work together, major policy changes are possible.

Based on our analysis, we can conclude that domestic factors and concerns, rather than concern about the state of the fish stocks, have been driving the evolution and changes in Danish fisheries management and sector development. It has been particularly important to balance the various interests within a sector dominated by internal differences, including a fundamental disagreement within the fishing industry on what fishing is all about: business or lifestyle. The *discourses* articulated in the debates on various issues have to a large extent been embedded in these two different perceptions of fisheries, which themselves can be understood as fundamental underlying discourses.

The different *interests* articulated can also clearly be linked to two fundamentally different perceptions of fishing. One side aims to maintain status quo and flexibility and is generally reluctant to make major changes. In contrast, the other side aims for market-based solutions that will lead to a radical structural adjustment of the Danish catch industry probably with strong and uneven negative socio-economic impacts at the local level.

Particularly *networks and alliances* have shifted over time. As Fig. 6.4 suggests, the dynamics of the process are sensitive to changes relating to any of the drivers, which we in our analysis also observed to be the case, and furthermore we found that these drivers affected each other. However, the situation has been relatively stable when looking at the interests and discourses – of course with incremental changes over time. This suggests that the major driver in terms of creating the change is the changing networks and alliances. This can be explained by the significant power held by a few persons (primarily) in the parliament. The power of these few people is brought about by the relatively low importance of the sector in the national economy. Consequently, various discourses and interests have competed against each other, but what has really changed the balance and the system has been changes in powerful networks and alliances. However, it should be kept in mind that although conservation and the state of fish stocks have never been of specific concern in the Danish context, they have nonetheless been underlying issues that have occasionally opened a window-of-opportunity in the wake of conservation failures – and it is not unlikely that the increasing force of the environmental discourse might add to this picture in the future.

An underlying theme of the analysis has been the institutionalised involvement of the sector itself, particularly the fishing industry, in decision-making. As described in the section on legal and institutional set-up, the fisheries decision-making process is embedded in an overall corporative governance system with a long – but increasingly questioned – tradition of consulting relatively narrow

groups of stakeholders or users. What seems clear from our analysis is that the corporatist structures have worked best under weak, or perhaps more correctly, less determined ministers, and to a minor degree – compared to the ideal model of corporative governance – under strong/determined ministers who have to some extent been able to bypass the corporatist structures by utilising networks and alliances. However, even when the corporatist set-up has worked on a technical level, it is questionable whether it has worked as intended in the sense of delivering stakeholder buy-in for decisions in the best interest of society. There are several examples where the corporatist structures have delivered decisions that have been at least questionable from the point of view of the society at large, as the sector has managed to get policies adopted that have been beneficial for itself (e.g. publicly funded scrapping programmes, allocation of fishing rights in the shape of free vessel quota shares) without these policies efficiently solving the problems they were supposed to address. Therefore, it seems fair to question whether corporatist structures in the area of fisheries policy, where a relatively narrow group of stakeholders enjoy a privileged position, continue to serve the common good or rather serves to maintain structures that might prioritise a small group of stakeholders at the costs of the society as a whole, especially as societal priorities change over time and to some extent move away from those of the narrow group of stakeholders. In the context of the Danish fisheries policy-making system, the represented interests and occasionally a subset of those have – either by using the corporatist system in the traditional way or by means of strong alliances and networks able to bypass the corporatist process – managed to shape the implementation policies in ways that in several instances can be characterised as questionable from the point-of-view of society at large. This is an interesting observation in a corporatist system, where policy decisions ideally should be shaped by thorough consultations among those affected by the measures and a subsequent balancing of the various represented interests, taking into consideration the interests of society at large.

That the system has in several instances served special interests rather than society at large is to some extent related to the narrow conception of legitimate stakeholders, which we have dealt with indirectly in our analysis. The interests formally represented in the Danish fisheries policy-making system are mainly the traditional stakeholders: fishermen, fish processors / traders, and employers' and employees' organisations. The system has not to any significant extent responded to the fact that other types of interests have increasingly legitimate claims to representation in the system.⁵⁹ As the resource crisis has over time become accepted as a fact, the set of legitimate interest groups in fisheries has moved beyond that of the traditional actors to a situation where the interests of consumers, environmental interests, local communities and future generations, as notable examples, are increasingly relevant (Mikaelsen and Jentoft 2001). These interests are in gen-

⁵⁹ The recent inclusion of WWF in the BCF on a semi-permanent basis, however, gives evidence that the system is not completely static.

eral only sporadically included in the decision-making system for commercial fisheries in Denmark, and to a large extent they do not have the power to force their way into it. Nevertheless, these are, as Mikaelson and Jentoft (2001, p. 284) put it, “*groups with ‘legitimate’ interests in management decisions and outcomes to whom managers – for the sake of democracy – should be responsible and responsive.*” Based on our analysis, a primary objective of the Danish administration has been to keep the peace within the sector. Therefore, one could be sceptical about the extent to which the state/administration can sufficiently be expected to protect the interests of these groups. Including new stakeholders would likely not gain support from current stakeholders, as it will undermine their influence.

Finally, our analysis of the policy process points to the importance of understanding the dynamics that enable change, emphasizing the necessity of synergistic interaction between the three elements illustrated in Fig. 6.4. Over time there will be windows-of-opportunity for implementing larger reforms, but whether these opportunities are taken advantage of depends on the situation – particularly in terms of the dominant interests and alliances/networks at the time, the scale of the problems and to what degree solutions exist that can guide a reform process. Although strong individual actors have influenced the implementation process on and off during the whole period, we argue that it was not until the problems facing the fishing industry became evident to most people involved in the decision-making process that the window-of-opportunity for fundamental change was created. The solution eventually chosen – the market-based approach – had actually been floating around for almost two decades with continuous minority support, but until 2004/5 this solution was rejected by the majority of the Danish fishermen. In 2005, however, the reform became political reality because a dominant interest in market-based solutions and a strong political alliance in favour of an ITQ-system coincided with the on-going discourse on the need for changes and thus created the window-of-opportunity to introduce the largest reform in Danish fisheries since the introduction of the CFP in 1983.

References

- Andersen, M., Dalskov, J., et al. (2003). Foreløbig rapport om omfang af og årsager til discard i dansk fiskeri. In J. W. Valdemarsen (Ed.), *Report from a Workshop on discarding in Nordic fisheries* (pp.102–123). TemaNord 2003:537. Copenhagen: Nordic Council of Ministers.
- Blom-Hansen, J. (2000). Still corporatism in scandinavia? A survey of recent empirical findings. *Scandinavian Political Studies*, 23(2): 157–181.
- Blom-Hansen, J. (2001). Organized interests and the state: A disintegrating relationship? Evidence from Denmark. *European Journal of Political Research*, 39: 391–416.
- Blom-Hansen, J., Daugbjerg, C. (1999). Staten og de organiserede interesser: En teoretisk introduktion. In J. Blom-Hansen and C. Daugbjerg (Eds.), *Magtens organisering – Stat og interesseorganisationer i Danmark* (pp. 6–21). Århus: Systime.

- Byskov, S. (2005). Hvad blev der af Esbjerg-fiskeriet? Forandringer i Fiskeriet fra Esbjerg 1965–2005. In Morten Hahn-Pedersen (Ed.), *Sjæk'len, Årbog for Fiskeri- og Søfartsmuseet* (pp. 9–25). Esbjerg: Fiskeri- og Søfartsmuseet.
- Charles, A. T. (2001). *Sustainable Fishery Systems*. Oxford; Blackwell Science.
- Christensen, A.-S., Raakjær, J. (2006). Fishermen's tactical and strategic decisions – A case study of Danish demersal fisheries. *Fisheries Research*, 81: 258–267.
- Christensen, A.-S., Raakjær, J., et al. (2007). The voices of Danish fishermen in resource management – An examination of the system of negotiated economy. *Ocean & Coastal Management*, 50: 551–563.
- Cohen, M. D., March, J. G., et al. (1972). A garbage can model of organizational choice. *Administrative Science Quarterly*, 17: 1–25.
- Cohen, M. D., March, J. G., et al. (1976). People, Problems, Solutions and the Ambiguity of Relevance. In J. G. March and J. P. Olsen (Eds.), *Ambiguity and Choice in Organizations*, (pp. 24–37). Bergen, Oslo and Tromsø: Universitetsforlaget.
- Commission of the European Communities (2001). COM (2001) 135 final: The Green Paper. Volume 1: The future of the Common Fisheries Policy. Brussels, Commission of the European Communities, 20.3.2001: 40.
- Commission of the European Communities (2006). Third Edition of the Common Fisheries Policy Compliance Scoreboard. Online version.
- Council of the European Union (2002a). Council Regulation (EC) No 2369/2002 of 20 December 2002 amending Regulation (EC) No 2792/1999 laying down the detailed rules and arrangements regarding Community structural assistance in the fisheries sector. Official Journal of the European Communities, L 358, 31.12.2002: 49–56.
- Council of the European Union (2002b). Council Regulation (EC) No 2371/2002 of 20 December 2002 on the conservation and sustainable exploitation of fisheries resources under the Common Fisheries Policy. Official Journal of the European Communities, L 358/59, 31.12.2002: 61–80.
- Dansk Institut for Fiskeriteknologi og Akvakultur et al. (1991). *Perspektivplan for den nordjyske silde- og makrelindustri 1992–1996*. Hirtshals.
- European Court of Auditors (2007). Special Report No 7/2007 (pursuant to Article 248(4) second paragraph, EC) on the control, inspection and sanction systems relating to the rules on conservation of Community fisheries resources.
- Fiskeridirektoratet (1992). *Fiskeristatistisk Årbog 1991*, Fiskeridirektoratet.
- Fiskeridirektoratet (1999). *Fiskeristatistisk Årbog 1998*, Fiskeridirektoratet.
- Fiskeridirektoratet (2000). *Fiskeristatistisk Årbog 1999*, Fiskeridirektoratet.
- Fiskeridirektoratet (2005). Referat af Erhvervsfiskeriudvalgets (fiskeri) møde den 20. oktober 2005 i Fiskeridirektoratet, København.
- Fiskeridirektoratet (2006). Referat af Erhvervsfiskeriudvalgets (fiskeri) møde den 26. januar 2006 i Fiskeridirektoratet, København.
- Fiskeridirektoratet (2007). *Fiskeristatistisk Årbog 2006*, Fiskeridirektoratet.
- Fiskeridirektoratet and Fødevarerøkonomisk Institut (2005). Redegørelse om Individuelle Overdragelige Kvoteandele (IOK) i dansk sildefiskeri (Nordsøen, Skagerrak og Kattegat samt atlanto-skandisk sild), Ministeriet for Fødevarer, Landbrug og Fiskeri: 49.
- Fiskeriministeriet (1984a). Referat: Det rådgivende Fiskeriudvalg, den 13. januar 1984.
- Fiskeriministeriet (1984b). Referat: Det rådgivende Fiskeriudvalg, den 30. april 1984.
- Fiskeriministeriet (1985a). Referat: Det rådgivende Fiskeriudvalg, den 26. juli 1985.
- Fiskeriministeriet (1985b). Referat: Det rådgivende Fiskeriudvalg, den 29. november 1985.
- Fiskeriministeriet (1994). Bekendtgørelse nr 981 af 07/12/1994 om regulering af visse fiskerier i 1995.
- Fiskeritidende (1997). Niels Anker Kofoed må flytte sig, 3. april.
- Folketinget (1999). Lov Nr. 281 af 12.05.1999: Fiskerilov.
- Fødevarerministeriet (2001). Bekendtgørelse nr 996 af 07/12/2001 om regulering af fiskeriet i 2002 og visse vilkår for fiskeriet i 2003.

- Fødevareministeriet (2004). Bekendtgørelse nr 1187 af 07/12/2004 om regulering af fiskeriet i 2005 og visse vilkår for fiskeriet i følgende år.
- Fødevareministeriet and Fiskeridirektoratet (2005). Fiskeridirektoratets resultatkontrakt 2006.
- Fødevareministeriet and Fiskeridirektoratet (2006). Fiskeridirektoratets resultatkontrakt 2007.
- Fødevareøkonomisk Institut (2006). *Fiskeriregnskabsstatistik 2005/Account Statistics for Fishery 2005*. Copenhagen.
- Gulland, J. (1990). Report of an independent group of experts on guidelines for the preparation of the multi-annual guidance programmes in relation to the fishing fleet for the period 1992–1996 ('the Gulland report'). Brussels, European Commission.
- Hajer, M. (2002). Discourse Analysis and the study of policy-making. *European Political Science* 2(3): 61–65.
- Hegland, T. J., Sverdrup-Jensen, S. (2007). Fiskefælleden i Danmark – velsignelse eller tragedie? In E. Christensen and P. Christensen (Eds.), *Fælleder i forandring* (pp. 129–144). Aalborg: Aalborg Universitetsforlag.
- Holden, M. (1994). *The Common Fisheries Policy – Origin, Evaluation and Future*. Oxford: Fishing News Books, Blackwell Scientific Publications Ltd.
- Kommissionen for de Europæiske Fællesskaber (2001). Fiskerikontrol i medlemsstaterne: Danmark. Bruxelles, 15.10.2001, Arbejdsdokument fra Kommissionen.
- Lassen, H. (1995). Report of the group of independent experts to advise the European Commission on the fourth generation of multi-annual guidance programmes ('the Lassen report'). Brussels, European Commission.
- Løkkegaard, J. (1990). Anvendelse af omsættelige individuelle kvoter for at styre fiskeriet på markedsvilkår. Rapport fra den 22. Nordisk Fiskerikonference i Rønne 13.–15. august 1990.
- Mikalsen, K. H., Jentoft, S. (2001). From user-groups to stakeholders? The public interest in fisheries management. *Marine Policy*, 25: 281–292.
- Regeringen og Dansk Folkeparti (2005). Aftale om Ny regulering af dansk fiskeri, 26. oktober.
- Raakjær, J. (forthcoming). Fisheries management systems in crisis! Senior doctoral dissertation, Department of Development and Planning, Aalborg University.
- Raakjær Nielsen, J. (1992a). Fiskerisektorens strukturproblemer i en socio-økonomisk belysning. PhD afhandling, Institut for Produktion, Aalborg Universitetscenter.
- Raakjær Nielsen, J. (1992b). Structural Problems in the Danish Fishing Industry – Institutional and socio-economic barriers to adjustment. *Marine Policy*, 16(5): 349–359.
- Raakjær Nielsen, J. (1994). Participation in fishery management policy making. National and EC regulation of Danish fishermen. *Marine Policy*, 18(1): 29–40.
- Raakjær Nielsen, J. (1997). Socio-economic effects of the Danish quota system. In G. Pálsson and G. Petursdóttir (Eds.), *Social Implications of Quota Systems in Fisheries* (pp. 219–234). TemaNord 1997:593. Nordic Council of Ministers.
- Raakjær Nielsen, J., Christensen, A.-S. (2006). Sharing responsibilities in Danish fisheries management – experiences and future directions. *Marine Policy*, 30: 181–188.
- Raakjær Nielsen, J., Mathiesen, C. (2003). Important factors influencing rule compliance in fisheries – lessons from Denmark. *Marine Policy*, 27: 409–416.
- Raakjær Nielsen, J., Vedsmann, T. (1999). User participation and institutional change in fisheries management: A viable alternative to the failures of "top-down" driven control? *Ocean and Coastal Management*, 42(1): 19–37.
- Sandbeck, T. (2003). *Dansk fiskeri – redningskibene og fiskerikontrollen*. Stenstrup: Skib Forlag.
- Sen, S., Raakjær Nielsen, J. (1996). Fisheries co-management: A comparative analysis. *Marine Policy*, 20(5): 405–418.
- Statens Jordbrugs- og Fiskerøkonomiske Institut (2001). *Fiskeriregnskabsstatistik 2000/Account Statistics for Fishery 2000*. København: Ministeriet for Fødevarer, Landbrug og Fiskeri.
- Udvalget vedrørende Ny Regulering i Fiskeriet (2005). Rapport. Arbejdsgruppen om ny regulering af det demersale fiskeri. Ministeriet for Fødevarer, Landbrug og Fiskeri: 64.
- Vedsmann, T. (1998). Fiskeriets regulering og erhvervsudvikling – i et institutionelt perspektiv. PhD afhandling, Bornholms Forskningscenter.

Personal Communication

- Interviewee 1: Industry (3rd round of interviews)
- Interviewee 2: Industry (3rd round of interviews)
- Interviewee 3: Administration/Research (1st round of interviews)
- Interviewee 4: Industry (3rd round of interviews)
- Interviewee 5: Administration/Research (2nd round of interviews)
- Interviewee 6: Industry (1st round of interviews)
- Interviewee 7: Administration/Research (1st round of interviews)
- Interviewee 8: Administration/Research (2nd round of interviews)
- Interviewee 9: Administration/Research (2nd round of interviews)
- Interviewee 10: Industry (1st round of interviews)
- Interviewee 11: Administration/Research (2nd round of interviews)

7 The Politics of Implementation in Resource Conservation: Comparing the EU/Denmark and Norway

Stig S. Gezelius, Troels Jacob Hegland, Hilary Palevsky, and Jesper Raakjær

Abstract This chapter discusses implementation as a policy instrument in terms of fishery resource conservation. Implementation is primarily a means of pursuing established political goals. However, it is also a potential means of deliberate subversion or change of political goals. The chapter describes the development of multiple goals in fisheries management and addresses mechanisms through which conservation goals are subverted or changed at the implementation stage. Through comparison between The EU/Denmark and Norway, the chapter identifies factors that promote and prevent subversion of conservation goals during implementation.

7.1 Introduction

In the introduction to this volume, we illustrated the idealized model that presents fisheries management as a simple causal chain of independent processes. According to this model, political decisions are based on scientific knowledge; state administrative agencies design their tangible management strategies to directly implement political objectives; and the fishing industry is expected to comply by following the rules implemented. In the introduction, we outlined some of the potential flaws in each of these steps that have been identified in the academic literature of recent years: science does not always produce accurate estimates of fish stocks; political decisions sometimes prioritize short-term gains over long-term sustainable harvesting; and the fishing industry does not automatically comply with all regulations. Based on the causal chain model, each of these flaws can propagate itself throughout the management process as each link in the chain depends on the previous processes, ultimately undermining management goals and producing a poorly-managed resource.

Even this critique, however, often implies the perspective that fisheries management operates as a series of independent processes. An alternative, and often more fruitful approach, is to regard the components in the model as interactive, constituting a web of interdependences rather than a simple causal chain. Consequently,

recent literature has begun to question the independence of some of these processes. Here are a few examples:

- The political independence of scientific stock estimates cannot always be taken for granted (Rozwadowski 2002: 188, 193).
- Administrative implementation strategies and the level of industry compliance can affect the accuracy of data collected about the fisheries and thus affect the accuracy of scientific knowledge, as many of the standard scientific models rely on implementation procedures to enable data collection, and it is difficult to account for illegal/unreported fishing in these models. Political decisions can also affect data collection. For example, the EU's system of only measuring fish landings and requiring mandatory discards makes it difficult to monitor fishing mortality.
- Industry compliance can be much more complex than suggested by the widespread idea that industry action is a non-political response to utilitarian incentives, a view which has been thoroughly questioned (Gezelius 2003; Hauck 2008). The industry's compliance with regulations may be influenced by its role in the political decision-making process and in the design of implementation strategies.
- Describing implementation as the administration's loyal pursuit of predefined political goals may sometimes be appropriate on a national level (Christensen et al. 2007). However, some of the cases outlined in this volume show that it is difficult to draw a clear line between policy-making and implementation. This is particularly notable in relation to the implementation of EU policies where supranational political goals are renegotiated in the process of national implementation.

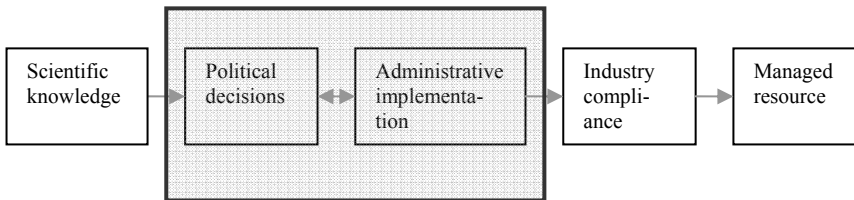


Fig. 7.1. Delimitation of the subject of this chapter

The shaded box in Fig. 7.1 marks the chapter's topic. This chapter focuses on a specific type of relationship between processes in the fisheries management chain: mechanisms through which competition between conflicting political agendas may redefine political goals in the implementation process. Our focus is on implementation of resource conservation policies. We are consequently concerned with the ability of non-conservation agendas to subvert conservation when politics enters implementation. Implementation may thus fail to achieve conservation goals not

only by not meeting the intended targets but also by attempting to realize other targets than conservation.

The cases presented in this volume illustrate that the separation of implementation from politics cannot be taken for granted, but the cases also represent significant variety regarding the extent and mechanism of politicised implementation. The cases represent various forms of corporatist arrangements, all of which give industry organisations a significant say in matters of resource conservation and implementation. However, the presence of heterogeneous interests has apparently had quite different consequences in terms of watering down conservation goals in the process of implementing conservation policies. The analysis in this chapter suggests explanations for this observed difference, emphasising the roles of national autonomy in political decision-making, the framing of national implementation discourses, and the (in)ability of supranational entities to ensure national compliance.

Before considering the differences in politicized implementation between the cases, however, it is necessary to consider how politics found its way into implementation practices. The departure from politically-determined conservation aims in the implementation process is ultimately rooted in the multiplicity of agendas in fisheries management. The historical move towards multiple fisheries management agendas is common to the cases studied, but has had different effects on the implementation of conservation policies. Before we proceed to the analysis of these different developments, it is useful to have a basic understanding of the shared process that led to multiple agendas in fisheries management.

7.2 The Development of Multiple Agendas in Fisheries Management

The effectiveness of conservation policy implementation depends on the extent to which conservation remains the primary goal pursued at the implementation stage. Several chapters in this volume illustrate that conservation does not always remain the dominant goal, especially when supranational policies are subject to national implementation.

The concepts of “political goal” and “political agenda” are crucial but ambiguous in terms of fisheries management. The cases in this volume describe the pursuit of different important goals such as industry modernisation and resource conservation. While they can justly be described as different and potentially competing goals, they do not represent conflicting basic values as states ultimately protect fish stocks because they are concerned about people. The state’s primary task in relation to fishing has always been to regulate and develop the industry for the purpose of securing and increasing people’s welfare. However, over the years the attempt to realize this general goal has developed into a pursuit of an increasing number of potentially conflicting sub-goals.

In the early years of fisheries governance, the primary focus of the national states regarding fish harvesting was on promoting efficient fishing. Two types of policies were dominant in promoting efficiency. First, as described in Chapter 3, were the regulatory efforts to reduce inefficiency resulting from gear damage and conflicts between fishermen. These efforts mainly consisted of detailed regulations regarding e.g. fishing space and fishing gear, and aimed to ensure orderly fishing. Second, as described in Chapters 2–5, were policies to promote modernisation of the fishing fleets. Significant financial resources were spent developing the fishing sector across the North Atlantic. Technological advances, the utilisation of which was sponsored by the states, led to overcapacity within the fishing fleets. Consequently, the policies regarding effective fishing had an unintended by-effect which forced the states to address a new problem: overfishing. By the 1960s, the goal of industry modernisation was accompanied by growing concerns about resource conservation.

It was believed that the emergence of overfishing called for increased control of fishing activity, but national politics were not initially the main arena for this effort. The contemporary law of the sea made conservation of fish stocks mainly a matter of international politics. The international fisheries commissions were thus the main arena for the emergence and growth of a resource conservation agenda. However, the establishment of 200-nm EEZs in the late 1970s, which brought off-shore fisheries under national jurisdiction, forced the coastal states to assume national responsibility for the conservation of fish stocks. Resource conservation thus became a second major task for the coastal states, alongside industry development. As illustrated in Chapters 3 and 5, the dual task of industry development and resource conservation also became manifest in the administrative divisions of labour.

The dual task of modernisation and conservation has resulted in policies that pursue somewhat conflicting long-term goals: efficient harvesting and resource conservation. This duality has represented an enduring tension in the governance of the fishing industry. In addition, the entry of resource conservation into politics also brought about a potential conflict between the goals of short-term benefits for the parties involved in fishing activities and long-term sustainable fishing. Striking a sensible balance between short-term benefits and long-term sustainability is essential because long-term success for the industry requires, at the very least, that it survives in the short-term. The importance of short-term survival has often given industry actors who oppose conservation policies a legitimate voice in the political debate. The entry of resource conservation onto the political agenda has thus greatly increased the complexity of fishing industry governance.

The increasing complexity did not end with the establishment of conservation institutions. Chapters 2 and 3 describe the concerns about problems of inefficiency that arise when fishermen compete to catch the greatest possible share of the Total Allowable Catch (TAC). These concerns have led fisheries managers to divide the TAC between fleet sectors and vessels in order to increase predictability for fishermen, allowing them to adjust their fishing effort more profitably. Resource

conservation policies consequently presented the state with a third task: distribution of fishing rights. This is arguably the most politically difficult task among the three because, unlike industry development and resource conservation, it is inextricably linked with deep conflicts of interest among industry actors. While resource conservation benefits all, and industry development often can be similarly legitimised, distribution of fishing rights is inevitably a zero-sum game. Distribution consequently makes fisheries management a politically sensitive issue, and presents managers with constant problems of legitimisation.

Both national and international resource conservation regimes often rest on distributional compromises, meaning that biological sustainability sometimes has to be weighed against the need for political agreement. Increasing TACs beyond biologically desirable levels has often been necessary in order to establish or maintain a conservation regime, the management of the blue whiting of the Northeast Atlantic being perhaps the most conspicuous recent example (Gezelius 2007a), although the history of the EU's Common Fisheries Policy (CFP) is also rich with examples (see Chapter 5 or Holden 1994). The significance of distributional conflicts of interest to conservation is not only related to the ability of political actors to construct conservation institutions but also to their political self-interest. Long-term survival presupposing short-term survival is not only true of fishing enterprises but also of elected leadership. One fundamental conservation problem is that unsustainable management mainly generates a long-term political cost while distributional conflicts arising from strict conservation policies tend to create very noticeable short-term costs. Consequently, elected leaders may often feel tempted or forced to make long-term sacrifices in terms of conservation, in order to solve short-term distributional conflicts.

Fisheries management offers several examples of how this problem can be addressed. For example, following the collapse of the Canadian East coast cod fisheries, critical TAC advice for these stocks has been provided by an agency that is strictly detached from the distribution processes (Gezelius 2002). Another solution has been applied in the management of the Northeast Arctic cod stock for which Norway and Russia since 2004 tied TACs to scientific advice (Government of Norway 2003). Such institutional arrangements are not always established, and when they are, they do not reduce the costs of distribution and are not always robust. Consequently, concerns about short-term political survival remain a potential challenge to conservation aims among political decision-makers and industry organisations involved in distribution.

Figure 7.2 illustrates the dynamics of agenda expansion in fisheries management. The boxes illustrate tasks undertaken by the state, and the arrows represent causal relationships. The figure only focuses on governmental factors. While the need to allocate fishing rights results entirely from the task of resource conservation, the need for resource conservation can only be partly ascribed to governmental factors. There is no doubt that state policies regarding industry modernisation and welfare contributed to overcapacity in the fishing fleets, but technological advances have been a major underlying factor. Similarly, developments within

fisheries science have been a necessary condition for the emergence of modern resource management. Nonetheless, Fig. 7.2 illustrates the tendency of political agendas to lead to new agendas, resulting in an increasingly complex set of potentially conflicting goals.

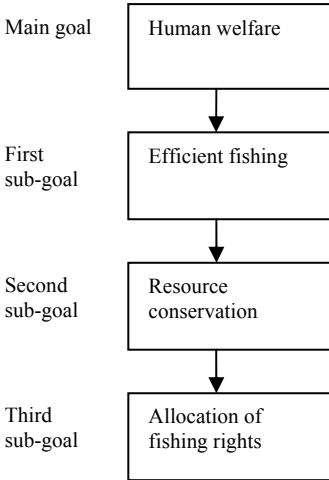


Fig. 7.2. The development of multiple agendas in fisheries management

Successful conservation of fisheries resources not only requires that the conservation agenda dominates conservation policies, but also that it keeps its dominant position in the implementation process. It can be argued that the multiplicity of agendas is especially significant in resource management when politics enter implementation, because this may lead to a vicious circle of declining dedication to conservation. The first step in this circle is the reduced effectiveness of conservation policies that follows from the interference of other agendas in the implementation process. The second step is the subversion of faith in the effectiveness of conservation policies, reducing the willingness to even try to implement them according to their original purposes. In the following, we will outline the dynamics of the policy process through which non-conservation agendas feed into the implementation of conservation policies. For that purpose, we will focus specifically on the Danish case, which has some similarities with the “garbage can” model introduced by Cohen et al. (1972) to describe the role of multiple agendas in processes of organisational choice. Comparing Denmark and Norway will serve to increase the understanding of these dynamics.

7.3 Mechanisms Allowing Implementation Drift

As mentioned previously in this chapter it is important to understand that often no clear division can be made between *political decisions* and *administrative implementation*. It was clear in some of the case studies that these two elements of the fisheries management process are intimately interlinked. The Danish study in particular (Chapter 6) demonstrated how political decisions are redefined and alternative political aims are pursued at the level of what should in principle be “neutral” administrative implementation.¹ As argued in Chapter 6, the Danish case is regarded as a modest example of member states departing from EU goals in CFP implementation. It is thus reasonable to hypothesise that the findings regarding politicised implementation in Denmark can also be made in many other EU member states, especially as the tendency of politics to penetrate implementation can largely be explained in terms of general EU structures. We may therefore use the findings in the Danish case as a basis for a more general analysis of the obstacles to effective CFP implementation in the EU.

Our analyses suggest that it is highly complicated to foresee in detail how policy decisions will be reinterpreted or circumvented during their implementation and how this could be avoided. Inspired by the principal-agent approach which will be thoroughly discussed below, we apply the term “implementation drift” to describe the process of redefining political goals and pursuing alternative political goals during implementation. The difficulties in taking implementation drift into account are in some cases added to by elements of path-dependence, which limits the potential alternative strategies available to the policy-maker (see Chapter 5). Moreover, our analysis suggests that the scope for manoeuvring and pursuing alternative political aims during implementation is highly dependent on the overall institutional setup of the fisheries management system and in particular with regard to the national autonomy of the state. We found some indications that the higher the autonomy of the state in fisheries management, the less likely it is that policy decisions will be reinterpreted or circumvented during their implementation.

The *principal-agent approach* is helpful in order to understand the mechanisms that allow implementation drift. This (arguably somewhat rationalist) approach deals with how a *principal*, who delegates tasks to other actors, can ensure that these *agents* remain loyal and perform the delegated tasks according to the wishes of the principal. Within this approach, disloyalty on behalf of the agent is termed “agency drift”, which refers to the process of agents drifting towards carrying out the delegated tasks in a way that pursues their own goals and priorities rather than those intended by the principal. In the context of this section “agency drift” refers to the same process as “implementation drift”. The principal-agent approach has

¹ Zetterholm (1980) describes how implementation politics must be understood as a type of political participation.

been applied to the EU in various ways and, inspired by Blom-Hansen (2005),² we will apply this perspective to the implementation of EU fisheries regulations based on Chapters 5 and 6. The principal-agent perspective provides us with tools to at least partly understand why Denmark differs from the Faeroe Islands and Norway in terms of implementation drift.

Following Blom-Hansen (2005), two types of *ex-ante* mechanisms and two types of *ex-post* mechanisms³ can theoretically be used by a principal to control the agent to which it delegates a task. The first *ex-ante* control mechanism is to choose the agent with care so that the incentives for agency drift remain as limited as possible. The EU is the principal in relation to the CFP, while the member states are the agents that decide on the specific implementation of conservation and structural policies.⁴ The TAC system is the fundamental component of the conservation policy, but it is as much an allocation as a conservation instrument. The EU allocates TAC shares based on the firmly rooted principle of relative stability between member states, which may be the most path-dependence creating element of the CFP (see Chapter 5). Unfortunately, the EU member states, the units to which TACs are allocated, are caught in a prisoner's dilemma situation in relation to conservation, control and enforcement, meaning that member states are inclined not to implement measures with conservation loyally in mind because they cannot be sure to reap the benefits of these implementation efforts themselves.⁵ Consequently, the EU is left with agents who have strong incentives for drifting toward domestic priorities at the expense of common conservation concerns, and, as a result, the member states cannot *a priori* be expected to act as loyal agents. However, a few developments in the EU's implementation strategy seek to limit the scope of this problem. For example, the increasing emphasis in EU fisheries management on regionalisation and involvement of cross-national stakeholder groups expressed in the creation of the Regional Advisory Councils (RACs) may reduce the prisoner's dilemma in implementation by reducing the dominant role played by the member states. Likewise the attempt by the Commission of the European Communities (the Commission) to take over some of the control and enforcement tasks from the member states can be seen as an effort to get out of the prisoner's dilemma situation. Nonetheless, it appears unlikely that the member states will lose their position as the central agent for implementation anytime in the near future.

The second *ex-ante* control mechanism is the design of the framework and mandate that the agent works under. The likelihood of the agent drifting is reduced

² Blom-Hansen applied it to the implementation of the EU Cohesion Policy.

³ As indicated by their name, *ex-ante* control mechanisms are mechanisms that the principal can employ prior to or in the process of delegating the tasks. *Ex-post* control mechanisms can be employed after the agency relationship has been established.

⁴ As outlined in Chapter 5 these are the two elements of the CFP that most directly impinge on the issue of target fishing mortality rates.

⁵ See Chapter 1 for an introduction to the prisoner's dilemma.

if the principal can create an incentive structure that makes it more profitable or opportune for the agent to remain loyal to the principal's objectives than to ignore or subvert these objectives. Understanding the mechanisms at play in relation to the incentive structure in the CFP is crucial in order to understand why the EU has struggled to implement target fishing mortality rates. There are arguably several examples where the EU has provided incentives through benefits or costs to drive the member states in the direction of loyal implementation. One example mentioned in Chapter 5 is the Commission's decision from 1987 to refuse EU grants for construction of new vessels to member states that fail to reach their targets in the EU fleet reduction programmes. This decision made non-conservationist behaviour costly under the structural policy. Another example is the design of the days-at-sea system adopted as part of the conservation policy to reduce fishing mortality rates by allowing each vessel only a limited number of days to spend at sea fishing. The system has been designed so that certain vessels can obtain extra days-at-sea if they use selective gear of a specified nature, which provides incentives at the national level to promote the use of such gear. In these two examples, the EU provides an incentive structure that drives the member states towards conservationist behaviour.

The problem, however, is that for the most fundamental measure influencing fishing mortality rates, the TACs, there are no strong incentives for fishing the quotas in a conservationist manner. As explained in Chapters 5 and 6, the quotas allocated to the EU member states are related to landings rather than catches. The fishing mortality associated with discards is thus not directly recorded or deducted from the fishermen's quotas. The incentives for the individual member state to reduce discards are weak because the negative impact of the non-conservationist behaviour is shared among *all* the member states, who will receive lower quotas in the following year. This is a typical example of the "tragedy of the commons" dynamic (Hardin 1968). Although the EU acknowledges the problem, it has so far been unsuccessful at creating an incentive structure to eliminate the problem.

There are many obstacles to eliminating the problem of discards in terms of legislation, administration and enforcement (Gezelius 2008). It can further be argued that the principle of relative stability represents a significant political obstacle to solving this problem. Most member states are reluctant to open the debate on the long-negotiated relative stability,⁶ confirmed during the reform negotiations of 2002 (see Hegland 2004). This reluctance is an obstacle against replacing TAC-based management with, as one option, an effort regulation scheme in response to the problem of discards. The problem is that TACs are as much allocation instruments as conservation instruments, and recalculating TACs into national effort quotas would open many questions about the relative stability of quota allocation among member states. Another option would be to introduce a ban on discarding, which would change the incentive structure and make catches equal landings – at

⁶ It should be remembered that the relative stability was the most sensitive part of the negotiations leading to adoption of the conservation policy in 1983.

least in theory. Such a change would nevertheless also impinge on the relative stability since discarding rates likely vary significantly across member states. There would moreover be a real risk that such a rule would only exist on paper, since a ban on discarding creates a number of implementation challenges, especially in relation to administration and enforcement (see Chapters 1 and 3). It should, however, be mentioned that at the time of writing the EU is actively exploring how to ban discarding, partly based on positive experiences from Norway (see Chapter 3), as well as from Iceland, New Zealand and Canada (Commission of the European Communities 2007). Nevertheless, the conclusion on this *ex-ante* control mechanism must be that the EU has so far been unable to create the right incentive structure when it comes to the issues that are most important in relation to fishing mortality rates, and it is not obvious how this could be done in practice. The practical problems are not only related to administration, legislation and enforcement but also to politics because it only takes a few member states to block a proposal under the current voting arrangement in the Council of the European Union (the Council). As will be addressed beneath, blocking minorities represent significant inertia in the CFP.

Above, we have described how the EU has problems related to the *ex-ante* control mechanisms. The same is to some extent true of *ex-post* control mechanisms. We will go quickly over the first of these mechanisms, *monitoring of the agent*, as we believe that the second *ex-post* control mechanism, *sanctioning of agency drift*, is more interesting in terms of the CFP. The EU has various ways of monitoring agency drift. One brief example worth mentioning is the so-called *CFP Compliance Scoreboard*, which has been presented annually since 2003. The Compliance Scoreboard claims to outline the extent to which the different member states have complied with their obligations under the CFP. It is, however, noteworthy that information on a crucial issue such as discarding is not systematically accessible. This practice is notoriously difficult to monitor and discarding is furthermore not illegal *per se* under the framework of the CFP and is therefore outside the scope of the Scoreboard. Moreover, the Compliance Scoreboard is to a large extent based on information provided by the member states themselves. This means that the information in the Scoreboard is only reliable insofar as the member states provide credible information, which is not always the case. For example, statistics on quota overruns are only reliable to the extent that the member states register all landings, meaning that there are no unrecorded landings, which is hardly true in all member states.

As to the second *ex-post* control mechanism, *sanctioning of agency drift*, information on agency drift is only useful if sanctions can be imposed (or other actions taken) to ensure compliance with the requirements of the principal. Two kinds of drift – *criminal agency drift* and *non-criminal agency drift* – are thus relevant for further exploration. In our context, criminal drift can be defined as drift that is directly against the rules, while non-criminal drift can be defined as drift that is not directly against the rules but either conflicts with the intention of the rules or the overall political objectives. When criminal agency drift is identified,

e.g. based on the information in the Compliance Scoreboard or other sources, the Commission, as a representative of the EU, is able to bring the drifting member state in front of the Court of Justice of the European Communities or – as will more often be the case – threaten to do so. The court may punish the drifting member state e.g. by imposing fines, which is sometimes an effective and straightforward sanctioning mechanism. However, as explained above, the most important agency drift under the CFP is of a non-criminal kind, such as discards or the use of EU subsidies to expand fishing capacity. In contrast to criminal agency drift, the Commission cannot sanction non-criminal agency drift by itself because non-criminal drift can usually only be “sanctioned” by amending the regulatory framework that the agents operate under (e.g. draw up more clearly defined objectives) or by applying peer pressure from other member states. Consequently, the EU usually has to act through the Council to sanction non-criminal agency drift. However, the ability of the Council to sanction non-criminal drift is severely restricted by the fact that the EU is a principal that consists of *multiple* actors whose powers vary depending on the context. The Council decision-making rules in relation to the CFP (see Chapter 5) enables blocking minorities of member states to prevent the EU from sanctioning non-criminal agency drift. This enforcement inefficiency arguably reinforces the prisoner’s dilemma dynamic at the national level because member states that in principle would like to sanction non-criminal drift will easily be swayed by their national interests, knowing that other states face few costs when drifting towards their national interests at the expense of conservation. The implementation of the structural policy’s Financial Instrument for Fisheries Guidance (FIFG) is an example of these dynamics, as subsidies for modernizing or building new vessels contribute to overcapacity in the EU fleet. However, a blocking minority was against removing this type of subsidy because of the benefits it brought to the individual member states (until very recently, see Chapter 5). While the subsidies remained in place, it was difficult for individual member states who opposed the subsidy to decide not to use them, as they would lose out compared with drifting member states that continued to use them. Consequently, member states that have worked in the Council to abolish this type of subsidy have also used it to a significant extent.

In conclusion, it is hard to escape the fact that what seems to characterise the CFP from a principal-agent perspective seems to be strong incentives for the agents to drift away from conservation and weak powers on behalf of the principal to prevent this. The CFP is caught in path-dependence to a great extent, which has resulted in a deadlock. In practice this means that political goals set at the EU level are reinterpreted and circumvented at the national level, and domestic aims are pursued to the extent possible within the framework provided by the CFP.

The focus of the principal-agent approach on incentive structures has proven useful in order to understand the institutional dynamics of fisheries policy implementation in the EU. The solutions that the principal-agent approach can prescribe largely assume that states act rationally to pursue national interests. This rationalist analysis has thus demonstrated that the implementation of conservation policies

in the CFP has significant similarities with the prisoner's dilemma game. In the EU and Denmark we have found that political goals have been redefined and alternative political goals have been introduced making fisheries management *de facto* politics in implementation. However, the principal-agent approach provides little assistance in terms of understanding the networks and alliances that have caused the deadlock in CFP implementation through blocking minorities. It is therefore necessary to supplement the principal-agent approach with network analysis in order to fully understand the dynamics of implementation of fisheries policies.

We find that the concept of a blocking minority is useful in order to understand the political dynamics of political decisions and implementation of the CFP. We have been inspired by Nedergaard (2007), who undertook a policy network analysis of the opposition against the proposal for a directive on temporary work by the EU Council of Ministers. Applying this concept, we consider the political decision-making process in relation to the CFP to be driven by actors with divergent interests, therefore forming different networks and alliances to pursue their specific interests. At the EU level, three different political positions could be observed in the Council in connection with the 2002 reform (see Chapter 5), but these networks are in fact relatively stable and have influenced CFP decision-making also on other occasions. The question of stable political positions is not only relevant with regard to the various member states, but also the EU administration. Even though the Commission has no voting rights, it plays an important role in Council negotiations. According to Burns (2004), the Commission is a central and influential actor in the Council's decision-making process, and in terms of the CFP the Commission has generally focused on conservation. A network of member states, which informally referred to itself as the "Friends of Fish" (FoF),⁷ composed of Germany, the UK, Sweden, the Netherlands, and Belgium – and to a lesser extent Finland – generally favours a comprehensive reform and is supportive of conservation concerns, but is less radical than the Commission in terms of conservation focus. The opposing network, composed of member states that referred to itself as "Amis de la Pêche" (AdlP),⁸ France, Spain, Ireland, Portugal, Italy and Greece, opposes what it argues is an overly-conservationist approach by the Commission, and is a strong defender of the short-term livelihood of fishermen and fishing communities even at the expense of conservation concerns (see Hegland 2004 for details). Both networks represent a blocking minority and, consequently, the Council finds itself in a position where it is the lowest common denominator that determines what can be decided in the Council. This causes a deadlock at the policy-making level, leaving the Council unable to elaborate comprehensive strategies and rational changes.

⁷ Denmark generally belongs to this group, but in relation to the 2002 reform, Denmark chaired the Council meetings in the second half of 2002. In the role of President it took the relatively neutral approach, which is traditionally required from the Presidency to facilitate compromises (Hegland 2004).

⁸ In English: Friends of Fishing.

It can be argued that the fragmented nature of both the business structure and the political focus (Raakjær forthcoming) in the member states directly undermines the ideal principal-agent setup. From the outset, most actors in the policy process have different goals than the principal, which makes it difficult to create incentives that will ensure rational implementation. The Danish case is a good, but in no way an extreme, example of how different actors and interests aim to influence the implementation process and in reality bypass the EU's policy objectives. In Chapter 6, we showed that the Danish policy process was dynamic in the sense that changes were generated through synergistic interaction between interests, networks/alliances and discourses, where particularly strong individual actors have influenced the implementation process. The Danish corporatist system has generally contributed to implementation drift by pursuing short-term solutions, which has to some extent undermined conservation aims. It was concluded that in the area of Danish fisheries policy-making and implementation it is fair to question whether corporatist structures have managed to promote the policies that serve society at large, as it appears that decisions have in several cases been predominantly beneficial to a relatively narrow group of stakeholders.

Recent contributions on CFP change (Sissenwine and Symes 2007 and Symes 2005) at least indirectly argue for institutional reform to influence policy-making and implementation in the CFP so that some of the present problems of overfishing in EU waters can be overcome. Symes (2005: 265) argues that the dilemma of economic versus social objectives must be resolved. One solution would be to adopt a market-based approach for allocation of fishing rights. However, the prospect of an EU transfer market is heavily debated among actors and would lead to a fundamental institutional change of the CFP, likely undermining the relative stability. Further, following Sissenwine and Symes (2007, part 2:70), it is important to decide on an appropriate geographical scale and choose the most appropriate institutional arrangement for management intervention and following implementation strategies. In this respect, regional seas and RACs are good examples of the introduction of such institutional changes at the EU level, but the Danish experiences indicate that a large degree of stakeholder involvement, as is the case with the RACs, might create another set of problems and does not necessarily reduce implementation drift.

We find that Sissenwine and Symes provide a very precise diagnosis of the situation and future challenges for the CFP, and their conclusions are largely supported by our observations. However, it can be argued that the problems do not result from a lack of adequate solutions but from a lack of political will to adopt adequate solutions. Nearly 25 years of experience with the CFP, as shown in Chapter 5, demonstrates that institutional and technological solutions to the problem of overfishing are only feasible to the extent that they are accepted by actors in the political arena. Consequently, it will often be too simplistic to only focus on institutional and technological solutions because such solutions can either be blocked politically at the EU level or circumvented through national implementation whenever they lack sufficient political support. Even when recognising the

administrative desire to ensure a rational setting for policy-making and implementation, it is important to understand the underlying political rationality of member states, because member states often act in a way that undermines the intentions of the CFP, as was indeed found by the European Court of Auditors in a recent evaluation (2007). This problem has been described particularly in Chapters 5 and 6, which illustrate that implementation of the CFP is an extreme example of politicised implementation at the national level. Consequently, a prerequisite for improving the performance of the CFP is that the political process is understood and taken into account. Consequently, we will argue that unless the power relations influencing policy-setting and policy-shaping (following Peterson's classification (1995)) are taken into consideration, it seems questionable that conservation concerns will be dominating under the CFP in the near future.

It appears that the Commission at times has a tendency to make proposals that invite or largely force in particular the AdIP network into the blocking minority corner (see Chapter 5 for details). It is important in drafting proposals that the Commission acknowledges that no policy or management intervention is better than what can be agreed to in the Council and subsequently implemented by the member states. It is in other words important to consider how proposals can be made more robust in the face of shifting political agendas and more resilient to implementation drift. One possible way out of the present political deadlock could be that the Commission increasingly moves from the tactical level – improving the system within the present path – to act strategically and propose long-term aims and to work towards adoption of adequate conservation principles that in a longer perspective could be used to strengthen the management performance. This strategy is likely to cause less tension in a short-term perspective and is consequently less likely to provoke blocking minority votes. It would allow politicians to support a more restrictive CFP as the consequences hereof would not be immediately felt by their constituencies. In all fairness, it appears that the Commission in recent years has chosen such a strategy to some extent (see for instance on the days-at-sea system in the Baltic Sea in Chapter 6).

7.4 Mechanisms Preventing Implementation Drift

In Chapters 3 and 4 describing the management systems of Norway and the Faeroe Islands, we found little evidence to support the claim that the conservation agenda was challenged to any great extent at the implementation level. In the case of the Faeroe Islands, this finding is unsurprising given that Faeroese demersal fish stocks are exclusively national and, consequently, managed entirely by one government. The national exclusivity of fish stocks removes the state-level prisoner's dilemma logic facing EU members. Consequently, the Faeroese Home Government has no obvious incentives for subverting its own conservation policies. Norway is a far more interesting case for comparison with Denmark, because it shares

two significant characteristics with Denmark, despite not being a member of the EU. First is the fact that Norway, like Denmark, manages most major fish stocks jointly with other states, which entails potential prisoner's dilemma situations in national implementation. Norway manages several fish stocks jointly with the EU, among others, and is highly aware of the insufficiencies of EU implementation of TACs. This could, in principle, lead to Norwegian disillusionment regarding the point in making a wholehearted implementation effort, although this potential problem is reduced by the fact that Norway has significant shares of the TACs that are most important to the Norwegian fishing industry. Second is the fact that Norway, like Denmark, has a strong tradition of stakeholder influence in fisheries management. Norwegian industry organisations have played a significant role in the construction of the implementation system, and are also responsible for several specific implementation tasks. In theory, such corporatist management implies a potential risk of implementation drift, because stakeholders representing multiple political agendas are influential in matters of state administration. Given the similarities between Norwegian and Danish fisheries management, the relative robustness of conservation aims in Norwegian implementation⁹ calls for an explanation.

As argued in Chapter 3, the multiplicity of agendas is clearly visible in the Norwegian political decision-making processes. For example, concerns about the industry's short-term survival and distributional problems have occasionally challenged resource conservation as the dominant political value in discussions on the size of TACs (Gezelius 2002; Jentoft 1991:11–16; Sagdahl 1992). However, the data presented in Chapter 3, as well as previous research (Christensen et al. 2007; Gezelius 2003) gives very little support to the hypothesis that conservation aims are frequently challenged during the implementation process once these aims have been set at the political level. Compared to the EU as represented by the moderate case of Denmark (see Chapter 6), the extent to which Norwegian implementation of TACs has been treated as a question of administrative realisation of predefined political aims is notable. This is especially striking with regard to the role of industry organisations, which appear to have displayed a relatively high level of acceptance of basic conservation goals in the implementation discourse. For example, the loyalty of the sales organisations in fulfilling their implementation tasks is undisputed and the Norwegian Fishermen's Association is generally perceived by the government as a "responsible" actor in the conservation discourse (Gezelius 2003).

⁹ While our data does not indicate significant Norwegian implementation drift in relation to basic resource conservation aims, Chapter 3 describes Norwegian implementation drift in relation to another aspect of a fisheries agreement between Norway and the EU: the spatial separation between herring quotas in the North Sea and Skagerak, which has been adopted despite Norway's wish to remove it. Norway has deliberately chosen not to enforce this spatial division, and non-compliance is consequently widespread among Norwegian fishermen (Gezelius 2007b). The example illustrates that also Norway occasionally resorts to implementation drift when faced with controversial supra-national decisions, and it shows the significance of national autonomy and consensus in relation to implementation drift.

In Chapter 3, it was argued that the continuity of the Norwegian management system was rooted, among other things, in persistent faith in the system's ability to ensure sustainable fishing. This faith has resulted from an absence of enduring¹⁰ fisheries crises in the post-EEZ period, which has been viewed as a sign of the functionality of the implementation system. The apparent robustness of the conservation agenda in the implementation of TACs is arguably an essential aspect of this functionality.

Several factors contribute to the relative robustness of the conservation agenda in implementation, compared to Denmark. The fact that Norway has large shares of the TACs for its most important fish stocks,¹¹ which gives Norwegian implementation a direct impact on the long-term welfare of Norway's fishing industry, is probably a significant factor. However, this can arguably not provide a full explanation because Denmark also has significant shares of several important TACs, although they are generally well below Norway's shares for its major fish stocks.¹² It can be argued that an important factor explaining the relative robustness of the conservation agenda in Norwegian implementation is related to national autonomy in fisheries management. Despite the fact that both Norway and EU member states manage fish stocks jointly with other nations, their levels of national autonomy vary significantly. As described in Chapters 5 and 6, the CFP covers a wide range of policy areas and establishes strictly defined frames within which member states can act. Consequently, there is an extensive transfer of politics from the EU to the national level. Moreover, these politics are outcomes of various forms of majority decisions, implying that governments may find themselves tied by decisions they have opposed. This extensive transfer of majority-made politics tends to trigger extensive political debate not only prior to EU decision-making, but also when politics are transferred back to the member states. The CFP thus emerges as a two-level political system: basic fisheries regulations are negotiated at the EU level

¹⁰ The Norwegian cod fisheries faced a crisis in 1989/90, but this crisis was short-lived and the situation returned to normal within a few years.

¹¹ Norway has 50% of the TAC for the Northeast Arctic cod and haddock stocks, approximately 60% of the TAC for Norwegian spring-spawning herring (also commonly referred to as Atlanto-Scandian herring), approximately 30% of the TAC for North Sea herring, almost 65% of the TAC for the North Sea mackerel, and full national control over the TAC for saithe (Government of Norway 2007).

¹² Looking at the main quotas for Denmark's most economically-important species, Denmark has 44% of the cod TAC (the EU has the entire TAC) for the western Baltic Sea, 23% of the EU's cod quota for the eastern Baltic Sea, 25% of the cod TACs (29% of the EU quota) in the North Sea and Skagerak combined, 27% of the herring TACs (35% of the EU quotas) in the North Sea and Skagerak combined, 28% of the plaice TACs (the EU has 98% of the TACs) in the North Sea and Skagerak combined, and 95% of the EU sandeel quota in the North Sea. With regard to Norway lobster, which is second only to cod in terms of economic importance to Denmark, it holds 16,5% of the TACs in the North Sea (EU waters) and Skagerak combined, and 95% of the EU quota in the North Sea (Norwegian waters) (Government of Denmark 2007, quota figures for 2007). These figures mainly concern the North Sea and Skagerak, as they contain Denmark's most important fishing grounds, except for the Baltic Sea cod fisheries.

and are often subject to a second round of domestic political discourse when transferred back to the member states, before entering a phase of purely administrative implementation. This entails that there is no clear, institutionalised division between the politics and implementation stages.

In Chapter 3, it was argued that Foucault's (1999) concept of "discourse" could be fruitful in understanding the demarcation of agendas. Briefly repeated, the concept of "discourse" refers to the often implicit normative boundaries of a given field of human interaction. These normative boundaries define legitimate participants, legitimate perspectives, legitimate values etc. in a given interactive setting. If we regard fisheries management as a discourse, the blurred distinction between the phases of politics and implementation can be regarded as a blurred distinction in terms of the legitimate agendas that can be expressed in the implementation phase. The implementation discourse is thus framed so that it opens up the "garbage can" of political agendas (Cohen et al. 1972). The open garbage can potentially threaten the pursuit of original conservation goals and leaves room for a prisoner's dilemma logic in implementation. It thus becomes essential for the EU as principal to control its agents – the member states. The need for centralised control of EU members might have been less prominent if the national implementation discourses had been framed as matters of pure administration. It can be argued that a key difference between Norway and Denmark is related to the framing of the implementation discourse, and that this framing partly results from the level of political autonomy in fisheries management.

As is the case for EU members, the TACs restricting Norwegian fisheries are set through international negotiations. However, the similarities regarding national autonomy largely end there. In contrast to EU regulations, the TACs regulating Norwegian fisheries are based on consensus, meaning that the Norwegian government has an effective veto. Moreover, and unlike EU members, Norway is generally free to establish its own regulations once a TAC has been set and allocated between contracting parties.¹³ This means that although TACs are set at the international level, the transfer of politics from the international to the national level is minimal: it only consists of strictly-limited, routine, consensus-based decisions. The Norwegian enabling legislation leaves the responsibility for setting and implementing TACs to the Ministry of Fisheries and Coastal Affairs. As described in Chapter 3, the Ministry of Fisheries and Coastal Affairs consults the main industry organisations when preparing the Norwegian position on the international quota negotiations. The major industry organisations are also included as active members in the Norwegian delegation in these negotiations. The consensus nature of conservation decisions and the crucial roles played by the Ministry of Fisheries and Coastal Affairs and major industry stakeholders entail that the main actors in implementation are also responsible for the conservation policy. This strongly dis-

¹³ Like other Atlantic coastal states, Norway is party to several bilateral and multilateral agreements regarding control and enforcement, among others, but they do not notably restrict Norway's autonomy to regulate its fisheries.

courages reopening political discussions at the implementation stage, as that would imply that implementing agencies question the legitimacy of their own decisions. This is a major difference from the EU, where national governments and industry stakeholders especially are often subject to conservation policies over which they have had little say and for which they carry little responsibility. The Norwegian management system thus has a mechanism that prevents implementation drift, with no equivalent in the CFP.

As pointed out in Chapter 3, the Norwegian system of enabling legislation and consensus-based TAC decisions entails that implementation is by and large classified as an administrative issue. The perception of TAC implementation as an administrative task is also partly a result of its routine, long-term, complex, and technical nature. TAC implementation has developed incrementally through shifting political leaderships and its complexity tends to exceed the competence of politicians. The Foucauldian perspective implies that framing implementation as an administrative discourse means that it is shaped and restricted according to the norms of civil service. The administrative discursive frame limits the room for discussing which political aims to pursue in implementation. The focus on conservation goals in the implementation of conservation policies has largely been tacit and taken for granted within this discursive frame. It is consequently typical of the development of the Norwegian implementation system that the implementation agenda has largely been shaped by the administration's perceived need for improved implementation tools rather than the shifting priorities of shifting political leaderships.¹⁴ The system has thus largely emerged as a long-term, incremental bottom-up process driven by experienced insufficiencies in the ability of present implementation to realise the original policy goals.

It is likely that the co-responsibility of major industry organisations in conservation decisions encourages a certain discipline in terms of accepting conservation goals at the implementation stage. However, this does not exclude stakeholder influence from also representing a latent challenge to these goals, especially when conservation has severe consequences in terms of distributional conflicts or the welfare of specific groups. In that regard, it is important to keep in mind the asymmetrical nature of Norwegian corporatism. As pointed out in Chapter 3, the interaction between the industry and the state administration is not an equal power relationship. The continued influence of the industry organisations rests on the extent to which they are included and taken seriously by the state administration. Consequently the industry organisations must keep to the state administration's frame of discourse in order to remain influential.

The institutionalisation of the strictly-framed implementation discourse has arguably been facilitated by the absence of enduring resource crises in Norwegian fisheries since 1977. This absence has meant that conservation measures have not seriously threatened the short-term welfare of large groups and have not triggered destructive distributional conflicts, although distribution has often been extremely

¹⁴ Chapter 3 points to some deviations from this general pattern.

challenging. Consequently, the agendas of short-term welfare and political peace have by and large not been pressing enough to alter the frame of the discourse on implementation of conservation aims and cause implementation drift. The absence of enduring crises has arguably also increased the faith in the ability of the implementation system to prevent stock collapse, despite perceived insufficiencies in the implementation by other states exploiting the same fish stocks. Faith in the system has at least been strong enough to maintain the frames of the implementation discourse and thereby prevent frustration with the implementation of other states from triggering any extensive prisoner's dilemma behaviour in Norwegian implementation.

7.5 Conclusion

Table 7.1 summarises the comparison between Denmark and Norway with regard to factors influencing the chances of implementation drift. In the Danish case, the combination of low national autonomy and extensive transfer of politics from the international to the national level invites political debate at the national level regarding the political goals to be implemented. This tendency is arguably reinforced by the limited responsibility carried by industry stakeholders for the political decisions to be implemented. In Denmark's case, these factors have defined implementation as a discourse that is partly political and partly administrative. The blurred distinction between politics and administration in the implementation discourse has opened up the "garbage can" of multiple, partly conflicting agendas in fisheries management and legitimised strategic adaptation by actors who disagree with the goals to be implemented or do not wish to carry the costs of goal achievement. Consequently, the implementation discourse has been framed in a manner that invites prisoner's dilemma-like behaviour in national implementation, especially as each CFP member knows that the implementation discourse is likely to be similarly framed in other EU states. The prisoner's dilemma dynamic in CFP implementation has triggered problems that are typical of principal-agent relationships: effective control and the provision of proper incentives for agent compliance.

Denmark and Norway are interesting cases for comparison because they seem to differ in terms of implementation drift despite having significant characteristics in common. They are both states with strong fisheries sectors, a tradition of corporatist fisheries management, and are tasked with implementing conservation decisions made at the international level. Both consequently face conditions that promote implementation drift. In explaining different levels of implementation drift, we have emphasised the importance of power structures in decision-making. While the Danish Ministry of Food, Agriculture and Fisheries is to a great extent tasked with implementing various forms of international majority decisions, the Norwegian Ministry of Fisheries and Coastal Affairs is always a consenting

partner to international conservation decisions. The main Norwegian industry stakeholders have also been included in the decision-making process to the extent that they emerge as co-responsible for conservation policies. In contrast to Denmark, the politics transferred from the international to the national level are strictly limited and routine-based. All of these factors discourage a highly-politicised implementation discourse in Norway. We have argued that, in Norway’s case, the combination of large national shares of important TACs, national autonomy, enabling legislation and asymmetrical corporatism has shaped and restricted the implementation discourse in a manner that leaves little room for implementation drift. It can be hypothesised that the absence of enduring fisheries crises has enhanced basic trust in the system’s functionality, hence allowing these frames of the implementation discourse to become institutionalised and tacitly accepted.

Table 7.1. Factors influencing chances of implementation drift

	<i>National fisheries management autonomy</i>	<i>Shares of TACs for important stocks</i>	<i>Transfer of politics from international to national level</i>	<i>Stakeholders’ responsibility for conservation decisions</i>	<i>Framing of implementation discourse</i>
Denmark	Low International majority decisions	Variable	Extensive Covers all major policy areas	Low	Blurred distinction between politics and implementation
Norway	High International consensus decisions	High	Highly limited Only TACs and national allocations	High	Implementation framed as a civil service issue

The study upon which this volume is based chose a comparative case approach for its ability to sensitise us to issues that might have been taken for granted in a single-case study. A comparative approach also inevitably raises the question of which general lessons can be learned, if any. In Chapter 1, it was argued that the generalising ambition of a study dealing with a matter as complex and context-dependent as fisheries management must necessarily be modest. That said, our comparison of implementation drift and its causes points to explanatory mechanisms that may have significant relevance beyond our selection of cases (Glaser & Strauss 1967; Ragin 1994). These mechanisms mainly consist of interplay between a series of power forms and power relations in fisheries management. One such power relation concerns the autonomy of the state in fisheries management, i.e. the extent to which supranational actors are authorised to impose politics on the state. The actual effects of this authority depend, among other things, on control and sanctions executed by supranational principals. The necessity of control and sanctions by supranational principals partly depends on the tacit, implicit power of discourse frames in national implementation. These discursive structures

in turn depend on power relations between the state administration and political actors. The extent to which a given management regime entails a risk of implementation drift depends on the interplay between these power structures. For example, a high degree of national autonomy and enabling legislation facilitate the framing of the implementation discourse as a matter of civil service. When the implementation discourse is so framed, a high level of stakeholder influence in implementation may not generate a high risk of implementation drift, provided that the state administration maintains the power to discipline, ignore or exclude stakeholders who attempt to challenge this discourse frame. The risk of implementation drift in a corporatist system further decreases if stakeholders share responsibility for the political decisions to be implemented.

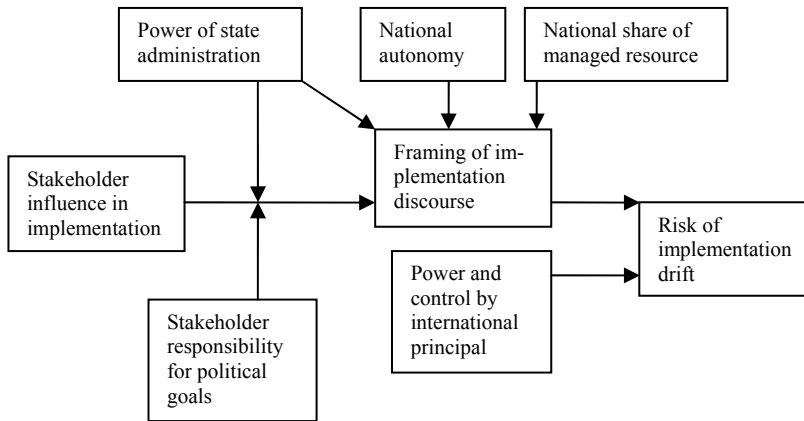


Fig. 7.3. Factors influencing implementation drift

We have argued that our comparative analysis of implementation drift and its causes focuses on a series of power relations and power forms. Figure 7.3 illustrates how these aspects of power work in a causal mechanism affecting implementation drift. We have emphasised two main factors influencing the risk of implementation drift. First, the framing of the national implementation discourse is a crucial factor in producing risks of implementation drift. In cases where the national implementation discourse is open to deliberation over basic political goals, the second factor – power and control by the international principal – becomes important to prevent implementation drift. We have ascribed the high risk of implementation drift in the Danish case to the combination of vague boundaries between political and implementation discourses and the EU's limited capacity to ensure that its members adhere to the goals of EU policy.

We have emphasised several factors that influence the shaping of the implementation discourse. First is stakeholder influence in the implementation process,

which potentially brings multiple agendas into the discourse. Second and third are the degree of national autonomy and national shares of the managed resource, both of which influences the receptiveness of state agencies to reopening the political debate at the implementation level. We have argued that the potential of stakeholder influence to bring multiple agendas into the implementation discourse depends on the relative power relationship between industry organisations and the state administration, as well as the extent to which industry organisations emerge as responsible for the decisions to be implemented.

It would be naive to assert that these mechanisms are bound to work in similar ways under all conceivable conditions. Our selection of cases only covers a limited range of all the relevant conditions for implementation that can be found. Consequently, the applicability of this knowledge has to be critically assessed on a case-to-case basis. That said, it is reasonable to hypothesise that the mechanisms for implementation drift explored here are relevant far beyond our limited selection of cases. Even in cases where the causal mechanisms may work differently, influenced by factors that we have not addressed here, the elements of the causal model outlined in Fig. 7.3 should be relevant for consideration.

References

- Blom-Hansen, J. (2005). Principals, agents, and the implementation of EU cohesion policy. *Journal of European Public Policy*, 12(4), 624–648.
- Burns, C. (2004). Codecision and the European Commission: A study of declining influence? *Journal of European Public Policy*, 11(1), 1–18.
- Christensen, T., Egeberg, M., Larsen, H.O., Læg Reid, P., Roness, P.G. (2007). *Forvaltning og politikk*. Oslo: Universitetsforlaget.
- Cohen, M.D., March, J.G., et al. (1972). A Garbage Can Model of Organizational Choice. *Administrative Science Quarterly*, 17, 1–25.
- Commission of the European Communities (2007). COM (2007) 136 final: Communication from the Commission to the Council and the European Parliament: A policy to reduce unwanted by-catches and eliminate discards in European fisheries. Brussels, Commission of the European Communities, 28.3.2007.
- European Court of Auditors (2007). Special Report No 7/2007 (pursuant to Article 248(4), second paragraph, EC) on the control, inspection and sanction systems relating to the rules on conservation of Community fisheries resources.
- Foucault, M. (1999). *Diskursens orden*. Oslo: Spartacus.
- Gezelius, S.S. (2002). Environmental Sustainability and Political Survival – A Comparative Analysis of the Cod Fisheries of Canada and Norway. *Environmental Politics* 11(4), 63–82.
- Gezelius, S.S. (2003). *Regulation and Compliance in the Atlantic Fisheries: State/Society Relations in the Management of Natural Resources*. Dordrecht: Kluwer Academic Publishers.
- Gezelius, S.S. (2007a). The Social Aspects of Fishing Effort: Technology and Community in Norway's Blue Whiting Fisheries. *Human Ecology*, 35(5), 587–599.
- Gezelius, S.S. (2007b). Three Paths from Law Enforcement to Compliance: Cases from the Fisheries. *Human Organization*, 66 (4), 414–425.
- Gezelius, S.S. (2008). Management Responses to the Problem of Incidental Catch in Fishing: A Comparative Analysis of the EU, Norway, and the Faeroe Islands. *Marine Policy*, 32(3), 360–368.

- Glaser, B.G., Strauss, A.L. (1967). *The Discovery of Grounded Theory: Strategies for Qualitative Research*. New York: Aldine de Gruyter.
- Government of Denmark (2007). Vedtagne TAC-kvoter for 2008. Endelig version, 19. december 2007. Copenhagen: Ministry of Food, Agriculture and Fisheries.
- Government of Norway (2003). St. meld. nr. 43 (2002–2003). Om dei fiskeriavtalane Noreg har inngått med andre land for 2003 og fisket etter avtalane i 2001 og 2002. Oslo: Ministry of Fisheries.
- Government of Norway (2007). St. meld. nr. 32 (2006–2007). Om dei fiskeriavtalene Noreg har inngått med andre land for 2007 og fisket etter avtalene i 2005 og 2006. Oslo: Ministry of Fisheries.
- Hardin, G. (1968). The Tragedy of the Common. *Science*, 162(3859), 1243–1248.
- Hauck, M. (2008). Rethinking small-scale fisheries compliance. *Marine Policy*, 32(4), 635–642.
- Hegland, T.J. (2004). *The Common Fisheries Policy – caught between fish and fishermen?* Aalborg: Department of International Affairs, Aalborg University. MA European Studies: 117 (unpublished).
- Holden, M. (1994). *The Common Fisheries Policy – Origin, Evaluation and Future*. Oxford: Fishing News Books, Blackwell Scientific Publications Ltd.
- Jentoft, S. (1991). *Hengende snøre: Fiskerikrisen og framtiden på kysten*. Oslo: Ad Notam forlag.
- Nedergaard, P. (2007). Blocking minorities: networks and meaning in the opposition against the proposal for a directive on temporary work in the Council of Ministers of the European Union. *Journal of Common Market Studies*, 45(3), 695–717.
- Peterson, J. (1995). Decision-making in the European Union: towards a framework for analysis. *Journal of European Public Policy*, 21(1), 69–93.
- Raakjær, J. (forthcoming). *Fisheries management systems in crisis!* Senior doctoral dissertation, Department of Development and Planning, Aalborg University.
- Ragin, C.C. (1994). *Constructing Social Research*. Thousand Oaks: Pine Forge Press.
- Rozwadowski, H.M. (2002). *The Sea Knows No Boundaries: A Century of Marine Science under ICES*. Copenhagen: ICES.
- Sagdahl, B.K. (1992). *Ressursforvaltning og legitimitetsproblemer: En studie av styringsproblemer ved forvaltning av norsk-arktisk torsk*. Bodø: Nordland Research Institute.
- Sissenwine, M., Symes, D. (2007). Reflections on the Common Fisheries Policy. Report to the General Directorate for Fisheries and Maritime Affairs of the European Commission. July 2007.
- Symes, D. (2005). Viewpoint: Altering course: future directions for Europe's fisheries policy. *Fisheries Research*, 71, 259–265.
- Zetterholm, S. (1980). Implementeringspolitikk: En form av politisk detagande. In: J. Andersen, S. Bislev et al. (Eds.), *Grænser for deltagelse – om politisk indflydelse og medbestemmelse*. Institut for sociale forhold, administration og politiske institutioner. Aalborg: Aalborg Universitetsforlag.

Index

- Access, 7, 47, 49, 50, 53, 68, 69, 78, 105, 109, 110, 122, 135–139, 142, 146, 174, 181–183, 185, 191, 216
- ACFM Advisory Committee for Fisheries Management, 103
- Act on Norway's Economic Zone, 53
- AdIP Amis de la Pêche, 153, 218
- Administrative confiscation, 63, 71, 120
See also Non-penal confiscation
- Administrative implementation, 2, 5, 6, 208, 213, 223
- Administrative sanctions, 75
- Advisory service, 43, 54, 55, 70, 71, 79
- Alliances, 15, 161, 190, 191, 194, 199–202, 218, 219
- Arms, 74
- Asymmetrical corporatism, 92, 226
- Atlanto-Scandian herring, 36, 51, 66
- Authority, 5, 16, 41, 43, 49, 50, 53, 58, 63, 67, 68, 71, 72, 89, 90, 92, 99, 100, 113, 124, 134
- Autonomy, 16, 20, 41, 66, 81, 100, 125, 126, 136, 162, 209, 213, 221–223, 226–228
- Ban on discarding, 14, 15, 17, 53, 60, 62, 66, 67, 70, 72, 73, 87, 105, 108, 121–123, 215, 216
- BCF Board for Commercial Fishing, 162, 167, 168, 177–179, 182, 186, 192
- Beverton and Holt, 34
- Bi-lateral agreements, 56, 78, 79
- Black landing, 68, 72, 124, 126
- Black list, 78
- Blocking minority, 217, 218, 220
- Blue whiting, 57, 108, 122, 211
- By-catch, 2, 8, 13, 61, 73, 77, 105–107, 109, 110, 121, 123
- Capacity build-up, 165, 181, 182
- Capacity utilisation, 7, 9, 115, 118
- Catchability, 111, 117
- Catch reports, 60, 67, 78, 121
See also Sales note; Logbook
- CEC Commission of the European Communities, 134, 135, 138–155, 165, 166, 210, 214–218, 220
- CEU Council of the European Union, 134, 146, 148, 150–155, 157, 164–166, 198, 214, 216–218, 220
- CFP Common Fisheries Policy, 8, 15, 18, 131–141, 144–146, 149, 150, 153, 155, 156, 161–166, 168–170, 184, 188, 195, 198, 202, 211, 213–215, 217–220, 222, 224, 225
- Closed areas, 8, 19, 28–30, 48, 59, 102, 107, 109, 110, 118, 123
- Closed seasons, 7, 19, 59, 69, 150, 186, 199
- Cod, 2, 3, 32, 33, 35, 36, 47, 48, 54, 56, 58, 66, 67, 69, 74, 77, 86, 99, 102, 103, 105, 106, 108–112, 117, 118, 126, 137, 149, 150, 172, 174–178, 181, 185, 186
- Cohort analysis, 35, 135
- Collective action, 4, 11, 20
- Commercial Fisheries Act, 105, 108, 109, 112, 113, 117, 121–124, 202
- Committee on Fishing Days, 112
- Common pool resource, 4, 179
- Common property, 4, 5, 6, 195
- Community, 4, 118, 142, 144, 147, 149, 153–156, 165, 167, 182, 183

- Compliance, 2, 4, 6, 12, 15, 16, 55, 61–63, 65, 66, 68, 70–73, 76, 77, 79, 83, 87, 103, 105, 106, 115, 116, 118, 119, 121–124, 135, 142, 145, 151, 177, 192, 198, 208, 209, 216, 217, 225
See also Misreporting; Black landing; IUU fishing
- Confiscation, 14, 52, 53, 62, 63, 67, 71, 73, 75, 76, 105, 120, 121, 123
- Control agreements, 79
- Controlling fishing mortality, 6, 63, 64, 102, 135
- Control service, 54, 55, 59, 68, 70
- Cooperative management, 5, 169
- CPUE Catch per unit effort, 175, 176, 185
- Corporatism, 19, 51, 65, 81, 83, 89, 91, 92, 113, 117, 168, 169, 193, 200, 201, 209, 219, 221, 224–227
- Crisis, 19, 20, 35, 36, 50, 51, 61, 86, 101, 102, 104–107, 125, 126, 131, 144, 146, 149, 154, 156, 174, 191, 201, 222
- Decision-making, 5, 16, 43, 81, 89, 90, 100, 113, 132, 134, 136, 153, 155, 156, 162, 165, 169, 170, 193, 200, 202, 208, 209, 217, 218, 221, 222, 225, 226
- Deterrence, 4, 21
- DFA Danish Fishermen's Association, 168, 171, 186, 187, 189, 192–195
- DG Fish Directorate General for Fisheries and Maritime Affairs, 134, 152
- Discard, 13–15, 17, 19, 33, 53, 60–63, 66, 67, 70, 72–74, 76, 87, 99, 103, 105–108, 118, 119, 121, 122, 166, 215, 217
- Discourse, 1, 3–8, 15, 21, 31, 36–38, 50, 59, 77, 83, 86, 91, 92, 161, 199, 200, 209, 219, 221, 223–228
- Distribution, 1, 4, 6, 9–12, 18–20, 27, 33, 36–38, 46, 51, 57, 81, 89, 109, 211, 224
- Dockside inspections, 70, 73
- DoF Directorate of Fisheries (Denmark), 167, 183, 184
- DPPO Danish Pelagic Producers Organisation, 186, 194
- Due care, 13, 62, 73, 119, 123
- ECJ Court of Justice of the European Communities, 134, 147, 217
- EEZ Exclusive Economic Zone, 1, 2, 36, 47, 53–59, 67, 78, 79, 86, 100–102, 114, 121, 137, 210, 222
- Effort regulation, 3, 6, 7, 17, 18, 20, 32, 33, 49, 99–126, 139, 315
- EFZ Exclusive Fishing Zone, 137–139
- Enabling legislation, 42, 50, 60, 90–92, 113, 223, 224, 226
- Enforcement, 4, 6, 12, 13, 16, 23, 29, 54–57, 62, 63, 65, 71, 73, 74, 78, 87, 107, 116, 118, 121–124, 135, 145, 147, 165, 183, 184, 198, 214, 217
See also Inspection; Penalty
- EP European Parliament, 134, 190
- Equal access, 135–138, 146
- EU European Union, 3, 6, 8, 9, 12–20, 56, 57, 61, 77, 89, 90, 105, 124, 125, 131–134, 136–141, 144–154, 157, 161, 162, 164–168, 175, 179, 181, 184, 186, 190, 192, 198, 207, 208, 213–227
- FAO Food and Agricultural Organization, 2, 7, 31, 32, 79
- FIFG Financial Instrument for Fisheries Guidance, 133, 141, 148, 165, 217
- Fishing capacity, 7, 20, 37, 44, 46, 48, 58, 103, 114, 115, 131–156, 165, 179, 180, 217

- Fishing day, 8, 9, 17, 38, 107–109, 111–118, 121, 123, 144, 146, 148, 164, 175, 181, 215, 220
- Fishing effort, 1, 4, 7, 29, 31, 34, 48, 101, 108, 114, 115, 124, 138, 144, 151, 165
- Fishing mortality, 1, 6, 13, 15, 21, 27, 33, 35, 57, 60, 61, 63, 64, 86, 102, 111, 112, 117, 119–122, 135, 149, 150, 164, 184, 198
- FKA-system, 178, 179, 185, 193, 194
- FoF Friends of Fishing, 153–155, 218
- Foucault, 23, 38, 91
- Garbage can, 212, 223, 225
- Gordon-Schaefer model, 34
- Green paper, 147, 149, 150, 153
- GRT, 109, 140, 141, 144, 147, 180
- Gulland report, 32, 143, 144, 147, 148, 150
- Haddock, 14, 32, 35, 36, 66, 102, 103, 105, 108–111
- Harvest rules, 151, 155
- Herring, 35, 36, 48–51, 58, 61, 66, 86, 171, 173, 177, 178, 186, 191, 193–195
- Herring- and Sprat Fisheries Act, 48, 49, 60
- High-grading, 20, 165
- Home Government Act, 99, 100
- ICES International Council for the Exploration of the Sea, 27, 28, 30, 31, 32, 35–38, 45, 57, 77, 78, 101, 103, 105, 106, 111, 112, 115, 117
- ICNAF International Commission for the Northwest Atlantic Fisheries, 28, 29, 31–35, 38, 47, 49–51, 101, 135
- Implementation drift, 15, 16, 213–226, 228
- Incidental catch, 5, 13, 53, 62, 63, 87, 118, 119, 121, 123
- Industry development, 37, 48, 55, 89, 210, 211
- Input regulations, 1, 8, 17, 151
- Inspection, 55, 63, 70, 72, 78, 79, 100, 106, 115–124, 147, 162, 183, 192
- Institutional inertia, 10, 19
See also Path dependence
- Interests, 43, 46, 80, 83, 91, 137, 152, 154, 161, 167, 169, 175, 178, 185, 186, 190, 191, 199–201, 209, 217–219
- ITQs Individual Transferable Quotas, 105, 125, 174, 177–179, 188, 193, 195, 202
- IUU fishing, 78
- Knowledge, 2, 3, 5, 20–23, 33, 37, 73, 117, 135, 149, 164, 189, 195, 207, 208, 215, 228
See also Science
- kW, 140, 144, 147
- Landing notes, 76
- Landing quotas, 17, 19
- Lassen report, 148, 150
- Legitimacy, 12, 13, 24, 38, 46, 62, 79–81, 113, 123, 211, 224
- Liability, 13, 14, 37, 52, 63, 73, 74, 107, 118, 119, 121–123
- Licensing, 7, 33, 47, 50, 51, 57, 58, 75, 100, 102, 105–110, 114, 115, 120–124, 138, 145, 146, 176, 177, 181, 182, 191, 194
- Licensing Committee, 51
- Logbook, 59, 60, 70, 72, 73, 100, 106, 116, 117, 120–122
- MAGP Multi-Annual Guidance Programmes, 133, 141–144, 146–149

- Mesh size regulations, 1, 8, 55, 59, 102, 110
- Ministry of Fisheries, 42–44, 49–52, 58, 60–63, 67, 68, 80, 81, 89, 90
- Ministry for Food, Agriculture and Fisheries, 167, 225
- Misreporting, 14, 99, 106, 118, 119, 123
- Modernisation, 27, 33, 36, 37, 45–48, 50, 59, 60, 114, 141, 148, 154, 186, 194, 209–211
- Monitoring fishing mortality, 6, 60, 63, 64, 67, 119
- Morality, 4
- Multiplicity of agendas, 209, 212, 221, 228
- Multi-species, 13, 145, 150
- NAFO Northwest Atlantic Fisheries Organization, 47, 78, 122
- NEAFC North East Atlantic Fisheries Commission, 30–33, 35, 36, 38, 50, 51, 55–58, 78, 79, 101, 135, 138
- Negligence, 13, 14, 53, 63, 75
- Networks, 161, 189, 199–202, 218, 219
- Non-penal confiscation, 14, 52, 62, 63
- North Atlantic fisheries commissions, 1, 6, 27, 31, 36, 46, 47, 50, 51, 135
- North East Atlantic Fisheries Convention, 30
- Norwegian Fishermen's Association, 42–44, 46, 51, 64, 79–83, 91
- Open access, 48, 182
- Output regulations, 17, 151
- Overcapacity, 20, 37, 47, 50, 51, 101, 104, 125, 133, 140, 144, 145, 147, 148, 150, 155, 165, 180, 183, 184, 191, 193, 198, 210, 211, 217
- Overfishing Convention, 29–31
- Participation Act, 50–53, 58, 59, 61, 75
- Path dependence, 10, 11, 18–20, 37, 86, 88, 125, 126, 131–157, 213, 214, 217
See also Institutional inertia
- Penalty, 13, 51, 52, 61, 62, 74, 120, 122, 123, 144
- Permanent Commission, 4, 29, 31
- Planning Committee, 107, 109
- Police, 63, 71, 72, 75, 124
- Political agenda, 28, 49, 91, 101, 208, 209, 210, 212, 220, 221, 223
- Political costs, 4, 10, 81, 82
- Political culture, 83, 84
- Port state control, 79
- Power, 16, 41, 50, 81, 89, 92, 114, 134, 139, 140, 142, 144, 147, 152, 153, 164, 165, 166, 169, 170, 189, 192, 194, 200, 202, 217, 220, 224–228
- Principal-agent, 9, 16, 48, 85, 213–219, 223, 225–227
- Prisoner's dilemma, 4, 15, 21, 48, 77, 136, 214, 217, 220, 221, 223, 225
- Qualified Majority Voting, 134
- Quality control, 45, 54, 55, 59, 79, 87
- RAC Regional Advisory Council, 214, 219
- Rational choice theory, 16, 21
- Rationality, 4, 16, 88, 220
- Rationalization, 152–154, 156
- Raw Fish Act, 45, 46, 64, 67, 68, 76
- Raw Fish Fund, 101–103
- Recovery plans, 3, 131–157
- Regulated scarcity, 7–10, 12, 17, 19, 55
- Regulatory Committee, 51, 80
- Regulatory Council, 80, 81
- Regulatory Meeting, 80, 81

- Relative stability, 10, 19, 133, 139,
153, 156, 164, 184, 214–216, 219
- Report 91, 144–146, 149, 155
- Resource control, 54, 55, 68,
70–75, 87
- Resource scarcity, 7, 8, 28
- Sales note, 45, 59, 65–68, 70, 72, 73,
76, 106, 117, 119–121, 126
- Sales organisations, 42–45, 52, 53,
59, 61–63, 65, 67–72, 76, 79,
82–85, 87, 89, 91, 120, 221
- Saltwater Fishing Act, 49, 53, 59–64,
66–68, 70, 71, 74, 75, 80, 113,
121, 123
- Satellite tracking, 70, 78, 100, 116–118
- Schaefer, 34
- Science, 1–3, 6, 11, 20–22, 28, 31, 32,
34, 36, 37, 45, 51, 107, 112, 135,
192, 207, 212
- Scott Gordon, 34
- Scrapping, 141, 142, 179–181, 201
- Small-fish regulations, 2, 8, 49, 59, 102
- Statistics, 29, 33, 46, 76, 103, 121,
163, 216
- Strategic action, 4, 220, 225
- Structural policies, 7–10, 12, 17–19,
58, 59, 61, 84, 132, 133, 137, 140,
141, 164, 165, 174, 179, 181, 183,
198, 214, 215, 217
- Structure Committee, 104, 105
- Subsidies, 79, 101–103, 145, 154,
181, 182, 217
- Target catch, 111, 133, 164
- Target fishing mortality, 6, 21, 35, 61,
64, 111, 112, 164, 170, 215
- Technical regulations, 1, 7, 59, 66,
67, 84, 101, 102, 105, 108, 124,
133, 135, 150, 164
- Technology, 28, 29, 33, 47, 111,
114, 142, 148, 179, 186, 210,
211, 219
- Templeman and Gulland report,
32, 34
- Tradable fishing rights, 10, 171
See also ITQs Individual
Transferable Quotas
- Tragedy of the commons, 4, 5, 21,
37, 215
- Trawl, 28, 29, 47, 49, 50, 55, 59,
66, 69, 100, 101, 104, 109,
110, 114, 115, 171, 177,
185, 191
- Trawler Act, 57
- Tripartite agreement, 36, 56
- Vessel Monitoring System, 147
- Vessel quotas, 10, 52, 59, 61, 63, 64,
66, 67, 69, 71, 122
- Violence, 74
- VPA Virtual Population Analysis,
34, 35
- Weighing, 59, 70, 72, 112,
119, 120
- WGBEAC Working Group on Joint
Biological and Economic
Assessment of Conservation,
31–33, 35, 38, 40
- Window(s)-of-opportunity, 131, 155,
185, 188–196, 200, 202
- Zone belonging, 57