



The Development of the Relationship between Coastal Fisheries and Marine Conservation in the Oder Estuary Region

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Abstract

In this article the conflicts and common interests of the coastal fishing industry and marine conservation in the Oder estuary region are analysed. The background is the author's diploma thesis about this topic in the year 2005 and a small, recently conducted survey.

The 2005 survey showed that there exist many points of contact between the areas of fishery and marine conservation and that a relative high conflict potential is present between the two groups. It was shown that on the one hand there is the common goal of a sustainable fishery, on which both sides are slowly beginning to work together. On the other hand there are serious conflicts, about the ecological impact of the fishing industry, the assessment of marine mammals and birds as bycatch and as predators of the fish stocks, and the management of Natura 2000 sites. A great part in the conflict is also played by issues on the relational level, including mistrust and prejudices against the other side. As the recent survey pointed out the fisheries sector and the marine conservation sector collaborate in more working areas than in 2005.

As a general approach to the conflict, a possible working programme was presented. It recommends the use of common interests as a basis for cooperation, before addressing the more serious conflicts. This was considered to be the best approach, as it allows both sides to become better accustomed to each other and thereby concentrate on problems on the material level.

1 Background and Motivation

This article is an analysis of the common features and conflicts between the coastal fishing industry and marine conservation in the Oder estuary region based in part on the author's 2005 diploma thesis on this topic. The article adds to the thesis by assessing how the situation has developed in the last two years. In addition, some statistics about the fishery sector have been updated. In general this article presents the results of the thesis and how the relationship between the two sectors has developed in the last two years. Therefore some of the experts that were interviewed or that filled out the questionnaire in 2005 have been contacted again and asked about recent developments.

Fishery is a traditional use of the marine areas in the Baltic coast of Mecklenburg-Vorpommern, which also has economic and social importance for the local community. In the last few years the fishing industry has had to face new problems, such as competition with other marine uses (Jansen & Jennerich 2005). These competing uses include dumping at sea, extraction of resources and in recent years, increasing marine protection and offshore wind farms.

Further problems were caused by the end of financial support after the fall of the German Democratic Republic in 1990, and the lack of young people wishing to work as a fisherman. The age structure of the people working in this business suggests that in the near future more and more fishermen will give up business. This development has led to the situation that can be seen in figure 1. Today, Mecklenburg-Vorpommern has 412 full-time fishermen, from whom approximately 82 are over the age of 55, and 25 are under 32 years old (Melff 2006). This situation has resulted in a steady decrease in the number of fishermen in the last few years.

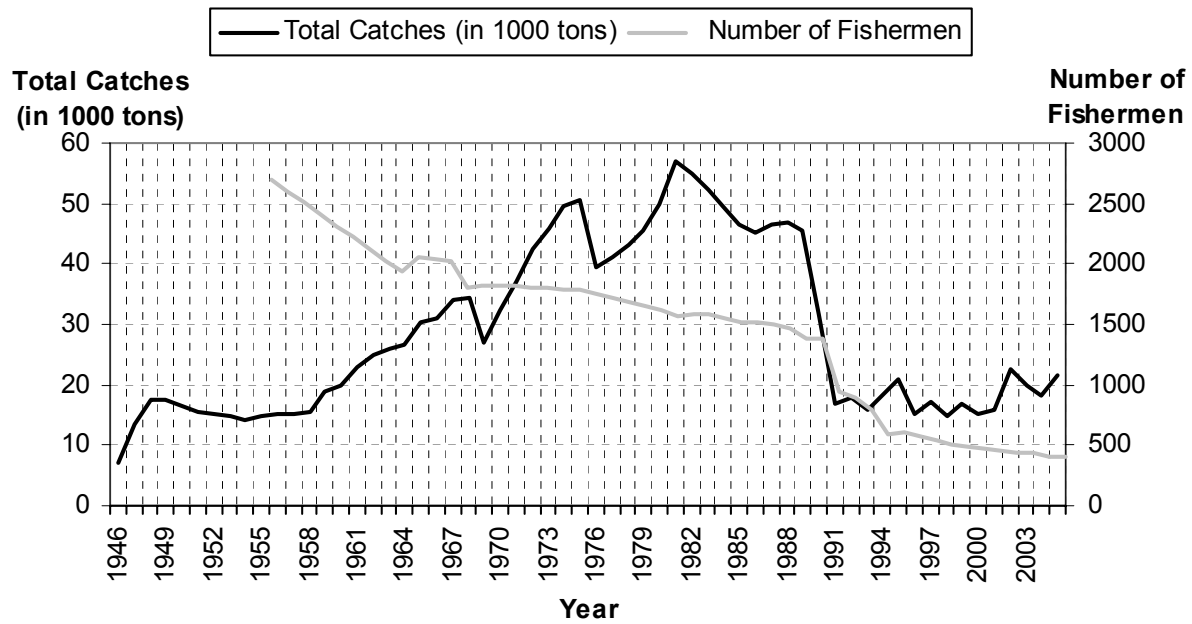


Figure 1: Development of the number of fishermen and the total catches in Mecklenburg-Vorpommern (Hahlbeck & Schulz unpublished, updated)

This state-wide trend is also apparent in the Oder estuary region. In 2005 there were 49 fishermen (29 as full-time and 20 as sideline or recreational fishermen) in the Oder Lagoon. This number has decreased here from around 100 fishermen in earlier years. But even so there isn't space for new fishermen, due to the fact that nowadays the same amount of gillnets are used by less fishermen.

The area of marine conservation, in comparison with fishery, is a relatively young discipline. Generally, there is the same variety of protected marine areas as there is on land. In the Oder estuary and its adjacent waters, there is a broad spectrum of protected areas which often include marine areas. Nearly all different kinds are present. There is the Wolinski National Park, the Nature Park "Island of Usedom" and "Oder Lagoon" and various marine Natura 2000 reserves, which are protected by the European Habitat and Bird Directives. By these directives the whole German side of the Oder Lagoon, the Bay of Greifswald and parts of the adjacent Exclusive Economical Zone (EEZ) are protected. Furthermore there are various designated Nature Protection Areas, Landscape Conservation Areas, (Marine and Coastal) Baltic Sea Protected Areas and Important Bird Areas present in the area. Every one of these categories has its own conservation status, and many categories can be combined or can overlap due to a different legal background, e.g. Natura 2000 areas protected by the European Habitat Directive and Nature Protection Areas by the German Federal Nature Conservation Act.

2 Objectives

The objective of the thesis in 2005 was to analyze the fishery industry and the marine conservation sector in the area of the Oder estuary. By analysing these two sectors, information should be given to each side, to learn more about each others demands and problems. The analysis of the existing common features and conflicts between these two groups should let them know what different kinds of aspects are involved in the relationship between them. Finally, by showing at least one possible approach to solve or minimise the problems, the intention was to motivate the involved institutions and persons to change the actual state. The present article is an updated version and aims to show how the situation has developed in the two years following the thesis.

3 Location and Methods

The thesis was integrated in the project “Research for an Integrated Coastal Zone Management in the German Oder estuary (ICZM-Oder)”. Additionally, the adjacent waters, the EEZ and the Polish sea areas, were included in order to cover all aspects of the conflict. This was necessary, as not all aspects can be discussed in the context of the Oder estuary alone: many experiences from outside this region are also involved.

For the survey in 2005 the author developed a specific questionnaire for the coastal fishery and the marine conservation sector. This was sent to majority of the involved authorities and organisations in Germany and Poland. The questionnaire for the Polish institutions was translated into Polish.

To get a more practical insight into the problem, and to include aspects that possibly weren't mentioned in the questionnaire, additional interviews were conducted with many German recipients of the questionnaire. There no interviews were conducted on the Polish side.

For this article, many of the institutions from the thesis were contacted again and asked for recent publications, and interviewed about the development of these issues over the last two years. In 2005 there were 15 institutions filling out the questionnaires: seven from the fishery and eight from the conservation sector. In addition eleven interviews were conducted with the recipients of the questionnaires. There were four responses to the recent survey, all of which have been included in this article. The participants had all participated in the earlier survey, except for one who, though he had not participated, was aware of the survey's results. At this point it must be remembered that all of the results from the diploma thesis and especially the recent information can only be interpreted as apparent trends, and not as proven facts. With regard to research of these issues on the Polish side of the border, only four institutions from Poland had responded to the 2005 questionnaire, therefore no Polish institutions were contacted for this article.

Some problems during the making of the thesis occurred due to its regional focus. Some of the interviewees might have had bad experiences from other regions which could have influenced their assessment of the situation in the Oder region. For example, earlier conflicts relating to conservation in other areas might influence the manner in which the two parties work together in the Oder estuary region. Another problem might be that not all of the questionnaires represent the official opinion of the contacted institutions. Some might only show the personal view of the recipient, which makes the survey less representative.

4 Results

The 2005 survey showed that there are common interests which are shared by the fishing industry and the marine conservation sector. It pointed out that an intact marine environment is of interest to both parties. This is the main purpose of the marine conservationist and the fishermen are also finally dependent on the intact environment for the reproduction of the fish stocks. Here you can see a clear overlapping of interests. The only difference is that both parties have different backgrounds and reasons for their goals. For the marine conservationists, the protection of the environment itself is the driving force, whereas for the fishermen, the faster recuperation of fish stocks is the main motive. So in the background of the common goal the conservation stands against the use of the resources.

Here you have to face the fact that the marine conservation sector does not want to prohibit the fishery generally. On the one hand, no conservation group in the region has stated a desire for the end of the local fishing industry, so you can be assumed that a usage of the fish stocks is tolerated by them. On the other hand, the fishery sector is also aware of the protection of fish stocks. This can be proved by the respect shown by fishing industry for legal restrictions which are imposed in certain areas and during certain periods of the year. All this is shown by the results of the earlier

survey where 80 % of all participants said that a sustainable use of fish stocks is a common goal of marine conservation and of the fishing industry.

Other common interests are the reintroduction and support of extinct or rare species like the sturgeon or the sea trout. In these cases the removal of barrages in small rivers by the conservation sector also brings advantages for the fishery sector. Often there also exists a common interest against the use of marine areas by other parties if it has a negative impact on the natural environment. A further common feature is the monitoring of fish species, which is already conducted by both sides together.

Despite the presence of these common features, the existing conflicts dominate the relationship between the two groups. Both sides view the other as more of an opponent than a partner. One reason might be the relatively high conflict potential that both sides present to the other, as shown in figure 2. The conservation sector represents the highest conflict potential to the fishery sector. By contrast, only tourism and offshore wind farms represent a higher conflict potential to the conservationists than the fishery industry.

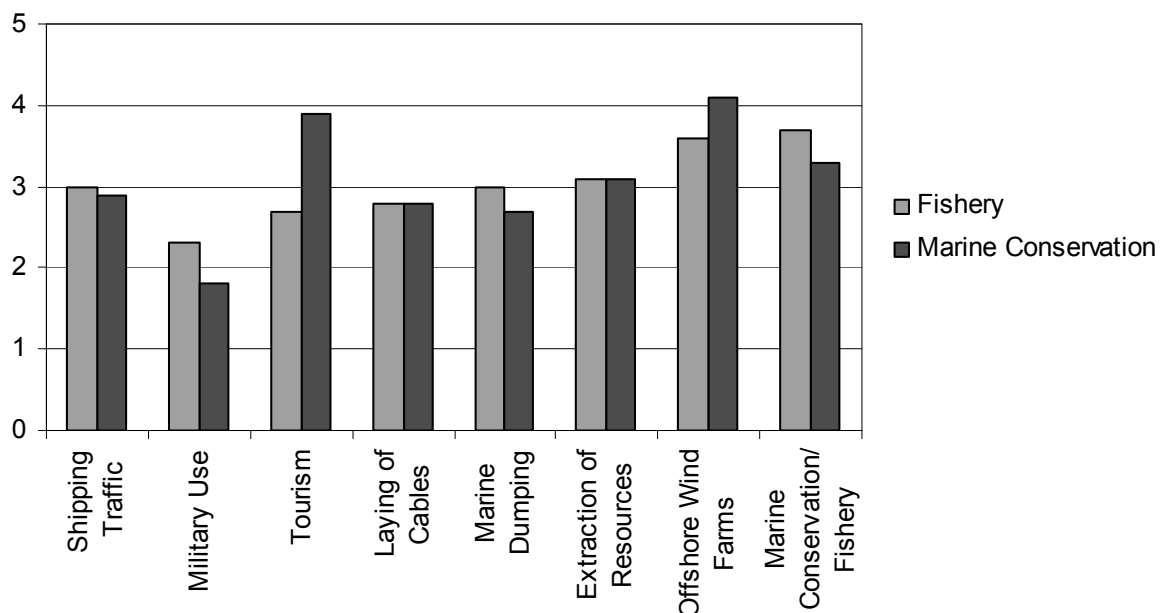


Figure 2: Potential of the conflict to other user groups on a scale from 1,0 (“very low”) to 5,0 (“very high”)

The conflict in general is based on a broad variety of causes. The survey showed that the following causes are present in the existing conflict:

- negative impact of fishery on the marine environment, as change of the age structure of fish populations, bycatch of marine mammals and birds
- conflict of values, especially concerning protected habitats and species
- lack of understanding for the other side
- mistrust/lack of confidence due to contacts in the past and/or in other regions
- propaganda and prejudices
- dogmatic adherence to each group’s respective agenda
- plurality of perspectives and approaches: Every involved person has a different approach to the conflict
- disorientation of the fishery sector after the German reunification

In the interviews there was also mentioned that the protection of species and ecosystems have to be distinguished from each other. The problems in the field of the ecosystem protections were estimated to be solvable, while the ones with species conservation can only be minimised.

The 2005 survey pointed out that both parties regard spatial restrictions as more effective than temporal ones or restrictions on fishing gear. In regards to the effectiveness of the different protected areas, there wasn't such a common conclusion. This may hint that the fishery sector wasn't sure about the meanings of all the various protection categories.

When asked about the main factors concerning biodiversity, the fishery and conservation sectors agreed that eutrophication, contaminant loads and barred migration routes have a high impact. Only the active fishery was unequally assessed. The fishery representatives assessed it as one of the lowest factors, whereas it was one of the highest for the conservationists.

The most negative impact of the fishery was estimated by both sides to be the change in the age structure of the fish populations, but the survey revealed disparity between each side's assessment of the bycatch of marine mammals and birds (figure 3).

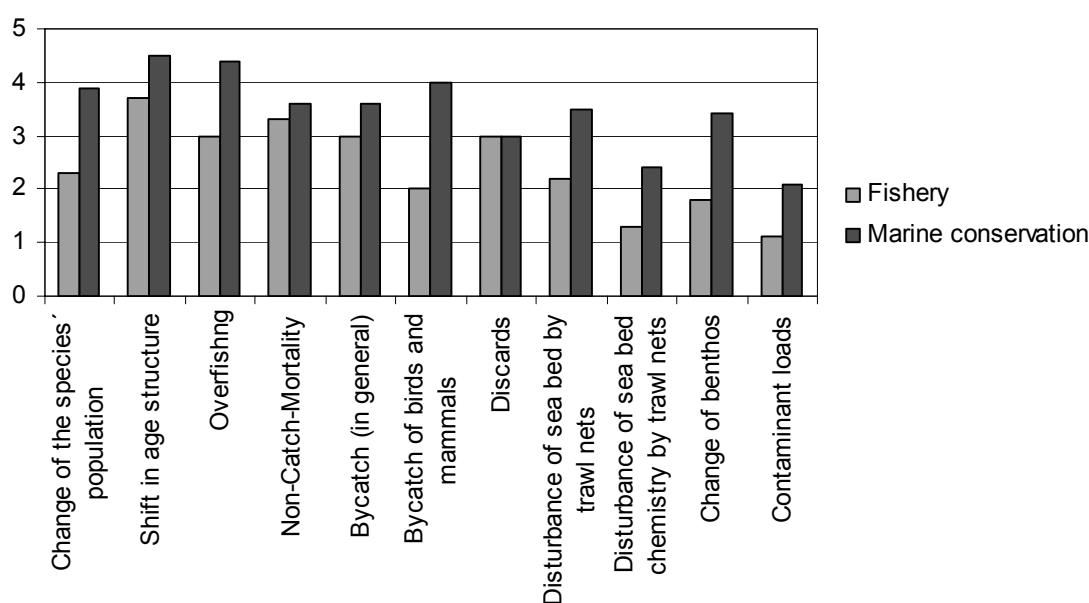


Figure 3: Assessment of the impact of fishery on a scale from 1,0 ("very low") to 5,0 ("very high")

When asked about the future development in 2005, over 40 % of the fishery sector and more than 20 % of the conservation sector expected the conflict to increase, while nearly 60 % of the participants from the fishery and almost 40 % of the conservationist sector thought that it would stay at the same level. No participant from the fishery sector, but nearly 40 % of the conservationists, expected the conflict to decrease.

The thesis in 2005 showed that between the fishery and the marine conservation sectors there exists a relatively high level of conflict that, in some cases, is an obstacle to cooperation in important working areas.

The four Polish questionnaires that were returned, suggest that there is a similar conflict on both sides of the German-Polish border. Some factors are specific to Germany, e.g. the lack of subsidies after the German reunification, but in general, the conflict seems to involve the same factors in Germany and Poland.

The recently collected information shows that there have been various activities in the area of fishery and marine conservation in the last two years. Some of them have been collaborations, e.g. a brochure about angling and nature protection in the area of the Greifswald Bay and Strelasund published by the Angling Association Mecklenburg-Vorpommern together with the State Office for Agriculture, Food Safety and Fishery Mecklenburg-Vorpommern and the World Wildlife Fund (WWF) Germany's "Project Office Baltic Sea". Therein all relevant information about restrictions and other conservation measures are presented for anglers. Much of the information results from voluntary agreements between various water sport and angling associations, and the WWF and the Ministry of the Environment Mecklenburg-Vorpommern, to manage the local Natura 2000 site.

Another project is the collaboration between the Cutter and Coastal Fishery Association Mecklenburg-Vorpommern, Naturschutzbund Deutschland (NABU) and researchers from University of Greifswald's Chair of Landscape Economics for the certification of the regional fishery. Döring & Laforet (2006) state that the certification in the beginning should only represent local production and should later also include ecological aspects. The main objective is to improve the economic situation of the fishermen by better marketing of their products.

Beside these collaborations, in various correspondences it was mentioned that the situation has relaxed in the last two years and that the fishery and conservation sectors have started to talk about various topics even when the conflict might be on the same level as two years before. The Federal Nature Conservation Agency (BfN) also arranged various symposiums which addressed topics of fishery and marine conservation, such as bycatch of birds in gillnets, and alternative cormorant and ecosystem friendly fishing gear. It also has a project running together with the International Council for the Exploitation of the Sea (ICES). These initiatives show that there are now contacts in various fields of work. It was noted that it might be the case that both sides could be working together for their own reasons. The fishery sector wants to participate because if they don't, decisions will be made without them. The conservationists want their regulations to pass Brussels so it is better for them to make arrangement with the users.

Another sign of cooperation is the reintroduction of the previously extinct sturgeon into the Baltic Sea. In June of this year the project introduced some 2000 sturgeons into the Oder to re-establish a population of this fish species (BfN 2007). It was also mentioned in a correspondence that this project, which is a collaboration of various institutions of the fishery and conservation sector, is viewed positively by both sides.

The conflict between the fishermen and the conservationists regarding the cormorant broke out in 2005 when 6.000 cormorants had been shot in order to reduce the population, which affects the fishery. The shooting resulted in massive protests by many conservation groups. It was stopped by the Environmental Minister of Mecklenburg-Vorpommern later that year, who stated that he needs an evidence for damage by cormorants to yearly catches before he considers allowing further culls. This evidence still has not been brought forward but some authors have tried to provide proof. Ubl (2006) explains why this is very difficult: the breeding population, resting population and the winter population are not completely well known, but the food demand of the populations could amount to nearly a quarter of the total catch in Vorpommern. He also mentioned positively that at the Cormorant Symposium of the BfN in 2006, the institution was considering a population census, to be carried out by fishery and conservation representatives.

A lot of information is missing about the food spectrum of the cormorant in some areas and how it varies during the year. This is necessary in order to support claims that the cormorant really has adverse effect on the populations of fishery relevant species.

Besides the fact that the cormorant may reduce fishery relevant species, Ubl (2006) notes that this species causes damages to the fishery by injuring fish already caught as well as damaging the fishing gear itself. He reports from a survey that found out that the yearly damages to the gear add up to 2.700 € per year.

5 Discussion and conclusion

In the thesis the whole amount of aspects in the conflict was split into various levels to get an overview and to address the specific problems in a more effective manner:

On the **target level**, both sides strive for a sustainable use of the fish stocks. The definition of a common goal should be the guideline for the whole process.

On the **value level** the main problems are the different attitudes towards of protected species, the habitats of the Habitat Directive, artificial reefs and the natural and anthropogenic impacts on the ecosystem. In some cases problems on the material level can be separated, to reduce the conflict on the value level. For example, the harbour porpoise itself is not a problem, the problem is that it is viewed differently each party.

On the **material level** various fields of activity exist where fishery and conservation could cooperate. The main fields are the certification of fishery, building up of populations of rare fish species, and the management plans for the Natura 2000 areas. In these areas both sides should work in a constructive matter to solve the existing problems.

The **relational level** contains many problems that cannot be detected objectively. A great part of these are based on contacts in the past and in other regions, but an important role is also played by prejudices. Here it is proposed to think ahead and minimize the conflicts by changing ways of communication and behaviour.

In the 2005 thesis, various steps were proposed as to how a better working relationship can be developed and how to start working on the problems slowly so that trust can develop. These steps were the following:

- Change of behaviour. Both parties should behave in a trustworthy fashion, be respectful of each other and take an objective approach to solving the problems. This is necessary in order to concentrate on the issues themselves and not on relational problems resulting from contacts in the past.
- Definition of a guideline. This means that the two parties have to define a common objective. This is useful for further progress so that they have something to achieve together and not against each other. Here the sustainable use of the fish stocks or perhaps the certification of fish products can serve as a guideline. There isn't any official agreement until now, but the two sides are working together on a certification for a regional fishery which will include ecological aspects.
- Recuperation of populations of rare fish species. This point also addresses the reintroduction of extinct species, e.g. the sturgeon, as well as the recuperation of rare species, e.g. the sea trout. Here the fishery sector and marine conservationists are both interested in well established stocks of these species. It is also important to define the point at which the stocks can be fished again and what amount can be caught. The objectives here are the creation of new habitats and an increased habitat quality by actions such as removal of barrages. This will help the target species as well as other anadromous fish species. This project is a good example of one in which various institutions work together to reach a common objective.
- Minimising of conflicts on the value level. This means to reflect on all conflicts that exist on this level, concerning differing attitudes towards of protected species (harbour porpoise, grey seal, and cormorant), protected habitats of the Habitat Directive, artificial reefs and the different assessment of impacts on the ecosystem. It is fundamental to address these conflicts because they have caused fierce disputes in the past. It is important to mention here that these conflicts can not be solved completely, but the two parties have to be aware that only the difference in attitudes is the problem. They have to respect each others opinion in order to approach the conflicts on the material level. They can only be minimised by respecting the view of the other side and their participation in decision making in related issues. Some of these issues had been addressed by

BfN symposiums, and also Ubl (2006) has tried to argue objectively about the damages caused by cormorants, but his article shows that there is still research needed. The fact that the cormorant damages fish in the nets and the nets itself, has to be considered in any solution. It is nearly impossible to tolerate somebody (in this case the cormorants) if he constantly destroys your private property.

- Reducing the ecological impact of fishery. This area includes a broad spectrum of aspects where much research is already going on. The fact must be faced that it is impossible to completely eliminate the ecological impacts of the fishery, because the activity of fishing itself, the removal of fish, constitutes an impact. Only the negative side effects can be reduced, such as the bycatch of marine mammals or birds. The objective is that the fishery and the marine conservation sectors work together on the reduction of environmental impacts, and that suggestions of one side are not automatically denied by the other. The aforementioned ICES project, as well as a BfN symposium addressed these issues together with representatives of the fishery sector. This shows that the conservation sector is beginning to involve the views of the fishermen.
- Natura 2000. This working point contains all aspects of Natura 2000. The aim is to implement management plans that are supported by all involved parties. The points that have to be addressed here are restrictions on fishery, limitation of future uses and the problems of compensation due to a lack of spatial property. These aspects can be addressed in bilateral talks or included in a process with other local representatives. The agreement made in Greifswald Bay is a good example of how the regulations for a Natura 2000 site could work. Now the regulations have to prove that they work and that no legal regulations are needed. If they are successful it will be a positive signal of reliability that increases the trust in the other involved parties. In general voluntary agreements, by participation of all involved parties, could generate better results because all interests would be addressed.

Generally throughout the whole process it must be ensured that no solutions that are achieved bring disadvantages to any other user group. The objective is a solution of the existing problems and not a shift to other areas. The involvement of the Polish side should also be considered in order to attain a higher effectiveness of resolutions. This also seems to be reasonable, considering that the area represents one geographic region and the problems on both sides of the border seem to be similar.

Judging by the replies to the authors request for information in 2007, the situation today looks friendlier than two years before. The level of conflict itself might not have changed, but the way it is treated by the involved institutions and people shows that the two sides have started to work on the problems together. It is important that the two parties are not only talking over each other but with each other. This is crucial to reduce the prejudices and the mistrust that have built up over the years.

In 2007 it seems like the two sides have begun to realise that they won't achieve a durable solution by themselves. Even when this might only result in a situation where the fishermen want the opportunity to participate and the marine conservationists want their regulations to pass Brussels, it is a positive change. As mentioned previously, their reasons for wanting to protect the marine environment are different. Even if they work together just to improve their own situation, successes are still possible, and can serve as positive examples of two conflicting parties working together for mutual benefit. This would be a win-win-situation. All included parties have an advantage and also the matter of their cooperation, the environment, benefits from this cooperation.

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Acknowledgement

The work has been carried out within the project "Research for an Integrated Coastal Zone Management in the German Oder estuary region (ICZM-Oder)" I & II and was funded by the Federal Ministry of Education and Research (BMBF 03F0403C & 03F0465B)

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