

Private Water Ownership and Fisheries Governance in Finland

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Abstract. Coastal and inland water areas in Finland have traditionally been under private ownership in conjunction with possession of land. Most of these water areas are managed jointly by the individual owners. In the late 20th century, an authoritative top-down management regime and regional decision-making layers were established and added to the system of local private water ownership. The demands for reorganization of the management regime were supported by the small size and scattered structure of privately owned areas, as well as by arguments of inequity between user groups and demands for increasing the efficiency of the system and rationality of fisheries policy. In this paper we study changes in the decision-making regime of the Finnish fisheries and conflicts connected to these. We will focus on the property right issues from different perspectives, with special attention to the significance of, and problems connected to, private ownership of fishing waters. Conflicts commonly include tensions between owners' and users' rights. Typically, local water owners have restricted the access of commercial or recreational fishermen to their areas, but the state authorities and legislation have supported the rights of the user groups. The authorities argue for equity and rational utilization of fish resources, while the water owners cannot understand why they are marginalized in the decision making concerning their own property. The conflicts reflect tensions concerning the cultural values and practical knowledge of the rural population, the use of scientific knowledge and urbanization.

Keywords: Property rights, Private water ownership, Fisheries governance, Fishing conflicts

1. INTRODUCTION

1.1 Background

It has been suggested that the introduction or specification of property rights is a precondition for the effective management of sustainable fisheries. It is generally assumed, especially among economists, that privatization of fishing rights would increase economic efficiency and require less effort from the government (e.g. Davidse et al. 1999, van Vliet and Dobbink 1999). According to the OECD Committee for Fisheries, rights-based fisheries management systems would alleviate management problems and, for example, individual quotas (ITQs) would result in improved stock conservation and better economic performance (OECD 1997).

However, the term 'property rights' is often used ambiguously and the nature of the property under discussion is not always clear (Symes 1998). Charles (1996) emphasizes the need for a division between use rights and resource ownership in the analysis of property right issues. The ownership of fish resources cannot be directly compared with that of other types of property and it is not always easy to make a clear distinction between use rights and owners' rights.

In Finland most of the coastal and inland water areas have traditionally been under private ownership and a

governance system for fisheries management in private waters has existed already since 1902. In this paper we study changes in this owner-based governance system and conflicts connected to developments in user groups, new management institutions, and society. We will focus on the property right issues with special attention to the significance of, and problems connected to, private ownership of fishing waters.

1.2 Community, state and market

As an organizing device in our paper we adopt a conceptual framework used by Apostle et al. (1998) in their political economic analysis of changes in North Atlantic fishing communities. This framework is composed of three institutional orders: community, state and market, which all highlight certain aspects of the way modern fisheries function (Fig. 1). Later in this paper, relationships between the institutional orders – and especially changes in them – are used to analyse developments in Finnish owner-based fisheries governance.

According to Apostle et al. (1998), the balance between the three institutional orders has shifted from the community towards the state and the market during the last century. In the triangle, the community-state axis emphasizes the importance of decision making and political debate. It may be argued that the change from

the community towards the state has given a geographically larger perspective to fisheries management, but at the same time the perspective has narrowed to stock-management.

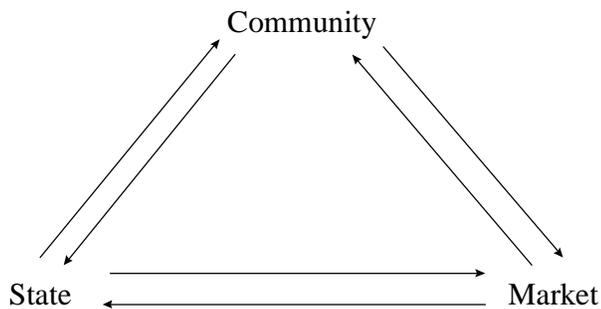


Figure 1. Community, state and market (Apostle et al. 1998).

The view from the state corner of the triangle gives a high priority to hierarchy, bureaucracy and authority. In addition it stresses the role of state-controlled science. The other end of the state-community axis emphasizes the human dimensions of fisheries management, in which the perspective is more holistic.

It has been argued that the hierarchical decision-making system (by the state) is outdated and inadequate for a complex modern world (van Vliet and Dubbink 1999). Advocates of increasing participation in the system of governance have argued for co-management arrangements, where power and responsibilities are shared between user groups and the state (e.g. Jentoft 1989, van Vliet and Dubbink 1999, OECD 1997).

As Apostle et al. (1998) have found in their analysis, the most recent development in the balance between the institutional orders has been a shift from a 'command and control' system by the state towards the increased use of market mechanisms. This direction has been widely discussed and applied by privatizing (property) rights in fisheries such as ITQs.

According to Ostrom (1990) the state and the market, which are qualitatively very different models, are quite often used metaphorically as the only (exclusive) alternatives. However, in real contexts these two are intertwined with each other and with the community. Ostrom (1990) emphasizes that people are able to take collective responsibility for decision making (the community corner in Fig. 1) and the best choice is not between the state and the market, but one that allows all three to work together.

The view that the community, the state and the market should reach a proper balance is also stressed by Apostle et al. (1998), Kooiman et al. (1999) and many of the authors dealing with co-management issues. According to Apostle et al. (1998), an emphasis on only one of these three dimensions will give simple but unrealistic solutions to the problems of the fisheries.

In addition to the state and market, Kooiman et al. (1999) have adopted the concept 'civil society' instead of 'community'. 'Civil society' is more useful when dealing with modern participation problems, which do not only concern geographically-defined communities. In regard to contemporary Finnish fisheries we also use this former, broader definition in this paper.

2. FISHERIES GOVERNANCE IN FINLAND

There are 180 000 islands, 190 000 lakes and 267 000 km of coastline in Finland (Maaseutupolitiikan yhteistyöryhmä, 1996). These natural features, the number of targeted fish species and the low population density have provided good potential for fishing.

Finnish fishery is governed by two basic systems (Varjopuro and Salmi 1999). Privately owned water areas, covering most of the fishing areas in the lakes and along the coast, are managed in a multi-level decision-making regime. The other system is a top-down one, where state owned Public Waters are managed by the government. In this paper we concentrate on the former management system based on private ownership, under which most of the fishing activities take place.

The rights of the owners have traditionally been of high importance in Finland. For historical reasons coastal and inland water bodies have been under private ownership in conjunction with possession of land (Eklund 1994, Tiitinen 1995). For almost a hundred years the emphasis has been on the joint management rights of the land owners. The decision maker is usually a collective, in fishery matters represented by a statutory fishery association which jointly controls the interests of all individual shareholders. In addition to the fishery associations, there are also a large number of waters managed solely by individual owners.

The voluntary forming of fishery associations was based on the legislation of 1902, and since the Fisheries Act of 1951 the landowners have been obliged to form an association (Tiitinen 1995). The number of fishery associations grew from about 5000 in 1962 to approximately 11000 in 1997 (Ministry of Agriculture and Forestry 1998).

Although less than half of the statutory fishery associations are organized and operating, most of the water area is under the management of these active associations (Salmi and Muje 2000). The organized fishery associations hold meetings annually and collectively keep account of incomes and revenues. Normally all incomes from fishing licences are used for covering the fish stock maintenance and management costs.

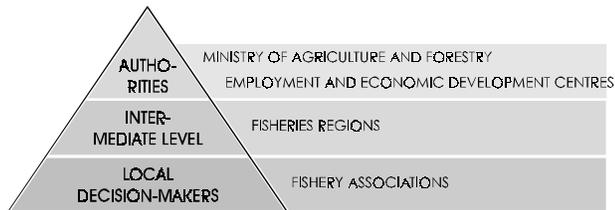


Figure 2. Fisheries governance hierarchy and the most important decision-making institutions.

The owner-based management regime has currently three main levels for decision making (Fig. 2). In the 1980s authoritative management was intensified and a new regional decision-making layer was established and added to the system of local private water ownership.

Fisheries Regions (225 at present) offer a wider forum for decision making among water owners and fishermen than fishery associations. The meeting of the general board of the Fisheries Regions consists of representatives of the statutory fishery associations (who constitute a majority) and of representatives of recreational and commercial fishermen.

The authorities are divided into two sublevels. The regional level of the state administration, comprising 11 fishery districts (currently a part of the Employment and Economic Development Centres), was also founded in the 1980s. These authorities operate under the auspices of the Ministry of Agriculture and Forestry.

Property rights regimes are commonly divided into four categories: 1) private, 2) common property, 3) state property and 4) open access (nonproperty) (e.g. Hanna and Munasinghe 1995, Symes 1998, Oksanen 1998, Davidse et al. 1999). In the regimes the types of property have their corresponding types of management unit. However, the Finnish regime is a mixture of the first three categories, the statutory fishery associations being a special case because water areas are privately owned but collectively managed in the fishery associations. In Europe this system is found only in Finland and some parts of Sweden (Vihervuori 1996).

Neither do the Fisheries Regions fit readily into the categories mentioned above: they form a management unit governing mostly private property areas but also making decisions concerning the public water areas in the lakes. The responsibilities of the Fisheries Regions include both those of the civil society and those of the authorities.

In addition, it is questionable whether the Scandinavian custom of 'every man's rights' can be understood in terms of the property categories (Oksanen 1998). In Finland ice fishing with a rod and angling with a rod and natural bait are treated as 'every man's rights': these activities are generally allowed unless they disturb the nature or local dwellers.

3 FROM COMMUNITY TOWARDS THE STATE

The rapid economic and social changes at the macro-level of society, especially the urbanization process, have affected the fisheries system in various ways. In connection with social developments, land ownership has become fragmented and non-localized. The demands for reorganization of the fishery management regime in the late 20th century were supported not only by referring to the small size and scattered structure of privately owned water areas, but also by arguments of inequity between user groups and demands for increasing the efficiency of the system and rationality of fisheries policy.

3.1 User groups

The changes in society were reflected in the structural differentiation of fishermen. Employment in commercial fishing has decreased while fishing methods have become more modern and efficient. Most of the enterprises harvest several fish species and combine different fishing methods, such as trap nets, gill nets, seine nets and trawls, on a seasonal basis.

During the last few decades the importance of recreational fisheries has increased: currently more than two million Finns (40 % of the population) fish at least once per year. The popularity of summer cottages provides fishing opportunities for the large number of non-local (urban) recreational fishermen. The number of summer cottages has grown rapidly from ca. 200 000 in 1970 to 400 000 in the 1990s (Wahlström et al. 1996).

At the same time various new motivations and types of modern recreational fishing have become popular and the traditional importance of subsistence motivations in fishing have decreased. Especially the development of trolling has led to more mobile and specialized fishing

activities. Yet, in addition to rod fishing methods, gill net fishing has maintained its popularity also among non-commercial fishermen. Almost one half of the total Finnish recreational catch is harvested with gill nets.

3.2 Participation in the decision making

The state level of the decision making regime has promoted commercial, urban and recreational interests - at the expense of local communal decision making - by changing the management structure and the fishing licence policy. Although the user groups have been beneficiaries in the recent changes of fishery legislation, they have not necessarily gained opportunities for local participation.

Participation in the fishery associations' activities is most often dominated by locals. Many of the non-local summer residents are shareholders in the fishery associations, but they seldom actively take part in decision making (Salmi and Muje 2000). This is due to the practices of local associations and also, on the other hand, to the lack of strong interest among the non-locals. Although the non-local shareholders are commonly recreational fishermen, their fishing opportunities are not (especially in the case of rod fishing) particularly dependent on local owner-based decision making, which reduces the interest in participation.

By establishing an intermediate level decision-making body, the Fisheries Regions, the state promoted a management regime which gives at least a part of the decision-making power to groups which are not owners of the water areas. In many areas the statutory fishery associations and individual owners have been suspicious of the new institution. This has hindered the functioning of the Fisheries Regions.

3.3 Conflicts

The process in which new non-local institutions and fishing rights for non-owners (landless people) have been established, has led to various controversies and conflicts. In addition to the horizontal disagreements between the user groups, the conflicts simultaneously reflect vertical tensions in the hierarchic decision-making regime.

3.3.1 Commercial fisheries

In the 1990s, disagreements arose when local fishery associations attempted to restrict the use of pair-trawls and winter seines in commercial lake fishery for vendace (Salmi and Auvinen 1998). 'Owner-fishers', who mostly use passive fishing gear for recreation or subsistence, form an important group of decision makers in the

fishery associations. They strongly opposed the use of effective fishing gear and argued that the vendace stocks would be endangered and that the fishing permits for intensive fishing methods would prevent equal fishing opportunities for the shareholders of the association.

The commercial lake fishermen are largely dependent on the fishing permits granted by the fishery associations. Although some of these fishermen are shareholders of the fishery associations, they have little influence in the decision making. Consequently the commercial fishermen felt that they had been passed by at the local level of management and put their faith on the state level and its district authorities (Salmi 1998).

This commercial fishermen's strategy has proved to be successful, because fishery legislation promotes the opportunities for (sustainable) commercial use of fish resources. When the conflicts have been juridically solved, the commercial fishermen have commonly been the winners. The actions of the authorities are typically grounded on or legitimized by scientific knowledge. The local decisions and claims are often turned down when they are based on local practical knowledge instead of results of scientific research.

Also in certain coastal areas commercial fishermen's operational opportunities are dependent on the permits granted by the local water owners. This is a serious problem especially in the Southwestern Archipelago, where water areas are privately owned and the ownership units are usually small and scattered. The area is highly valued for recreational activities and the increase of summer-cottages has contributed to the fragmentation of the water ownership and limited the access of commercial fishermen to the fishing grounds. Lately attempts have been made to mediate between commercial fishermen and water owners in order to reach agreement on contracts for commercial fishing opportunities.

3.3.2 Recreational fisheries

Strong tensions have been aroused concerning the licence policy of recreational fisheries. A proposal for a province-wide lure fishing fee produced an enthusiastic debate in Parliament and the media in 1996 (Pirhonen and Salmi 1998). This dispute reflected tensions between private ownership and use rights of the fishing waters, between local communities and 'outsiders', and between rural and urban perspectives.

The main parties of the conflict were the owners and their organizations, recreational fishermen and their organizations and the state. Previously statutory fishery associations and individual water owners had the power,

within the limits set by legislation, to decide about recreational fishing in their water areas. This meant, for instance, that permits were bought from the associations or individual owners and the income gained was mostly used for fish restocking.

The main arguments supporting the province-wide lure fishing fee were: 1) the access to fishing waters would become easier due to the new system, 2) lure fishers do not affect the fish stocks to the same extent as e.g. gill-net fishermen and 3) the new system would not reduce the funds collected for fisheries management.

The main arguments opposing the province-wide lure fishing fee were 1) the access to fishing waters is sufficient and hence the new system is not needed, 2) new lure fishing opportunities would harm commercial and subsistence fisheries, 3) local water owners have the most relevant knowledge for making management decisions and 4) fish stocking would be decreased due to the reduction in funds collected for local fisheries management.

The basis of the opposing arguments was connected to outside interference with private ownership and local decision making. In a series of paid announcements published in a widely-circulated newspaper, the owners even argued that the state was socializing private property.

The legislation concerning the province-wide lure fishing fee was finally adopted in 1997. Permits are sold by the state authorities and the income gained is partly distributed back to the local fishery associations and individual water owners. This 'recycling' of the license incomes and actual distribution practices have also caused disagreements. The consequences of the new system are not already known, but according to the local water owners in the Southwestern Archipelago, for example, the adoption of the provincial lure fishing fee has reduced their motivation to look after fish stocks and the compliance of fishing rules.

3.3.3 Conservation measures

During the last few years growing tensions have been aroused between conservation needs and the use of fish resources. For example, in May 1999 new restrictions concerning the technical measures of gill nets in the regular living areas of the ringed seal in the Lake Saimaa system were implemented by the Ministry of Agriculture and Forestry.

The proposal for these new fishing restrictions caused a lively debate amongst, and strong resistance from, the

local fishermen and their representatives, which lead to substantial changes in the final decision. Many criticized the contents and scope of the proposal and could not comprehend the need for intervention by the central authorities. This was partly due to the fact that local voluntary agreements on restrictions had already been made between the statutory fishery associations and the authorities responsible for ringed seal conservation measures in the area (Salmi et al. 2000).

4 PRIVATE OWNERSHIP

4.1 Where is the market dimension?

Only the most attractive water areas, e.g. in the Southwestern Archipelago, provide individual water owners direct monetary benefits when providing fishing opportunities for commercial fishermen or sport fishing clubs. In these cases the waters include also a clear market value connected to fishing. However, in most cases there is no direct economic benefit derived from the water areas for the owners.

The small economic significance of the fishing waters for their owners is related to the scattered structure and joint decision making. Many of the water owners do not fish themselves and are not interested in fishery problems - there are even a large number of land owners who are not aware that they are also water owners. Especially the small areas are considered unimportant. The joint decision making in the fishery associations is targeted at maintaining and enhancing the fish resources and providing opportunities for fishing rather than at supplying the owners economic profit from their property.

What is the significance of the property for the local water owners when they seldom derive any direct economic benefit from it? Why are there still thousands of active water owners operating in the fishery associations? One important advantage is the access to fishing waters offered by the ownership, but especially the social dimensions connected to local culture and the possibility for local decision making are highly valued (Salmi and Muje 2000).

In many rural areas the fishery associations provide a traditional forum for social exchange. The local decision making concerning the local resources has had a value in itself. The granted fishing permits have not usually been very high-priced, but the local decision makers have valued the fact that the access of 'outsiders' to the waters has been in their own hands. Especially the adoption of the province-wide lure fishing fee has altered this

situation and also, although the market dimension has never been of great general importance, further restricted the local owners' opportunities to make profit from their water property.

4.2 Substance of private ownership

The core question is: what does private ownership mean in the context of Finnish waters? It is obvious that it has many meanings depending on who is considered and in what context its meaning is evaluated.

The concrete substance of private ownership in relation to land ownership does not include (and has actually never included) free rights for the owner to use the land in any manner he prefers: ownership contains only the rights and duties for the owner determined by the law. Thus the regulation of ownership, e.g. for the purpose of nature protection, should not be seen as restricting the self-evident freedom of the owner, but as creating a new legal position (Määttä 1999).

In connection to water ownership, the rights and duties have also been tightly controlled by the legislation. In addition, the cultural norms of the local communities and the fishery system have regulated the activities. The above-described conflicts reflect the processes through which the position of the owners has been weakened. In these conflicts, the owners' rhetoric includes strong arguments in favour of private ownership as a holy institution which should not be offended. This rhetoric has been proved to be effective in the struggles, but it is also connected to the need for keeping the decisions in the hands of the local people. In this meaning, ownership is a symbol of the community's self-determination.

The understanding of ownership and the use of property concepts depends on historical determinants in political conditions (Oksanen 1998). The private ownership of fishing waters was shaped by the historical situation when the laws were initially passed. Since then the circumstances and demands in society and fisheries have changed and thus also the governance system has been revised. However, largely due to the still existing high valuation of the private ownership of (land) property in society, the system of private ownership has remained but its contents have been deducted.

According to Oksanen (1998), ownership includes the features that access of non-owners to the property is closed or strictly limited depending on the owner's will. In another words, a property relation exists only if non-owners can be recognized and excluded from a location. This definition is only partly valid in the Finnish ownership of fishing waters: with exception to limited

possibilities for decision making, ownership has features which do not fundamentally differ from the use rights of non-owners. Yet the owners have wider responsibilities in maintaining the fish resources and providing fishing opportunities.

Property rights in fishing differ from those of properties like land or houses. Davidse et al. (1999) define property rights in fishing as a right to the resource flow instead of ownership of an asset and present the ITQ system as an example of this. The private ownership of Finnish fishing waters differs from this principle, because juridically the object of ownership is related to a water area in connection with land. Similarly it contains certain use rights to the resource flow, usually in the area of a statutory fishery association. However, these rights are not defined as fish quotas as in the case of ITQs, but are defined as the amount and efficiency of gear that is allowed to be used.

5. CONCLUSIONS

Considering the recent discussion on privatization in fisheries management, the case of Finnish fishery has interesting features. As a result of the changes in the management structure and practices, the local water owners have lost a substantial part of their power to the state. This direction, in which the rights of the private proprietors have been reduced, is contradictory to many other countries, where privatization and a free-market approach have been proposed to ensure rational use.

It can be concluded that private ownership in itself is not decisive for fisheries management. More important are the institutions and practices in which the rights and responsibilities are distributed between the civil society, the state and the market. The development of property rights should be adapted to the historical and social contexts. Furthermore, the Finnish case reflects the manifold and often indefinite meanings of private ownership in fisheries.

In the Finnish context the balance has changed on the axis between the community and the state (see Fig. 1), but the market corner does not seem to be very important in the lake and coastal fisheries in Finland. Maximum profits are seldom an important goal for the owners in the exploitation of their property, but also structural reasons promote this kind of economically 'irrational' behaviour. The rationale of and the issue at stake in the Finnish fisheries system seems to be 'an opportunity fish' rather than 'an opportunity to make profit'.

In order to improve sustainability and reduce conflicts, the state should promote the roles of both the market and civil society. In the local and regional governance, the integration of water areas into feasible sizes for decision making and the development of economic incentives for the owners would increase interest and participation. However, the participation should be developed into more co-operative practices, in which also non-owners would be represented.

6. References

- Apostle, R., G. Barrett, P. Holm, S. Jentoft, L. Mazany, B. McCay and K.H. Mikalsen, *Community, State and Market on the North Atlantic Rim: Challenges to Modernity in the Fisheries*, Toronto, Buffalo, London: University of Toronto Press, 1998.
- Charles, A.T., *Property Rights and Use Rights in Fisheries*, Working Paper FMS #08-96, Halifax, Nova Scotia: Saint Mary's University, 5 pp, 1996.
- Davidse, W.P., L.V. McEwan and N. Vestergaard, Property rights in fishing: from state property towards private property? A case study of three EU countries, *Marine Policy*, 23, 537-547, 1999.
- Eklund, E., *Kustfiskare och kustfiske i Finland under den industriella epoken. Studier i en yrkesgrupps yttre villkor, sociala skiftning och organisation 1860-1970*, SSKH Skrifter 5, 1994.
- Hanna, S. and M. Munasinghe, *Property Rights and the Environment. Social and Ecological Issues*. Washington D.C.: The World Bank, 3-11, 1995.
- Jentoft, S., Fisheries co-management. Delegating government responsibility to fishermen's organizations, *Marine Policy*, 13, 137-154, 1989.
- Kooiman, J., M. Van Vliet and S. Jentoft, Creating Opportunities for Action, in *Creative Governance. Opportunities for Fisheries in Europe*, J. Kooiman, M. Van Vliet and S. Jentoft eds. Aldershot: Ashgate, 259-272, 1999.
- Maaseutupolitiikan yhteistyöryhmä, *Toimiva maaseutu. Maaseutuohjelma. Maa- ja metsätalousministeriön asettaman työryhmän ehdotukset ja perustelut*. Julkaisu 1/1996, Helsinki, 1996.
- Ministry of Agriculture and Forestry, *Yhteisäluelainsäädäntötyöryhmän muistio*. Helsinki: Työryhmämuistio MMM 1998:13, 1998.
- Määttä, T., Maanomistusoikeus ja ympäristönsuojelu. *Oikeus* 28(2), 163-166, 1999.
- OECD, *Towards Sustainable Fisheries. Economic Aspects of the Management of Living Marine Resources*. Organisation for Economic Co-operation and Development, 1997.
- Oksanen, M., *Nature as Property. Environmental Ethics and the Institution of Ownership*. Turku, University of Turku, Reports from the Department of Practical Philosophy 10, 1998.
- Ostrom, E., *Governing the commons, The evolution of institutions for collective action*, Cambridge: Cambridge University Press, 1990.
- Pirhonen, M. and P. Salmi, *Viehekorttikiistan argumentit. Kamppailu kalavesien käyttö- ja omistusoikeudesta*, Enonkoski: Finnish Game and Fisheries Research Institute, Kala- ja riistaraportteja 129, 1998.
- Salmi, P., Towards sustainable vendace fisheries? Fishermen's conceptions about fisheries management. *Boreal Environment Research* 3, 151-159, 1998.
- Salmi, P. and H. Auvinen, Local conflicts in Finnish lake fisheries, in *Recreational fisheries. Social, economic and management aspects*, P. Hickley and H. Tompkins eds. Oxford: Fishing News Books, Blackwell Science, 116-128, 1998.
- Salmi, P., H. Auvinen, M. Sipponen and J. Jurvelius, Finnish lake fisheries and conservation of biodiversity - co-existence or conflict? *Fisheries Management and Ecology* 7, 127-138, 2000.
- Salmi, P. and K. Muje, *Local owner-based management of Finnish lake fisheries: social dimensions and power relations*, Paper presented in EIFAC 21st Session and Symposium on Fisheries and Society 1.-7. June 2000, Budapest, Hungary.
- Symes, D., Property Rights, Regulatory Measures and the Strategic Response of Fishermen, in *Property Rights and Regulatory Systems in Fisheries*, D. Symes ed. Oxford: Fishing News Books, Blackwell Science, 3-16, 1998.

Tiitinen, J., Kalastusoikeuden haltija - kalastuskuntalaitos, in *Kalaveteen piirretty viiva. Kalastus ja kalastaja yhteiskunnallisten muutosten pyörteissä*, L. Hyytinen and H. Kupiainen eds. Mikkeli: Helsingin yliopiston Maaseudun tutkimus- ja koulutuskeskuksen julkaisuja 37, 136-149, 1995.

Varjopuro, R. and P. Salmi, The Functionality of Fisheries Management from the Perspective of Commercial Fishermen. Two Cases in Comparison, in *Alternative Management Systems for Fisheries*, D. Symes ed. Oxford: Fishing News Books, Blackwell Science, 93-105, 1999.

Vihervuori, P., Euroopan kalavedet ovat yksityisiä tai julkisia, *Suomen Kalastuslehti* 5, 24-25, 1996.

Van Vliet, M. and W. Dubbink, Evaluating Governance. State, Market and Participation Compared, in *Creative Governance. Opportunities for Fisheries in Europe*, J. Kooiman, M. Van Vliet and S. Jentoft eds. Aldershot: Ashgate, 11-30, 1999.

Wahlström, E., E.-L. Hallanaro and S. Manninen, *The future of Finnish environment*, Helsinki: The Finnish Environment Institute, Edita, 1996.