



Summary of Myfish Task 1.2 Report on the Fisheries Governance System for Alaska Pollock under the North Pacific Management Council: Objective Setting and Implementation



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Contribution to Task: 1.2.

EU FP7 Project No: 289257 - Myfish

Project name:

'Maximising yield of fisheries while balancing ecosystem, economic and social concerns.'

Project acronym: **Myfish**

www.myfishproject.eu



1. Introduction

This report is part of a European Union (EU) FP7 project 'Maximizing yield of fisheries while balancing ecosystem, economic and social concerns' (Acronym: Myfish) it is one case study for Task 1.2, which aimed to review existing and proposed MSY variants, constraints and management measures. Accordingly, we have looked outwards from the EU to selected fisheries in other parts of the world (Australia, Alaska and the Faroe Islands) to investigate as 'case studies' which illustrate various aspects of sound governance from which the EU can potentially learn. The overall aim of Task 1.2 is to discover best practices and lessons learned with respect to MSY variants, objective (i.e. aim or goal) setting and implementation processes (i.e. means to achieve objectives), including the strengths and weaknesses, constraints and trade-offs, concerning the overall governance system for the particular fishery. We consider these 'practices' with regard to the three 'pillars' of sustainable development (c.f. Brundtland, 1987) and we refer to these three sustainability objectives as being a) Bio-ecological; b) Economic; and c) Social. We also consider 'Governance' as forming an integrative horizontal 'beam' interlinking the three sustainability 'pillars'.

The term 'governance' is defined in various ways in dictionaries. For the sake of the current study, we consider *fishery governance as the sum of the legal, social, economic and political arrangements used to manage the fishery. We view fishery-related stakeholders as persons and/or groups which believe they have a legitimate interest in the fishery.*

This specific report concerns the United States (U.S.), Bering Sea – Aleutian Islands (BSAI) pollock fishery (particularly its main component the Eastern Bering Sea (EBS) pollock fishery), conducted under the auspices of the North Pacific Fishery Management Council (NPFMC).

2. Methodology

The report involved a) the production of a literature review of the fishery management system resulting from a comprehensive and systematic desk study of the literature and web-pages, followed by b) interviews with key stakeholders using a standard set of questions which are used for all of the case studies. A total of 16 interviews were conducted during a visit to Seattle (Washington) and Anchorage (Alaska) from mid-November to early December 2013 involving representatives from the relevant management authorities, the scientific community, the fishing industry, retail businesses and NGOs (environmental and native



Alaskan). The interviews were conducted using the standard open-ended questions, and were recorded and subsequently transcribed and organized by means of textual analysis software (QSR Nvivo 9) and served a dual purpose. On one hand the interviews served as a source for filling in gaps in the factual knowledge obtained through the literature review. Equally important, however, the interviews also served as a means to uncover controversies and different perceptions on issues related to the fisheries management system. A 'Fishbone' diagram was also constructed to display the variables (components/factors) that we identified, at various levels, as having an effect on a response that is to be optimized, namely the overall governance of the analyzed fishery system. As a result of the Fishbone diagram, we have then considered these main 'causes' (factors) in the context of how they contribute to the three 'pillars of sustainability', namely 'Bio-Ecological', 'Economic', and 'Social' but also the role of 'Governance' as a horizontal integrator acting across the three pillars.

3. Outcomes and conclusions

3.1 Main outcomes

The governance system for the EBS pollock fishery under the NPFMC can be the source of substantial wisdom and best practices for the EU in terms of potentially progressing the way its fisheries are managed. At the same time there are also lessons to be learned, and some caveats to keep in mind, which relate to how one prioritizes the three 'pillars of sustainability' (Bio-Ecological, Economic and Social) and the potential limitations that may arise from that. Here we bring together not only the main components of best practices, but also lessons learned, from the EBS pollock governance system in the context of implementation of new legislation/policy within the EU's Common Fisheries Policy (CFP). In addition to the three sustainability 'pillars', we also emphasize the importance of Governance (*c.f.* definition in the 'Introduction') which acts as an essential cross-cutting and integrative 'beam' in this sustainability 'house'. We would like to emphasize that our comments apply specifically to the EBS pollock fishery, and therefore should mainly be considered as best practices/lessons learned in that context, i.e. a large-scale highly industrialized gadoid fishery.

3.1.1 The MSA and National Standards – adaptive legislation and benchmarking

The U.S. Magnuson – Stevens Act (MSA) provides the overarching U.S. fishery policy and legislation. It is regularly revised and 'reauthorized' by Congress to ensure that regulations evolve and are adapted to the new bio-ecological, economic and social issues that arise. The management objectives, and associated measures to achieve these objectives, are generally very clear and legally binding. The MSA, and relevant environmental legislation/policy, is



applied at the regional level by the eight Regional Fishery Management Councils (RFMCs) — of which the NPFMC is one — established by the MSA in 1976. The RFMCs, and the NPFMC in particular, provide an impressive model for regional, participatory governance by knowledgeable people with a stake in fishery management.

The EBS pollock stock is undoubtedly one of the best managed fisheries, not only in the U.S. but also in the world. The starting point for fishery management, and its overarching legislation and policy, has traditionally been to focus first and foremost on balancing the status of the stock and fishing mortality/effort to provide a sustainable yield over time. In the U.S. this has been achieved by having clear policy objectives, and importantly guidelines interpreting these, arising from the regularly revised and adapted MSA. The powerful U.S. Congress oversees the MSA and its revision/reauthorization, and demands annual 'benchmarking' reports on the performance of all federal fisheries as well as the bycatch associated with these fisheries, and effective action plans are required for under-performing fisheries.

The MSA's *National Standard No. 1* is of great importance concerning the vital prominence of prevention overfishing while achieving Optimum Yield (OY) in the context of Maximum Sustainable Yield (MSY). Ending overfishing, rebuilding depleted fisheries resources and achieving OY brings significant biological, economic and social benefits. The MSA guidelines to Standard No. 1 require that part of the OY be held as a reserve to allow for factors such as uncertainties in stock assessments and catch levels including incidental catch of a stock (e.g. pollock) in another fishery. To support the objectives inherent in this standard, there is a dynamic and adaptable BSAI groundfish policy, under the remit of the NPFMC, applying long-term Fishery Management Plans (FMPs)/Harvest Control Rules (HCRs), and the Acceptable Biological Catch (ABC) Control Rule which is precautionary regarding the setting of conservative (risk averse) and legally binding ACLs (Acceptable Catch Limits $\approx$ TACs) to prevent excessive fishing mortality/effort and hence overfishing. Thresholds are set to trigger 'accountability measures'. Therefore no matter what the political and economic influences are, the scientific advice is widely respected by all stakeholder groups in the NPFMC.

National Standard No. 9 requires the minimization of bycatch/bycatch mortality. In the pollock fishery various mitigatory measures, including ones promoted by the industry, play important roles. Discarding of pollock in the targeted fishery is virtually banned by the requirement for full resource retention/utilization, which has environmental/ecosystem benefits and has also led to economic benefits. Regulatory compliance is very good and is facilitated by a range of 'accountability measures' including 100% coverage by scientific observers of key fleet components, funded by the industry, combined with Vessel Monitoring Systems (VMS) and near real-time reporting of catch and bycatch.



3.1.2 Bio-ecological, economic and social considerations

Besides conserving the target stock, substantial attention is paid to integrating fishery and environmental policy regarding endangered and protected species, including establishing mitigatory measures for bycatch of certain salmon species, protecting vulnerable bottom habitats, and reducing/displacing fishing effort in areas where resource competition may occur with sea lions. Although ecosystem-related aspects of fishery management — besides the above-mentioned and bycatch/discard mitigation — are not yet very clearly prescribed operationally in policy or supplementary guidelines, setting of the ABC level reflects risk/uncertainty and control of fishing effort by scientific mandate. Additionally, the National Environmental Policy Act (NEPA) requires that the National Oceanic and Atmospheric Administration/National Marine Fisheries Service (NOAA/NMFS) considers the potential environmental consequences of its actions before deciding to proceed, and to provide opportunities for public involvement including participating in scoping, reviewing the draft and final Environmental Impact Statement (EIS) and attending public hearings. In the case of broad policies, plans and programs, these are evaluated by Programmatic Environmental Impact Statements (PEIS). Detailed information about the economic aspects, including market profiles, of the pollock fishery, as well as a list of relevant publications/reports by analysts, are included in the annual Economic SAFE report produced by fishery economists. The extent of economic information in the SAFE report, however, is currently limited by the general lack of willingness by the industry to provide expansive, disaggregated economic information.

The BSAI pollock fishery is one of the richest fisheries in the world, producing about USD 1 billion gross value generated by an average annual TAC of about 1 million tonnes. The driving force that led to economic optimization of the fishery was National Standard No. 1 preventing overfishing and aiming at OY, and the 1998 American Fisheries Act which cut fleet overcapacity, limited entry to the fishery, allocated durable 'catch shares' (i.e. Individual Fishing Quotas) and opened for harvest cooperatives. Catch shares, in ending the 'race for fish', facilitated the requirement for better handling and 'full utilization' (no discarding) of the pollock catch leading to a wide range of products and needs, and greater catch value. These measures, acting together, improved effective management of the resource, prevention of overfishing and achievement of OY.

Social considerations are the last ones to be prioritized in the management of the EBS fishery relative to the Bio-Ecological and Economic ones. Because the separation between Social and Economic considerations tends to be diffused as implied in the tempting use of the versatile term 'socio-economics', it is clear that there is a strong positive bond linking prioritization of a healthy stock with the economic properties of a profitable fishery, and in turn to the many tens of thousands of people in the states of Alaska and Washington who

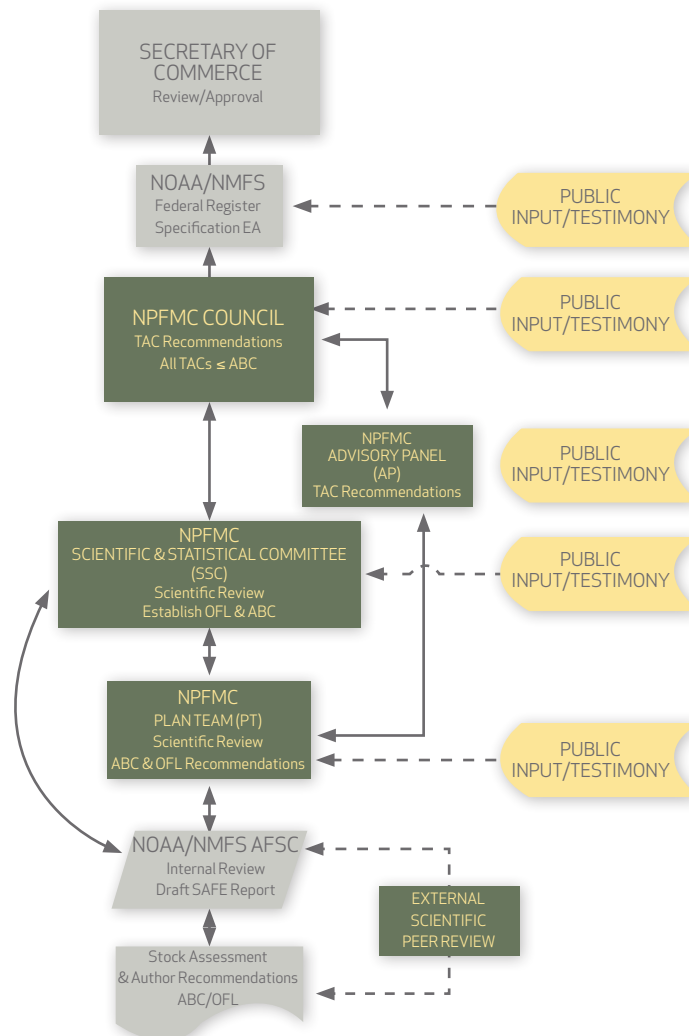


earn a living or otherwise benefit directly at-sea or on-land from that bounty. The huge revenue arising from a healthy pollock stock as well as major investments made by the fishing industry, and the achievements of the Community Development Quota (CDQ) program (in integrating native western Alaskan communities into the fishing business by allocating them part of the catch quota), emphasize that the Economic pillar is implicitly very highly prioritized — along with ensuring the health of the target stock - in the overall management of the EBS pollock fishery.

Included in this 'chain' of interest now are the native Alaskan CDQ-related communities some of which have invested substantially in the pollock fishery, and have become important players. Besides their assets arising from the pollock fishery, the CDQ program groups have also gained — from their 10% stake in the pollock TAC — from over USD 100 million in wages, education and training benefits. Accordingly, adverse social and economic impacts can be identified mainly on those groups which are not directly reliant on the pollock fishing industry and consider themselves as forfeiting salmon due to incidental catch in the pollock fishery. The latter is a complex and controversial issue which potentially requires a socio-political as well as a socio-economic solution.

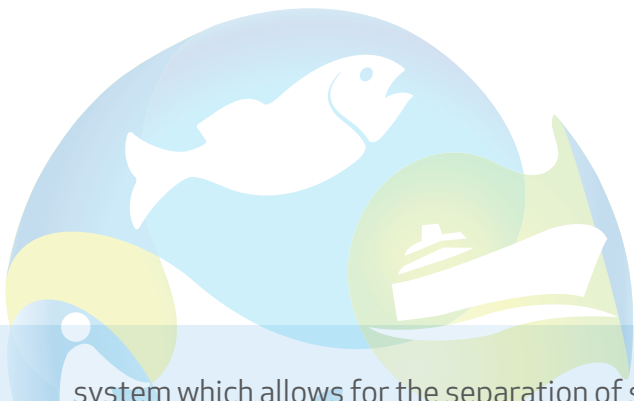
3.1.3 The NPFMC – Regional stakeholder forum at the heart of good governance

The EBS pollock fishery, in terms of the science-based advisory and decision-making system, falls primarily under the NPFMC. The NPFMC forms the operative core of the whole fishery governance system even though the final decision to approve or reject quotas and management plans lies with the Secretary of Commerce. The NPFMC is recognized as one of the most, if not the most, effective RFMCs in the U.S. regarding the long-standing management performance of its many groundfish stocks, including the EBS pollock. The latter has neither been overfished nor subject to overfishing for many decades. The NPFMC has two formal advisory groups: the Scientific and Statistical Committee which is the independent scientific body which reviews and critiques the science and assessments provided by NOAA/NMFS (the responsible U.S. governmental agency); and the Advisory Panel which provides the views of the industry and other relevant stakeholder groups on both the science and the impact of potential fishery management options on the industry and local economies. The Council itself is the decision-making body of the NPFMC, with 11 voting and four non-voting members. Wider stakeholder participation is encouraged in the form of following NPFMC meetings, which are generally open, and the opportunity for public input/testimony by motivated individuals or parties during each level of this tiered governance system. With very few exceptions, all NPFMC documentation is easily found on the internet and freely available.



The decision-making structure of the North Pacific Fishery Management Council.

The issues arising within the NPFMC evolved along with the overarching legislation/ policy and associated changes in stakeholder dynamics. In the early days, the NPFMC decision-making arena was dominated by industry and their interactions with the scientists, and fishery administrators and managers. Since then, Alaskan native communities and environmental NGOs have also entered the arena, aiming to give more weighting to social and ecosystem conservation considerations which these parties view as relevant. This, along with advancements in ecosystem and social sciences has repositioned the focus more widely than the more traditional focus on the health of the target stock(s) and the revenues of the industry. In this context, the new players are required to learn both the formal and informal rules of participation and engagement, particularly with respect to the ensconced position of the industry. What is important in this process is that the NPFMC is a tiered governance



system which allows for the separation of science from politics. In this system the key evidence and risk-aversion decisions over the bio-ecological aspects are taken by highly qualified scientists. The decisions over quota allocation issues are then made by politicians — subject to their not contravening the ABC Rule - who take into account social and economic aspects. The acceptance and contentment of all stakeholders for this decision-making process was very evident during our visit to Anchorage for the December 2012 NPFMC meeting.

3.1.4 Fishbone analysis of key components and measures optimizing the fishery's performance

Our 'Fishbone' analysis identified 10 components, plus associated subsidiary measures, which are vital in acting together in optimizing the governance performance of the EBS pollock fishery. These 10 components are: 1) The MSA – Adaptive legislation; 2) Fishery and environmental integration; 3) Socio-economic and environment impact assessment; 4) Conservative catch limits; 5) Science-based decision-making; 6) Performance benchmarking; 7) Ecosystem impact mitigation; 8) Fishery rationalization; 9) Compliance; and 10) NPFMC – Regional stakeholder forum.

3.2 Conclusions on best practices for EU fisheries

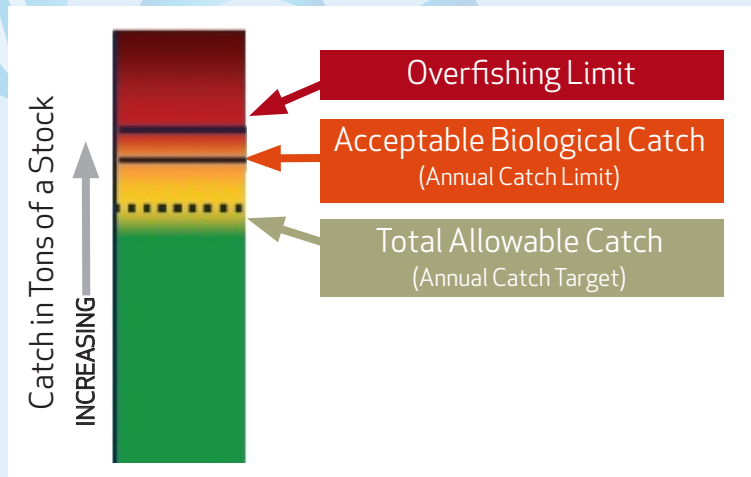
The governance of the EBS pollock fishery exhibits many good practices. On the basis of our study, we provide the following 'take home message' to the EU concerning a few key best practices which we believe merit particular consideration by the Myfish project and fishery-related stakeholders:

- 1. The decision-making process.** The NPFMC represents a very good model for science-based, transparent, inclusive participation and responsible decision-making. The NPFMC forms the core of the governance system. The model potentially provides, with appropriate adaptation, an extension to the EU's Regional Advisory Councils (RACs).
- 2. The ABC Control Rule as practiced in a MSY-related context.** This provides the basis for identifying and implementing legally binding overfishing limits (OFL, which must not be transgressed), with effective buffers. The Acceptable Biological Catch (ABC) Control Rule ensures the setting of conservative catch quotas (TACs) with a low probability of exceeding the OFL which is set as the catch that corresponds to F_{MSY} ¹. The stock biomass level at MSY is the initial target for rebuilding an overfished stock or stock complex. Thus, ABC is the annual sustainable catch limit (ACL) and shall be set lower than the OFL (i.e. $OFL \geq ABC \geq ACL$), so that catch quotas (TAC) must not exceed the ABC level. Supporting the ABC Control Rule, comprehensive and dynamic FMPs and HCRs adaptively counteract overfishing and aim to achieve optimal yield (OY). Although it is not pertinent for the EBS pollock (as it is a top-tier

¹The fishing mortality rate that would, in theory, give the MSY from a particular stock year after year.



stock), we also highly recommend the NPFMC's proxy-related system to the EU for MSY reference points concerning stocks with less available information.



Definition framework for Overfishing Limit (OFL), Acceptable Biological Catch (ABC)/Annual Catch Limit (ACL) and Annual Catch Target (ACT)/Total Allowable Catch (TAC) as determined by the North Pacific Fisheries Management Council for Bering Sea and Gulf of Alaska groundfish. Exceeding the ABC/ACL level triggers accountability measures.

- 3. Durable fishing entitlements with associated responsibilities.** Limited entry to the fishery and 'catch shares' have contributed to removing the 'race for fish' and incentives to overfish. Given the setting of effective catch limits, fishing rights contribute to enhanced resource stewardship and regulatory compliance. However, one must appropriately consider the distribution and longevity of these entitlements to ensure fair access to the fishery.
- 4. Real-time, verifiable reporting on catch and bycatch at sea.** The EBS pollock fishery is at the forefront of such reporting, often promoted and even paid for by the industry itself. This includes use of a comprehensive trained observer system on the main fleet segments, VMS, and triggers for time and area closures. The latter includes identification, warning and avoidance of 'rolling hotspots' by collaborating vessels.
- 5. Benchmarking of fishery performance.** The U.S. regularly assesses the status of its federal fisheries concerning: a) stock status with regard to overfishing, being overfished and achieving OY in a MSY context; and b) bycatch (incidental catch) status. Corresponding action plans provide solutions to deficiencies. Benchmarking has shown itself to be an important, complementary mechanism in improving the performance of U.S. fisheries.
- 6. Full resource retention/utilization requirements.** This has resulted in minimizing discarding/waste and increasing resource utilization and revenues from enhanced product diversity. Thereby the industry is better able to face fluctuating resource dynamics.
- 7. The CDQ Program that allows Alaskan natives to benefit from the target fish resource.** This may provide a potential model, with appropriate adaptation, for helping coastal communities participate in fishing opportunities (either directly themselves or leasing out their quota) in their near-lying sea areas. Despite its potential benefits for some coastal communities, it requires careful application as the CDQ 'allocation' has caused some rifts between various Alaskan communities with different interests and ideologies.