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² PU: Public, PP: Restricted to other programme participants (including the Commission Services), RE: Restricted to a group specified by the consortium (including the Commission Services), CO: Confidential, only for members of the consortium (including the Commission Services).

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Summary

The purpose of the roadmap is to guide decision-makers in a transition from the current fisheries management system within the European Union towards a Responsive Fisheries Management System (RFMS). Building on the concept of Results Based Management, RFMS transfers responsibility for fisheries management to resource users, provided that they document and achieve specified management objectives. The RFMS establishes incentives for resource users to participate in management and research processes.

A transition towards RFMS is in line with the fundamental principles guiding the recently reformed Common Fisheries Policy. In the words of the European Commission, the new CFP is “based on the principle of management by result”, which involves that “the EU legislator fixes objectives, targets and standards, and Member States cooperate regionally with input from all stakeholders to design the best suited tools to achieve these objectives and targets” (EC 2013: 2).

This document is the operational application of the experiences and lessons learned during the EcoFishMan project. The proposed options, recommendations and tools are evidence-based, draw on multidisciplinary research and insights from stakeholders and expert advice.

Our main recommendation is that the RFMS is implemented on a voluntary basis and supported throughout the policy period of the newly revised CFP. Focusing on particularly suitable cases (i.e. typically relatively small and simple fisheries in terms of the number of resource users groups and species involved), voluntary RFMS implementations would allow for further experiences and best practices to be developed. This in turn could provide a basis for creating a legal and regulatory basis for fully-fledged RFMS with the subsequent CFP reform in 2022.

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1. Context and problem definition: towards results based management of European fisheries

A deep-seated drawback of the Common Fisheries Policy is its tendency to produce “micro-management”: a management system that is focused on regulating the practises of the fishing industry in minute detail. Often, regulations do not fit local conditions, which in turn lead to a proliferation of amending regulations and derogations. The outcome is a management system that is becoming complex, difficult to understand and costly to maintain, monitor and control. The resulting management system not only tends to be inefficient with respect to achieving the objectives of the CFP, it also constrains the industry’s ability to adapt to shifting conditions and to improve cost-efficiency through behavioural and technological change.

A further problem of this bureaucratic and “top-down” management system is that it is paternalist, which may provoke antagonism rather than stimulate constructive cooperation between industry and authorities. Is it possible to involve the industry in developing local management solutions that work for the industry while also achieving policy goals? Can incentives be devised so that they motivate the industry to take a constructive role in management and research? How may authorities delegate responsibility to the industry without jeopardizing the policies for which they are responsible?

Preparing for the 2012 reform of the CFP, the European Commission (CEC 2009: 11-12) suggested that:

[t]he industry can be given more responsibility through self-management. Results based management could be a move in this direction: instead of establishing rules about how to fish, the rules focus on the outcome and the more detailed implementation decisions would be left to the industry. Public authorities would set the limits within which the industry must operate, such as a maximum catch or maximum by-catch of young fish, and then give industry the authority to develop the best solutions economically and technically.

The overarching purpose of the EcoFishMan project has been to develop and propose an alternative to the existing fisheries management systems in Europe that builds on this concept of results based management (RBM). This alternative is termed a Responsive Fisheries Management System (RFMS). In line with the Commission’s vision of RBM, RFMS transfers responsibility for fisheries management to resource users, provided that they document and achieve specified management objectives.

The purpose of this report is to create a roadmap with recommendations for how an RFMS may be implemented in practise in European fisheries. It is important to point out that the RFMS prototype itself is roadmap of implementation as it offers recommendations and guidelines for how to implement RFMS. However, while the RFMS concept is generic, the purpose here is to provide recommendations for implementing RFMS that are focused on the context and requirements of the CFP. The recommendations incorporate the feedback and advice of stakeholders.

2. Overview of the roadmap

The roadmap has the following structure:

Section 3 offers a brief description of the RFMS;

Section 4 offers recommendations on possibilities for moving towards the RFMS on a voluntary basis within the current and newly reformed CFP;

Section 5 offers recommendations for preparations that can be made with regard to implementing the RFMS on a fundamental basis. Here we recommend that preparations are made in the time before the next CFP reform (in 2022);

Section 6 presents stakeholder feedback and preferences with regard to RFMS arrangements;

Section 7 wraps up main points relating to RFMS and draws conclusions.

3. The RFMS in a nutshell

The Responsive Fisheries Management system (RFMS) is a concept developed within the EcoFishMan project (www.ecofishman.com). The RFMS is an adaptive management system that is results-based and ecosystem-based. The RFMS attempts to reduce micro-management by involving stakeholders and may include elements of rights-based management and co-management, as appropriate.

The RFMS draws on the notion of results based management (RBM), which for the purposes of the EcoFishMan project was defined as follows:

“Defining an acceptable impact and leaving it to resource users to identify the means to meet the requirements and to document the effectiveness of the means, and ultimately achieve the requirements.”

Building on RBM, the RFMS proposes a process by which responsibility for resource management and research functions in practice can be shifted to resource users.

The RFMS is introduced in figure 2.1 below and the subsequent text.

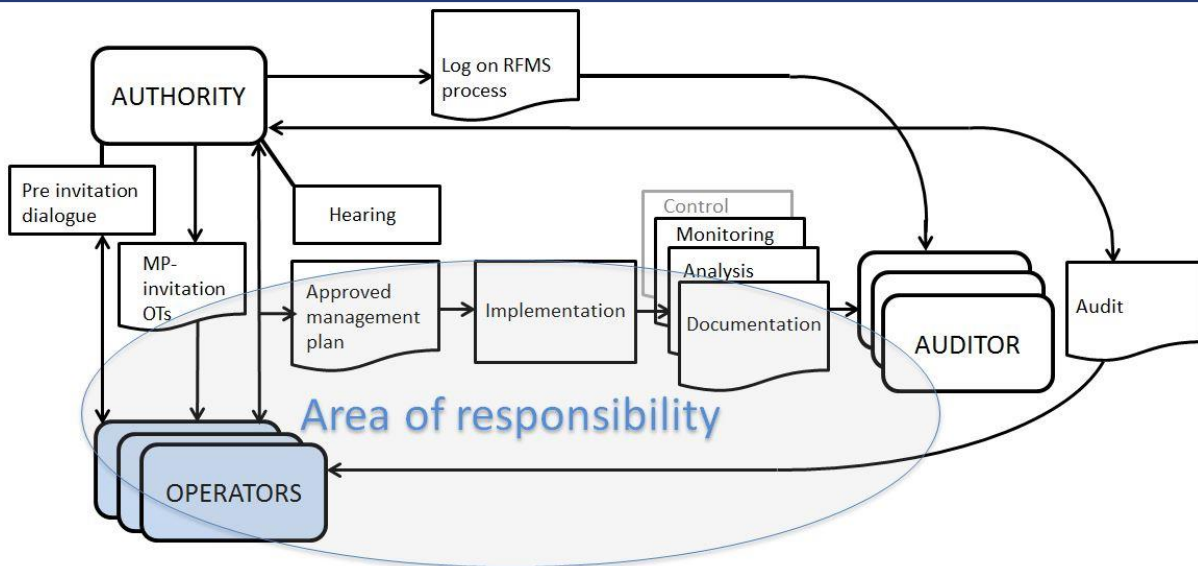


Figure 2.1. Conceptual model of the Responsive Fisheries Management System (RFMS) See text in 2.1 and 2.2 for explanation.

3.1 The roles of RFMS agents and the management plan

The RFMS conceptualises RBM as a contract between an authority and one or more operators. In practice, this contract is a plan, which is proposed by the operator(s).

The *authority* is the entity entrusted with the final responsibility for resource management, and specifies the measurable objectives (outcome targets) to be reached in a given context.

An *operator* is an organised group of resource users, for instance an association of fishermen with fishing rights in a given fishery.

The *management plan* (MP) includes the operator's strategies for achieving the requirements set by the authority, and for documenting the effectiveness of the chosen means. In a CFP context, this plan is either a management plan for a specific fishery or a plan for implementing measures under an existing multiannual management plan or discard mitigation plan. For convenience, we refer to both of the latter as the operator's management plan.

The role of a third agent, the *auditor*, is to evaluate whether the contract between the authority and the operator has been fulfilled in the sense that the outcome targets listed in the MP have been achieved.

In the RFMS, a single authority⁴ is responsible for inviting specific MPs (see below), and for approving MP proposals of sufficient quality. However, more than one operator may cooperate in developing a common MP for a fishery. Similarly, the audit process may involve different auditors in order to cover the types of expertise required to evaluate the conformance with the plan. The cooperation and division of responsibility between multiple operators and auditors should be clearly specified in the MP.

⁴ In multi-national fisheries this single authority may in practice be a collective of the authorities from several concerned Member States (see section 4.3 for an example).

3.2 The RFMS process: a roadmap for operators and authorities

Describing the RFMS process (fig. 2.1), this section provides a roadmap for operators and authorities that have an interest in pursuing an RFMS. Detailed guidelines can be found in Deliverable 4.4, and recommendations specific for implementing RFMS in a CFP context are available in section 3 below.

Step 1: Starting dialogues

The RFMS process begins with dialogues between the authority and the operator(s). The purpose of these dialogues is to create mutual understanding of the RFMS process: What does RFMS involve? What overarching goals can the operator(s) and the authority expect to achieve with RFMS, and what would it require from each party?

Step 2: The MP invitation

If the parties agree that RFMS should be pursued in the given context, the authority prepares an invitation for a management plan. The MP invitation identifies the specific and measurable requirements - outcome targets (OTs) – that are to be achieved in the given context.

Step 3: The management plan proposal

Responding to the MP invitation, the operator proposes a management plan (MP), which explains how the outcome targets can be achieved through a suggested set of management measures. The operator may cooperate with relevant scientific expertise about developing the plan. This expertise could, among other things, assist the operator with modelling the likely effect of suggested management strategies and measures. This would not only assist the operators in developing an effective plan, but also may identify relevant risks to render the plan more robust and convincing, hence making it more likely to be approved by the authority. The plan should also establish how the fisheries will be monitored and controlled and include sanctions for individual members that fail to comply with agreed measures. Finally, the proposal should include timescales for when the performance of the plan with regard to different outcome targets should be audited (see below). In most cases this is done annually, but for some outcome targets shorter or longer timescales may be appropriate.

Step 4: Management plan evaluation

The authority examines the operator's MP proposal, and may request revisions or clarifications. In this way, communication between operator and authority will ensure progress with the MP proposal. A complete MP draft will be "quality checked" by the authority. The purpose of this check is two-fold: 1) does the MP present a convincing strategy for achieving the OTs? 2) Does it include an adequate strategy for obtaining information that allows the performance of the MP to be audited? If needed, the authority may seek expert support for undertaking this quality check of the MP from a relevant scientific agent or, preferably, the auditor(s) appointed in the MP. Quality check of the biological aspects of the MP may be compared to a management strategy evaluation (Dichmont et al. 2008; Sainsbury et al. 2000; Smith et al. 1999), which often includes simulations of multiannual MPs, and this may include evaluation of other (e.g. socio-economic) aspects of the MP. For RFMS, however, the ex-ante evaluation of a MP may in practice involve the less formalised application of expert judgement. A less formalised process will be particularly relevant for RFMS in the context of small scale fisheries, low value fisheries, or data poor situations for which an intensive scientific evaluation is either impossible or economically unjustifiable.

Step 5: Management plan hearing and approval

If the authority finds that the plan is of a sufficient quality⁵, it can approve it. Before doing so, however, it is recommended that the authority arranges a public hearing on the MP proposal, which allows comments to be raised by interested parties as well as the wider public. The purpose of this hearing is to promote transparency, public awareness and public discussions regarding the MP. The role of the hearing will be consultative as it will be up to the authority to decide if and how issues raised in the hearing should be reflected in the MP before it can be approved.

Step 6: MP implementation, control and documentation

If an MP is approved by the authority the operator can proceed with its implementation. At this stage the operator may also cooperate with the authority (the authority may for instance supply enforcement services). While implementing the plan, the operator is responsible for collecting information required for assessing whether or not the outcome targets are (or will be) achieved.

Step 7: Audit and management plan adaptation

The documentation provided by the operator during the implementation of an approved MP is reviewed by an auditor. The auditor should ideally, and to the extent possible, be institutionally independent from both operator and authority, and be trusted by both.

The auditor assesses whether or not (or the extent to which) the outcome targets are achieved. Furthermore, the auditor provides updated information about implemented management actions and their apparent consequences. For the operator, the assessment will provide a basis for drafting modified MPs. For the authority, the assessment may be a basis for implementing sanctions or set conditions (if outcome targets were not achieved), for rewarding achievements, or for revising outcome targets.

If the audit shows that the outcome targets are achieved, the operator may continue with its MP. If the outcome targets are not met, the authority may request revisions for the MP, set stricter requirements, or implement sanctions.

The periodicity of the audits will be directly linked to the duration of the MP. Following the International Organization for Standardization (ISO) schemes, the evaluation includes two separate time frames:

- a) Assessment of the management plan. To be set according to the effective duration of the MP (which typically will be multiannual).
- b) Periodical surveillance of the performance of the MP. This will generally be carried out annually (or as set within the MP) in order to follow up on the implementation of the plan and to reduce risks. This allows for contingency planning, and for making necessary adaptations to the MP.

The operator's area of responsibility

The extent to which operators are made responsible for specific RFMS functions will vary between cases depending on the capacity and interests of the operators in charge. In figure 2.1 this is illustrated

⁵ The RFMS guidelines include a set of direct questions to operators and authority to enable a check of the quality of the MP before it respectively submitted or approved.

by the ellipse with the text “areas of responsibility”: the responsibility for the RFMS functions such as data collection, monitoring and control can in practice be divided differently between operators and the authority. The operator may for instance contract external service providers to carry out specific functions (e.g. data collection or control) or let them be carried out by the authority in the way that they are carried out in the established management system. In any case, the division of responsibility for different functions should be made clear in the MP.

The RFMS process log

To enhance transparency and other aspects of good governance, a log of key events in the RFMS process should be provided by the authority, and be made available to interested parties. Such key events include: main meetings between the operator and the authority; the submission of the MP invitation; hearing of the MP; and approval of MP. The authority should provide dates and brief minutes of such events. In addition to ensure that the RFMS is transparent to involved parties as well as external parties, the process log can be used by the auditor to provide a basis for evaluating the RFMS process (e.g. to assess the timeliness of responses from the authority).

3.3 Key features of RFMS: advantages, constraints and drawbacks

3.3.1 Advantages of RFMS

Flexible

The RFMS concept is generic and flexible. This allows it to be adapted to different situations, depending on the locally relevant specification of management units, operator(s) and authority. The concept could be applied to relatively simple single nation and/or single species fisheries or to complex and demanding multi-species and multi-national fisheries.

Responsive

The RFMS is responsive in the sense that it includes processes for checking management performance with regard to specific and measurable objectives. This allows an adaptive management approach: operators may revise management measures; the authority may reward operators if objectives are achieved or implement sanctions if they are not (the ultimately sanction could be to cancel the delegation of responsibility).

Compatible with requirements of different policies

The RFMS can be used as a process to pursue the objectives of a given fisheries policy (e.g. the CFP) while simultaneously taking requirements into account from other directives and policies such as the Marine Strategy Framework Directive (EC 2008) and the Habitats Directive (EC 1992) or national and regional policies.

Incentive based

The RFMS is a co-management approach that deploys incentive logic. It grants operators flexibility of deploying cost-efficient management and implementation strategies, provided that they document that outcome targets are achieved (Fitzpatrick et al. 2011; Holmes et al. 2011; Kindt-Larsen et al. 2011). In this way, RFMS rewards operators for innovation and for contributing to the knowledge base for fisheries management.

Transparency and inclusiveness

The audit process in RFMS process ensures a high standard of transparency in the management system, and includes resource users in knowledge production and management processes. Public hearings on the management plans, and a fully transparent audit processes, ensure that all other interested parties have the opportunity to be informed and express their views on planned measures and their perceived outcomes.

Reduction or elimination of subsidies

In a fully-fledged RFMS, important indirect subsidies to the fishing industry are avoided as operators will bear the main costs of fisheries management and for collecting data for assessment purposes. The new basic regulation of the CFP enables member states to require their operators to contribute proportionally to the management and research costs in order to “ensure the involvement of concerned operators in the Union data collection and in the Union system for control, inspection and enforcement” (CEC 2013a).

3.2.2 Constraints and drawbacks of RFMS

The difficulty of defining appropriate Outcome Targets

An RFMS requires that relevant specific and measurable requirements, Outcome Targets, are defined to reflect the objectives of relevant policies, and that operators can meaningfully be made responsible for achieving these objectives and for collecting information that allows an audit of the extent to which they are achieved. In practice, it may prove difficult to define Outcome Targets with sufficient relevance and quality in these respects.

The challenge of creating appropriate incentives

An RFMS deploys incentive logic to encourage participation of resource users in management and data collection in order to improve management performance and thereby their economic outcomes. The experience of the EcoFishMan project suggests that it is challenging to design incentives that are strong enough to mobilize sufficient and committed participation of operators to a RFMS process. This challenge is particularly important when RFMS is introduced as a voluntary

alternative (see section 4 below). The establishment of long term rights in the fisheries for resource users has proven itself to be a potential source for such incentives (Arbuckle and Drummond 2000; Breen et al. 2009; Yandle 2008; Yang et al. 2013; Yang et al. 2010). The challenge of designing appropriate incentive mechanisms lies with the authorities.

Increased costs

In assuming specific responsibilities for management and data collection tasks, operators are facing increased costs in RFMS (Townsend 2010). Authorities may initially expect to face increased workloads, but the public costs of research and management can be expected to be lower in RFMS because it aims at ensuring cost recovery (Stokes et al. 2006), i.e. that resource users cover basic research and management costs.

A differentiated playing field

The RFMS invites operators to design locally adapted management plans and implementation strategies. As the resulting approaches will differ between different fisheries/operators, this is in conflict with current aims at securing “a level playing field” between different fisheries groups.

Limited experience with RFMS

There is currently little experience with RFMS like arrangements. While the concept theoretically makes good sense in terms of incentive structures (chiefly in the view of current authorities), it will require commitment and organisational capacity (mainly relating to operators and authority) to make it work. There will be a need to build up “best practice” as relevant for different types of fisheries and organisational starting points. The novelty of RFMS is likely to result in reluctance to make civil servants, decision-makers and candidate operators initiate RFMS arrangements as these can be expected to take risk adverse stance with regard to organisational change.

4. Approaches to implement RFMS on a voluntary basis under the Common Fisheries Policy

A revised basic regulation has been adopted for Common Fisheries Policy (CEC 2013a). Together with a new policy for the “Common Organization of the Markets in Fishery and Aquaculture Products” (CEC 2013b) the basic regulation will frame possibilities and constraints for implementing RFMS under the CFP in the coming decade.

We characterize three possibilities to pursue RFMS like arrangements under the new CFP: 1) Operator initiated multiannual plans; 2) Operator initiated suggestions for (partial) implementation of an

existing multiannual plan, and 3) Operator initiated suggestions for (partial) implementation of discard mitigation plans. These approaches are summarized in table 4.1 and are described below. Subsequently, we address specific opportunities for Producers Organizations (POs) to take the role of operators, as detailed in the new regulation for the Common Organization of the Markets. We conclude this chapter with comments on the outlooks for RFMS in the present CFP.

Table 4. RFMS like arrangement under the coming CFP. See text for explanation.

RFMS approaches in the new CFP and generic roles of involved institutions	Operators: (POs , RACs, or other relevant resource user organization)	RFMS authority: Member state(s) concerned	Ultimate authority for conservation policy: CFP institutions
Multiannual plan development	Develop and propose a multiannual plan (in cooperation with scientists)	Formally request evaluation of plan by ICES or STECF; if the evaluation is favorable, member states submit it as a “joint recommendation”	The Commission includes the plan in a proposal for adoption by the Council and the Parliament
“Joint recommendations” on the implementation of a multiannual management plan	Develop and propose measures for implementing (part of) a multiannual plan (which specifies OTs and timeframes)	Formally request evaluation of proposed measures by ICES or STECF; if the evaluation is favorable, the measures are submitted as a “joint recommendation”	The Commission implements the “joint recommendation” as a delegated act
“Joint recommendations” on the implementation of an approved discard mitigation plan	Develop and propose measures for implementing (part of) an approved discard mitigation plan (which specifies OTs and timeframes).	1) Develop and submit discard mitigation plan as joint recommendation; 2) Evaluate proposed measures by operators under approved discard mitigation plan; if approved the measures are submitted as a “joint recommendation”	The Commission adopts: 1) a discard mitigation plan submitted as a “joint recommendation”; 2 “joint recommendations” on the implementation of the plan.

4.1 Multiannual plans initiated by operators

The basic regulation of the new CFP (CEC 2013a) emphasizes the need for developing and using multiannual plans. Like a management plan in RFMS, multiannual plans can be made to fit different scales (single species or mixed fisheries in a region), as appropriate. A multiannual plan must be adopted by the Council of Ministers and the European Parliament (i.e. the co-legislators) based on a proposal from the Commission after consultation with the RACs and other interested parties. This does not preclude, however, that a plan is initiated, developed and proposed by other agencies than the

Commission. In order to be qualified for adoption by the co-legislators the plan must be assessed by a competent agency (i.e. STECF or ICES) and be judged capable meeting certain CFP objectives and criteria (we return to these requirements below).

No multiannual plan has yet been adopted under the revised CFP. Under the previous CFP, however, resource user organizations have in some cases initiated the development of Long Term Management Plans.

The Pelagic RAC (PRAC) took the initiative to develop a long-term management plan for the western stock of horse mackerel (*Trachurus trachurus*). The development of the plan involved close cooperation between members of the PRAC and scientists in the form of “participatory modeling” (Hegland and Wilson 2009). The PRAC’s proposal was finalized in 2007 and was subsequently evaluated by ICES, which found it consistent with the precautionary approach for a period of 3 years (ICES 2007). The plan was subsequently formalized by the Commission in a proposal to the Council (CEC 2009).

Initiated by a committee under the Irish South & West Fish Producers Organization, a long term management plan has been developed in cooperation between industry and scientists for the Herring in the Celtic Sea and South of Ireland. The plan was agreed upon by the industry in 2011, and it is intended to replace the rebuilding plan that has been in place since 2009. The plan has not been formally adopted but was nevertheless used as a basis for setting a TAC for this stock in 2013 (ICES 2013: 50).

A long term plan for the Western Baltic Spring spawning herring has been developed in cooperation between the Pelagic and the Baltic Sea RACs and scientists working for the FP7 JAKFISH project. On request from EU and Norway, the resulting plan was reviewed by ICES and was found to be consistent with an MSY approach and with ICES’ precautionary approach. However, the plan was not accepted by Norway.

The North Sea RAC is currently leading, and making progress with, an ambitious initiative to develop a long term management plan for Norway Lobster (*Nephrops norvegicus*) in the North Sea.

These cases illustrate how resource user organizations can take a leading role in initiation and development of long term management plans under the current CFP: there is no formal constraint within the coming CFP that excludes this possibility.

4.2 Joint recommendations on the implementation of a multiannual management plan

The basic regulation of the new CFP encourages “member states concerned” (i.e. member states with concrete interest in particular fisheries) to propose ways to implement adopted multiannual plans. This represents an important aspect of the regionalization approach in the new CFP.

In practice, member states concerned may submit “joint recommendations” to the Commission, which can then adopt them as a delegated acts provided that 1) all member states concerned agree to the suggested measures, 2) that STECF has evaluated that the suggested measures are compatible with

the CFP overall, and are found capable of achieving the plan's conservation objectives and 3) that the Advisory Committees have been adequately consulted.

The basic regulation requires that a multiannual plan defines the fisheries in question, the specific and measurable objectives to be achieved, the strategies for achieving them and the timelines involved etc.⁶ Accordingly, a multiannual plan may serve a role similar to what we call a "management plan invitation". This enables operators and member states to pursue RFMS as "joint recommendations on" the implementation of a multiannual plan as follows:

- 1) An overall multiannual plan is developed (by any agency) and is formally adopted.
- 2) In an RFMS like arrangement, member states concerned then serve in the role of "authority", e.g. in the form of a regional council of member states. Here, the multiannual plan serves in the role of a "management plan invitation" specifying objectives and time-frames etc. Possibly, however, the authority may divide the overall management plan invitation into a set of subordinated invitations if this is appropriate to match the fisheries/operators context.
- 3) If operators are evaluated to be able to meet requirements, the authority submits the plans suggested by the operators as joint recommendations for implementing the multiannual plan. In case that a part of the multiannual plan is not covered by a plan designed by an operator the member states concerned will themselves fill these gaps as they would otherwise have to do.

4.3 Operator initiated discard mitigation plans

One of the significant changes in the basic regulation of coming CFP is the "obligation to land all catches" (CEC 2013a: Article 15). The regulation sets a timeline for each species and area from which the landing obligation will enter into force. For instance, pelagic fisheries and Baltic salmon will be under the landing obligation from the 1st of January 2015.

The landing obligation should ideally be specified in multiannual plans. However, it is expected that few new multiannual plans will be developed and adopted in time to meet the timelines of the landing obligation. For fisheries without a multiannual plan, member states are encouraged to propose discard mitigation plans. If the plans receive a favorable evaluation, the Commission will implement them as "delegated acts". If no approved discard mitigation plan is in place in time, the Commission will set a discard limit (*de minimis*) of no more than 5%. This requirement presents member states and operators with a clear incentive to design discard mitigation plans appropriate to the specifics of their fisheries.

The discard mitigation plans are intended to be a temporary approach with the duration of a discard mitigation plan being limited to 3 years. As there are no adopted multiannual plans for most CFP fisheries, the development and implementation of discard mitigation plans will require considerable attention in the coming years. The operators may design discard mitigation plans but these will have to be formally proposed as joint recommendations of the member state(s) concerned.

⁶ See (CEC 2013a: 33-34) for the full list of requirements for a multiannual plan.

The opportunities and procedures for RFMS like arrangements with regard to discard mitigation plans are as follows:

- 1) An overall multiannual plan is developed (by any agency) and is formally adopted.
- 2) In an RFMS like arrangement, member states concerned then serve in the role of “authority”, e.g. in the form of a regional council of member states. Here, the multiannual plan serves in the role of a “management plan invitation” specifying objectives and time-frames etc. Possibly, however, the authority may divide the overall management plan invitation into a set of subordinated invitations if this is appropriate to match the fisheries/operators context.
- 3) If operators are evaluated to be able to meet requirements, the authority submits the plans suggested by the operators as joint recommendations for implementing the multiannual plan. In case that a part of the multiannual plan is not covered by a plan designed by an operator (i.e. if some operators have been unable or unwilling to respond to the invitation within a given timeframe) the member states concerned will themselves fill these gaps as they (or ultimately the Commission) would otherwise have to do.

The ongoing development of a discard mitigation plan for the Baltic Sea may illustrate the potential of the RFMS in this context. Since 2012, Member States, the Commission, the BS-RAC and stakeholders have cooperated in the preparation of a regional discard mitigation plan for the Baltic Sea through the BALTIFISH FORUM⁷. Based on the draft outline of the plan (2013), the process may be summarized as follows:

- 1) Potential operators (fishermen organizations) and authorities (Member states and Commission), potential auditors (e.g. scientist) jointly propose the “rules of the game” for the discard mitigation plan.
- 2) Main OTs and defined deadlines for their achievement have been set by the Authority (Commission): zero discards of TAC regulated species (with a possibility for being granted *de minimis* and exemptions rules under some conditions).
- 3) Alternative measures have been suggested, combined with a learning by-doing approach. For instance, a reduction of the reference size for cod has been proposed on a one year basis. This measure is combined with close monitoring and a safety clause to enable a swift response if an unsustainable situation is observed.
- 4) It is proposed that the plan should be evaluated after one year. Among other things, the evaluation should address impact of the discard mitigation ban on fishing behavior and evaluate economic cost and benefits for fishermen.

4.4 Producer organizations as candidate operators

The regulation for the common market in fisheries enables the formation of multi-national Producer Organizations (POs), either as new POs or as associations of POs from different member states. This is

⁷ An established forum for regional fisheries management; a regional body providing a platform for discussion.

very interesting for RFMS as it establishes a possibility for operators to plan and implement measures in multinational fisheries. The preamble of the new regulation on the Common Organization of the Markets in Fishery and Aquaculture Products (CEC 2013b) envisages an active role for Producer Organizations (POs) in fisheries management processes:

“Producer Organizations are the key actors for the appropriate application of the Common Fisheries Policy and the Common Market Organization. It is, therefore, necessary to strengthen their objectives and to provide the necessary financial support to allow them to play a more meaningful role in the day-to-day management of fisheries, acting within a framework defined by the CFP objectives...”

In practice, the POs may take on roles quite similar to those we have in mind for the operator in RFMS:

“Fishery producer organizations may also make use of the following measures: (a) collective planning and managing of the fishing activities of their members, subject to the Member States' organization of the management of marine biological resources, including developing and implementing measures to improve the selectivity of fishing activities and advising competent authorities;...”

4.4.1 “Extension of rules”

A fundamental challenge to the RFMS concept as a voluntary alternative relates to the scope of management plans: An operator may propose a MP for its members concerning a given fishery. But if the MP does not have support from most (or nearly all) fishermen in the fishery, this will significantly limit the extent to which outcome targets can be achieved by the plan. For convenience we refer to this problem as the problem of “RFMS coverage”.

The market regulation appears to offer a potential solution to the RFMS coverage problem. Provided that a PO controls at least 55% of a given resource, it is authorized to “extend” the rules that it decides to implement for the remaining shares of the resource. If a PO can gain support from at least 55% of the shares in a fishery, it can therefore make a common plan and implement common rules for the whole fishery (CEC 2013b: 23).

To summarize, the national and international POs have rights and duties that empowers them to be suitable candidates for taking on the role as operators in RFMS. This, however, does not in any way preclude that other types of resource user organizations may serve in this role as we observe that both RACs and POs are, or have been, involved in the development of long term management plans.

4.5 Voluntary RFMS pilot projects: Recommended starting conditions

The new policy framework of the CFP creates a window of opportunity for the RFMS as it supports pilot projects in “fisheries management techniques” (CEC 2013: art. 7 h). According to the latest available version, the European Maritime and Fisheries Fund (EMFF) may financially support such projects in so far they are aiming at developing or introducing “...new or improved management and organization systems”.

Moving towards RFMS on a voluntary basis within the CFP in the near future, however, is likely to involve a demanding process. We recommend that the following starting conditions should be in place for operators and authorities before they commence on pilot projects with RFMS like arrangements:

- Sufficient fisheries coverage: The operator(s) that wish to pursue RFMS must collectively represent nearly all (e.g. > 90%) of the shares in a relevant fishery. This is necessary to enable the operators to have sufficient control with regard to achieving OTs for the stock. (Naturally, operator(s) cannot meaningfully assume responsibility for achieving OTs that they cannot control).
- Full commitment from operators and authority. To be successful, pilot projects in RFMS will require dedicated partners. This involves commitment by participating organisations as well as from their members. Operators may choose to sign civil law contracts with their members as a means to commit their members to agreed measures under RFMS.
- Trust and effective relationships between operators and the authority is essential for success. Presently, there is no a legal framework for RFMS that defines each partner's responsibilities and privileges. To secure mutual understanding, and as a means to enhance trust, the authority and operators may formulate civil law contracts to define and consolidate their partnership in RFMS.

5. Steps towards a fundamental results based management system in Europe

An ideal model of results based management in fisheries would be based on a substantially different approach compared to how it is currently practiced in Europe in general. Chiefly, it would be based on: a) a fundamental shift of the burden of evidence to resource users, b) cost recovery (i.e. the notion that resource users pay for research and management costs); c) strong and clearly defined rights for resource users and d) a legal definition of the terms under which management responsibility can be delegated to resource users; and e) resourceful industry organisations on a scale appropriate for managing the fisheries in question. These conditions would create strong incentives for operators to participate in RFMS because it would be in their interest to develop cost-effective and high performing management and research solutions. Currently, however, these conditions are either absent or only partially present in a European context.

In legal terms, the Acts of Accession do not prevent the EU for establishing new, radical changes to the present system of law and no EC Treaty provision bans the EU from delegating power to Member States within its shared power (as evidenced in the new CFP). This allows for establishing RFMS like arrangements provided that EU fixation of TAC is not deferred and the principle of equal treatment is respected.

We recommend that CFP institutions, member state authorities and fisheries organizations will use the time until the next CFP reform to collaborate on developing ways to implement these conditions. Among other things, the following actions are recommended as elements in this process:

1. Make MP invitations and create incentives. Find auditors. Make contacts with operators; initiate pilot projects with operators; research on best practice.
2. Use regulatory options such as the “omnibus”⁸ regulation to remove legal and practical impediments to implementation of RFMS on a transitional basis.
3. The flexibility of the RFMS allows for multi-speed and multi-tier approaches according to the specific characteristics of a given fisheries within the European Union. Multi-speed allows for differentiated timeframes; multi-tier might allow different goals for instance between industrial fisheries (stock assessment, monitoring, etc.) and small scale fisheries (data poor situations, documentation and Audit of the RFMS may need adaptation).

5. Stakeholders recommendations for RFMS arrangements

To identify potential advantages, drawbacks and potential barriers to RFMS, stakeholders and experts were invited state their preferences in terms of regionalization, decision-making, management system and compliance. Among others, these people included policy makers, representatives from industry organisations, people from control and inspection agencies, and fisheries science experts. A selection of their recommendations is listed below⁹:

- 1) RACs were identified as the arena for regional management.
- 2) There is a clear preference for more stakeholder involvement, including for longer term decision-making processes. There is a clear demand for an active role of the industry in shared-decision processes. Co-management by partnership is clearly preferred to alternative options such as top-down hierarchical management by state, co-management by consultation, co-management by delegation and result-based management. EU/national governments, resource users, and stakeholders presently cooperate as decision-making partners in various aspects of management. Therefore, the expressed preferences might be related to the feasibility of the option in the short and medium term. Although other management systems are perceived as desirable, stakeholders feel that the substantial changes of the management system should be implemented in a step-by step process. The expressed preferences might also reflect consistency with a “comfort zone” for the stakeholders involved in current management. For instance, under the co-management by partnerships, the operators do not link the power to make decisions to increased accountability in the management system. Likewise, the authorities do not perceive a shift in the burden of proof to resource users to imply a loss of power.

⁸The adjective “omnibus” refers to the approval of a single regulation that comprises several items. This approach is currently being applied in the implementation of the new CFP: “Proposal for a regulation amending the technical measures and control regulations to implement the landing obligation”. The need to remove any legal and practical impediments – distributed across several measures – points to a need for combining changes in one “omnibus” regulation.

⁹ More information on stakeholder feedback and advice is available in the following EcoFishMan deliverables: D 7.1: Summary from the Open Dialogue Workshop); D 7.2: Report from Round Table Discussion; D 7.3: Report on simulated in situ pilot test on RFMS with selected stakeholders and D 7.4: Report on Seminar on RFMS.

- 3) The flow of information within the system needs to be clear, transparent and effective.
- 4) The controllability of the outcome targets by the operators is highly limited, due both to uncertainties and operators' capacity.
- 5) Apart from that it involves re-allocation of costs among agents RFMS is generally perceived to be a costly system.
- 6) Authorities, NGOs and fisheries research institutes note the relevance of cost-recovery and the need to link compliance control with penalty point systems.
- 7) Compliance control should be a responsibility of public agencies.

6. Conclusion

The Responsive Fisheries Management System (RFMS) outlines a process for transferring fisheries management responsibility to resource users, provided that they document and achieve specified management objectives. RFMS is based on incentive logic, and establishes incentives for resource users to participate in management and research processes. RFMS shifts focus from regulatory details to the documentation and achievement of results through user-defined means.

RFMS is not a panacea for fisheries management problems. For instance, the issue of overcapacity must be addressed through other approaches. The main advantages of RFMS relate to its potential to involve resource users in management and research activities through an incentive based approach. RFMS can be pursued most efficiently as a mandatory system and combined with a fundamental shift in the "burden of evidence", which requires that resource users justify that their practices are sustainable.

Our main recommendation is that the RFMS is implemented on a voluntary basis, and supported throughout the policy period of the newly revised CFP. To implement RFMS as a general and mandatory resource management system in one go may neither be politically feasible nor likely to work well in a transition phase. Experiences have to be made with cases in the CFP area, and it will require time to establish the basic conditions that would support RFMS. A meaningful shift of responsibilities for documentation and management functions to resource users is conditioned on that the resource users have or may develop capacity for executing these functions in a reliable and efficient manner. It is worth noting that reported successful cases in which responsibilities for management functions have been gradually shifted to resource users appear to have involved long time spans.

Voluntary RFMS implementations would allow for further experiences and best practices to be developed. This in turn could provide a basis for creating a legal and regulatory basis for fully-fledged RFMS with the subsequent CFP reform in 2022.

Approaches are described for pursuing RFMS on a voluntary basis under the new CFP. In the coming years, it is likely that the most applicable RFMS approaches will involve that operators design and implement discard mitigation plans and measures under a multiannual plan. This would involve

committees of member states in the role of authority, which would oversee implementation aspects and provide the formal link to the CFP institutions.

A more ambitious RFMS approach involves that operators (in addition to the above) take a main role in developing and proposing multiannual plans. As illustrated, this has happened in some cases although no such plan has yet been formally adopted by CFP institutions. The route to industry initiated and industry lead multiannual management plans in the new CFP cannot be expected to be straightforward, at least not in cases where resources are shared by several countries. Serving as role models, existing and ongoing cases of this kind may nevertheless make this operator lead approach more accessible in the future.

As a voluntary alternative, RFMS will work under non-optimal conditions, and a major challenge will be to motivate operators to participate.

A range of steps have been recommended to enable a transition to a comprehensive RFMS approach. This system would involve shifting the burden of evidence to resource users. Subjected to full cost recovery, resource users would be responsible to demonstrate that their actions are compatible with specific and measurable policy objectives. In return, they would get access to using the resources and be granted the flexibility to design a management system of that best suits their needs, e.g. in terms of being cost-effective and acceptable. If such a fully-fledged RFMS is chosen, the legal framework to support it should be prepared in time before the subsequent CFP reform in 2022.

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