Similä, Jukka; Thum, Randi; Ring, Irene; Varjopuro; Riku

Working Paper

Interplay between European regulation and national policies in biodiversity conflict reconciliation

UFZ-Diskussionspapiere, No. 23/2005

Provided in cooperation with:
Helmholtz-Zentrum für Umweltforschung (UFZ)

Suggested citation: Similä, Jukka; Thum, Randi; Ring, Irene; Varjopuro; Riku (2005) : Interplay between European regulation and national policies in biodiversity conflict reconciliation, UFZ-Diskussionspapiere, No. 23/2005, http://hdl.handle.net/10419/45210

UFZ-Discussion Papers

**Department of Economics,
Department of Environmental and
Planning Law**

23/2005

Interplay between European regulation and national policies in biodiversity conflict reconciliation

Jukka Similä[a], Randi Thum[b], Irene Ring[c],
Riku Varjopuro[d]

December 2005

[a,d] Finnish Environment Institute
P.O. Box 140
FIN-00251
Helsinki, Finland

[b,c] UFZ Centre for Environmental Research
[b]Department of Environmental and Planning Law,
[c]Department of Economics
Permoserstr. 15
D-04318 Leipzig
Germany

Email: Randi.Thum@ufz.de

Interplay between European regulation and national policies in biodiversity conflict reconciliation

Jukka Similä, Randi Thum, Irene Ring, Riku Varjopuro

Abstract Successful public conservation policies at various governmental levels have increased some populations of protected species to the extent that they are causing damage to human activities. As a reaction public authorities are developing biodiversity reconciliation policies. Finland and Germany have both created reconciliation policies including a package of measures like management of population, support of technical measures and compensation for damage. All these measures are affected by European policy and law, though no special reconciliation policy has been adopted at European level. This article explores the options European legislation offers and the restrictions it imposes on member states. Based on experiences with German and Finnish biodiversity reconciliation policies, the interrelationship between European and national regulation is elaborated, leading to suggestions for better coordination of reconciliation policies between different governmental levels.

Key words: Biodiversity conflict reconciliation, European regulation, fisheries and aquaculture, local damage management, nature conservation, policy instruments.

1. INTRODUCTION

Public policy aiming at reviving the populations of threatened species has sometimes turned out to be so successful that the increased populations are causing damage to human activities such as agriculture, forestry and fisheries. Those significantly suffering from the damage have started to demand compensation for damage and control of protected species. Conservationists are afraid that the latter would have adverse effects on biodiversity. Thus there is need for reconciliation between the economic interests of using natural resources and the conservation of nature.

A reconciliation policy typically consists of different kinds of measures[1]. Three categories of measures to reduce the damage cover a major part of measures available: (1) management and control of protected species; (2) support for technical measures to prevent the damage; and (3) compensation for damage. The use of each category of measures is linked to legal regulation in two ways: legal regulation at various governmental levels provides options for or restricts the use of measures and, often, the measures are linked to the adoption and implementation of new legal regulation.

In this article the relationship between different categories of measures and legal regulation is explored in the context of conflicts between increasing populations of fish-eating protected species and fisheries from a multi-level governance perspective. The cormorant (*Phalacrocorax carbo sinensis*), the otter (*Lutra lutra*) and the grey seal (*Halichoerus grypus*) can be mentioned as examples of species causing economic losses to human activities, namely in aquaculture and fisheries (Myšiak et al. 2004, Carss 2003, Kranz 2000, Glahn et al. 2000). First, we will explore what kind of options European Union (EU) regulation offers and what kind of limitations it imposes on member states aiming to reconcile the conflicts. Secondly, on the basis of experiences from Finland and Germany, we will discuss the different approaches used in these two countries. In Finland the major conflict relates to damage caused by the grey seal to coastal fisheries, whereas in Germany damages caused by the cormorant and the otter to aquaculture will be investigated. Thirdly, the interrelationship between European and national regulation will be explored and the potential for improvement discussed.

2. THE RELEVANT EUROPEAN POLICY FIELDS AND LAWS

There is no European regulation specifically designed for the management of the conflicts in our interests. Furthermore, certain policy fields potentially relevant, like land-use policies, are beyond the competences of European institutions. However, some European laws and regulations have links to measures for biodiversity conflict reconciliation taken at the national level. Certain parts of European regulation impose strict limits; others are flexible and provide opportunities for national policy-makers.

Apart from fisheries policy, which we will discuss in the next chapter, there are three relevant European fields for reconciliation of the conflicts covered, namely nature conservation law, European funds and state aid law. European nature conservation regulation is relevant for any domestic policy measures aiming to protect, manage or control the population of protected species. Certain European funds may be used to financially support national or regional policy measures, such as financial support for technical mitigation measures. However, European state aid law regulates the use of

purely national subsidies, be it for technical measures or damage compensation payments.

2.1. The relevancy of Common Fisheries Policy

Common Fisheries Policy (CFP) seems, at first glance, to be a very relevant policy field for the conflicts, because European institutions have a major role in designing fisheries policies in Europe, significant financial resources are devoted to fisheries policy and the environmental dimension has recently become stronger in CFP.

Despite this development, only few instruments of fisheries policy are directly relevant for the conflicts arising from the increase of the populations of protected species. Here, the crucial question is: what are the impacts of the increased populations on fisheries or aquaculture and how can the conflicts arising from these impacts be reconciliated? In recent developments in CFP the relationship between protected species and fishing is, instead, mainly seen from another, though very important perspective: what are the threats caused by fishing and fishing activities to the conservation of fish resources, or to the marine eco-system?[2]

However, CFP has some relevance for our type of conflict. For example species like the grey seal involved in the conflicts may benefit from the by-catch regulation. The aim of the by-catch regulation has been two-fold from the inception of the CFP: to protect juveniles and to protect marine ecosystems by improving the inter-species selectivity of fishing gear (Long and Curan 2000, 18). With regard to the conflicts arising from the damage caused by protected species more selective fishing techniques may, in certain circumstances, have double a benefit: techniques may protect the protected species and reduce the damage at the same time. This is the case, for example, with regard to so-called seal-proof trap-nets. However, the issue of selective techniques is not correspondingly relevant for aquaculture. Furthermore, even if the fishing gear could be developed to catch just the targeted species, the number of protected species, like seals, affects the size of fish populations and thus, the size of the fish catch. In other words, the conflicts addressed in this article would still persist after solving the by-catch problem.

In addition, CFP may contribute to the reconciliation policy by making financial resources available. Hence, the Financial Instrument for Fisheries Guidance (FIFG) is an interesting instrument for those making reconciliation policies, though the conflicts concerned obviously have not been in the minds of the drafters of this instrument. We will later discuss FIFG in the context of European funds.

2.2. Nature Conservation Regulation

The reconciliation of the conflicts arising from increased population of protected species may require the control of the population. However, such control has to fulfil the requirements laid down in the nature conservation law. A mitigation measure contravening nature conservation law is prohibited unless it is justified under the derogation rules. According to the Habitats Directive, for example, mitigation measures, which involve deliberate capture or killing, deliberate disturbance, deliberate destruction or taking of eggs from the wild, or deterioration or destruction of breeding

sites or resting places are prohibited with regard to strictly protected species in Annex IV a) Habitats Directive.

A member state may, however, allow mitigation measures, if the conditions as laid down in Article 16 of the Habitats Directive or Article 9 of the Birds Directive are met. With regard to the Habitats Directive, a mitigation measure must first fulfil two general conditions: there is no satisfactory alternative and mitigation is not detrimental to the maintenance of the population at a favourable conservation status. Secondly, it must aim to one of the legitimate purposes listed in the Article. Among them are the prevention of serious damage (e.g., to agriculture, forestry and fisheries) and the "interest of public health and safety or other imperative reasons of overriding public interest, including those of a social and economic nature". Alternatively, it is possible to allow, under strictly supervised conditions, on a selective basis and to a limited extent, the taking or keeping of certain specimens of the strictly protected species in numbers specified by the competent national authorities. The Birds Directive has slightly different derogation rules. It stipulates that derogation, provided that there is no other satisfactory solution, may be allowed for certain legitimate purposes (like damage to fisheries) or to permit, under strictly supervised conditions, on a selective basis the capture, keeping or other judicious use in small numbers.

There are two relevant differences between the Directives. First, there is no reference in the Birds Directive to "other imperative reasons of overriding public interest, including those of a social and economic nature". Secondly, the possibility to permit, under strictly supervised conditions, on a selective basis and in small numbers is limited to "the capture, keeping or other judicious use". It is doubtful whether protective hunting could be considered as "judicious use". If not, it would mean that the only derogation available for the reconciliation would be the prevention of serious damage to fisheries. Furthermore, on the basis of German experience, as will be discussed later, the seriousness of the damage is relative to the economic sector (fisheries), not to an individual farmer or fisherman. This interpretation would significantly limit the possibility to use this derogation, because often damage is serious "only" in relation to an individual operator. Apparently this is why the derogations rules of the Birds Directive are considered to be stricter in comparison to the Habitats Directive (Jans 2000, 421) and why the provisions in the Habitats Directive are described as "relatively loosely drafted" (Krämer 2000, 141-142).

Having said this and although European Court of Justice has required strict transposition of derogations and precise application of them (Jans 2000, 417)[3], it must be noted that these provisions have not prevented member states from taking rather extensive measures if needed. For example, Denmark has recently started to take measures with regard to cormorants, which are rather extensive locally, but apparently do not have significant impacts at population level (Olesen 2005).

With regard to the network of protected areas based on European law (Natura 2000), the member states have a fairly wide degree of discretion as how to select and, in particular, to manage them. However, there are certain requirements that might turn out to be relevant with regard to the reconciliation of a conflict. These requirements can be divided into two groups. One relates to the designation of the sites to be protected and the other to the measures affecting the integrity of the sites.

Is it possible to take into account the conflicts while designating the protected areas in order to exclude the conflict areas from the protected areas? From a legal point of view, the answer to this question is negative. According to the established legal practice of the European Court of Justice the designation of protected areas should be based purely on ecological considerations. In the context of the Birds Directive, only ornithological criteria have to be taken into account while choosing the most suitable sites as Special Protection Areas under the Birds Directive (C-3/96). With regard to the Habitats Directive the European Court of Justice decided (C-371/98) that when selecting sites to be proposed as sites of Community importance under Article 4(1) of the Habitats Directive, member states may not take account of economic, social and cultural requirements or regional and local characteristics mentioned in Article 2(3). In sum, only ecological criteria are valid.

After a protected area is established, the question if control measures, like hunting, violate the protection requirements may arise. A reconciliation measure may be considered as 'a plan or project', which goes under the control mechanism of the Habitats Directive. The same rules also apply to the protected areas under the Birds Directive. A plan or project likely to have a significant effect on the site is only to be authorised if it is ascertained that it will not adversely affect the integrity of the site. The point of departure is that if there is any doubt about adverse effects then the authorities should not allow a plan or project (C-127/02). However, if there is no alternative solution available, a plan or project may be allowed despite negative effects, on the basis of overriding public interests, including social and economic ones. In these cases, the member state should take all compensatory measures necessary to ensure that the overall coherence of the Natura 2000 is protected. With regard to the sites hosting a priority natural habitat type and/or a priority species there are further requirements. In these areas the aspects to be taken into account are human health or public safety, the beneficial consequences of priority importance for the environment or, further to an opinion from the Commission, other imperative reasons of the overriding public interest.

The concept of ‘a plan or project’ in the sense of the Habitat Directive is open to various interpretations. There are, however, two arguments in favour of the interpretation that the concept may also cover reconciliation measures of the conflicts in question. Firstly, such a measure is not directly related to the management of the site, because the population control measures do not relate to the purposes of the Directive and the purpose of protection. Secondly, the measures may have a significant effect on the site. This, however, does not necessarily mean more than that an assessment should be made and protective hunting or other mitigation measures can be allowed unless they adversely affect the integrity of the site concerned.

2.3. State Aid Regulation

Financial aid for reconciliation measures may be considered to be state aid under European law. The starting point is that any aid fulfilling all the following four criteria is considered to be state aid: (1) aid is granted from public funds, (2) it is selective (favours certain undertakings or the production of certain goods), (3) it distorts or threatens to distort competition and (4) it has trade effects between member states (Alkio and Wik 2004, 780-809). From the guidelines on state aid in fisheries and

aquaculture (Official Journal 2001) it can be learned that state aid may take many forms. Any measure that entails a financial advantage in any form whatsoever funded directly or indirectly from the budgets of public authorities (on any administrative level) or from other state resources is considered to be state aid. Thus, this criterion is easily fulfilled. The third criterion is also easily fulfilled because the mere threat that competition is distorted is enough. Instead, the fulfilment of the second or fourth criterion is not so self-evident. Not all aid has trade effects between Member States. However, the most interesting criterion for a designer of reconciliation policy is the second one. If a compensation scheme is of a general character, which does not favour certain undertakings or the production of certain goods, it should not be considered as state aid assuming that there is no overcompensation.

The immediate consequence of considering a measure to be state aid is that the Commission must be notified. The Commission will then decide if the measure is compatible with EU rules. The Member State may not put the proposed measure into effect without the approval of the Commission. In many sectors minor state aid is exempted from the notification obligations provided that it fulfils certain requirements under the so-called *de minimis* rule. Recently the Commission has adopted a regulation on the application of *de minimis* rule in the agriculture and fisheries sector, which will be in force from January 2005 until December 2008. Aid not exceeding 3,000 euro over a period of 3 years for any single enterprise and not exceeding the national ceiling (7,287,000 euro for Germany and 460,200 for Finland) set for cumulative amount of aid granted is exempted from notification.[4]

Article 87 (2) of the Treaty includes a list of aid that is always considered to be compatible with the common market, meaning it is always acceptable. Of the three categories included in this list only one seems to have a connection to reconciliation policy, namely aid to make good the damage caused by natural disasters or exceptional occurrences. As will be discussed later, using this as a basis for allowing state aid is problematic.

Article 87 (3) of the Treaty includes a list of categories of aid, which the Commission may consider compatible with the common market. This list includes 5 different categories. Furthermore, the fisheries guidelines define more specifically what kind of state aid may be granted. However, it is hard to find any category of permissible state aid, which would be generally applicable to the conflicts in our interest. However, some of them could turn out to be relevant under certain circumstances.

2.4. European funds

During the present programme period 2000-2006 there are four EU Structural Funds: the European Regional Development Fund (ERDF), the European Social Fund (ESF), the European Agricultural Guidance and Guarantee Fund (EAGGF, Guidance Section) and the Financial Instrument for Fisheries Guidance (FIFG), to support the development of EU member states. So far, there are no instruments specifically aiming to reconcile biodiversity conflicts. However, the financial instruments for agriculture (EAGGF, Guidance Section), fisheries (FIFG) as well as environmental and nature protecting measures as part of EAGGF, Guarantee, are of potential relevance and these can be used in designing conflict reconciliation as will be shown below.

The importance of EAGGF for conflicts between nature conservation and the use of biological resources lies in its potential to support agri-environmental measures including environmentally sound pond farming. Furthermore, support for "improving processing and marketing of agricultural products" (excluding products made of fish) is given.[5]

The Financial Instrument for Fisheries Guidance (FIFG) is the other and more widely applicable structural fund in the fisheries sector. Funded measures are required to[6] contribute to achieving a sustainable balance between fishery resources and their exploitation; strengthen the competitiveness in the sector; improve market supply and the value added to products or contribute to revitalising areas dependent on fisheries and aquaculture.[7] Areas for promoted actions are listed in Article 2 (3)[8]. The following fields could be relevant for biodiversity conflicts: protection of marine resources in coastal waters, aquaculture, operations by members of the trade (for example operations to prevent fish stocks from damage), and innovative actions and technical assistance.

The single fields to be funded are described in more detail in Council Regulation No 2792/1999[9]. For example, member states may take measures to encourage capital investment aimed at the protection and development of aquatic resources and aquaculture.

3. NATIONAL APPROACHES FOR RECONCILIATION POLICIES

In this section we will explore how measures for conflict reconciliation have been incorporated into the domestic regulations in two EU member states, namely Germany and Finland. We will cover all the three categories of policy measures mentioned: management and control of protected species, support for technical measures and compensation schemes. In addition, we will study how EU regulation has modified and supported domestic regulation and what kind of implementation problems have arisen.

3.1. The case of Finland

The conflict in Finland concerns the conservation of the grey seal and coastal fishery. The fishery in question is a small-scale coastal fishing with gill-nets or trap-nets. It is typically a multi-species fishery targeting species like white-fish (*coregonus lavaretus*), salmon (*salmo salar*) and pike perch (*Sander lucioperca*). Seals cause economic losses to fisheries by taking fish from nets and by breaking nets to the extent that it is considered a serious threat to coastal fishing (MoAF 2002). A growing grey seal population (Harding and Härkönen 1999; Helle et al. 2005) started to cause losses to coastal fisheries in the 1990s and the losses have gradually increased. When the problem became serious fishermen demanded that the state should start mitigating activities. A right for protective hunting of seals in order to minimise damage was introduced in 1997 and it was followed by economic compensation in 2003 and economic support for technical measures in 2004. The relevant mitigation measures and policy instruments are described below in more detail.

3.1.1. Protective hunting of species to minimise damage

Protective hunting of seals as a mitigation measure has been used in Finland since 1997, when it was reintroduced after 15 years of total ban. At first hunting was only meant to target individual seals known to take fish from fishing gear. In the first year licences to shoot 30 grey seals were granted. Gradually the number has increased, so that during the hunting year 2004/2005 it is 490 individuals (Hunters' Central Organisation 2004). After the first years, protective hunting has been conducted essentially as 'hunting' of seals (i.e. carcasses are utilised), not just as killing seals to minimise damages.

The hunting is controlled by the Hunting Act with a quota system that determines regionally how many seals can be shot during a hunting year. The Ministry of Agriculture and Forestry (hereinafter 'MoAF') determines the size of regional quotas based on the scientific advice provided by the Finnish Game and Fisheries Research Institute. Regional Game Management Districts grant hunting licences and monitor hunting. The hunters have an obligation to report each kill and the hunting is stopped when the quota is full. In addition to the quota, hunting is regulated by a closed season to protect breeding and by the technical requirements of hunting. This measure meets the requirements of derogation rules under the Habitats Directive.

3.1.2. Compensation schemes

There are two compensation schemes in Finland to cover damage that seals cause to professional fishermen[10]. These are a compensation for loss of catch and an insurance that covers damage to nets.

A compensation scheme for loss of catch due to seals for professional fishermen was first planned as a permanent compensation scheme to be funded entirely from national sources, but the European Commission did not accept it due to EU state aid law. Hence, Finland modified the compensation scheme to cover only damage sustained in the years 2001 and 2002. The Commission stressed in its decision[11] that the compensation scheme was allowed due to its temporary nature and due to the fact that the damage was considered exceptional (unexpected increase in seal population). The Commission noted that according to legal practice[12] compensation paid for damage caused by public bodies to private persons is not state aid. However, it claimed that in this case the nature of the compensation was different. Taking also into consideration that it had trade effects, it was to be considered state aid.

The amount of compensation was calculated as a function of average loss of catch in a given fishing ground, days of fishing, type and amount of fishing gear, average catch per unit and a price of the fish species in question. However, fishermen had to meet the first 250 euros per year themselves. Compensation totalling 7.4 million euros was paid to professional fishermen who had suffered over 20% loss of catch.

Since 1930s there has been an insurance system for any physical damage to fishing gear of professional fishermen, including seal-induced damage, which is, in fact, the most common physical damage today in many coastal areas (e.g. Österbottens fiskeriförsäkringsförening 2003). The insurance system is partly financed by insurance premiums and partly by the state.

Compensation is granted by regional insurance associations. Fishermen have to cover part of the damage themselves. It is 25% of the estimated damage in the case of gill-nets. Regarding other fishing gear the deductible proportion varies from 5% to 25%, depending on the value of the damage. State subsidy to the insurance association is 40% of the damage on gill-nets and in case of other gear it is 40% of the amount paid up to 504 euros and 90% of the rest of the compensation (Österbottens fiskeriförsäkringsförening 2003).

The insurance mechanism is at the moment under review from the perspective of state aid law. The process was initiated due to the change of the relevant state aid guidelines in 2004, which resulted in a general overview of all possible state aid mechanisms. According to preliminary and indicative information the Commission is inclined to think that the insurance mechanism violates state aid law[13].

3.1.2. Support for technical measures

Technical measures to reduce damage to catch and fishing gear have been developed in Sweden and Finland and the most promising of these are modified trap-nets (e.g. Suuronen et al. 2004). In Finland, the development and testing of fishing gear has taken place mainly in projects of a fisheries research institute funded from national or Nordic sources. In addition, regional fishermen's associations have carried out projects to test the trap-nets and to inform fishermen about the new technology. These projects have been funded nationally, but in some cases co-financed by the EU through the a programme called Community initiative concerning trans-European cooperation intended to encourage harmonious and balanced development of the European territory (INTERREG).

In 2004, the MoAF announced a change of policy involving the use of European funds for technical development. The new subsidy helps fishermen to invest in 'seal-proof' trap-nets, which are expensive, but technically effective. FIFG funds cannot be used to subsidise investment in fishing gear and therefore permission from the Commission was requested before adopting the new regulation. Permission was given because this gear can be used in selective salmon fishing and thus its use enhances protection of naturally breeding salmon. In other words, protection of salmon and protection of coastal fishing from seals are linked in this decision (MoAF 2004; MoAF 2005).

The subsidy became available in 2004 when professional fishermen were allowed to apply for it from the regional fisheries authorities. Altogether 90 fishermen submitted applications for subsidies to purchasing 250 trap-nets totalling in an amount of 2.5 million euros. The MoAF gives the applications final approval and the money is paid to fishermen after they have purchased the trap-net. They will be subsidised only once and the subsidy is 70% of value of the first two sets of gear and 50% for the rest (MoAF 2005).

3.2. The case of Germany

In Germany, the focus is on cormorants and otters, two fish-eating protected species in conflict with aquaculture. The region investigated is situated in Upper Lusatia in the

German state of Saxony. Its landscape is characterised by numerous artificial ponds for carp farming, allowing for a viable otter population, and attracting an increasing number of migrating cormorants (Seiche 2002). Otter damage to aquaculture is less relevant compared to damage caused by cormorants and herons (Sächsische Landesanstalt für Landwirtschaft 2003). However, this may become locally significant, especially when otters prey on carp in small ponds used for wintering. People sustaining damage are professional fisherman, people with fishery as a secondary occupation and amateurs. Other relevant stakeholders are recreational anglers, but they are not yet covered by policy measures addressing the conflict.

The German legal system is characterized by its federal structure. For the relevant policy fields of nature conservation and hunting, there is one federal framework law, which frames the different 16 more detailed and implementing state laws. Each state (*Länder*) further issues its own regulation and administrative ordinances regarding biodiversity conflict mitigation.

3.2.1. Exceptions from the protection status

Whereas in Finland the main legal provision for the conflict refers to hunting law, in Germany protection of species is predominantly provided for by nature conservation law (as part of the Federal Nature Conservation Act) and only to a lesser extent by hunting law. The binding federal regulation concerning species protection is very detailed and thus the laws of the various states (*Länder*) are largely uniform in this respect. In German conservation law, there are basically three categories of protected species: “strictly” and “specially” protected species, whereas the “strictly” status is the higher one (e.g., it is prohibited to disturb them in certain sites). The third category relates to “European birds”. They are in general “specially” protected species, but partially their protection status is analogous to strictly protected species. Following this system, the cormorant clearly belongs among the European birds, whereas the otter is a strictly protected species.

The German legislator aimed to transpose the European derogation rules without imposing further restrictions of national origin. But he did not transpose all of the European derogations. The general derogation clauses, i.e. “the taking or keeping of certain specimens of strictly protected species under strictly supervised conditions, on selective basis and to limited extent” (Habitats Directive) and “to permit under strictly supervised conditions, on a selective basis, the capture, keeping and other judicious use of certain birds in small numbers” (Birds Directive) are not transposed into German law. Hence, German law may be considered to be stricter than European law.

The exception to prevent damage to the fisheries sector may be granted either in every single case or, provided that the animals concerned do not belong to strictly protected species, generally by a state law. This means that exceptions for the strictly protected otter may only be granted by a single permission, whereas exceptions for the cormorant may also be granted by statutory ordinances (“cormorant regulation”). Regarding cormorants there is a marked difference between administrative practice and the judgements of the courts of justice. Authorities usually grant requested single permissions for shooting cormorants. For example, in the administrative region of Dresden, which is part of the German state of Saxony between 700 and 800 single permits were granted annually and some 600-700 animals were culled as a result of

these permits (Schwerdtner and Ring 2005, 10). Sometimes authorities refused to grant single permits. Appellants could then appeal to the courts against the refusal of single permits by authorities. In these cases, all courts appealed to refused requests for single permissions to cull cormorants, thereby confirming the authorities' decision, because the protective hunting could not prevent damage to the fisheries sector as a whole. Courts justified their decisions with the arguments that the connection between the presence of cormorants and damage was not yet clear and it was expected, that other cormorants would take over the free habitats. Moreover, in contrast to court judgements, several state authorities have allowed the protective hunting of cormorants by statutory ordinances ("cormorant regulations"). As a result of such a cormorant regulation 858 cormorants were culled in Baden-Württemberg in winter 2002/2003 (Thum 2004). In the case of cormorant regulations, the courts do not come into play, because there is no right to take the matter to court. This shows that in practice the strong demands for permits are not barriers for even far-reaching measures based on single or more general permissions. This also shows that there is no consistent implementation of legal requirements effected at the European level. Furthermore, the question is which damage justify the making of exceptions to the protection status of animals and how such damage can be correctly quantified (Seiche and Wünsche 1996).

In contrast to the protective seal hunting in Finland, the culling of cormorants is not perceived as hunting but as an exception to the protection status in order to minimise damage. Actually, for most protected animals population control by hunting is not allowed under German law. As a basic principle hunting law and nature protection law exist independently in parallel. Hunting is permitted, if a species is subject to hunting law (defined in the Federal Hunting Act and the particular State Hunting Act) and if a hunting season is defined (Federal and State Hunting Season Regulation). Thus in principle every state (*Land*) is competent to determine which species may be hunted individually. So far it is allowed to hunt neither cormorants nor otters.

3.2.2. Compensation schemes for damage caused by protected species

Saxony is the only German state that pays for damage caused by wild animals. The compensation scheme is funded from the budget of the state of Saxony without any link to European funds. The basis is the "Compensation for Cases of Hardship Regulation". Payments require significant hardship for the owner or user of resources: damage exceeding approximately 100 euro per hectare per annum (in agriculture and fisheries) or 50 euro (in forestry) and the aggregated damages exceed 1,000 euro (in agriculture and fisheries) or 50 euro (in forestry). The amount of compensation is usually 60% and may rise up to 80% of the overall damage. Based on this regulation, Saxon damage compensation for cormorants ranged between 670,000 and 800,000 euro in the years 2000 to 2002. For the otter, the corresponding figures in Upper Lusatia (highest otter densities in Saxony) ranged between 23,000 and 70,000 euro (Schwerdtner and Ring 2005, 37ff.). Pond farmers not sustaining great damage could obtain restitution in kind from some district authorities. The basis for this procedure was a special guideline no longer in force. At the moment local authorities are looking for a new solution to cover small-scale damage (Schwerdtner and Ring 2005, 13ff.).

3.2.3. Support for environmentally sound agriculture

The Saxon Support Programme for Environmentally Sound Agriculture[14] is based on the European Agricultural Guidance and Guarantee Fund (EAGGF), section Guarantee. To use this fund, the states (*Länder*) set up development plans. The Saxon Development Plan for Agrarian Regions (*Entwicklungsplan für den ländlichen Raum in Sachsen 2000-2006*) includes the funding of agri-environmental measures, which are now part of the Saxon Support Programme for Environmentally Sound Agriculture. Its main importance in the context of conflicts concerning protected species lies in the funding for the maintenance of important habitats. The programme part "Nature Conservation and Protection of the Cultural Landscape" (NAK) supports the conservation of threatened, historically valuable ponds. All benefits are only granted within the scope of funds available and no legal claim can be made. In this context, Saxon aquaculture has been supported with 2.3 to 2.6 million euro between 2000 and 2002, covering more than 95% of Saxon pond area used for farming. NAK funds represent the major part of public support to aquaculture that add up to approximately 20-30% of the total gross income per hectare (Klemm 2001). One measure of the programme is unofficially called "otter bonus" and pond farmers are paid 103 euro/ha per year for extra stocking of ponds with fish to provide a feeding habitat for the otter. Between 2000 and 2002, this single measure provided pond businesses applying it with overall 230,000 to 311,000 euro in Upper Lusatia (Schwerdtner and Ring 2005). From an economic perspective, the NAK programme rewards aquaculture for the additional costs it carries due to environmentally sound production that in this way is correctly born by society as a whole (Hofman et al. 1995).

3.2.4. Financial support for technical measures to avoid damage

In Saxony, financial support is provided for measures aimed at avoiding damage caused by protected species in the framework of the Financial Instruments for Fisheries Guidance (FIFG) of the European Union. To use FIFG, the operational programme for Germany's Objective 1 region (*Operationelles Programm FIAF 2000-2006*) was set up. Regarding aquaculture, the programme stresses the increasing number of cormorants. In Saxony the operational programme was implemented by the Support Programme for Aquaculture, which funds technical measures to protect fish stocks from cormorants, herons and otters. Support is given as direct project support for 60% of the total costs. Measures currently supported are fences against otters, surging measures with nets against cormorants and anti-cormorant equipment. Between 2001 and 2003, only 7 projects have been supported in Saxony (from 3,000 to 78,000 euro). The reason may be that the type of equipment utilised is very expensive and the remaining investment costs for the pond farmers are mostly too high compared to the return of an average pond farm (Klemm 2001).

4. INTERPLAY BETWEEN EUROPEAN REGULATION AND NATIONAL RECONCILIATION POLICIES

In this final section we aim to identify key problems obstructing effective reconciliation policies, related to the design of regulation as well as its implementation. The main focus is on the European level, for European regulation constitutes the binding

framework to be considered and implemented by member states. However, the national experiences are used as examples to illustrate the practical consequences of European regulation. We will discuss how the existing European regulation could be further developed and improved in order to better meet the challenges of biodiversity conflict reconciliation policy.

4.1. Nature conservation regulation

European nature conservation law covers most species potentially involved in conflicts. Many of those species are strictly protected, meaning that reduction of damage caused by protected species through methods of killing and disturbance of them are prohibited, though they may be allowed for reconciliation purposes under the derogation rules of the European nature conservation law.

In practice, member states have adopted culling schemes, as in the cases of seals and cormorants, to prevent local damage. The culling schemes adopted in both countries studied have been somewhat restrained. Regarding cormorants, France pursues a very extensive culling policy, shooting tens of thousands of cormorants each year (Marion 2003), and Denmark has recently made its first attempts to regulate the species at the population level by way of egg-oiling in specially selected breeding colonies (Olesen 2005).

However, the legality of culling as a reconciliation measure has never been tested in the European Court of Justice, but some derogation rules of European origin have been interpreted by the courts of member states, like those of Germany. Interestingly, the German courts have never granted permits to cull cormorants based on a strict interpretation of nature conservation law, whereas implementing authorities grant permits more easily within their realm of legitimate decision-making (Thum 2004). So far the German practice has formally been based on national law. However, given reasons and taking into account the reservations explained above, the German legal practice can be used at least as a rough indication of how courts could apply European law.

There are two important points to be raised with regard to different mitigation practices pertaining to all species. The first concerns the concept of ‘considerable damage’ in German legal practice. This concept is considered to be relative to the economic sector (like fisheries), not to an individual farmer or farm. Because the individual claimants could not prove that the damage was considerable at the level of the whole economic sector, the authorities’ refusal to grant a permit to kill cormorants was confirmed by the courts. Secondly, the derogation measures, including protective hunting, can be allowed only if they can be assumed to be effective in relation to the purpose for which they are used. Because the effectiveness of culling or hunting species as a measure to prevent damage is often doubtful this requirement may turn out to be important. For example in the case of Finland, the hunting of seals aims to expel the seal from fishing grounds, not to affect the size of the population. However, it is not clear if hunting will have the desired effect (see Westerberg et al. 2000). If further scientific evidence supports these doubts, the justification for using protective hunting as a means to prevent considerable damage to fisheries disappears. The same principle applies to cormorant culling in Germany, where it has influenced the court decisions.

The approach of the Birds Directive is stricter than that of the Habitats Directive. Both provide for a general mechanism to allow, in limited numbers and on a selective basis, derogations from general protection without restrictions explained above. However, the Birds Directive restricts this possibility only to “capture, keeping and other judicious use of certain birds”, whereas the Habitats directive allows “taking”. Because it is doubtful if killing a bird is “judicious use” of it, this derogation may not be available for culling schemes.

At political level, a sound reaction to the situation would be to consider if there is a need to change the conservation status of now abundant species. If the derogation rules do not allow reasonable reconciliation policy, the problem is not necessarily the courts intepreting the rules precisely and specifically, but the wrong conservation status. In fact, the increasing number of cormorants already caused an amendment to European law in 1997: member states are no longer required to protect the habitats of cormorants by establishing special protected areas. Due to the stable population level of cormorants, one could envisage a further change in their conservation status and allow controlled hunting by removing this species to Annex II of the Birds Directive. Similarly, if the present steady growth in the seal population (Helle et al. 2005) continues, the issue may become topical also in the case of Baltic Sea grey seals.

4.2. State aid regulation

State aid law has affected reconciliation policies in member states. In the countries studied there are three different policy measures aiming to grant compensation from national sources for damage caused by protected species: (1) the compensation of loss of catch in Finland, (2) the Finnish insurance system that compensates physical damage to fishing gear, and (3) the Saxon hardship compensation regulation. As a result of negotiation between the Commission and Finland the first scheme was made temporary, covering only two years. The other Finnish instrument is currently under review and on the basis of preliminary information available, the Commission tends to think that the scheme violates state aid law. The permanent German regulation on compensation for cases of hardship is in place and has never been notified as a state aid to the Commission. The Saxon State Ministry for Environment and Agriculture does not consider these payments as subsidies subject to European state aid law.[15] In addition to the state of Saxony, some other countries compensate damage to fisheries caused by wild animals. For instance, Sweden compensates coastal fishermen for damage caused by grey seals (Bruckmeier and Höj Larsen 2005) and a compensation scheme for cormorant damage is in place in the Province of Ferrara in Italy (Moretti et al. 2005). Apparently only the Finnish schemes have been notified according to the state aid rules. Furthermore, in Finland, too, there are compensation schemes for damage caused by wild animals in other economic sectors than fishery. Hence, not all the schemes have been investigated by the Commission - not to mention the European Court of Justice.

Until now one compensation scheme, namely the compensation for loss of catch in Finland, has been considered to be state aid and in that case the aid was allowed, though only temporarily. In addition the Finnish insurance system is under review. One may ask what the legally relevant difference is between the Finnish schemes considered to be state aid and others. In this regard we draw attention to criterion 2 (selectiveness)

explained above. A compensation scheme, which does not favour certain undertakings could be permanent.

Even if aid is state aid, it can be compatible with the common market, and thus, accepted. Certain aid is always compatible with the common market and the Commission may consider others to be compatible. For example, aid aiming to make good the damage caused by natural disaster or exceptional occurrences is always compatible and the Finnish scheme was temporarily allowed on this ground. Furthermore, the Commission may consider compatible other aids belonging to one of five categories listed in the Article 87(3) of the EU Treaty. However, none of these categories is visibly related to reconciliation policy, though some of them may in certain circumstances turn out to be relevant.

Any aid deemed to be state aid must be temporary to be compatible with the common market. However, for the purposes of reconciliation policy this may be problematic. The economic damage caused especially by seals and cormorants is nowadays greater than ever and there is no mitigation measure available to bring a solution to this in the near future. Extensive hunting, which has previously reduced the population of protected species to an unacceptably low level, is – and should remain – out of the question due to nature conservation goals. Fishermen and protected species will compete for the use of same resources in the future, too. Thus, the problem is likely to persist.

In practice, there may be only few options for mitigation measures to reduce the economic losses caused by protected species. This is especially the case for very strictly protected and seriously endangered species such as the otter. State aid regulations should generally support nature conservation and species protection that are ecological services to society as a whole. In our view state aid law should not prevent member states from creating national compensation schemes related to damage caused by protected species when this option is supported by serious reasons. However, market distortions and trade effects should be avoided as far as possible and the preference should always be for preventive measures that may result in a permanent mitigation of damage and thus conflicts. However, it is unlikely that trade effects would be on a large scale and, therefore, reconciliation of the conflicts should take preference over trade effects. Thus, there are grounds to suggest that this issue should be discussed when the relevant state aid guidelines are next reviewed.

4.3. European funds

The various European funds can be used for the reconciliation of the conflicts. For example, FIFG funding has recently been directed at the investments in seal-proof fishing gear in Finland. The Saxon “otter bonus”, which is a part of an EU-based agri-environmental programme, is another example. As part of this programme both the maintaining of valuable habitats, i.e. fish-ponds of high environmental quality, and the provision of feeding habitats for otters are seen as ecological services to society. Thereby they are justified on economic grounds (Hofman et al. 1995).

However, a lack of special provision in the fund regulations regarding reconciliation policies and measures may lead to problems. Without such a provision it may become complicated to design proper measures, which really can achieve

reconciliation and, at the same time, meet all the other requirements of the regulation. For example, many instruments under European funds are geographically limited and these restricted areas are not necessarily the same as those of the conflicts. Thus, a clarification of the regulation concerned in this point would be preferable. This becomes even more important because the laws on European funds and state aid are, from a policy-making point of view, interlinked. The state aid law does not apply to European funding. Thus, a proper European funding regulation may help to overcome possible problems related to state aid law. Because state aid law does restrict the possibilities of the member state to adopt national compensation schemes, an alternative policy response to the change of state aid law discussed above would be to create a European funding mechanism for the compensation of damage. Furthermore, European Structural Funds are especially well suited for funding activities to develop or invest in preventive measures.

4.4. Need for better coordination

Effective reconciliation of conflicts arising from damage caused by protected species requires several measures often administered by different administrative sectors and regulated by different laws. At the moment reconciliation policy is to a large extent a national matter in Europe, though certain fields of European law and policy are relevant and both provide options and set limitations for reconciliation policies as discussed above. Hence, there is a need for coordination both at national and European levels.

The need for coordination is obvious in both cases studied. In Finland, the lack of coordination of policy measures has impeded effective management of the conflict in spite of 10 years of mitigation. In Germany the federal structure stresses the importance of coordination for both nature conservation law and funding mechanisms differ from one state to another. However, this may be both an advantage and a disadvantage, depending on the specific conflict. On the one hand, the federal system in Germany allows for spatial differentiation and regionally adapted management of conflicts, providing options for increased cost-effectiveness. On the other hand, transboundary problems require coordinated action, as is the case with migrating or spatially more widely distributed species (Ring 2004).

European institutions could have a more active role in coordination. First, many conflicts have implications for Europe as a whole, as is obvious in the case of the migrating cormorant and European institutional structures could provide a sound basis for coordination. Second, European law is anyhow involved in reconciliation policy and possible conflicts between law and the needs for reconciliation could be avoided by a more active Europe-wide policy. Furthermore, through coordination it would be possible to avoid or minimise different interpretations of European law at Member State level. Different interpretations may even occur within a member state, as the case of Germany shows.

5. NOTES

[1] A wide range of measures is presented in Conover (2002).

[2] This point of departure is expressed in different recitals and Articles of Council Regulation No 2371/2002 of 20 December 2002 on the conservation and sustainable exploitation of fisheries resources under the Common Fisheries Policy.

[3] Jans (2000) refers to cases C-262/85 and C-118/94.

[4] Commission Regulation 1860/2004 of 6 October 2004. The general de minimis regime is established by Commission Regulation 69/2001 of 12 January 2001.

[5] Art. 25-27 of Council Regulation (EC) No 1257/1999 of 17 May 1999 on support for rural development from the European Agricultural Guidance and Guarantee Fund (EAGGF) and amending and repealing certain Regulations.

[6] Article 2 Council Regulation (EC) No 1263/1999 of 21 June 1999 on the Financial Instrument for Fisheries Guidance, Official Journal L 161, 26/06/1999.

[7] Article 1 Council Regulation (EC) No 1263/1999.

[8] Council Regulation (EC) No 1263/1999.

[9] of 17 December 1999 laying down the detailed rules and arrangements regarding Community structural assistance in the fisheries sector.

[10] Professional fishermen are those who get 30% or more of their income from fishery.

[11] N102 /2001 Finland, 7.5.2002, C(2002) 1598 final.

[12] Commission referred to ECR, 27.9.1988, 1988, p. 5515.

[13] Information is based on personal communication with the Ministry of the Agriculture and Forestry, May 2005.

[14] Richtlinie des Sächsischen Staatsministeriums für Umwelt und Landwirtschaft zur Förderung einer umweltgerechten Landwirtschaft im Freistaat Sachsen (UL) vom 8. November 2000; RL-Nr.: 73/2000; zuletzt geändert am 10. Juli 2003.

[15] Saxon State Ministry for Environment and Agriculture 2005, personal communication.

6. REFERENCES

Alkio, M. and Wik, C., (2004) *Kilpailuoikeus*. Helsinki: Talentum.

Bruckmeier, K. and Höj Larsen, C. (2005) 'Policy instruments – Practice and Potential in Sweden', FRAP project report. University of Gothenburg, Sweden (Unpublished).

Carss, D.N. (ed.) (2003) 'Reducing the conflict between Cormorants and fisheries on a pan-European scale', Banchory, UK: Centre for Ecology and Hydrology Banchory, UK. (REDCAFE Final Report, Unpublished, available at http://banchory.ceh.ac.uk/REDCAFE/REDCAFEdocs.htm).

Conover, M. (2002) *Resolving human-wildlife conflicts*, Boca Raton, USA: Lewis.

Glahn, J.F., Werner, S.J., Hanson, T. And Engle, C.R. (2000) 'Cormorant depredation losses and their prevention at catfish farms: Economic considerations', in Clark, L. (ed.): *Human Conflicts with Wildlife: Economic Considerations*. Proceedings of the Third NWRC Special Symposium, August 1-3, 2000, Fort Collins, CO.

Harding, K. and Härkönen, T. (1999) 'Development in the Baltic Grey Seal (Halichoerus grypus) and Ringed Seal (Phoca hispica) populations during the 20th century', *Ambio*, 28, 619-627.

Helle, E., O. Stenman & Wikman M. (eds.) (2005) *Symposium on Biology and Management of Seals in the Baltic area*. Helsinki: Finnish Game and Fisheries Research Institute. Kala- ja riistaraportteja, 346.

Hofman, H., Rauh, R., Heißenhuber, A. and Berg, E. (1995) *Umweltleistungen der Landwirtschaft. Konzepte zur Honorierung*. Stuttgart: B.G. Teubner.

Hunters´ Central Organization (2004) *Hunting statistics*. Helsinki: Hunters´ Central Organisation. Available from: http://www.riistaweb.riista.fi/ [Accessed: May 15th, 2004].

Jans, J. (2000) *European Environmental Law*, Groningen: Europa Law Publishing.

Klemm, R. (2001) *Bericht zur Wirtschaftlichkeit sächsischer Teichwirtschaften 1996/97 bis 1999/2000*. Dresden: Sächsische Landesanstalt für Landwirtschaft.

Kranz, A. (2000) 'Otters (Lutra lutra) increasing in Central Europe: from the threat of extinction to locally perceived overpopulation?', *Mammalia*, 64(4): 357-368.

Krämer, L. (2000) *EC Environmental Law*, 4th Edition. London: Sweet and Maxwell.

Long, R.J. and Curan, P.A. (2000) *Enforcing the Common Fisheries Policy*, Cornwall: Fishing News Books.

Marion, L. (2003) 'Recent development of the breeding and wintering population of Great Cormorants Phalacrocorax carbo in France – Preliminary results of the effects of a management plan of the species', in *Die Vogelwelt, Beiträge zur Vogelkunde*. *Cormorants: Ecology and Management*, 124, 35-39.

MoAF (2002) *Lohen rannikkokalastuksen kehittämistyöryhmä*, Committee report 2002:20, Helsinki: Ministry of Agriculture and Forestry.

MoAF (2004) 'Hallitus päätti yksimielisesti valikoivan lohenkalastuksen mahdollistamisesta hylkeenkestävillä rysillä', A press release 19/5/2004. Helsinki: Ministry of Agriculture and Forestry. Available from:http://www.mmm.fi/tiedotteet/tiedote.asp?nro=1476. [Accessed: November 25th, 2004].

MoAF (2005) 'Valikoivien ja hylkeenkestävien rysien tukemiseen varattiin 1,6 miljoonaa euroa', A press release 25/1/2005. Helsinki: Ministry of Agriculture and Forestry. Available from: http://www.mmm.fi/tiedotteet/tiedote.asp?nro=1726. [Accessed: May 9th, 2005].

Moretti, S., Minarelli G., Morini, P. (2005) 'Policy instruments – Practice and potential in the Italian case study', Report to FRAP project. Ostellato, Italia: Delta 2000. (Unpublished).

Myšiak, J., Schwerdtner, K. and Ring, I. (2004) *Comparative analysis of the conflicts between carp pond farming and the protection of otters (Lutra lutra) in Upper Lusatia and South Bohemia,* Leipzig: UFZ. Discussion Papers No. 8/2004.

Official Journal (2001) 'Guidelines for the examination of state aid to fisheries and aquaculture', *Official Journal* 2001/C 19/05.

Olesen, T. (2005) 'Policy instruments – practice and potential in Denmark', FRAP project report. Hirtshals, Denmark: IFM (Unpublished).

Ring, I. (2004) 'Naturschutz in der föderalen Aufgabenteilung: Zur Notwendigkeit einer Bundeskompetenz aus ökonomischer Perspektive', *Natur und Landschaft*, 79(11): 494-500.

Sächsische Landesanstalt für Landwirtschaft (2003) *Zahlen zur Binnenfischerei. Freistaat Sachsen – Jahresbericht 2003.* Dresden.

Schwerdtner, K. and Ring, I. (2005) 'Policy instruments – practice and potential in Germany', FRAP Project Report, Leipzig: UFZ (Unpublished).

Seiche, K., Wünsche, A. (1996) *Kormoran und Graureiher im Freistaat Sachsen – Bestandsentwicklung, Nahrungsökologie und Schadenssituation in der Binnenfischerei*. Materialien zu Naturschutz und Landschaftspflege 1, Dresden: Sächsisches Staatsministerium für Umwelt und Landwirtschaft..

Seiche, K. (2002) 'Bestand und Nahrungsspektrum des Kormorans (Phalacrocorax carbo sinensis) in den sächsischen Teichwirtschaften als Grundlage für eine Schadensbewertung', in Sächsische Landesstiftung für Natur und Umwelt (Hrsg.): Der Kormoran (Phalacrocorax carbo) im Spannungsfeld zwischen Naturschutz und Teichbewirtschaftung, Dresden, 38-44.

Suuronen, P., Siira, A., Ikonen, E., Riikonen, R., Kauppinen, T., Aho, T., Lunneryd, S.-G., Hemmingsson, M., Königson, S., Fjälling, A., Westerberg, H. and Larsen, F., (2004) ‚Mitigation of seal damages by improved fishing technology and by alternative fishing strategies', Final Report of Project 661045-30248. NAF, Copenhagen: Nordic Council of Ministers. Unpublished.

Thum, R. (2004) 'Rechtliche Instrumente zur Lösung von Konflikten zwischen Artenschutz und wirtschaftlicher Nutzung natürlicher Ressourcen durch den Menschen am Beispiel Kormoranschutz und Teichwirtschaft', *Natur und Recht*, 580-587.

Westerberg, H., A. Fjälling and A. Martinsson (2000) *Sälskador i det Svenska fisket*. Gothenburg: Fiskeriverket. Fiskeriverket Rapport 2000:3.

Österbottens fiskeriförsäkringsförening (2003) *Verksamhetsberättelse 2002*. Vasa, Finland: Österbottens fiskeriförsäkringsförening.

7. AUTHORS

Jukka Similä works as a senior researcher at the Finnish Environment Institute in Helsinki. (P.O. Box 140, 00251 Helsinki, Finland, Jukka.Simila@ymparisto.fi, +358-9-403000, +358-40-56+8496, fax +358-9-40300391) CORRESPONDING AUTHOR.

Randi Thum works as a postdoctoral research fellow at the UFZ Centre for Environmental Research Leipzig-Halle, Department of Environmental and Planning Law. (P.O. Box 500136, 04301 Leipzig, Germany, randi.thum@ufz.de, ++49 (0) 341-235-2768, ++49(0)341-235-2825)

Irene Ring is deputy head of the Economics Department at the UFZ Centre for Environmental Research Leipzig-Halle where she is also coordinating an interdisciplinary social sciences working group on nature and biodiversity conservation. (P.O. Box 500136, 04301 Leipzig, Germany, irene.ring@ufz.de, ++49 (0) 341-235-2480, ++49 (0) 341-235-2825)

Riku Varjopuro is a senior researcher at the Finnish Environment Institute in Research Programme for Environmental Policy. (P.O.Box 140, FIN-00251 Helsinki, Finland. riku.varjopuro@ymparisto.fi, tel. ++358-9-40300331, fax. ++358-9-40300391)