Individual transferable quotas, does one size fit all?: Sustainability analysis of an alternative model for quota allocation in a small-scale coastal fishery

The introduction of vessel-based Individual Transferable Quotas (ITQs) in Danish demersal fisheries in 2007 caused significant structural changes in the fleet, towards fewer and larger vessels deploying otter trawls. Mainly smaller coastal vessels deploying Danish seines and gillnets reduced in numbers. The ecosystem effects of this structural change were investigated by comparing the sustainability of a local, small-scale, coastal fishery (Thorupstrand) using Danish seines and gillnets with that of demersal trawling by larger vessels using the same fishing grounds. The fisheries were compared using six ecological and socio-economic indicators: 1), discards (food web), 2), by-catch incidences (food web/biodiversity), 3), seabed impacts, 4), fuel use efficiency, 5), quality of fish landed (food provision), and 6), social and cultural gains and drawbacks (social and cultural features). Except for by-catch of vulnerable species, the fisheries using Danish seines and gillnets scored better in all indicators when compared to otter trawls. Additional commercial and cultural benefits of establishing a local fishery guild with share-owned quotas and land-based facilities were investigated. The results and lessons learned are discussed in the context of an ecosystem approach to fisheries management and the current reform of the common fisheries policy of the European Union.
BFI (2013): BFI-level 1
Scopus rating (2013): SJR 1.472 SNIP 1.635 CiteScore 2.71
ISI indexed (2013): ISI indexed yes
Web of Science (2013): Indexed yes
BFI (2012): BFI-level 1
Scopus rating (2012): SJR 1.339 SNIP 1.495 CiteScore 2.54
ISI indexed (2012): ISI indexed yes
Web of Science (2012): Indexed yes
BFI (2011): BFI-level 1
Scopus rating (2011): SJR 1.406 SNIP 1.263 CiteScore 2.07
ISI indexed (2011): ISI indexed yes
Web of Science (2011): Indexed yes
BFI (2010): BFI-level 1
Scopus rating (2010): SJR 1.289 SNIP 1.483
Web of Science (2010): Indexed yes
BFI (2009): BFI-level 1
Scopus rating (2009): SJR 0.947 SNIP 1.142
BFI (2008): BFI-level 1
Scopus rating (2008): SJR 0.838 SNIP 1.417
Scopus rating (2007): SJR 0.927 SNIP 1.377
Web of Science (2007): Indexed yes
Scopus rating (2006): SJR 0.961 SNIP 2.043
Web of Science (2006): Indexed yes
Scopus rating (2005): SJR 0.84 SNIP 1.229
Scopus rating (2004): SJR 0.793 SNIP 1.116
Scopus rating (2003): SJR 0.506 SNIP 1.11
Scopus rating (2002): SJR 0.444 SNIP 0.8
Scopus rating (2001): SJR 0.532 SNIP 0.639
Scopus rating (2000): SJR 0.391 SNIP 1.442
Scopus rating (1999): SJR 0.527 SNIP 1.141
Original language: English
DOIs:
10.1016/j.marpol.2017.10.038
Publication: Research - peer-review › Journal article – Annual report year: 2018

Fiskeriet fra Thorupstrand. Forvaltning af kvoter samt redskaber, både og fiskepladser: The Fishery from Thorupstrand. Management, gear, boats and fishing grounds

General information
State: Published
Organisations: National Institute of Aquatic Resources, Section for Ecosystem based Marine Management
Authors: Hoffmann, E. (Intern)
Publication date: 2016

Publication information
Publisher: Institut for Akvatiske Ressourcer, Danmarks Tekniske Universitet
ISBN (Electronic): 978-87-7481-231-9
Original language: Danish

Series: DTU Aqua-rapport
Number: 315-2016
Main Research Area: Technical/natural sciences
Electronic versions:
Publishers version
Links:
http://www.aqua.dtu.dk/Publikationer/Forskningsrapporter/Forskningsrapporter_siden_2008
Publication: Research › Report – Annual report year: 2016
From fish to jellyfish in the eutrophicated Limfjorden (Denmark)
The heavily eutrophicated Limfjorden (Denmark) provides a good illustration of the value of long-term monitoring,
especially if this is combined with an experimental, interdisciplinary research approach. Here, we first give a short overview of the environmental status of Limfjorden, including the historical development of nutrient overloading and subsequent oxygen depletion in near-bottom water, and how the annual landings of edible bottom-dwelling fish species (plaice, flounder, eel and others) caught in Limfjorden have decreased from about 2,500 t in the early 1920s to only about 20 t in recent years where the fish have been replaced by an increasing number of especially the moon jellyfish, Aurelia aurita, which mainly preys on zooplankton. Next, we evaluate the ecological consequences of the present high number of jellyfish, based on data from recent years’ research on the abundance of jellyfish, their population dynamics and predation impact. In Limfjorden, the benthic polyp stage of A. aurita ensures a large number of small ephyrae in the early spring and subsequently a large population of adult medusae that control the zooplankton during summer and autumn. The holoplagic invasive ctenophore Mnemiopsis leidyi, which was observed in Limfjorden for the first time in 2007, is a second carnivore adding additional predation pressure of the indigenous A. aurita so that copepods and other mesozooplankton organisms may be virtually absent, as observed in 2008 and 2009 where ciliates made up a substantial part of the zooplankton biomass. Marine environmental management programmes should be aware of the increasing importance of both indigenous and new invasive jellyfish species that may show mass occurrence in especially eutrophicated and overfished areas.
Integrated trend assessment of ecosystem changes in the Limfjord (Denmark): evidence of a recent regime shift?

An integrated ecosystem assessment was carried out for the Limfjord over the period from 1984 to 2008 to describe changes in ecosystem structure and potentially important drivers. The Limfjord is an eutrophic transitional Danish fjord system with the main inflow from the North Sea in the west and main outflow to the Kattegat in the east. We showed that from 1990 to 1995, the ecosystem structure shifted from dominance by demersal fish species (eel pout, whiting, flounder, plaice) to that of pelagic fish species (sprat, herring, sticklebacks), small-bodied fish species (black goby, pipefish), jellyfish, common shore crab, starfish and blue mussels. We interpret this change as a regime shift that showed a similar temporal pattern to regime shifts identified in adjacent seas. The observed changes in trophic interactions and food web reorganisation suggested a non-linear regime shift. The analyses further showed the regime shift to be driven by a combination of anthropogenic pressures and possible interplay with climatic disturbance.

General information
State: Published
Organisations: National Institute of Aquatic Resources, Section for Coastal Ecology, Section for Management Systems
Authors: Tomczak, M. T. (Ekstern), Dinesen, G. E. (Intern), Hoffmann, E. (Intern), Maar, M. (Ekstern), Støttrup, J. (Intern)
Pages: 178-187
Publication date: 2012
Main Research Area: Technical/natural sciences

Publication information
Journal: Estuarine, Coastal and Shelf Science
Volume: 117
ISSN (Print): 0272-7714
Ratings:
BFI (2018): BFI-level 1
BFI (2017): BFI-level 1
Web of Science (2017): Indexed yes
BFI (2016): BFI-level 1
Scopus rating (2016): CiteScore 2.43 SJR 0.997 SNIP 1.127
Web of Science (2016): Indexed yes
BFI (2015): BFI-level 1
Scopus rating (2015): SJR 1.107 SNIP 1.186 CiteScore 2.44
The Japanese oyster drill Ocinebrellus inornatus (Récluz, 1851) (Mollusca, Gastropoda, Muricidae), introduced to the Limfjord, Denmark

The predatory neogastropod Ocinebrellus inornatus was first reported from Europe in W France in 1995 and has since been detected at other sites in NW and N France and The Netherlands. It is native to the North Pacific where it preys on the Pacific oyster Crassostrea gigas. Here we report on the occurrence of the species in beds of European oysters (Ostrea edulis) in the Limfjord, NW Jutland, Denmark. The morphology-based identification has been confirmed by genetic analysis. The species was probably introduced with oysters imported from France in the 1970s and 1980s. The invasion is still relatively localized but as the species has established a reproductive population, it may eventually spread to other parts of the fjord and in time pose a problem to the oyster fishery. The species’ invasion history is reviewed
Fredninger, lukkede områder og fiskeforbud

General information
State: Published
Organisations: Section for Management Systems, National Institute of Aquatic Resources
Authors: Hoffmann, E. (Intern)
Pages: 181-191
Publication date: 2012
Main Research Area: Technical/natural sciences

Publication information
Journal: Aquatic Invasions
Volume: 7
Issue number: 2
ISSN (Print): 1818-5487
Ratings:
BFI (2018): BFI-level 1
BFI (2017): BFI-level 1
Web of Science (2017): Indexed Yes
BFI (2016): BFI-level 1
Scopus rating (2016): SJR 0.981 SNIP 1.241 CiteScore 2.45
Web of Science (2016): Indexed yes
BFI (2015): BFI-level 1
Scopus rating (2015): SJR 0.831 SNIP 1.158 CiteScore 1.93
Web of Science (2015): Indexed yes
BFI (2014): BFI-level 1
Scopus rating (2014): SJR 0.624 SNIP 1.049 CiteScore 1.39
Web of Science (2014): Indexed yes
BFI (2013): BFI-level 1
Scopus rating (2013): SJR 0.658 SNIP 0.752 CiteScore 1.18
ISI indexed (2013): ISI indexed no
BFI (2012): BFI-level 1
Scopus rating (2012): SJR 0.601 SNIP 0.749 CiteScore 1.06
ISI indexed (2012): ISI indexed no
Web of Science (2012): Indexed yes
BFI (2011): BFI-level 1
Scopus rating (2011): SJR 0.713 SNIP 0.979
ISI indexed (2011): ISI indexed no
BFI (2010): BFI-level 1
Scopus rating (2010): SJR 0.647 SNIP 0.996
BFI (2009): BFI-level 1
Scopus rating (2009): SJR 0.515 SNIP 0.809
BFI (2008): BFI-level 1
Scopus rating (2008): SJR 0.548 SNIP 0.928
Web of Science (2008): Indexed yes
Scopus rating (2007): SJR 0.578 SNIP 0.615
Original language: English
Electronic versions:
Lutzen.pdf
Source: orbit
Source-ID: 317662
Publication: Research - peer-review › Journal article – Annual report year: 2012
Ny indslæbt art til Danmark: Japansk Østers-boresnegl Ocinebrellus inornatus fundet i Limfjorden

The Limfjord, Denmark. SPICOSA study site 5

European Symposium on Marine Protected Areas as a Tool for Fisheries Management and Ecosystem Conservation
Konsekvensvurdering af fiskeri på europæisk østers i Nissum Bredning 2008

General information
State: Published
Organisations: Section for Shellfish, National Institute of Aquatic Resources, Section for Management Systems
Authors: Dolmer, P. (Intern), Christensen, H. T. (Intern), Geitner, K. (Intern), Kristensen, P. S. (Intern), Hoffmann, E. (Intern)
Number of pages: 22
Publication date: 2009

Publication information
Place of publication: Charlottenlund
Publisher: Danmarks Tekniske Universitet, Institut for Akvatiske Ressourcer - Dansk Skaldyrcenter
ISBN (Print): 978-87-7481-103-9
Original language: Danish
Series: DTU Aqua-rapport
Number: 211-09
ISSN: 1395-8216
Main Research Area: Technical/natural sciences
Links:
http://www.aqua.dtu.dk/Publikationer/Forskningsrapporter.aspx
Source: orbit
Source-ID: 225328
Publication: Research › Report – Annual report year: 2009

Marine Protected Areas as a tool for fishery management and ecosystem conservation: an Introduction

General information
State: Published
Organisations: Section for Management Systems, National Institute of Aquatic Resources, University of Murcia
Authors: Hoffmann, E. (Intern), Pérez-Ruzafa, A. (Ekstern)
Pages: 1-5
Publication date: 2009
Main Research Area: Technical/natural sciences

Publication information
Journal: I C E S Journal of Marine Science
Volume: 66
Issue number: 1
ISSN (Print): 1054-3139
Ratings:
BFI (2018): BFI-level 1
BFI (2017): BFI-level 1
Web of Science (2017): Indexed yes
Udvikling af kulturbanker til produktion af blåmuslinger i Limfjorden

General information
State: Published
Organisations: Section for Coastal Ecology, National Institute of Aquatic Resources, Section for Management Systems, National Veterinary Institute, Danish Shellfish Centre
Number of pages: 127
Publication date: 2009

Publication information
Place of publication: Charlottenlund
Publisher: Danmarks Tekniske Universitet, Institut for Akvatiske Ressourcer - Dansk Skaldyrcenter
SPICOSA Design Step, SSA 5 Limfjorden, Denmark – progress and results

General information
State: Published
Organisations: Section for Coastal Ecology, National Institute of Aquatic Resources, Section for Shellfish, Section for Management Systems, Danish Shellfish Centre
Publication date: 2008
Event: Poster session presented at SPICOSA SAF Meeting, Faro, Portugal.
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 251183
Publication: Research › Poster – Annual report year: 2008

SPICOSA System Design report: SSA 5 - Limfjorden, Denmark

General information
State: Published
Organisations: Section for Coastal Ecology, National Institute of Aquatic Resources, Section for Management Systems, Division of Seafood Research, National Food Institute, Danish Shellfish Centre
Number of pages: 26
Publication date: 2008

Publication information
Original language: English
Series: SPICOSA
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 259941
Publication: Research › Report – Annual report year: 2008

Beskyttede og lukkede havområder som redskab ved fiskeriforvaltning og marin naturbeskyttelse

General information
State: Published
Organisations: Section for Management Systems, National Institute of Aquatic Resources
Authors: Hoffmann, E. (Intern), Sørensen, T. K. (Intern), Vestergaard, O. (Intern)
Number of pages: 1
Publication date: 2007

Host publication information
Title of host publication: Abstracts fra 14. danske havforskermøde, Syddansk Universitet, 23-25 januar
Main Research Area: Technical/natural sciences
Management of the fishery of blue mussels in Denmark

General information
State: Published
Organisations: Section for Shellfish, National Institute of Aquatic Resources, Section for Management Systems, Section for Software and GIS development
Authors: Dolmer, P. (Intern), Kristensen, P. S. (Intern), Hoffmann, E. (Intern), Geitner, K. (Intern)
Publication date: 2007
Event: Poster session presented at ICZM meeting, Arendal, Norway, 11-14 June.
Main Research Area: Technical/natural sciences

Bibliographical note
Poster
Source: orbit
Source-ID: 225329
Publication: Research › Poster – Annual report year: 2007

Ny rovsnegl i Limfjorden

General information
State: Published
Organisations: Section for Management Systems, National Institute of Aquatic Resources
Authors: Jensen, K. (Ekstern), Hoffmann, E. (Intern)
Pages: 3
Publication date: 2007
Main Research Area: Technical/natural sciences

Publication information
Journal: Dyr i natur og museum
Volume: 1
ISSN (Print): 0109-1190
Ratings:
ISI indexed (2013): ISI indexed no
ISI indexed (2012): ISI indexed no
ISI indexed (2011): ISI indexed no
Original language: Danish
Source: orbit
Source-ID: 225995
Publication: Research › Journal article – Annual report year: 2007

Rapport om udvikling af kulturbanker til produktion af blåmuslinger i Limfjorden

General information
State: Published
Organisations: Section for Shellfish, National Institute of Aquatic Resources, Section for Management Systems, Section for Software and GIS development, National Veterinary Institute, Danish Shellfish Centre
Authors: Dolmer, P. (Intern), Kristensen, P. S. (Intern), Hoffmann, E. (Intern), Geitner, K. (Intern), Borgstrøm, R. (Intern), Espersen, A. (Intern), Petersen, J. K. (Intern), Bassompierre, M. (Intern), Tørring, D. B. (Intern), Gramkow, M. (Ekstern)
Number of pages: 89
Publication date: 2007

Publication information
Publisher: [s.n.]
Original language: Danish
Main Research Area: Technical/natural sciences
Electronic versions:
3704-3-07-0150_kulturbanker[1].pdf
Source: orbit
Østers ( Ostrea edulis ) i Limfjorden

General information
State: Published
Organisations: Section for Shellfish, National Institute of Aquatic Resources, Section for Management Systems
Authors: Kristensen, P. S. (Intern), Hoffmann, E. (Intern)
Number of pages: 45
Publication date: 2006

Publication information
Place of publication: Charlottenlund
Publisher: Danmarks Fiskeriundersøgelser
Original language: Danish

PROTECT: Improved tools for MPA design, monitoring and evaluation

General information
State: Published
Organisations: Section for Management Systems, National Institute of Aquatic Resources
Authors: Hoffmann, E. (Intern), Vestergaard, O. (Intern), Sørensen, T. K. (Intern)
Publication date: 2006

Host publication information
Title of host publication: Marine Nature Conservation in Europe. 8-12. maj 2006, Stralsund, Germany; 41st European Marine Biology Symposium. September 4-8, Cork, Ireland and The 3rd North Atlantic Conference: Marine Protected Areas- from global policy to regional perspectives. June 6-7, Tromsø, Norway
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 238720
Publication: Research › Article in proceedings – Annual report year: 2006

Advancing the development of new tools for monitoring, assessment and management of MPAS in the EU

General information
State: Published
Organisations: Section for Management Systems, National Institute of Aquatic Resources
Authors: Hoffmann, E. (Intern)
Number of pages: 170
Publication date: 2005

Host publication information
Title of host publication: Congres progam and abstracts. IMPAC 1, Geelong, Australia
Main Research Area: Technical/natural sciences
Conference: IMPAC 1, Geelong, Australia, 01/01/2005
Source: orbit
Source-ID: 231549
Publication: Research › Article in proceedings – Annual report year: 2005
Bestanden af blåmuslinger i Limfjorden 1993 til 2003

General information
State: Published
Organisations: Section for Shellfish, National Institute of Aquatic Resources, Section for Management Systems
Authors: Kristensen, P. S. (Intern), Hoffmann, E. (Intern)
Number of pages: 41
Publication date: 2004

Publication information
Place of publication: Charlottenlund
Publisher: Danmarks Fiskeriundersøgelser
ISBN (Print): 87-90968-56-5
Original language: Danish
Series: DFU-rapport
Number: 130-04
Main Research Area: Technical/natural sciences
Electronic versions:
130-04_bestanden_af_blåmuslinger_i_limfjorden.pdf
Links:
Source: orbit
Source-ID: 226310
Publication: Research › Report – Annual report year: 2004

Omplantning af blåmuslinger i Limfjorden med M/S Limfjorden

General information
State: Published
Organisations: Section for Shellfish, National Institute of Aquatic Resources, Section for Management Systems
Authors: Kristensen, P. S. (Intern), Dolmer, P. (Intern), Hoffmann, E. (Intern)
Number of pages: 11
Publication date: 2004

Publication information
Place of publication: Charlottenlund
Publisher: Danmarks Fiskeriundersøgelser
Original language: Danish
Main Research Area: Technical/natural sciences

Bibliographical note
Rapport til Foreningen Muslinge erhvervet
Source: orbit
Source-ID: 226347
Publication: Research › Report – Annual report year: 2004

Østersfiskeri i Limfjorden - sammenligning af redskaber

General information
State: Published
Organisations: Section for Shellfish, National Institute of Aquatic Resources, Section for Management Systems
Authors: Dolmer, P. (Intern), Hoffmann, E. (Intern)
Number of pages: 40
Publication date: 2004
Sandeels in the wind farm area at Horns Reef

General information
State: Published
Organisations: Section for Population- and Ecosystem Dynamics, National Institute of Aquatic Resources, Section for Shellfish, Section for Management Systems
Authors: Jensen, H. (Intern), Kristensen, P. S. (Intern), Hoffmann, E. (Intern)
Number of pages: 25
Publication date: 2004

DFU’s standardtrawl: Konstruktion og sammenlignende fiskeri

General information
State: Published
Organisations: National Institute of Aquatic Resources, Section for Management Systems, Section for Coastal Ecology
Authors: Eigaard, O. R. (Intern), Støttrup, J. (Intern), Hoffmann, E. (Intern), Hovgård, H. (Intern), Poulsen, S. (Ekstern)
Number of pages: 45
Publication date: 2003
Fisk lægger rigtig mange æg

General information
State: Published
Organisations: Section for Management Systems, National Institute of Aquatic Resources
Authors: Hoffmann, E. (Intern)
Pages: 22-27
Publication date: 2003
Main Research Area: Technical/natural sciences

Publication information
Journal: Fisk og Hav
Issue number: 56
ISSN (Print): 0105-9211
Ratings:
ISI indexed (2013): ISI indexed no
ISI indexed (2012): ISI indexed no
ISI indexed (2011): ISI indexed no
Original language: Danish
Links:
http://www.difres.dk/dk/publication/files/22122003$FH56.PDF
Source: orbit
Source-ID: 225768
Publication: Research › Journal article – Annual report year: 2003

Gydning og gydeområder

General information
State: Published
Organisations: Section for Population- and Ecosystem Dynamics, National Institute of Aquatic Resources, Section for Management Systems, Technical University of Denmark
Authors: Worsøe Clausen, L. (Intern), Horsten, M. (Ekstern), Hoffmann, E. (Intern)
Pages: 28-37
Publication date: 2003
Main Research Area: Technical/natural sciences

Publication information
Journal: Fisk og Hav
Issue number: 56
ISSN (Print): 0105-9211
Ratings:
ISI indexed (2013): ISI indexed no
ISI indexed (2012): ISI indexed no
ISI indexed (2011): ISI indexed no
Original language: Danish
Links:
http://www.difres.dk/dk/publication/files/22122003$FH56.PDF
Source: orbit
Source-ID: 227811
Publication: Research › Journal article – Annual report year: 2003

Sandeels and clams (Spisula sp.) in the wind turbine area at Horns Reef

General information
State: Published
Organisations: Section for Population- and Ecosystem Dynamics, National Institute of Aquatic Resources, Section for Shellfish, Section for Management Systems
Authors: Jensen, H. (Intern), Kristensen, P. S. (Intern), Hoffmann, E. (Intern)
Number of pages: 45
Publication date: 2003
Control of Cl-transport in the operculum epithelium of Fundulus heteroclitus: long- and short-term salinity adaptation

The euryhaline fish, Fundulus heteroclitus, adapts rapidly to enhanced salinity by increasing the ion secretion by gill chloride cells. An increase of similar to 70 mOsm in plasma osmolarity was previously found during the transition. To mimic this in vitro, isolated opercular epithelia of seawater-adapted Fundulus mounted in a modified Ussing chamber were exposed to an increase in NaCl and/or osmolarity on the basolateral side, which immediately increased I-SC. Various Cl-channel blockers as well as the K+ channel blocker Ba2+ added to the basolateral side all inhibited the steady-state as well as the hypertonic stimulation of I-SC. The There Exists-agonist isoproterenol stimulates I-SC in standard Ringer solutions. In contrast, when cell volume was kept at the larger value by simultaneous addition of water, the stimulation with isoproterenol was abolished, suggesting that the key process for activation of the Na+, K+, 2Cl(-) cotransporter is cell shrinkage. The protein kinase C (PKC) inhibitor chelerythrine and the myosin light chain kinase (MLCK) inhibitor ML-7 had strong inhibitory effects on the mannitol activation of I-SC, thus both MLCK and PKC are involved. The two specific protein kinase A (PKA) inhibitors H-89 and KT 3720 had no effect after mannitol addition whereas isoproterenol stimulation was completely blocked by H-89. This indicates that PKA is involved in the activation of the apical Cl- channel via c-AMP whereas the shrinkage activation of the Na+, K+, 2Cl(-) cotransporter is independent of PKA activation. The steady-state Cl- secretion was stimulated by an inhibitor of serine/threonine phosphatases of the PP-1 and PP-2A type and inhibited by a PKC inhibitor but not by a PKA inhibitor. Thus, it seems to be determined by continuous phosphorylation and dephosphorylation involving PKC but not PKA. The steady-state Cl- secretion and the maximal obtainable Cl- secretion were measured in freshwater-adapted fish and in fish retransferred to saltwater. No Is. could be measured in freshwater-adapted fish or in the fish within the first 18 h after transfer to saltwater. As evidenced from Western blot analysis using antiserine-antibodies, a heavily serine phosphorylated protein of about 190 kDa was consistently observed in the saltwater-acclimated fish, but was only weakly present in freshwater-acclimated fish. This observation indicates that acclimatization to saltwater stimulates the expression of this 190-kDa protein and/or a serine/threonine kinase, which subsequently phosphorlates the protein. (C) 2002 Elsevier Science B.V. All rights reserved.
Effects of marine windfarms on the distribution of fish, shellfish and marine mammals in the Horns Rev area

General information
State: Published
Organisations: Section for Management Systems, National Institute of Aquatic Resources, Section for Coastal Ecology
Authors: Hoffmann, E. (Intern), Astrup, J. (Intern), Larsen, F. (Intern), Munch-Petersen, S. (Intern), Støttrup, J. (Intern)
Number of pages: 45
Publication date: 2002

Publication information
Place of publication: Charlottenlund
Publisher: Danmarks Fiskerundersøgelser
Original language: English
Series: DFU-rapport
Number: 117-02
Main Research Area: Technical/natural sciences
**Gyde- og opvækstpladser for kommercielle fiskearter i Nordsøen, Skagerrak og Kattegat**

**General information**
State: Published
Organisations: Section for Population- and Ecosystem Dynamics, National Institute of Aquatic Resources, Section for Management Systems
Authors: Worsøe Clausen, L. (Intern), Horsten, M. (Ekstern), Hoffmann, E. (Intern)
Number of pages: 24
Publication date: 2002

**Publication information**
Place of publication: Charlottenlund
Publisher: Danmarks Fiskeriundersøgelser
ISBN (Print): 87-90968-40-9
Original language: Danish

Series: DFU-rapport
Number: 118-02
Main Research Area: Technical/natural sciences
Electronic versions:
118-02_gyde-og_vækstpladser_for_kommercielle_fiskearter.pdf
Links:
Source: orbit
Source-ID: 227810
Publication: Research › Report – Annual report year: 2002

**Udvalget om Miljøpåvirkninger og fiskeriressourcer : Delrapport vedr. topprædatorer**

**General information**
State: Published
Organisations: Section for Management Systems, National Institute of Aquatic Resources
Authors: Hoffmann, E. (Intern), Lockyer, C. (Ekstern), Larsen, F. (Intern), Jepsen, P. (Ekstern), Bregnaballe, T. (Ekstern), Teilmann, J. (Ekstern), Scheel-Bech, L. (Ekstern), Kongsted, E. (Ekstern), Thøgersen, H. (Ekstern)
Number of pages: 53
Publication date: 2002

**Publication information**
Place of publication: Charlottenlund
Publisher: Danmarks Fiskeriundersøgelser
ISBN (Print): 87-90968-35-2
Original language: Danish

Series: DFU-rapport
Number: 113-02
Main Research Area: Technical/natural sciences
Electronic versions:
113-02_delrapport_om_topprædatorer.pdf
Links:
Source: orbit
Source-ID: 225779
Publication: Research › Report – Annual report year: 2002

**Limfjorden - fiskene der forsvandt**

**General information**
Short-term impact of blue mussel dredging (Mytilus edulis L.) on a benthic community

The short-term effect of mussel dredging in a brackish Danish sound was studied. A commercial dredging track was identified and an analysis of the species composition inside the track and at an adjacent control area showed that dredging changed the community structure by reducing the density of polychaetes. In order to investigate the extent and the duration of the dredging impact experimental dredging was conducted. The experimental dredging removed 50% of the mussels in two dredged areas. Immediately after dredging, a significantly lower number of species was measured inside the mussel beds in dredged areas compared to control and boundary areas. This effect lasted for at least 40 days. The analysis of the species composition showed that the dredged area had a significantly lower density, particularly of polychaetes compared to the boundary area. An increased number of species was recorded outside the mussel beds just after dredging, but this effect lasted for less than 7 days. After dredging, brown shrimps, C. crangon invaded the dredged areas. This species is an important predator of smaller invertebrates, and it is suspected that it was feeding on small vulnerable polychaetes exposed at the sediment surface after dredging. The dredging process was observed to form 2-5-cm deep furrows in the seabed, but the sediment texture and the organic content of the sediment was not affected. The biomass accumulation of individual blue mussels was significantly lower in the dredged area compared to the boundary area. This indicates that the disturbance of the mussel bed structure reduced growth and that the lowering of intraspecific food competition caused by a reduced density of mussels did not increase the accumulation of biomass in the mussels which remained in the dredged area.

General information

State: Published
Organisations: Section for Shellfish, National Institute of Aquatic Resources, Section for Management Systems
Authors: Dolmer, P. (Intern), Kristensen, T. (Ekstern), Christiansen, M. (Ekstern), Petersen, M. (Ekstern), Kristensen, P. S. (Intern), Hoffmann, E. (Intern)
Pages: 115-127
Publication date: 2001
Main Research Area: Technical/natural sciences

Publication information
Journal: Hydrobiologia
Volume: 465
Issue number: 1-3
ISSN (Print): 0018-8158
Ratings:
BFI (2018): BFI-level 1
BFI (2017): BFI-level 1
Web of Science (2017): Indexed yes
BFI (2016): BFI-level 1
Scopus rating (2016): CiteScore 2.27
Web of Science (2016): Indexed yes
BFI (2015): BFI-level 1
Scopus rating (2015): CiteScore 2.16
Effect of closed areas on distribution of fish and epibenthos

The high blue mussel catches in a fjord system in Denmark, the visible effects of dredging by resuspension of bottom sediment and the possible destruction of benthic flora and fauna have all raised concerns about the impact on the ecosystem. As a consequence, a formerly lucrative blue mussel fishing area in the fjord was closed on dredging in 1988.
This made it possible to investigate changes in the distribution of fish and benthos based on experimental fishing with trawl, set net and traps, and scuba diving during 1981-1998. The investigations showed no long-term effects of mussel dredging on the distribution of fish and epibenthic invertebrates, and the closed area appeared to have had no influence on the demersal fish and epibenthic fauna. Factors other than mussel dredging appear to determine the observed spatial and temporal variability in the ecosystem. (C) 2000 International Council for the Exploration of the Sea.

**General information**

State: Published
Organisations: Section for Management Systems, National Institute of Aquatic Resources, Section for Shellfish
Authors: Hoffmann, E. (Intern), Dolmer, P. (Intern)
Pages: 1310-1314
Publication date: 2000
Main Research Area: Technical/natural sciences

**Publication information**

Journal: ICES Journal of Marine Science
Volume: 57
Issue number: 5
ISSN (Print): 1054-3139
Ratings:
BFI (2018): BFI-level 1
BFI (2017): BFI-level 1
Web of Science (2017): Indexed yes
Scopus rating (2016): CiteScore 2.63
Web of Science (2016): Indexed yes
BFI (2015): BFI-level 1
Scopus rating (2015): CiteScore 2.18
Web of Science (2015): Indexed yes
BFI (2014): BFI-level 1
Scopus rating (2014): CiteScore 2.62
Web of Science (2014): Indexed yes
BFI (2013): BFI-level 1
Scopus rating (2013): CiteScore 2.46
ISI indexed (2013): ISI indexed yes
Web of Science (2013): Indexed yes
BFI (2012): BFI-level 1
Scopus rating (2012): CiteScore 2.35
ISI indexed (2012): ISI indexed yes
Web of Science (2012): Indexed yes
BFI (2011): BFI-level 1
Scopus rating (2011): CiteScore 2.32
ISI indexed (2011): ISI indexed yes
Web of Science (2011): Indexed yes
BFI (2010): BFI-level 1
Web of Science (2010): Indexed yes
BFI (2009): BFI-level 1
Web of Science (2009): Indexed yes
BFI (2008): BFI-level 2
Web of Science (2008): Indexed yes
Web of Science (2007): Indexed yes
Web of Science (2006): Indexed yes
Web of Science (2005): Indexed yes
Web of Science (2004): Indexed yes
Web of Science (2003): Indexed yes
Web of Science (2002): Indexed yes
Web of Science (2001): Indexed yes
Fiskeri efter blåmuslinger i Danmark 1989-1999

General information
State: Published
Organisations: Section for Shellfish, National Institute of Aquatic Resources, Section for Management Systems
Authors: Kristensen, P. S. (Intern), Hoffmann, E. (Intern)
Number of pages: 38
Publication date: 2000

Publication information
Place of publication: Charlottenlund
Publisher: Danmarks Fiskeriundersøgelser, Afdelingen for Havfiskeri
Original language: Danish
Series: DFU-rapport
Number: 72-00
Main Research Area: Technical/natural sciences
Electronic versions:
72-00_fiskeri_efter_blåmuslinger_i danmark.pdf
Links:
http://www.difres.dk/dk/publication/files/22122003$72-00%20Fiskeri%20efter%20blåmuslinger.pdf
Source: orbit
Source-ID: 226330
Publication: Research › Report – Annual report year: 2000

Fisk, fiskeri og bundfauna ved Agerø, Limfjorden

General information
State: Published
Organisations: Section for Management Systems, National Institute of Aquatic Resources, Section for Shellfish
Authors: Hoffmann, E. (Intern), Dolmer, P. (Intern)
Number of pages: 48
Publication date: 2000

Publication information
Place of publication: Charlottenlund
Publisher: Danmarks Fiskeriundersøgelser
ISBN (Print): 87-88047-77-6
Original language: Danish
Series: DFU-rapport
Number: 74-00
Main Research Area: Technical/natural sciences
Electronic versions:
74-00_fisk_fiskeri_og_bundfauna_ved_agerø_limfjorden.pdf
Links:
http://www.difres.dk/dk/publication/files/22122003$74-00%20Fisk,%20Fiskeri%20og%20bundfauna.pdf
Source: orbit
Source-ID: 225770
Publication: Research › Report – Annual report year: 2000

Fisk og fiskebestande i Limfjorden 1984-1999

General information
State: Published
Organisations: Section for Management Systems, National Institute of Aquatic Resources
Dredging of blue mussels (Mytilus edulis L.) in a Danish sound: stock sizes and fishery-effects on mussel population dynamic

In April 1993, 1994 and 1995 the abundance of blue mussels, Mytilus edulis L., was estimated in Limfjorden, Denmark. The stocks were assessed by using a down-scaled model of a commercial mussel dredge which efficiency was analysed by comparing its samples with others collected by diver. The mean dredge efficiency was 17%. The fishing area in Limfjorden (700 km²) is divided into 22 fishery zones and mussel stock size was calculated for each zone. From April 1993 to April 1994 the total stock size declined from 771 000 to 616 000 t. In the same period, the exploitation rate in the fishery was 14% of the 1993 stock, and the size of mussel landings from each zone significantly correlated with their change in stock. In April 1995, the total mussel stock was reduced to 494 000 t. The mean exploitation rate in 1994-1995 was 15%. No correlation was observed between the size of mussel landings and the change in the mussel stock. In summer 1994, there was a long period of oxygen depletion in parts of Limfjorden. This caused mortality of 33% of the mussels in the affected areas. In fishery zones without oxygen depletion a 46% increase in the mussel stocks was estimated. The massive loss of blue mussels caused by oxygen depletion exceeds the annual landings of mussels from the fishery. (C) 1999 Elsevier Science B.V. All rights reserved

General information
State: Published
Organisations: Section for Shellfish, National Institute of Aquatic Resources, Section for Management Systems
Authors: Dolmer, P. (Intern), Kristensen, P. S. (Intern), Hoffmann, E. (Intern)
Pages: 73-80
Publication date: 1999
Main Research Area: Technical/natural sciences

Publication information
Journal: Fisheries Research
Volume: 40
Issue number: 1
ISSN (Print): 0165-7836
Ratings:
BFI (2018): BFI-level 1
BFI (2017): BFI-level 1
Web of Science (2017): Indexed yes
BFI (2016): BFI-level 1
Scopus rating (2016): CiteScore 2.21 SJR 1.12 SNIP 1.136
Web of Science (2016): Indexed yes
BFI (2015): BFI-level 1
Scopus rating (2015): SJR 1.067 SNIP 1.133 CiteScore 2.01
Web of Science (2015): Indexed yes
BFI (2014): BFI-level 1
Scopus rating (2014): SJR 1.105 SNIP 1.312 CiteScore 2.17
Web of Science (2014): Indexed yes
BFI (2013): BFI-level 1
Scopus rating (2013): SJR 1.037 SNIP 1.173 CiteScore 1.85
ISI indexed (2013): ISI indexed yes
Web of Science (2013): Indexed yes
BFI (2012): BFI-level 1
Scopus rating (2012): SJR 0.93 SNIP 1.177 CiteScore 1.78
ISI indexed (2012): ISI indexed yes
Web of Science (2012): Indexed yes
BFI (2011): BFI-level 1
Scopus rating (2011): SJR 1.154 SNIP 1.135 CiteScore 1.7
ISI indexed (2011): ISI indexed yes
Web of Science (2011): Indexed yes
BFI (2010): BFI-level 1
Scopus rating (2010): SJR 1.041 SNIP 1.1
Web of Science (2010): Indexed yes
BFI (2009): BFI-level 1
Scopus rating (2009): SJR 0.985 SNIP 1.065
Web of Science (2009): Indexed yes
BFI (2008): BFI-level 2
Scopus rating (2008): SJR 0.938 SNIP 1.142
Web of Science (2008): Indexed yes
Scopus rating (2007): SJR 1.022 SNIP 1.075
Web of Science (2007): Indexed yes
Scopus rating (2006): SJR 1.025 SNIP 1.274
Web of Science (2006): Indexed yes
Scopus rating (2005): SJR 0.906 SNIP 1.134
Web of Science (2005): Indexed yes
Scopus rating (2004): SJR 0.944 SNIP 1.023
Web of Science (2004): Indexed yes
Scopus rating (2003): SJR 1.076 SNIP 1.314
Web of Science (2003): Indexed yes
Scopus rating (2002): SJR 1.299 SNIP 1.22
Web of Science (2002): Indexed yes
Scopus rating (2001): SJR 0.934 SNIP 0.891
Web of Science (2001): Indexed yes
Scopus rating (2000): SJR 0.611 SNIP 0.836
Web of Science (2000): Indexed yes
Scopus rating (1999): SJR 0.546 SNIP 0.865
Original language: English
Source: orbit
Source-ID: 225323
Publication: Research - peer-review › Journal article – Annual report year: 1999

Muslingefiskeri og miljø

General information
State: Published
Organisations: Section for Management Systems, National Institute of Aquatic Resources
Authors: Dyekjær, S. (Ekstern), Hoffmann, E. (Intern)
Publication date: 1999

Host publication information
Title of host publication: Havmiljøet ved årtusindskiftet
Place of publication: Fredensborg
Publisher: Olsen & Olsen
Editor: Lomstein, B.
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 225350
Publication: Research › Book chapter – Annual report year: 1999

The effect of mercury on chloride secretion in the euryhaline fish Fundulus heteroclitus

General information
State: Published
Organisations: Section for Management Systems, National Institute of Aquatic Resources
Authors: Hoffmann, E. (Intern), Hoffmann, E. (Ekstern)
Pages: 63-65
Publication date: 1999
Main Research Area: Technical/natural sciences

Publication information
Journal: Bulletin / Mount Desert Island Biological Laboratory
Volume: 38
ISSN (Print): 0097-0883
Bundgarnfiskeri i Danmark

General information
State: Published
Organisations: Section for Management Systems, National Institute of Aquatic Resources
Authors: Møller, S. (Ekstern), Hoffmann, E. (Intern)
Number of pages: 90
Publication date: 1998

Publication information
Place of publication: København
Publisher: Danmarks Fiskeriforening
Original language: Danish
Series: Rapport fra Danmarks Fiskeriforening
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 226748
Publication: Research › Report – Annual report year: 1998

Fra fiskevand til forskervand : Variation og enhed omkring Limfjorden

General information
State: Published
Organisations: Section for Management Systems, National Institute of Aquatic Resources
Authors: Hoffmann, E. (Intern)
Pages: 241-247
Publication date: 1998

Host publication information
Title of host publication: Limfjordsprojektet
Place of publication: Århus
Publisher: Moesgård, Århus Universitet
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 225773
Publication: Research › Book chapter – Annual report year: 1998

Long time acclimation to high and low salinity of chloride cells from the operculum epithelium of Fundulus heteroclitus

General information
State: Published
Organisations: Section for Management Systems, National Institute of Aquatic Resources
Authors: Hoffmann, E. (Ekstern), Hoffmann, E. (Intern), Waldegger, S. (Ekstern), Zadunaisky, J. (Ekstern), Lang, F. (Ekstern)
Pages: 67-69
Publication date: 1998
Main Research Area: Technical/natural sciences

Publication information
Journal: Bulletin / Mount Desert Island Biological Laboratory
Volume: 37
ISSN (Print): 0097-0883
Ratings:
Ressourcegrundlaget

General information
State: Published
Organisations: Section for Management Systems, National Institute of Aquatic Resources
Authors: Hoffmann, E. (Intern)
Pages: 7-35
Publication date: 1998

Host publication information
Title of host publication: Bundgarnsfiskeri i Danmark
Publisher: Danmarks Fiskeriforening
Editors: Andersen, M., Christoffersen, L.
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 225777
Publication: Research › Book chapter – Annual report year: 1998

Role of protein-kinases and phosphatases in chloride transport modulation in Fundulus heteroclitus

General information
State: Published
Organisations: Section for Management Systems, National Institute of Aquatic Resources
Authors: Hoffmann, E. (Ekstern), Hoffmann, E. (Intern), Colón, E. (Ekstern), Einhorn, J. (Ekstern), Zadunaisky, J. (Ekstern)
Pages: 70-72
Publication date: 1998
Main Research Area: Technical/natural sciences

Publication information
Journal: Bulletin / Mount Desert Island Biological Laboratory
Volume: 37
ISSN (Print): 0097-0883
Ratings:
ISI indexed (2013): ISI indexed no
ISI indexed (2012): ISI indexed no
ISI indexed (2011): ISI indexed no
Original language: English
Source: orbit
Source-ID: 225782
Publication: Research › Journal article – Annual report year: 1998

Volume activated chloride secretion in opercular epithelium of Fundulus heteroclitus

General information
State: Published
Organisations: Section for Management Systems, National Institute of Aquatic Resources
Authors: Zadunaisky, J. (Ekstern), Hoffmann, E. (Ekstern), Hoffmann, E. (Intern), Colón, E. (Ekstern), Einhorn, J. (Ekstern)
Pages: 74-75
Publication date: 1998
Main Research Area: Technical/natural sciences

Publication information
Journal: Bulletin / Mount Desert Island Biological Laboratory
Volume: 37
ISSN (Print): 0097-0883
Blåmuslingebestanden i Limfjorden 1996 og 1997

General information
State: Published
Organisations: Section for Management Systems, National Institute of Aquatic Resources, Section for Shellfish
Authors: Hoffmann, E. (Intern), Kristensen, P. S. (Intern)
Number of pages: 39
Publication date: 1997

Publication information
Place of publication: Charlottenlund
Publisher: Danmarks Fiskeriundersøgelser
ISBN (Print): 87-88047-34-2
Original language: Danish
Series: DFU-rapport
Number: 38-97
Main Research Area: Technical/natural sciences
Electronic versions:
38_97_bl_muslingebestanden_i_limfjorden.pdf
Source: orbit
Source-ID: 225764
Publication: Research › Report – Annual report year: 1997

Blåmuslingebestanden i Limfjorden samt evaluering af bestandsstørrelserne i perioden 1993-1995

General information
State: Published
Organisations: Section for Shellfish, National Institute of Aquatic Resources, Section for Management Systems
Authors: Kristensen, P. S. (Intern), Dolmer, P. (Intern), Hoffmann, E. (Intern)
Number of pages: 27
Publication date: 1996

Publication information
Place of publication: Charlottenlund
Publisher: Danmarks Fiskeriundersøgelser
Original language: Danish
Series: DFU-rapport
Number: 2-96
Main Research Area: Technical/natural sciences
Electronic versions:
2_96_bl_muslingebestanden_i_limfjorden_samt_evaluering_af_bestandsstørrelserne.pdf
Source: orbit
Source-ID: 226318
Publication: Research › Report – Annual report year: 1996

Fiskeriologiske undersøgelser i Limfjorden 1993-1996

General information
State: Published
Organisations: Section for Management Systems, National Institute of Aquatic Resources
Authors: Hoffmann, E. (Intern)
Number of pages: 45
Projects:

Marine fish atlas of Denmark (38852)
This project will produce an atlas of all the marine fish species found in waters around Denmark. The species occurrence data for the atlas will be based on all types of observational data, such as; fisheries research surveys, commercial fish landings data, recreational fishermen’s landings and diver observations. Users and target audience of the atlas are university and high school students and instructors, scientists, government officials, private companies, NGOs, and the wider Danish public. The atlas will be a reference for scientific outreach product and is a collaboration between DTU Aqua, the Zoological Museum of the Natural History Museum of Denmark and a small private consulting company operated by
The former biologist of the Danish Fishermen’s Association. The atlas will contain photographs and maps of the distributional area each species and a short (3-5 page) text describing current knowledge of species’ biology and life history in Danish waters.

The project is coordinated by DTU Aqua.

National Institute of Aquatic Resources
Centre for Ocean Life
University of Copenhagen

Krog Consult ApS
Period: 01/01/2009 → 31/12/2013
Number of participants: 3
Research area: Marine Populations and Ecosystem Dynamics
Contact person:
MacKenzie, Brian (Intern)
Project participant:
Støttrup, Josianne Gatt (Intern)
Hoffmann, Erik (Intern)

The shore crab and its parasites in Limfjorden. A model study of a marine invasive species in its home range (38870)
The purpose of the DTU Aqua part of the project is to collect and analyze data for a quantitative description of the population and parasite structure of the shore crab (*Carcinus maenas*) in Limfjord in Denmark. This includes quantitative information on the species’ geographical distribution in the Limfjord as well as estimates of abundance. The abundance estimates will be based on mark-recapture experiments and trawl survey data. Geographical distribution and year to year fluctuation in abundance of the shore crab will be related to key parameters such as salinity, depth and temperature. The project is coordinated by University of Copenhagen, Denmark.

National Institute of Aquatic Resources
Section for Ecosystem based Marine Management
University of Copenhagen
University of Bergen
Danish Shellfish Centre
Period: 01/01/2009 → 31/12/2011
Number of participants: 2
Research areas: Ecosystem Based Marine Management & Marine Living Resources
Project participant:
Hoffmann, Erik (Intern)
Munch-Petersen, Sten (Intern)

Limfjord regime shift (38181)
The aim of the project was to reveal causes and mechanisms related to a regime shift in the Limfjord, including the relationship with nutrient loading and fish production in the Limfjord. Furthermore management scenarios for ensuring good environmental conditions and sustainable use of the living resources would be examined and discussed. DTU Aqua’s share of the project was through models to demonstrate a regime shift and to explore potential causes of this. The project made it possible to combine different types of data across sub-basins with different physical-chemical conditions and trophic groups and to explore various methods. We chose to use an Integrated Trend Assessment approach and a series of statistical tests were applied (sequential t-test analyses of regime shifts (STARS), principle component analyses (PCA), STARS on PCA scores and Chronological Clustering). A Traffic Light Plot was used to visualize changes in the ecosystem. A regime shift was identified starting in 1990 and fully developed by 1996. It impacted the whole food-chain structure in the fjord. Possible causes were identified as climatic causes (temperature, salinity and wind) and eutrophication (nutrient N, P loadings and bottom oxygen conditions). To a lesser extent fishery of demersal fish species could also have been a contributory factor. The regime shift caused a decrease in the fishery of large demersal fish, whereas there was a general increase in the stock size of pelagic and small demersal fish species, crustaceans (crabs, lobster), echinoderms, starfish and jelly fish. After the regime shift primary production in the water column decreased. In the present project it was not possible to determine if the decrease in large demersal fish stocks was caused by failure in recruitment or by over-fishing. At the management level it was pointed out that it was important to study sub-basins of the fjord due to the high variation of parameters between sub-basins. The fundamental changes that had occurred in the system further suggested that it may not be possible for the system to revert back to its original condition even if the...
nutrient loadings were brought back to their original levels. However, this needs to be further investigated.

The project was coordinated by DTU Aqua.
National Institute of Aquatic Resources
Section for Ecosystem based Marine Management
Aarhus University
Period: 01/01/2005 → 31/12/2010
Number of participants: 4
Research area: Coastal Ecology
Project participant:
Dinesen, Grete E. (Intern)
Hoffmann, Erik (Intern)
Tomczak, Maciej T. (Ekstern)
Project Manager, academic:
Støttrup, Josianne Gatt (Intern)
Project

Marine protected areas as a tool for ecosystem conservation and fisheries management (PROTECT) (38095)
1)To evaluate the potential of MPAs as a tool to protect sensitive species, habitats and ecosystems from the effect of fishing.

2)To outline and develop monitoring, assessment and management tools for MPAs that can assess: a) the impact of fisheries on marine ecosystems, b) the effect of different levels of protection and c) the impact and socio-economic effects of MPAs on fishing communities.

3)To facilitate linkages between science and management in the areas of: a) MPA design and implementation, b) timing and level of stakeholder involvement and c) management effectiveness and adaptability.

The project was coordinated by DTU Aqua.
National Institute of Aquatic Resources
Section for Ecosystem based Marine Management
Finnish Game and Fisheries Research Institute
Swedish National Board of Fisheries
Institute for Marine Sciences
University of Hamburg
Sea Fisheries Institute
Centre for Ecology and Hydrology
Cefas
Marine Scotland
National University of Ireland
Institute of Marine Research
University of Portsmouth
University of Tromsø
IFREMER
University of Gothenburg
Wageningen IMARES
University of Copenhagen
Period: 01/01/2005 → 31/12/2008
Number of participants: 9
Research area: Ecosystem Based Marine Management
Contact person: