



## Management strategies for coastal fisheries and aquaculture in Southwest Finland

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### Abstract

The management strategy of coastal fisheries is based on the land/water ownership in Finland. The structure of the fishery rights is based on either the share of the common waters or on the other hand the ownership of the separate water segment. The fragmentation of the structure of ownership and in consequence of that, the fragmentation of the waters to smaller-sized units is the biggest structural problem of Archipelago Sea at present. By the aspect of management and utilization the ownership is more and more incoherent. Even starting the co-operation within the local Fishery regions in the 19th century has not significantly altered the structure of the management and ownership. There are still many different interest groups among the owners and users of waters. Common and private ownership at the same waters is stressing the significance of the arranging the dialogue and management policy. Different aspects of management strategies to develop coastal fisheries and aquaculture are discussed. Both commercial and recreational aspects are taken into consideration when sustainable management models are planned.

### 1 Introduction

Coastal fisheries in Finland are not a scale model of marine fisheries because of substantial differences in the biological and socio-economic resource base and cultural circumstances. Anyway the management of both marine and coastal fisheries represents periods or stages of increasing complexity. Structural changes have during the last 30 years been taking place within the Finnish fishery industry: relative importance of commercial fishing is declining and at the same time the importance of fish farming and recreational fishing has increased. Sources of income other than fishing become more important all the time in the Archipelago Sea (figure 1) but on the other hand the market demands of traceability, safety of the products, quality and ecolabelling indicates the need to establish better conditions for a higher professionalism in the whole chain of fisheries.

Today we face the situation where the fisheries management focus on integrated fisheries rather than solely on fish populations. The significance of mutual understanding between different actors can be seen as a prerequisite of better resource management. The common feature for both marine and coastal fisheries are the three principal paradigms of fishery objectives : 1) conservation (=take care of the fish stocks), 2) rationalisation (= economic efficiency) and the 3) social/community paradigm (= community welfare) (Charles 1992).

The contributions from the LIFE-COASTRA (=Coastal management strategies for the Archipelago Sea of SW Finland) project implemented so far in the pilot area of Uusikaupunki in SW Finland have succeeded in the goal to integrate fisheries management and the management of aquaculture production into the wider concept of the sustainable use of renewable natural resources. Therefore it is accepted by the fishermen and fish farmers that also other aspects of user values must be taken into account in the spatial planning of coastal zones.



Figure 1: The Archipelago Sea: enormous topographic complexity, over 20000 islands, over 15000 km shoreline, mean water depth 23 m, total area 8000 km<sup>2</sup>, non-tidal sea, annual ice-cover during winter, salinity 5 to 6 ‰.

## 2 Results

Values related to natural resources can be divided into use values and non-use values (Randall 1987). In coastal zones the competing usage strategies stated by all different stakeholders put pressure on all the actors and thereby new and more diversified management models are of great need. In the pilot study of Uusikaupunki coastal areas it can clearly be seen that competing groups use both knowledge and gaps of knowledge to define the issues in terms of their own social objectives. In the working group of “Fisheries and aquaculture” the goal has been to produce a picture of nature and the use of natural resources that can be accepted by both the local people and other stakeholders.

In the Finnish fishery system competing usage and joint management of commercial and recreational fishing is a contemporary management problem especially at the local level. Cage culture of rainbow trout has since 1980s been recognised as a source of conflict especially concerning other marine recreational usage activities which are often related to seaside resorts or areas with high densities of summer cottages. The environmental authorities are the key stakeholders in regulating the aquaculture activities: special licences are granted by the Regional Environmental Permit Authorities (Varjopuro et al. 2000).

The Finnish fishery system has a special feature of property rights regimes in the sense that within the limits of the law (The Fisheries Act) most of the near coast situated water bodies are owned by private persons or they are characterized as communal properties (=shared ownership/shareholders). So in Finland a fishing right means a legally protected right to fish in a specified water area and also the right to regulate (although restricted in many ways) on fishing in this water area (Salmi and Muje 2001). State property rights are mostly used at specific conservation areas or national parks and of course on the open sea. At regional level the state fisheries administration is implemented in the Employment and Economic Development Centres/Fisheries Offices.

This kind of institutional structure of possession promotes at its best efficient allocations and consistently it includes the paradigm of conservation but at its worst excludes multipurpose usage strategies. Thus in the Archipelago Sea especially the aspects of commercial fisheries and fish

farming meet with opposition when questions of access to fishing waters are raised by the fishermen or fish farmers.

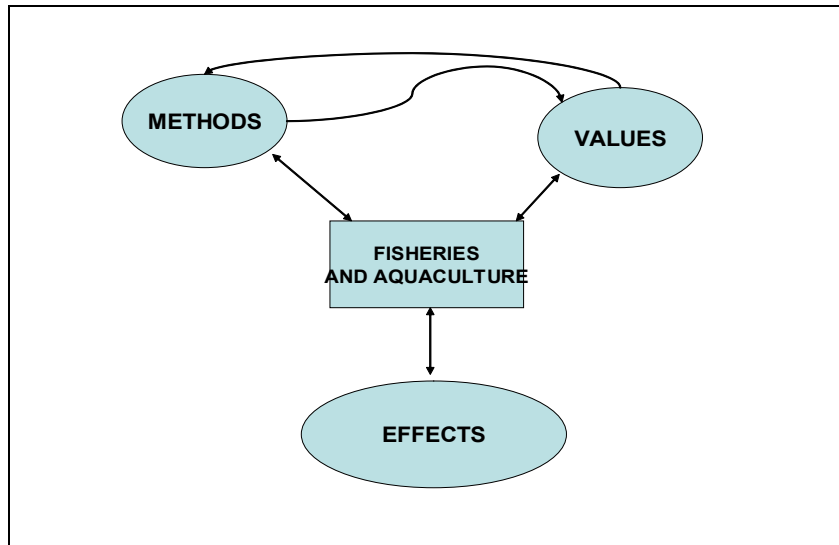


Figure 2: Values based on profession, cultural heritage or stakeholder position affect our way of thinking and conclusions.

Restricted access is of course the principal cause of conflict between commercial and recreational users. So there is a clear need to increase the knowledge of the ecological implications of fisheries and aquaculture. It is of importance to discuss causes and consequences and relate possible effects to different scales of action. Most of the people involved in the process have strong feelings about what is happening in the aquatic environment and there is always a need to point out the guilty one. Depending on peoples cultural heritage, profession or stakeholder position the acceptance of the methods in the use of marine resources are mostly related to one’s values. This all contributes to how people find their opinion for or against the usage strategies (figure 2).

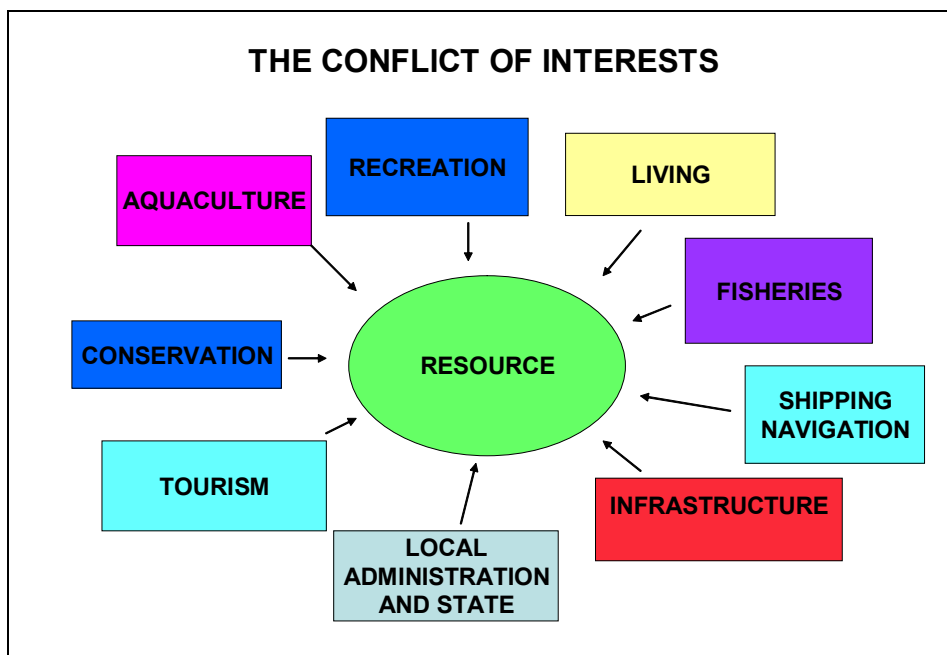


Figure 3: The diversified user strategies causes conflicts of interests; both public and private.

Keeping in mind what is said above a certain educational concept is built in the meetings of the working group to get a better understanding of commercial fisheries and fish farming. Discussions of the public interests versus private interests are also of great importance to get a better understanding of the environment of decision making in the society. Depending on the stakeholder the public and private interests are very diversified but they can also be convergent (figure 3).

### 3 Discussion

As a result of this it is now understood that restricted access to private waters actually have operated to the exclusion of commercial fishing. Furthermore it must be pointed out that new actors - such as the grey seal population and cormorants - are stepping up the competition of the same resource both in space and certain target species; the only difference is that they have a free access to the fishing waters.

Exclusion of commercial fishermen from private waters at the time when also recreational fishing with gillnets is declining have probably environmental considerations of more importance than ever before. Declining fishing pressure has effects on the structural changes of the fish populations. Simultaneously the eutrophication of the coastal waters indicates a strong favour for cyprinid fish species and this phenomenon means in the long run that commercial target species like perch, zander, whitefish (*Coregonus lavaretus*), pike and burbot will suffer from harder competition of suitable spawning grounds, biotopes and food.

Building up a co-management perspective means that partners involved are able and willing to take some public responsibility. In the working group of "Fisheries and aquaculture" it is now widely accepted that we have to improve the co-operation between fishermen, fish farmers and other partners (especially water owners). At the institutional level the co-operation model is "anchored" in the Fishery Act which means that stakeholders in a certain water body called "Fishery region" make up a management plan for the fisheries including also the aspects of utilization, conservation, restoration and plans for fish stocking.

The co-management concept has an essential element based on shared responsibility and shared decision-making in the coastal fishery system. It is clear that players outside the "traditional" fishery system are needed in the process because the sustainability is not only a matter of fisheries /aquaculture production regulation. Stakeholders outside the fishery system can provide a better understanding of where the partners involved stand: it means that we have to understand that natural and social processes operate differently at different scales. Thus the role of outside stakeholders is of importance especially when the goal is to improve diversified fisheries and higher professionalism in the production chain.

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See also [www.varsinais-suomi.fi/coastra](http://www.varsinais-suomi.fi/coastra)

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