



“Bird conservation in the marine environment: Identification, designation and protection of marine protected areas for birds in the Baltic Sea and beyond”

4-5 October, 2007, Jūrkalne, Latvia

Goals of the conference:

- Present the latest EU policy developments with regard to marine bird conservation;
- Present to a European audience the preliminary results of the Eastern Baltic LIFE project, methodologies applied and lessons learned;
- Share experiences from other ongoing marine bird related projects in Europe;
- Provide a forum for in depth discussion of data and information challenges and related solutions, with regard to SPA inventory methodologies, site selection criteria, border delineation and site management aspects;
- Share existing experience on setting conservation objectives for SPAs.

Opening of the conference and introduction to the LIFE-Nature project „Marine Protected Areas in the Eastern Baltic Sea”

Ms. Heidrun Fammler, Baltic Environmental Forum, and Mr. Konstantin Kreiser, BirdLife International

Ms. Fammler introduced the goals, partners and activities of the LIFE-Nature project „Marine Protected Areas in the Eastern Baltic Sea”, gave an overview of project areas and target species, and introduced the methodology, main challenges and findings of the bird inventories. She also presented the goals, participants and discussion topics of the conference, stressing that the project team seeks for input from the conference for assessment of the inventory results for further project progress.

Mr. Kreiser said opening words from the co-organiser of the event - BirdLife International and thanked BirdLife Partners in Sweden and France for their financial contribution to the organisation of the conference. He highlighted the importance of the Baltic Sea protection and timeliness of the Baltic MPA project considering the 2008 deadline for selection of marine Natura 2000 sites for EU Member States.

SESSION I: WIDER CONTEXT AND RECENT DEVELOPMENTS WITH REGARD TO BIODIVERSITY CONSERVATION IN THE MARINE ENVIRONMENT IN EUROPE

Implementation of Natura 2000 in the marine areas of the EU (focusing on Special Protection Areas)

Mr. Konstantin Kreiser, BirdLife International, European Division

Mr. Kreiser gave an overview about implementation of Natura 2000 in the marine areas of the EU as well as explaining the wider context of EU marine conservation and biodiversity policies.

He listed the documents, directives and conventions that form the framework for EU marine conservation and biodiversity policies.

EU Birds and Habitats Directives are the key tools for halting biodiversity loss. Special Protection Areas (SPAs) under the Birds Directive and Sites of Community Importance (SCIs) under the Habitats Directive should be selected according to purely scientific criteria, not considering any economic aspects (these are taken into account when the site management and protection is discussed). In addition to the territorial waters (12 nm), the Member States have an obligation to designate marine Natura 2000 sites also in the Economic Exclusive Zone (EEZ, up to 200 nm from coastline) and on the continental shelf (up to 350 nm) if they are exercising sovereign rights there.

The deadline set by the European Commission (and agreed by Member States) for marine designation is mid-2008. Member States that do not have the data for completing designation by 2008 are expected to present implementation programmes for completing the network. The Commission will assess SPA classification and, if needed, might start infringement procedures in 2009. In parallel cases in the terrestrial environment, the Commission has used BirdLife's Important Bird Area (IBA) inventories as a reference for assessing the sufficiency of SPA proposals, which is why BirdLife and its Partners are currently investing so much effort in identifying marine IBAs. The Member States should use the EC guidance document on marine Natura 2000, available data and funds (LIFE+, European Fisheries Fund, budgets of Member States) to designate marine sites as soon as possible in order to ensure better protection for the marine environment and planning security and adequate procedures for economic developments (windfarms, ports, pipelines etc.) as well as to avoid Court cases on designation and/or individual projects. **The next tasks** include protection, management and monitoring of sites; integration of Natura 2000 into other sectors (Fisheries Policy); communicating Natura 2000 to key stakeholders and developing species protection provisions beyond sites.

Discussion

- Increasing use of renewable energy (e.g. wind) is also a task for Member States, same as Natura 2000, and both may compete for the same shallow marine areas.
- It was concluded that communication between different ministries and strategic national planning is needed to avoid future conflicts.

- In Germany no subsidies for construction of windfarms in the protected areas/Natura 2000 sites are paid.
- Possible synergies of Nature Directives and Water Framework Directive have to be used. A seminar on those issues is planned in the Baltic MPA LIFE project.

Guidelines for the establishment of the Natura 2000 network in the marine environment. Application of the Habitats and Birds Directives

Mr. Jim Reid, Joint Nature Conservation Committee, UK

Mr. Reid introduced the Guidelines for the establishment of the Natura 2000 network in the marine environment developed by the EC Marine Expert Group, which consists of experts from Member States, NGOs, key users, DG Environment, DG Fisheries etc.

In May 2007 the Guidelines explaining the relevant legal and technical concepts needed to underpin the establishment of Natura 2000 in marine areas were published. This document reflects the views of the Commission services but is not of a binding nature. The Guidelines define **four types of marine SPAs** (extensions of existing terrestrial SPAs; areas (usually inshore) hosting aggregations of waterbirds outside the breeding season; offshore areas hosting concentrations of seabirds; and migration hotspots) and propose which methods/data are most appropriate for their identification. It is stressed that scientifically sound data and methods should be used.

Site selection approach can be different in Member States but it is important to use consistent approaches (for both marine and terrestrial sites) within one country.

The selection criteria can include:

- Numerical thresholds (different in Member States);
- Ecology of the species (population density, range, breeding performance, history of occupancy, multi-species areas, naturalness, conservation status);
- Site characteristics - some guidance is given on size, shape and boundary determination of the site.

The main principle is that the sites have to be selected on scientific basis, without any management, economic or political considerations.

Discussion:

- Conservation objectives are provided in Guidelines but concrete parameters have not yet been discussed in JNCC.
- Reporting on conservation status is not required so far for the Birds Directive, so there are few cases of favourable reference values for birds being developed yet.
- Ramsar is a good instrument to designate areas for birds not fulfilling the other criteria.

Current situation with regard to implementation of marine Natura 2000 areas in Latvia

Ms. Inga Belassova, Ministry of the Environment, Latvia

Ms. Belassova informed that there are 336 Natura 2000 sites in Latvia, including 7 areas with a marine part. All of them are pSCIs and 5 also SPAs.

Only Pape NP marine part is bigger (to the 30m depth contour) because it was based on existing HELCOM BSPA. Other currently protected marine areas are extensions of terrestrial sites up to a depth of 10 m, without any special investigations.

The Latvian Ministry of the Environment hopes to get data for designation of marine Natura 2000 sites from the Baltic MPA LIFE project.

Establishment of marine areas is very strictly regulated by legal acts – only sites having a national protection status can be Natura 2000 sites. Several **changes in the legislation** had to be made. A new category – marine protected area – was included in the Law on Specially Protected Nature Territories. Since 2007, management plans can also be developed for areas that are under establishment. A new regulation of the Cabinet of Ministers was issued - General rules on protection and use of MPAs.

Future plans and challenges include development of management plans and mechanisms for management of MPAs (currently it is not clear, which institution will be responsible for management of MPAs), national designation of MPAs (including coordination with other ministries), amendments to the list of Natura 2000 sites, compiling individual rules on protection and use of MPAs (if individual rules for each site will be considered necessary) and possibly also amendments to the Regulations of the Cabinet of Ministers on Elaboration of Management Plans.

Discussion:

- It was proposed that Latvian regulation on marine protected areas could be translated into English for other Baltic States.

Protection of the marine environment in Estonia

Ms. Liina Vaher & Ms. Kadri Möller, Ministry of the Environment, Estonia

There are 4 types of MPAs in Estonia (protected areas, Natura 2000 network, BSPAs, Ramsar sites), and additionally IBAs having marine part.

There are 490 Natura 2000 sites in Estonia, covering 1 422 500 ha, of which ~50 % are in the marine environment. In total there are ~30 MPAs and nearly all of them are also SPAs.

All of these sites are protected by national law - the Nature Conservation Act.

Future plans include additions to the Natura 2000 network of offshore areas (deadline 2008) and co-operation with Finland (who have an ambitious project to make an inventory of all Finnish marine areas in 2004-2014) as well as with Latvia and Russia – possibly including transboundary offshore sites.

The main difficulties are related to a lack of data (especially on benthic habitats) and expensive research (this LIFE project does not cover all marine areas); identifying the main threats and cooperation with e.g. wind park companies (who are not willing to share their data) as well as difficulties regarding setting regulations because of various economic interests in marine areas.

Discussion:

- Question on the ownership of data was discussed. In Germany governmental research institutes have their own data, the Federal Ministry of Transport has opened their data for use by developers but the situation changes all the time.

- According to the law, all governmental data should be available to everybody but in practice it is not so.
- IBAs in Estonia do not have legal protection status unless they are included in the Natura 2000 network.

Identification and designation of marine SPAs in Lithuania: current state of play

Mr. Algirdas Klimavičius, Ministry of the Environment, Lithuania

There are currently three marine SPAs in Lithuania (one of which is still under establishment) with the total marine territory of 61 173 ha.

The Baltic coast near Palanga (SPA Baltijos jūros priekrante) is a 100 % marine area, 17097 ha, with a nature reserve protection regime.

Curonian Spit National Park (SPA Kursiu nerijos nacionalinis parkas) includes 12435 ha of marine habitat and 12561 ha terrestrial area.

Kursiu marios is a proposed SPA under establishment procedure. It includes the Lithuanian part of the Curonian lagoon (100 % marine area – 31641 ha, 20 % protected at the moment). Mr. Klimavičius also listed the species for which the areas are designated.

Future plans include finalisation of the establishment procedure for Kursiu marios SPA (first have to designate as national protected area and then propose the Natura 2000 site); reconsideration of existing SPA borders according to new data on birds distribution from the Baltic MPA LIFE project and discussion of draft management plans for marine SPAs with stakeholders and adapting protection regime of SPA (if needed).

The main challenges in designation and management of marine SPAs are poor knowledge on wintering birds distribution in off-shore waters; difficulties with acceptance by society; by-catch of birds in gill-nets (challenge to convince fishermen to change their practices) as well as pressures from other sectors (transport, infrastructure, tourism) on the sites and challenging discussions with stakeholders due to little knowledge about the impacts of shipping on birds.

Discussion:

- According to EC data there are 2 pSCIs and 1 SPA in Lithuania.
- There is a lack of data offshore because only a few surveys have been carried out offshore; regular surveys only take place in coastal areas.

HELCOM and marine birds conservation in the Baltic Sea

Ms. Hanna Paulomäki, HELCOM

Ms. Paulomäki gave an overview on the Baltic Marine Environment Protection Commission, known as HELCOM (www.helcom.fi), and its initiatives related to conservation of marine birds - the Baltic Sea Action Plan, Baltic Sea Protected Areas network, Waterbird Monitoring Programme and HELCOM lists of threatened and/or declining species and biotopes/habitats in the Baltic Sea area (HELCOM 2006).

The **Baltic Sea Action Plan**, which the HELCOM Member States decided to jointly draft in 2005, sets a target of achieving a good ecological status of the Baltic Sea. It incorporates input of major stakeholders groups, and the findings of numerous project studies, workshops, and key regional environmental policies. The plan has four segments

including measures to curb eutrophication caused by excessive nutrient loads entering the sea, prevent pollution involving hazardous substances, improve maritime safety and accident response capacity, and halt habitat destruction and the decline in biodiversity. The core policy of the plan is based on the application of the ecosystem approach to environmental management. The Action Plan includes a set of strategic goals and ecological objectives defined by HELCOM for achieving a commonly acceptable good status of the marine environment, as well as a number of environmental indicators and target levels for each objective to measure progress towards achieving good ecological status of the sea. The plan also includes some targets and indicators related to birds.

HELCOM has also established a network of the **Baltic Sea Protected Areas (BSPA)**, with the aim to implement the Birds and Habitats Directives taking into account the Baltic specifics. The BSPA database is available at <http://bspa.helcom.fi>.

Currently the database includes information on 111 sites of which 86 are designated as BSPAs.

There are still lots of gaps in data and designation of offshore sites is very poor. Birds are fairly well reported compared to other species.

The aim of **HELCOM waterbird monitoring** is to provide a framework for assessment of ecosystem health by analysing observations of waterbirds from population to community level. Currently a project testing the monitoring plan and final development of indicator species is going on in cooperation with the SOWBAS project supported by the Nordic Council of Ministers. The SOWBAS project will issue a publication on the Assessment of Baltic waterbirds and pressures in 2008.

Finally, the aim is to include the waterbird monitoring in the HELCOM COMBINE (the Cooperative Monitoring in the Baltic Marine Environment) programme.

Preliminary activities of HELCOM waterbird monitoring planned for 2009-2010 include finding solutions for organisation and funding; final development of interpretation models in relation to key human pressures and the selection of indicator species as well as testing of the use of HELCOM COMBINE Winter Survey as a platform for collection of waterbird densities in offshore waters.

HELCOM List of threatened and/or declining species and biotopes/habitats in the Baltic Sea area (2006) includes 61 species (13 birds) selected by Baltic Sea experts and having a clear relation to the Baltic Sea marine area or depending on it. The goal of this so called **HELCOM priority list** is to identify species, which are threatened and/or declining or in immediate need of protection, and to assess human activities adversely impacting certain species. All the species, biotopes and habitats have a fact sheet published on HELCOM web site (available in: http://www.helcom.fi/environment2/biodiv/endangered/en_GB/fact_sheets/).

Discussion:

- There is quite a lot of information already gathered about marine bird species - hopefully it will be available on HELCOM home page soon. Summary fact sheets about threatened and/or declining species are already available at:

http://www.helcom.fi/environment2/biodiv/endangered/en_GB/fact_sheets/#5.%20Birds

- HELCOM priority list of threatened and/or declining species is reviewed regularly. For example, the Baltic Sea is very important for Long-tailed Duck *Clangula hyemalis*, but it is not on the list because it is not threatened or declining at the moment.
- Countries should send information about nominated Marine Natura 2000 sites to HELCOM to enable the BSPA database to be updated and enable evaluation of coherence in yearly assessments produced by HELCOM. Currently there is discrepancy between the real situation and what is reported to HELCOM.
- There is discussion in the EU about harmonising different reporting obligations.
- OSPAR is also making a network coherence analyses. However, due to the size of the OSPAR region (the whole NE Atlantic) there are lots of data gaps and OSPAR is a little bit behind with the site designation compared to HELCOM.
- BSPAs are a soft instrument; so far there are no cases where BSPA designation would be a reason for stopping economic developments, e.g. windfarm building.

SESSION II: IMPORTANT AREAS FOR MARINE WATER BIRDS – FROM IDENTIFICATION TO DESIGNATION

The Important Bird Area (IBA) Programme of BirdLife International: application in the marine environment

Mr. Ian Burfield, BirdLife International, European Division

Mr. Burfield introduced the criteria used for the selection of sites in the IBA network, and gave an overview about the development and current status of the IBA network as a whole, as well as information about the current work on IBAs in general and specifically on marine IBAs.

The goal of BirdLife's IBA programme is to identify and protect a network of key sites across the range of those bird species for which a site-based approach is appropriate. However, for most dispersed, widespread species this approach is not very effective and thus not appropriate. **Three sets of criteria** have been developed for identification of IBAs at different levels: global (A-criteria), Pan-European (B-criteria) and European Union level (C-criteria for identification of SPAs for Natura 2000).

By 2006, more than 8,000 Important Bird Areas had been identified in 178 countries. When complete, **the network** should include ca. 15,000 IBAs (ca. 10 million km²). IBAs were first identified in Europe in the 1980s as a direct response to the SPA obligations in the Birds Directive. Currently the EU IBA network includes >4,500 sites. The European Commission and European Court of Justice are using the IBA database as a shadow list/background data for evaluation of SPA designation.

Current work on IBAs in Europe includes lobbying for protection (aiming at 100% designation of IBAs as SPAs); management planning including setting conservation objectives and Favourable Reference Values, and establishing monitoring at IBAs. As the political focus in the EU is currently on the obligation of Member States to also apply the Birds and Habitats Directives in EEZs and designate marine Natura 2000 sites by 2008, BirdLife is working on refining the IBA criteria so that they are equally applicable in the marine environment. This work has been led by the Birds and Habitats Directives Task Force, with valuable support from relevant LIFE projects in various European countries and from BirdLife's Global Seabird Programme.

BirdLife has envisaged **4 types of marine IBAs**: seaward extensions to breeding colonies; (coastal) congregations of non-breeding seabirds; migration bottlenecks, and 'High seas' sites - e.g. foraging areas used by pelagic species. The existing IBA criteria are considered to be applicable for the identification of marine IBAs; only small wording adjustments are needed. However, the existing IBA numerical thresholds, which are based on data from 1990s, definitely need to be updated and BirdLife is currently dealing with this. Updated thresholds will be circulated to European IBA coordinators for consultation soon.

The Secretariat has compiled a report using existing data on marine and coastal IBAs (a 'living' document for internal BirdLife use, which will be discussed at forthcoming Global Seabird Programme Meeting in Australia). By February 2007 the IBA network included 2,000 marine sites in 158 countries around the world.

The Marine IBA network in the Baltic Sea is one of the best-developed networks of marine IBAs in the world. Two regional marine IBA inventories have been published (Durinck *et al.*, 1994, *Important marine areas for wintering birds in the Baltic Sea*. Report to the European Commission by Ornis Consult, and Skov *et al.* (2000) *Inventory of coastal and marine Important Bird Areas in the Baltic Sea*. BirdLife International, Cambridge) and work on collecting new data and testing new methods is going on through the Baltic MPA project.

Discussion:

- Designation of seabird bottleneck IBAs was discussed. It was concluded that IBAs can be also designated in areas that are economically important, e.g. for marine transport. However, if a planned windfarm would have conflicts with a bird corridor then there may be objections to the development of the windfarm..
- It was also proposed that size and/or density criteria for IBAs could be developed.
- Digital boundaries exist for 99% of terrestrial IBAs in the EU, but BirdLife holds such boundaries for only a few marine areas (mainly coastal ones).
- Regional numerical criteria can be different from global criteria if justified (for example, if the EU population is relatively isolated from other populations).

Marine IBAs in Portugal

Mr. F. Iván Ramírez, Sociedade Portuguesa para o Estudo das Aves (SPEA), Portugal

Mr. Ramirez gave an overview about the current status regarding designation of marine IBAs/SPAs in Portugal and about the activities of two LIFE-projects related to marine IBAs managed by SPEA – BirdLife Partner in Portugal.

He informed that Portugal has the largest EEZ in the EU and several bird species of European and even global importance, but that designation of marine protected areas is still in very early stage.

Currently there are 2 LIFE projects related to marine IBAs in Portugal: **LIFE IBAs Marinhas** (2004-2008) is dealing with the identification of the most suitable areas for seabirds of Annex I of the Birds Directive, and **LIFE Freira do Bugio** (2006-2010) aims at guaranteeing the favourable conservation status for Fea's Petrel (*Pterodroma feae*) populations and its breeding habitats. Information on both projects is available at <http://programamarinho.spea.pt/>.

SPEA is using boat based censuses conducted according to ESAS methodologies; aerial censuses and tracking studies as well as environmental data (GIS database).

For each species the density grids are extrapolated and analysed. Differences between incubation and chick-rearing periods are also studied and radii from colonies are analysed. IBA borders are refined using GLM (General Linear Model) analysis and for each area the IBA criteria are tested. For non-surveyed areas the prediction models are applied to determine where important sites are likely to be.

Mr. Ramirez analysed the **positives and negatives of using different data collection methods** based on SPEA experiences. Boat-based surveys are time and resource-consuming and not applicable for assessing areas inside of the archipelagos. Aerial surveys give a quick overview on presence of marine birds but not so much species-specific information. SPEA has also tested different tracking methods from which the best (taking into account the price and reliability) turned out to be compass-loggers, pressure-temperature loggers and GPS-loggers.

The next plans of SPEA include producing a bilingual CD-ROM containing proposed IBAs by March 2008. Based on this data, the Government of Portugal should designate at least one marine SPA. SPEA has regular meetings with the Central Government and distributes information on potential marine SPAs to them. If there are no marine SPAs declared by the end of 2008, SPEA plans to start an EU complaint.

Discussion:

- Fisheries are not a very big problem in Portugal, under certain conditions fishing may be continued in or near the marine protected areas. The problem is mainly hesitation in designation of sites due to not knowing what a marine protected area would mean for fisheries.

Marine Important Bird Areas (IBAs) in Spain

Mr. José Manuel (Pep) Arcos, SEO/BirdLife, Spain

Mr. Arcos introduced a LIFE-project on marine IBAs carried out by SEO – BirdLife Partner in Spain (2004-2008).

The goal of the project is to contribute to the theoretical framework of the concept of marine IBAs and to carry out a marine IBA inventory in Spain to contribute to the implementation of Natura 2000 in marine areas (produce a shadow list for SPAs and supporting data for SACs). Currently marine protected areas in Spain include only small coastal areas, including a few Natura 2000 sites. In the offshore area there is only one site planned to be protected.

The project runs in conjunction with the sibling project run by SPEA in Portugal.

The project activities include surveys at sea, tracking, location of colonies and censuses, additional collection of data on habitat features, as well as testing site selection and delineation methods for marine IBAs.

It has been found useful to consider 4 types of marine IBA:

(1) Seaward extensions to breeding colonies are identified based on existing IBAs (colony-sites). Radii around colonies are analysed, i.e. size of the (feeding) area used by birds is identified based on densities of colonies. Depending on the species' ecology, the feeding areas may be contiguous with breeding colonies or more offshore (disjunction between feeding and breeding areas). In the latter case, it may not be appropriate to include the entire area within a radius drawn from the nesting colony.

(2) Migration bottlenecks should be designated where high concentrations of migratory birds appear (e.g. Gibraltar, Bosphorus). For marine areas, the threshold probably needs to be higher than that used for terrestrial IBAs. A value of 150,000 birds has been suggested, based on data from Gibraltar, but this needs testing for wider applicability.

(3) Coastal congregations of seabirds are those where many individuals occur together in a relatively small area. These are not found so commonly in Iberia, but are important further north, and indeed many of the marine IBAs in the Baltic are of this type. They can be thought of as '**festivals**', whereby above-threshold numbers occur simultaneously.

(4) Pelagic/high seas sites are generally more remote from the coast, but the main way in which they differ from coastal congregations is that they do **not** hold above-threshold numbers of qualifying species at any one time. Instead, there is a high turnover of birds using the site, so that it supports above-threshold numbers over a relatively short period (e.g. between a few hours and a few days). In this sense, they are like '**supermarkets**'.

For identifying sites of these different types, various methods can be used, e.g. MCC based on seabird densities, Kernel analysis based on densities of tracking data, or using habitat information and predictive models.

Mr. Arcos concluded that the project has successfully contributed to refining the IBA criteria for marine areas and identified many key areas for birds in Spain. However, there are still many challenges and open questions related to designation and protection of marine IBAs/SPAs (e.g. difficult delineation due to dynamic habitat features and variability between years; need for long-term monitoring and transboundary cooperation regarding protection of migratory birds and fisheries management).

Baltic LIFE project experience and first results of waterbird inventories and selection/delineation of marine sites (SPAs)

Mr. Mindaugas Dagys, Institute of Ecology of Vilnius University

Mr. Dagys gave an overview of the aims, main methods and first results of waterbird inventories in the framework of the Baltic MPA LIFE-project.

He informed that coastal, ship and aerial surveys are carried out in all three Baltic States within the project, with additional breeding bird surveys on Estonian islands as well as special surveys for certain species. The project is mainly targeting the Annex I species of the Birds Directive and those migratory bird species fulfilling 1% of flyway population criteria, but also some other nationally important waterbird species.

In Lithuania the coastal counts are carried out 1-2 times per month from November till April from 75 observation points. Preliminary distribution maps for Divers, Velvet Scoter, Long-tailed Duck, Steller's Eider, Great Crested Grebe and Goldeneye have been produced.

Ship surveys are weather dependent; therefore only spring and summer ship surveys have been carried out in 2006-2007. Additional Little Gull surveys are carried out in July-August from 2 constant coastal observation points as well as from a ship survey.

It has been found that there are more Little Gulls than expected and that the Curonian Spit is important for Little Gull and Common Tern. Therefore expansion of the Curonian Spit SPA is likely to be needed.

CMR (Centre for Marine Research) expeditions also surveyed in the EEZ and found some aggregations of birds.

In Latvia mostly ship surveys are carried out once per season, a lot of work has been done despite some problems with ship availability and weather and new information about the distribution of waterbirds (Red-throated Diver, Long-tailed Duck, Velvet Scoter, Common Scoter, Little Gull, Razorbill, Guillemot) has been gathered.

In the Irbe Strait, which is a transboundary site, joint surveys by Estonian and Latvian ornithologists have been undertaken.

In Estonia mainly aerial and coastal counts have been used. Breeding bird surveys on lots of small islands are carried out, as well as special surveys of swans and Steller's Eider. Steller's Eider has an important wintering area near Saaremaa. Recovery of Steller's Eider population has been noticed in Estonia and Norway but not in Lithuania. Interesting results have been received regarding Arctic Tern colonies – meaning that current SPAs might need extensions. A new breeding species for Estonia - the Red-breasted Goose has been recorded¹.

Discussion:

- Based on BirdLife guidelines and other experiences the extensions of Arctic Tern colonies in Estonia should cover ca. 10 km radius.
- Extensions of the current SPAs are probably needed for Little Gull in Lithuania and Latvia. For the West Coast of Gulf of Riga (project area 8 LAT) some extension to the east could be needed. However, because of the mild winter this data was not confirmed by later counts (LIFE-project too short!).
- The question was discussed how to make management planning flexible, corresponding to changing weather conditions and how to prove necessity of measures if there are no reliable data. – We have to predict, which areas are used

¹ Just one bird was seen and the nest with one egg was found.

by birds when. There are no IBAs based on coldwater concentrations so far. Certain species make exceptional mass concentrations in case of very cold winters. These data might be helpful to justify designation of the area. In the UK, under Stage 2 of its national SPA selection guidelines, JNCC includes the possibility to identify *severe weather refuges* – ‘areas used at least once a decade by significant proportions of the biogeographical population of a species in periods of severe weather in any season, and which are vital to the survival of a viable population, are favoured for selection.’ [<http://www.jncc.gov.uk/page-2643>]

- There is a clear relationship between benthic habitats and feeding areas of birds.

Existing methodologies for MPA selection and delineation – introduction to the MCC

Mr. Henrik Skov, DHI – Water, Environment, Health

Mr. Skov introduced the Marine Classification Criterion (MCC) method for MPA delineation as well as informed about the activities of the SOWBAS project.

MCC is a quantitative method for evaluating the importance of marine areas for conservation of birds (*Skov, H., Durinck, J., Leopold, M.F., Tasker, M.L. 2007: A quantitative method for evaluating the importance of marine areas for conservation of birds. Biological Conservation 136: 362-371*).

It is built on the widely used RAMSAR criterion that the site should regularly support 1% of the individuals in a population of one species or subspecies of waterbirds.

For identification of concentrations, kriging (*a method of interpolation, which predicts unknown values from data observed at known locations*) and other spatial modelling techniques are applied. Spatial modelling techniques are used to improve robustness and reduce variance as well as to improve knowledge of distributional dynamics (habitat suitability maps).

Mr. Skov introduced spatial modelling using a benthic filter-feeder Carrying Capacity Index (CCI) and establishing quantitative links between CCI and waterbird abundance. It can also be applied to wide-ranging species, potentially in combination with tagging data. The threshold density level is chosen on the basis of gradient analysis.

Application of MCC enables the identification of concentrations of seabirds of conservation priority and ranks marine areas by their cumulative importance to different species, taking into account not only the total numbers but also the densities of concentrations.

Mr Skov also introduced the activities of the project “Status of wintering Waterbird populations in the Baltic Sea – **SOWBAS**” (2007-08). The project will issue publications on the “Distribution and abundance of wintering waterbirds in the Baltic Sea” and “Waterbird populations and pressures in the Baltic Sea” in 2008. The studies of SOWBAS project will set the baseline for future monitoring in the framework of the HELCOM Waterbird Monitoring Programme. The aim is to have ecosystem based monitoring of birds in the Baltic Sea by 2009.

Discussion:

- MCC could probably also be applied to data gathered by the Baltic MPA project. The only problem is that the whole coastline was not covered by project inventories.

MPA selection and delineation in the German Baltic Sea

Mr. Jan Kube & Mr. Jochen Bellebaum, Institute for Applied Ecology, Germany

Mr. Kube introduced methods used for selection and delineation of additional marine SPAs in the German Baltic Sea.

In 2002 there were 3 marine SPAs in the German Baltic Sea, which was considered insufficient by the European Commission.

Mr. Kube described how additional MPAs were selected for Mecklenburg-Vorpommern. The main selection criterion was international importance (based on 1% Ramsar criterion, applied in marine habitats through MCC). From a practical point of view the consistency with adjacent existing SPA was considered. Additionally, the SPA selection criteria set by local authorities (e.g. 3% instead of 1%) had to be taken into account.

Data from 7 different sources (data from offshore EIAs) were used and interpolated density maps from ship and aerial surveys were created. However, there were still certain gaps in data, e.g. concerning spatial coverage, nocturnal behaviour of birds and seasonal coverage (birds use different areas in different seasons). Also the potential influence of climate change during the 15 years of data collection had to be taken into account. It was difficult to determine if the reason for different results of different surveys was data calibration or long-term changes. To fill the data gaps, additional surveys were performed. MPA boundaries were determined using data overlay. However, the Government of Mecklenburg-Vorpommern decided to designate only part of the proposed areas because of economic reasons (conflicts between sand mining and sand banks). Currently there is a public debate on it.

Discussion:

- Local governments are responsible for site designation in Germany, however, in case of problems, the Federal Government is invited to the European Court of Justice. EC takes Germany to the court in the next weeks because of insufficient SPA designation in Mecklenburg-Vorpommern area.
- Member States have no obligation to classify all IBA sites as SPAs but if no sites from the IBA list are designated (and no alternative science-based assessment of the most suitable sites is presented), then EC will ask for explanation.

Identifying marine SPAs in UK continental shelf

Mr. Jim Reid, Joint Nature Conservation Committee, UK

Mr. Reid gave an overview of work done by JNCC marine team on identifying of marine SPAs. He informed that marine SPA work is focused on seaward extensions of existing seabird breeding colony SPAs, inshore feeding areas used by concentrations of

waterbirds in the non-breeding season, and offshore areas used by marine birds for feeding or for other purposes.

SPA colony extensions are needed as areas around colonies are used by birds for feeding and other purposes. For the delineation of colony extensions, the densities of birds were investigated via boat surveys and species-specific density patterns were identified. Based on study results, recommendations for SPA extensions were developed:

- for Northern Gannet and Northern Fulmar 2 km;
- for Common Guillemot, Razorbill and Atlantic Puffin 1 km.

At 3 SPAs Manx Shearwaters were studied with the help of radio-tracking and Kernel analysis was applied to the results. Based on study results, it was recommended that SPA colony extensions for Manx Shearwater should be at least 4 km.

Red-throated diver feeding sites were identified using boat surveys, radio tracking and habitat modelling. It turned out that most of birds feed in sheltered bays.

The work for possible tern SPA extensions (aerial survey/habitat modelling) is going on, but the decision was made not to pursue this approach for gulls or skuas.

It is planned to use GIS habitat modelling to identify possible SPA extensions for the European Shag.

For identification of inshore SPAs, aerial transect surveys are performed over several winters and based on that the distribution maps or probability maps of birds being present are created. As a result of each survey, maps of the most important areas for birds are produced and by overlapping them, a single map is created and the recommended SPA boundaries are drawn.

Work on identification of offshore areas is in progress. Kriging of data in the European Seabirds at Sea (ESAS) database is used (JNCC manages this database). Mr. Reid stressed that JNCC aims to come up with an ecologically coherent network of MPAs.

Discussion:

- There are marine IBAs in UK but SPAs proposed by JNCC have not been compared with them. However, in due course, once the work is nearer completion, JNCC would be happy to discuss results with RSPB (BirdLife UK).
- JNCC is presenting different options for SPA boundaries to the conservation agencies in the four countries of the UK, whose responsibility it is to identify SPAs in the inshore area.
- No colony extensions for gulls were recommended because there is no evidence that they use further areas around colonies.

The Foraging Radii Approach to Marine IBA Boundary Delimitation

Mr. Ben Lascelles, Marine IBA Programme, BirdLife International

Mr. Lascelles introduced a method for delineation of marine IBAs based on the foraging ecology information of a species.

He informed that it is a cheap and simple methodology, which is likely to encompass all seasonal changes and between year variations. Foraging ranges can be used when no better information is available (from tracking studies etc) or when there is a lack of

resources to do site specific studies, but also for easy determination of potentially important areas for future studies.

BirdLife has been compiling a database of known seabird foraging ranges, using information extracted from the scientific literature. The aim of the database is to provide an authoritative global dataset that can be used as a key tool to help delimit the extent of marine IBAs adjacent to major breeding colonies, as well as highlight gaps in our existing knowledge of foraging behaviour and help identify key areas for future research.

In the database there are comprehensive data on seabird foraging ranges, individual entries for different stages of the breeding season, data on foraging distance, trip duration, dive depth and habitat associations. Currently there are over 1700 entries for 230 species from over 700 sources.

The distances held in the database have been tested successfully in different countries (France, Italy, Peru). So far **testing** has focused on seaward extensions to breeding sites. In the Baltic there are many coastal non-breeding species, many of which are benthic feeders. There is good data about a number of these species in the BirdLife foraging database. It would be useful to compare maps created using information in the database with IBA identification work in the Baltic States and test this approach here. **If Baltic BirdLife partners are interested to work on this, they should contact Ben Lascelles** (ben.lascelles@birdlife.org).

There are still some questions concerning the usefulness of the application of this method to different species, and these are being tested. It is planned to continue the work with the foraging database and eventually make it available to BirdLife Partners.

Discussion:

- The method could also be tested in Estonia if bathymetry and habitat maps are available. Some database values are seasonal, some site-based. The estimations are very conservative.
- Some participants considered that this method was not very reliable for determining SPAs/IBAs. However, it could be useful for identification of potentially important areas for further study. Given the extent of sea areas, it is important to prioritise.
- It was proposed that oceanographic information should be mapped within the foraging ranges because it might influence the feeding distance of birds.
- The zig-zag boundaries of IBAs/SPAs determined from different methods should be made less complicated (boxes), so that fishermen and other stakeholders can follow them easily. However, scientists should define the boundaries as precisely as possible; the final boundaries can be made by a common agreement.

Conclusions from Session II: Important areas for marine water birds – from identification to designation

- Identification of IBAs/SPAs should always be based on the best available scientific data and scientific protocol.
- Marine site selection involves different challenges and techniques from terrestrial site selection. Nevertheless, experience and testing to date (in the Baltic and elsewhere) indicate that it is possible to extend and apply approaches developed on land to sea.

- The pre-selection of areas and species for study in the Baltic MPA LIFE project was not a very good approach, it would have been better if all coastlines had been studied.
- New approaches/methods for the Baltic States were introduced, e.g. bottleneck approach. Seawards extensions of breeding colonies can be a challenge for Estonia because of the numerous islands.
- It needs to be taken into account that birds might use some areas for only short time or in extreme weather conditions, but these areas can be very important for them.
- Short projects are raising many questions, new problems. Therefore continuous state financing for bird studies would be needed. It is important to have a streamlined monitoring system, e.g. the planned HELCOM monitoring system.
- Radar investigations or telemetry studies may answer some questions regarding bird movements and resource utilisation; birds are using different areas for different purposes.
- Slovenian and Greek ornithologists found it very useful to hear about different methods/approaches that could be used in their countries.

SESSION III: SETTING CONSERVATION OBJECTIVES FOR SPAs

Principles for setting (site) conservation objectives. The view of the European Habitats Forum and BirdLife International

Mr. Konstantin Kreiser /Mr. Ian Burfield, BirdLife International, European Division

Mr. Kreiser gave an overview of the Habitats Directive guidelines about setting conservation objectives and Favourable Conservation Status (FCS) and equivalent possibilities to do this under the Birds Directive and for sites (SPAs); he also introduced the report of the European Habitats Forum (EHF) on EU biodiversity monitoring and recommendations for setting Favourable Reference Values (FRV) and assessing the conservation status of sites, as well as the views of BirdLife on FCS of SPAs.

He reminded that the overall objective of the **Habitats Directive** is to achieve and maintain FCS for all listed habitats and species. Monitoring should give a clear picture of the actual conservation status and its trends as well as an idea of the effectiveness of the conservation measures. Clear conservation objectives are needed at all levels (site, national, biogeographic, EU), in order to apply Art.6 properly. Currently, reporting about the conservation status of listed species and habitats is only required for the Habitats Directive but in the near future it is suggested to apply similar reporting for the Birds Directive as well. Explanations of relevant terms and guidance for conservation status assessment can be found in the guidance document prepared by the Commission and the European Topic Centre on Biodiversity: “*Assessment, monitoring and reporting under Article 17 of the Habitats Directive: Explanatory Notes & Guidelines*” (Jan 2006).

The European Habitats Forum tested the EU reporting format for 8 habitats and 14 species included in the Habitats Directive as well as for 5 Birds Directive species. The results, together with recommendations for establishment of effective monitoring, are published in the report “*Towards European Biodiversity Monitoring. Assessment,*

monitoring and reporting of conservation status of European habitats and species. Results, comments & recommendations of a NGO consultation within the European Habitats Forum” (June 2006)

<http://www.iucn.org/places/europe/rofe/documents/EHF%20Monitoring%20Report.pdf>. This report suggests that special attention should be paid to setting FRVs. For assessing the conservation status of marine habitats and species, especially migratory ones, a regional and/or international approach should be used. FRVs should be cross-checked between different levels.

According to the **views of BirdLife**, an SPA is in FCS if the achievement of site-specific conservation targets indicates that it is at or above a pre-determined FRV for all of the species for which the site was classified (i.e. a weakest link approach is taken). FRVs are tied to population levels for each classifying species and to corresponding targets.

For the next report under the Habitats Directive Art.17 (2007-12) the Member States will have to repeat assessments of conservation status, based on monitoring data, and assess the effectiveness of measures taken under the Habitats Directive. It is highly recommended to undertake a similar exercise for the Birds Directive species. It is also foreseen that reporting on conservation status of individual Natura 2000 sites will be required in the future.

Discussion:

- In the framework of 2 BEF projects, the experts tried to set FRVs and assess the conservation status of some forest, mire and meadow habitats in the Baltic States. It is not an easy task, and a lot of questions are arising due to economic reasons.
- All Baltic States are only at the beginning of development of FRVs, even on land. Lithuania plans a mapping inventory of all habitats and after that the decisions on what FRV to use will be made. A bird monitoring methodology has already been developed in Lithuania that uses 1993 data (collected by H. Skov) as reference values.
- For marine birds the reference values have to be set for larger areas, regions. Achieving FRV may depend on the winter conditions that can be very different between years.
- Sometimes the reasons for high numbers of wintering birds are not known. It can be due to high breeding success in the Arctic or eutrophication influence – highest level in 1992.
- For wintering birds that are habitat specialists it is possible to set site-based FRVs but for some species larger evaluation levels are needed (e.g. at the population level).
- Population size is not always a good indicator, adult survival and breeding success are also important, as well as ecological values like natural habitat conditions and site quality. There should be cross-checking between different conservation objectives. Process of setting FRVs should include discussion on the feasibility in addition to scientific levels.
- Regular monitoring of the total population is needed to allow an early alarm about negative developments regarding a species. Managers of different sites on the flyway should share information about the status of the species.

- Sometimes models based on Water Framework Directive (WFD), Fisheries Policy and climate change have to be used to understand what is happening in the site. WFD is an easy assessment tool with the principle “one out - all out” (if one criterion is not favourable then the whole site is not favourable, i.e. also weakest link approach).
- Changes within the marine environment usually do not happen so fast, but as all seabirds rely on this as their feeding system the consequences can be severe.

Implementation of the EU Birds Directive in the Netherlands

Mr. Ruurd Noordhuis, Institute for Inland Water Management and Waste Water Treatment, the Netherlands

Mr. Noordhuis gave an overview of the designation of SPAs in the Netherlands and how conservation targets had been set based on available monitoring data, illustrating it with lots of specific examples.

The Netherlands has designated 80 sites for 108 bird species. According to the designation criteria, the 5 best areas for each Annex I species were designated. For other migrating species Ramsar criteria were used.

For all species used in the designation (>1% WP population) and delineation of SPAs (>0,1% WP population), conservation targets were set. National conservation status of a species was determined, considering distribution over suitable habitat, population trends, habitat quality and future perspectives. If one of those aspects was evaluated as unfavourable, the overall conservation status of the species was assessed as unfavourable. Based on trends and knowledge on habitat quality, favourable population values were decided. If present numbers were below 75% of the reference value then recovery targets were set.

Sites responsible for national decline were determined and recovery targets were set for them.

The main problems considered while setting recovery targets, were the effects of fishing, recreation, eutrophication and climate change. Targets for breeding bird sites were set based on carrying capacity of the sites, population trends and the theoretical minimum size of a viable population.

1st working group session: defining conservation objectives for selected important bird species in the Eastern Baltic MPAs

Reports from the working groups can be found in Annex I of this report.

The overall conclusion from the 1st working group session was the following:

For most of the species, we do not have complete data but have to set preliminary measurable conservation objectives now, based on the currently available information. Global action plans and management plans would be helpful for setting site objectives. BirdLife could contribute by developing more action plans for specific bird species.

SESSION IV: ASSESSING AND ADDRESSING POTENTIAL THREATS TO MPAs

Assessing and addressing potential threats to MPAs – a framework for monitoring sites

Mr. Ian Burfield, BirdLife International, European Division

Mr. Burfield introduced IBA monitoring guidelines developed by BirdLife and the relevant threat assessment system and presented some examples. He also gave a short overview of the IUCN-Conservation Measures Partnership (CMP) threat classification scheme and highlighted some key threats relevant to MPAs.

He highlighted that Natura 2000 identification and designation process has lasted almost 30 years, now the next step is to ensure the protection and appropriate management of the designated sites, and the tool for doing this is through monitoring.

Monitoring should give information about threats (for management planning, adaptive management and impact assessments); assess the effectiveness of conservation efforts; provide information on national biodiversity trends as well as give information for regional synthesis, e.g. about the state of Natura 2000 network.

According to the BirdLife **IBA monitoring guidelines**, monitoring should focus on bird species for which the site is designated and be based on a pressure – state – response model. The scoring system for sites is based on the ‘Weakest link’ approach: the worst case determines the site score. This is equivalent to the ‘one out – all out’ approach. Details of scoring Pressure, State and Response differ, but the resulting scales are the same - simple 4-point scale, from 0 to 3 (-3 for pressure).

Threats for trigger species are scored according to their timing, scope (how large a part of the population is affected) and severity (how big a deterioration it has caused).

Impact is calculated by summarizing timing, scope & severity scores. For example, the overall site threat status is low (0) if the highest impact is 0; medium (-1) if the highest impact is 3-5; high (-2) if the highest impact is 6-7 and very high (-3) if the highest impact is 8-9.

The outputs of monitoring are IBA status and trend reports. So far only a few examples are available (e.g.

http://www.birdlife.org/action/science/sites/african_ibas/monitoring_ibas_africa_2005_eng.pdf), but similar systems have been developed and are in use elsewhere (e.g.

<http://www.jncc.gov.uk/page-3520>), and many more will appear in the coming years.

It is recommended to use a commonly understandable threat classification. IUCN and CMP (including BirdLife) have created a standard classification of threats, which is available at http://conservationmeasures.org/CMP/Site_Docs/IUCN-CMP_Unified_Direct_Threats_Classification_2006_06_01.pdf.

Mr. Burfield highlighted some key threats relevant to MPAs and stressed that the EC would like nominations for MPAs to include a FCS assessment for each site to set a baseline for tracking future threats/trends.

Windfarms and MPAs: impact assessments and possible mitigation measures

Mr. Herman Hötter, NABU/BirdLife Germany

Mr. Hötter gave an overview of possible interactions between offshore windfarms and birds, introduced the study of the impacts of windfarms on birds, analysed the collision risks and sensitivity of different bird species to disturbance caused by offshore windfarms as well as introduced potential mitigation measures.

Impact of windfarms to birds includes collision and disturbance (habitat loss due to avoidance, loss of time and energy during migration, indirect effects like increased shipping). NABU has investigated **impacts of land-based windfarms** on birds by evaluating data from 180 studies in 10 countries (the study “Auswirkungen regenerativer Energiegewinnung auf die biologische Vielfalt am Beispiel der Vögel – Fakten, Wissenslücken, Anforderungen an die Forschung, ornithologische Kriterien zum Ausbau von regenerativen Energiegewinnungsformen“ can be downloaded from <http://bergenhusen.nabu.de/bericht/VoegelRegEnergien.pdf>).

The results show that birds are avoiding windfarms; the higher the turbines are the greater the distance of avoidance. No significant habituation of birds to windfarms has been noticed in studies. Windfarms can act as barriers especially for geese, kites, cranes and many small passerines. Other raptors, ducks, gulls, terns, crows and starlings seem to be less sensitive but are more vulnerable to collision. Collision rates show high variance: 0 to more than 64 victims per year and turbine. Particularly high collision rates have been recorded at mountain ridges and next to wetlands and waterbodies.

There are only a few **offshore collision estimates** available. The movements of resident birds can be studied with radio transmitters. Very high mortality of Little Terns has been recorded when windfarms were located between their breeding colonies and feeding places.

The trajectories, migration time and height of migrating waterbirds can be studied with vertical and horizontal radars. However, this equipment only works effectively during fine weather when birds are less prone to mass mortality.

Disturbance of birds by offshore windfarms is better studied but still there is lack of information about many bird species. Divers, Scoters, Guillemots, Razorbill and Gannet avoid windfarms but lots of species also fly into windfarms.

For assessing potential impacts of windfarms on different bird species, all vulnerability factors should be taken into account. The species with higher vulnerability index (divers, scoters) are more likely to be affected. Therefore the distribution of those species should be compared with windfarm plans to find out areas of most concern.

For mitigation of the effects of offshore windfarms on birds it has been proposed to use automatic lights that switch on only when an airplane is near to the windfarm; to leave migration corridors within and between windfarms; or to stop rotor blades under certain conditions.

Mr. Hötter concluded that the best measure is still to find the right sites for windfarms! Areas of high concentrations of vulnerable seabirds should be kept free of windfarms, also SPAs and IBAs, especially as all the potential impacts are not yet known.

Discussion:

- Stopping turbines for certain migration periods was proposed as mitigation measure.

- Collision risk does not depend much on the type of turbine, only a small correlation between collision risk and the diameter of a turbine has been noticed. More important is the correlation with habitats. Many small turbines can be a bigger threat than one large one.
- There have been no studies on the effectiveness of mitigation measures.
- Required spacing between windmills is currently set due to insurance reasons. For 5 MB turbines the required distance is 1 km, for 2 MB turbines ca 400 m.
- EC is currently preparing guidelines on windfarms. Near Natura 2000 sites Art. 6 assessments should be carried out and mitigation or compensation measures considered. National strategies for windfarms should be prepared before giving permit for building.
- According to the current legislation, no constructions are possible on the continental shelf in all the Baltic countries. Estonia has stopped all windfarm authorization processes until the end of 2008 when the development of a relevant legal framework should be finalized.
- BEF has applied for funding for a project to develop guidelines for impact assessments of offshore windfarms in the Baltic States with German assistance.

By-catch and birds: impact assessment and possible mitigation measures, experience from the Eastern Baltic LIFE Project

Mr. Mindaugas Dagys, Institute of Ecology of Vilnius University, Baltic MPA project

Mr. Dagys gave an overview of the methods used for collection of by-catch data in the Baltic MPA LIFE project, as well as presented preliminary study results and potential mitigation measures for avoiding by-catch.

In the Baltic States by-catch is mostly an issue in small-scale coastal fisheries, so it was decided to contract fishermen asking them to provide data on by-caught birds. The aim is to cover ca 10% of the total fishing effort. Additionally the project team is carrying out experimental fishing for quality control (in Estonia and Lithuania). The fishermen were selected based on their fishing effort and cooperativeness and in the areas with important bird concentrations. They are reimbursed for providing information. As identification of birds by fishermen is usually poor, therefore the project team collects the birds.

In Lithuania the most common by-catch victim is Long-tailed Duck followed by Goosander and Velvet Scoter. The highest fishing intensity is in spring therefore also the highest by-catch is in March-April. The most by-catch occurs in depth 5-10 m and in salmon nets with large mesh size. Long-tailed Duck is the most vulnerable to fishery impact. Interesting is that Goldeneyes are not bycaught despite of their high number in the area.

In Latvia 232 dead and 61 alive by-caught birds are reported (during 720 fishing acts) by 7 contracted fishermen. Most of by-catch occurs in March-April and in gill-nets.

By-catch rate has been the highest in West Gulf of Riga project area. Long-tailed Duck is by-caught the most, followed by Velvet Scoter and other species.

In Estonia bird and mammal by-catch data are collected. The most common by-catch victim is Long-tailed Duck, followed by Tufted Duck and Red-breasted Merganser. In Estonia bird by-catch occurs mostly in autumn (gill netting in low depths targeting

salmonids). However, bird bycatch seems to be smaller than anticipated and it is very random – mostly there is no bycatch but sometimes the whole flock (up to 10 or more) is caught. Surprisingly besides gill nets, some birds (cormorants, mergansers) are also caught by fyke nets. During test fishing by the project team, no by-catch has been recorded.

Mitigation measures considered by the project include gear modifications, fishery restrictions (spatial, temporal, gear types, depth and intensity restrictions) and alternative fishing gear tested in the project – long-lines replacing large mesh-size cod gill nets and herring-traps replacing herring and possibly smelt gill-nets. Long-line use in Baltic waters is much less dangerous to seaducks; some fishermen have already started to use them voluntarily.

Discussion:

- As fishermen are selected taking into account their reliability and the results are also checked through test fishing by the project team and the planned 10% of fishing effort is covered then the data should be quite reliable.
- Coastal fishery is until 20 m depth.
- It is doubtful if long-lines could be introduced in Latvia because they need more labour to operate.
- The project has investigated only local coastal fisheries, and has not analysed data from other countries.

Assessing by-catch of birds in gillnet fisheries – experience from Germany

Mr. Jochen Bellebaum, Institute for Applied Ecology, Germany

Mr. Bellebaum gave an overview about information needed and the methods used for bycatch assessment as well as informed about potential mitigation measures and introduced the bycatch assessment project launched in Germany in 2007.

Information needed for by-catch assessment and management includes, amount of bycatch in the region and in the entire flyway population, amount of gillnet fishing and spatial and temporal overlaps with important bird concentrations as well as potential mitigation measures. While the regional data on bycatch are often available, there are major gaps regarding the rest.

An analysis of cause of death of ringed birds is one method for estimating bycatch. However, it only enables study of selected populations and cannot be used for mortality estimates for the total population.

Beached bird surveys are an inexpensive long-term monitoring method but do not always give a clear picture because carcasses are found randomly and it is difficult to identify the by-catch victims. Stranding rates should be estimated and samples of carcasses analysed if possible.

Collecting carcasses from fishermen is a better method because it enables the calculation of bycatch rate but under-reporting can be a problem. On-board observers can be a solution.

Bycatch estimate for Scaup from carcass collections along the flyway shows that ca. 5% of the Scaup population is being killed each year.

Information about gillnet fishing effort can be extracted from official statistics.

However, there is a lack of information about mesh size as well as about gillnetters using smaller boats (<8m). Gill nets and long-lines can be recorded from ship or airplane surveys and in the future mapping using radar and GIS data may be used.

For mitigation administrative measures (fishing reduction or seasonal closure in areas with important bird concentrations or general reductions in fishing effort) or technical solutions (replacement of gillnets with pelagic trawls, longlines or fish traps) can be applied. However, those technical solutions are only effective in the Baltic Sea for fish eating seaducks.

In Germany in 2007 a bycatch assessment project was launched where bycatch rates for different net types, fishing effort and bird distribution data is collected to determine a total bycatch estimate and conflict maps are produced. By taking into account flyway population data and implications of different bycatch rates, a population model can be created.

Mr. Bellebaum stressed that assessing bird bycatch on a national scale is not enough but that the entire Baltic should be considered.

Discussion:

- There is not much knowledge about the impacts of additional mortality on seaducks. Goudie et al. (1994) suggested a 3% criterion for seaducks, while in America up to 10% of freshwater duck populations can be harvested yearly, apparently without any severe consequences.

2nd working group session: addressing specific threats - by-catch, windfarms, and maritime transport - in MPA management plans and prescriptions.

Reports from the working groups can be found in Annex II at the end of this report.

SESSION V: FUTURE PERSPECTIVES AND WIDENING THE CYCLE OF MARINE BIRDS CONSERVATION

Seabird conservation in the Mediterranean – the challenges for Malta and the EU LIFE Yelkouan Shearwater Project

Ms. Helen Raine, BirdLife Malta

Ms. Raine introduced the aims and activities of the LIFE-project on protection of Yelkouan Shearwater in Malta that was launched in March 2007. She also pointed out the main lessons learned from this conference that could be useful for Malta and the Yelkouan Shearwater project.

The project aims at protecting Yelkouan Shearwaters in Malta; improving the Rđum tal-Madonna SAC/SPA for visitors and wildlife as well as setting an example for protected area management and developing a costed action plan for the designation of Marine SPAs.

The project partners include Maltese governmental authorities as well as conservation organizations (BirdLife partners from Malta, UK and Portugal).

The Maltese Islands are very important for the Yelkouan Shearwater because around 10% of its world population breeds in Malta. Feeding and wintering behaviour of these birds is poorly known.

The main project actions include rat eradication, satellite tagging and population monitoring, proposing a process for designation of marine SPAs, developing a management plan, visitor management activities and developing an After-LIFE plan. Rat eradication was carried out this year and the results are already visible – many more chicks could be ringed this year.

As Yelkouan Shearwater is living in very inaccessible sites (deep burrows) and can travel long distances (up to 200 km based on pilot study) to feeding areas then the best method for survey seems to be using satellite tags and geolocators.

The project is also mapping industrial fishing activities as well as gathering oceanographic data and data on bycatch (from fishermen as well as using boat based observers). Protected area management work in Malta is not yet very advanced and work is only just beginning on marine SPAs .

Major learning points from the conference for BirdLife Malta:

- Baltic and Mediterranean countries have common challenges: lack of data, challenge of collecting quality data, political challenges
- Confirmation that the EU will be asking states for their results and will expect at least an action plan if not full designation;
- Timely reminder that site selection must be 100% scientific not socio economic;
- There is no one standard method – methods need to be adapted to local conditions and experts/projects have to cooperate with colleagues in their region;
- However, some techniques are more likely to work than others; support of BirdLife network for this is very helpful;
- It was very useful to see how UK, Latvia and others are working through the designation process of marine SPAs;
- Stakeholders need to be involved in early stage;
- Designation should be on best available data; might not be perfect, but better than nothing.

CONCLUSIONS

- There is no perfect method existing, the methods have to be adapted according to available data and specific conditions.
- Setting conservation objectives and favourable reference values is important for management. We need clear standards and scientific methods for setting FRVs.
- Baseline information is needed to monitor the trends.
- Weather conditions are important to take into account. Data recorded during extreme conditions should be avoided when making conclusions.
- There is not enough data in the Eastern Baltic region to decide on FCS. For setting conservation objectives available data from other studies as well as ecological data about the Eastern Baltic should be used.

- Effective protection of migratory birds needs cooperation between different countries because the reasons for decline are often in breeding areas (e.g. Arctic). BirdLife could help regarding studies and sharing bird data along flyways of migratory species; the WOW project should help <http://www.wingsoverwetlands.org/>
- **Lessons for Baltic MPA project:**
 - Lot of useful information about methods for designation of marine SPAs and studies for threat assessments;
 - Sensitivity assessment is a useful tool
 - It is time to start analysing available data now and to come up with judgements.
- **Lessons for BirdLife International:**
 - The conference highlighted the existing gaps but also showed that it is useful to have regional cooperation, and common standards for monitoring. The Baltic region should continue to be an example for other regions around the world regarding the issue of marine protection.
 - Received some useful information that could be advocated for integration into EU legislation (Renewable Energy Directive, Guidelines on windfarms and nature legislation, bycatch legislation under Common Fisheries Policy);
 - Lots of inspiration regarding work on IBAs, site management, monitoring (linking it with N2000 monitoring);
 - Confirmation that work on species action plans is very useful and helps the collaboration among scientists (e.g. along flyways – Steller's Eider).

ANNEX I: Reports from the 1st working group session: defining conservation objectives for selected important bird species in the Eastern Baltic MPAs

Velvet Scoter (*Melanitta fusca*)

Currently it is known that Velvet Scoters winter in three areas in the Baltic Sea (North-Kattegat, Pomeranian Bay and Eastern Baltic, where the species stays far offshore. The numbers in the Eastern Baltic are very high in spring (March) but very little is known about their migration.

There are two studies on diet from North-Kattegat (J. Madsen) and Gulf of Gdansk, which show that Velvet Scoters feed mainly on bivalves. In the Pomeranian Bay there is no bivalve food, the question arises whether the birds are feeding somewhere else at night? But this option is not very likely because in winter they need to feed every 3-4 hours to meet energy demands. So, additional studies are needed to find out what the species is feeding on in different seasons.

The numbers have been stable in German Pomeranian Bay since 1992-93 (50-60 000), 50 000 is also set as conservation objective for German EEZ SPA in Pomeranian Bay. The total numbers in the Baltic States in March are ca. 300 000 (incl. ca. 25 000 in Lithuania); in Kattegat ca. 500 000; in the Pomeranian Bay ca. 300 000 (1992-93).

The group concluded that more information (including complete counts in winter and spring as well as dietary studies) would be needed for setting proper conservation objectives. As eutrophication probably has little effect on this species then 1992-93 figures can be taken as baseline (FRV).

Bewick's Swan (*Cygnus columbianus bewickii*)

The breeding population of this species in Russia is declining (the reasons are not known). In the Baltic States there are stop-over sites for 80% of the flyway population and most of these stop-over sites are covered by SPAs. The species needs stop over sites for various weather conditions.

Conservation objectives (recovery targets) have to be set on biogeographic, flyway level. For the single sites, the conservation objectives need to include water quality, habitat availability and quality objectives (including room for higher numbers if population recovers or for years when the site has to support a large part of the population). Site managers need information on the ecological requirements of the species as well as about the overall situation along the flyway.

Steller's Eider (*Polysticta stelleri*)

It is not known exactly what the reasons for recent declines are, and probably the problems are not in wintering areas, so they probably cannot be solved in the Baltic Sea. However, we must take care of the Baltic sites.

The key variables at sites that might affect numbers, include habitat quality, food availability, presence of competing and predatory species as well as weather and water quality.

Monitoring should include counts of females, males, and young to measure breeding success. Behaviour and movements between sites can be studied using satellite techniques.

The key conservation objective is probably the amount of suitable habitat. Other FRVs should be based on number of birds at a site, the number of competing species also present at the site, and suitable food availability/habitat quality to sustain the desired population.

By-catch mortality is not considered to be a very big problem in Estonian and Lithuanian wintering areas but the objective for it should be set to 0.

The Steller's Eider action plan

[http://ec.europa.eu/environment/nature/conservation/wildbirds/action_plans/docs/polysticta_stelleri.pdf] should be the basis for setting conservation objectives – an update of the plan is needed because the population level was higher when it was developed.

For authorities and site manager it is helpful to refer to global plans and developments. Many seaduck populations are declining because of climate change, so the answers are probably hidden in the Arctic. Hence, more research also needed in Arctic.

Divers (*Gavia arctica*, *Gavia stellata*)

Present population level seems to be quite stable. The Baltic target and site target should be to keep it at present level.

Winter and spring migration data should be used. Range change data are probably not very useful for setting conservation objectives because range increase does not always mean concentration increase.

Due to low reproduction potential, any site level mortality is dangerous and should not increase. Bycatch risk is higher for the Red-throated Diver.

Little Gull (*Larus minutus*)

Little Gulls mainly use the marine areas of the Baltic States for migration staging areas. The species also breeds in the Estonian Väinameri archipelago (the usual breeding sites are inland shallow wetlands).

There is not much information about the species and its distribution/numbers and habitat needs during staging in the Baltic States. Like some terns, the numbers vary greatly year by year. It is difficult to count the breeding population because the locations of colonies change depending on the abundance of food resources. Disturbance does not seem to be a big problem because Little Gulls can be found also in harbours.

It was concluded that for setting the conservation objectives for Baltic marine (stop-over) sites, more information on ecological requirements of the species would be needed. In Estonian breeding sites it should be ensured that suitable site conditions are maintained.

According to a study of feeding ecology carried out in Kiel, Little Gulls use different habitats during spring and autumn migration - in spring they stay near the coast but in autumn in coastal offshore waters (they move with the oceanographic fronts).

The numbers change daily, especially in spring when huge flocks move from area to area. Therefore it is better to measure distribution offshore in autumn.

Due to high levels of threats in Lithuanian sites, there is an urgent need for setting conservation objectives for management at these sites. Advice from experienced experts (e.g. Jan Kube) could be helpful.

ANNEX II: Reports from 2nd working group session: Addressing specific threats in MPA management plans and prescriptions

Working group on impacts of maritime transport on birds

Report of the working group by Edgars Bojārs

The aim of the working group was to determine impacts of maritime transport on birds. As the basis, the example of the Irbe Strait in Latvia has been taken. A very important shipping route is located in this area, but it also hosts important sea bird populations.

It was stressed that maritime transport impacts bird populations in two ways: by physical disturbance, and by pollution, especially oil. Not only oil spills harm birds; also so-called “chronic” pollution from regular shipping has an effect.

There is information available on impacts from chemicals but not so much on physical disturbance. Birds are being physically impacted by two parameters: shipping intensity and ship speed. Impact size is always site specific and dependent on local conditions.

There is a threshold of shipping intensity, after which a site may become unsuitable for the species. Unfortunately, no information on maximum possible intensity is available.

The range of impact varies for different bird species. Based on experience of German Institute for Applied Ecology, the area of impact is usually ca 3 km from the ship. Current experiences suggest that there are no significant impacts of anchorage sites on birds, except in case of pollution accidents.

High speed of ships may destroy feeding grounds for sea birds by causing vertical turbulence. Additional threats to feeding grounds may come from dredging shipping channels. Bigger ships need deeper, wider channels, which might mean they have a greater impact.

The impact of shipping speed is reduced if ship routes are strictly followed. Sudden changes of direction are likely to cause more disturbances to birds.

The participants agreed that it is important to set up limitations at site to minimize physical disturbance/ pollution, and that the following variables should be set at levels that minimise the effects on the birds:

- Maximum speed
- Maximum number of ships
- Maximum width of shipping lane
- Shipping routes must be fixed
- If a shipping route is close to the site, its impact must also be carefully assessed over time.

To assess impacts of maritime transport on sea birds, it is important to determine escape distances for different bird species, as well as the locations potentially available food. The latter allows an estimate to be made of the bird population size that can be sustained at the site.

To carry out an assessment of the effect of maritime transport it is essential to use statistical data for vessels >35 m in length. Automatic Identification System data on these vessels could be of important use.

Working Group on impacts of windfarms on birds

The aim of the working group was to determine the sensitivity of the bird species targeted by the Baltic MPA project to impacts from windfarms, and how to address the potential impacts of windfarms in the management plans.

It was concluded that the most sensitive seabird species in the Baltic are probably Divers, Scoters, Long-tailed Duck, Auks. Collision risk can be quite high for Little Gull, especially if windfarms are built between their breeding colonies and feeding areas. The same is true for gulls and terns where windfarms built near the colonies and the coast are more dangerous.

According to the results of the Danish Horns Rev study, the buffer zone around key areas of sensitive bird species should be 2-4 km. In Germany it is prohibited to build windfarms within 1 km of the coastline to avoid collision risk. Near shore windfarms are more dangerous because they would affect many species, including many breeding species. Migration corridors of birds should be taken into account but currently there is still a lack of information about migration corridors.

Habituation of birds to windfarms is likely to take many years, if at all.

Regarding mitigation measures, there is no reliable data about their effectiveness.

Automatic lights with radars (identifying vessels or planes coming) are being tested in Germany.

It was stressed that as our knowledge about impacts of offshore windfarms is still very limited, all available data and the precautionary principle should be used. No permission for windfarms should be given in areas corresponding to MCC criteria.

Radar studies would be needed to identify concentrations and migration corridors of passerines. Here governmental support is needed, e.g. for using military, weather radars for that. The group concluded that there is also an urgent need for identifying sensitive areas (where windfarms should not be built) and development of an integrated spatial planning in the Baltic countries.

Working Group on impacts of bycatch on birds

The aim of the working group was to clarify whether bycatch is a significant problem for seabirds in the Baltic (based on data gathered in the Baltic MPA project) and which mitigation measures could be integrated into management plans.

It was concluded that assessment of significance should be carried out. It is difficult to assess impact on a biogeographical level, but critical times of the year and critical sites should be identified.

Conservation objectives should aim at 0 bycatch and this target should also be communicated to stakeholders.

As a mitigation measure, the use of gill-nets should be prohibited in winter until April.

Reporting bycatch should be obligatory for all fishermen.
Effects of the restrictions applied should be monitored and measures should be updated if necessary.
Use of alternative gear (long lines, traps) should be promoted and supported where appropriate. However, for salmon fisheries there is no real alternative at the moment.
Financial support to fishermen for lost income, additional labour and additional reporting could be introduced as a compensatory measure.
Certification system for nature-friendly products (e.g. Steller's Eider friendly herring or cod) could be developed.
It was also stressed that awareness raising and communication work are very important.
The message for the EC (who are developing legislation concerning bycatch) could be that the Baltic Sea has specific problems regarding bycatch that have to be tackled regionally.

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