



Expert meeting on  
**“Monitoring of grassland habitat types according to EU Habitats Directive in the Baltic States”**

*September 15-16, 2005, Vilnius, Lithuania*

*REPORT*

**Goals of the meeting:**

- To discuss and exchange views among Baltic experts on experience to fill the reporting format taking as example 6210, 6410 habitats;
- To exchange ideas and experience on monitoring of grassland habitat types (according to the EU Habitats Directive);
- To provide the recommendations for the relevant authorities on the further steps to be taken in order to fulfill reporting obligations as well as ensure effective monitoring of implementation of HD goals;
- To discuss other main problems and important issues related to the grasslands monitoring and to find solutions together.

**Opening and introduction** *By Mr. Žymantas Morkvėnas, BEF*

Mr. Morkvėnas introduced the goals and activities of the Phare CBC project “Implementation of the biodiversity monitoring requirements in accordance with the EU Birds and Habitats Directives through facilitating cooperation and stakeholders networking in the Baltic States”, in the frame of which the current meeting was carried out. He pointed out that this is already the fourth project event after the project kick-off meeting, large international workshop and expert meeting on methodological aspects. There will be one more expert meeting on monitoring of mire habitats and a round-up meeting. The project outcomes will be summarized in a publication.

Mr. Morkvėnas reviewed shortly the main conclusions of the previous events as well as introduced the goals, discussion topics and agenda of the current meeting.

**SESSION I. Conservation status assessment and filling-in reporting format for grassland habitats**

**Reports from the Baltic States** on filling in the reporting format for seminatural dry grasslands (6210) and alluvial meadows (6450). *Please see the seminar handouts for filled in reporting formats.*

**Estonia** by Mr. Hanno Zingel, Estonian Environment Information Centre

Mr. Zingel presented the reporting formats filled in for the habitat types 6210 (seminatural dry grasslands) and 6450 (alluvial meadows) in Estonia.

He informed that the assessment was done together with the Nature Conservation Department of the Ministry of the Environment who is responsible for Natura 2000 network and has relevant databases. The above mentioned department will be responsible for submission of the report to the European Commission. Mr. Zingel pointed out that the main basis for determining the range have been two publications: Eesti NSV taimkate (Plant cover of Estonia) (Laasimer, L. 1965) and Eesti taimkatte kasvukohatüüpide klassifikatsioon (Classification of habitat types of Estonian plant cover) (Paal, J. 1997).

During the filling in reporting format a question has raised regarding time period used for estimation of trends – should the starting point be the date of accession or should we use the period for which we have data? Mr. Zingel proposed that may be two trends could be reported and an explanatory note could be added to the reporting format. He explained that favourable reference area for both analysed habitat types is smaller than present area because practically it is anyway not possible to manage/maintain more. The scientists should say what is the lowest limit but the upper limit usually is practical/political decision.

Mr. Zingel admitted that the list of typical species still needs some development because Natura 2000 habitat types include a lot of different plant associations. Also more coordination from the Ministry of the Environment would be needed (on how long this list should be etc.).

For alluvial meadows (6450) the whole territory of Estonia can be considered as range while for seminatural dry grasslands that are connected with calcareous soils the southern part of Estonia can be excluded.

**Discussion:**

- It was discussed that some bird species should be added to the list of typical species (e.g. *Gallinago media* as flagship species for well-managed meadows).

**Latvia** by Ms. Solvita Rūsiņa, University of Latvia

Ms. Rūsiņa emphasized that this attempt to fill in the reporting format was only based on her own experience and using data of one project and Natura 2000 data. Principally the Latvian Environment, Geology and Meteorology Agency will be responsible for filling EC reporting formats.

Ms. Rūsiņa presented the reporting formats filled for the habitat types 6210 (seminatural dry grasslands) and 6450 (alluvial meadows) in Latvia. For both habitats the range would be the whole country.

Ms. Rūsiņa pointed out the problem related to estimation of trends of range and area for **seminatural dry grasslands (6210)** because in earlier works these calcareous grasslands were not included, so there are no reference figures available. She also admitted that the area of seminatural dry grasslands is not very precise figure because it is calculated firstly as % from the territory and later calculated area in ha. The data are available only for protected areas/Natura 2000 sites and actually the information from different projects differs a little bit, too. The area of 6210 has probably decreased as these habitats are overgrowing with trees.

The speaker also drew attention to the problems with typical species. Some characteristic species of phytosociological associations are distributed unevenly in Latvia and therefore are not present everywhere in seminatural dry grasslands. The reason is different soil: in Eastern-Latvia it is calcareous moraine while in Western-Latvia there is dolomite ground. Also some indicator species should be selected for characterizing structure and function. Ms. Rūsiņa informed that in most cases the structure and function of seminatural dry grasslands is not favourable because of abandonment 10-20 years ago. Future prospects she assessed as inadequate but admitted that now already some grassland management is going on and the situation is not so bad anymore.

Regarding **alluvial meadows (6450)** Ms. Rūsiņa drew attention to the interpretation problems of this habitat type because it is actually not clear which phytosociological alliances this habitat type includes. Therefore it was very difficult to estimate the area of the habitat. If to include *Magnocaricion* as the main type and *Alopecurion* then the current area of alluvial meadows in Latvia is ca 37 km<sup>2</sup>, which means that the loss of this habitat has been ca. 90% compared to 1957 (according to Sabardina, 1957).

Ms. Rūsiņa expressed the opinion that favourable area is probably more than the area of a habitat that is included in protected areas. The best places are protected in Latvia but nobody has analysed if whether this is enough or not.

## Discussion

- The opinion of the European Commission is that favourable reference figures should not be lower than at the time when the Habitats Directive came into force and they should be based on scientific ground not political.
- If the loss of a habitat has been extremely big, it is probably not realistic to get all lost back. In this case the target should be a little bit higher than current area (Swedish approach).
- The Member States will set the reference values themselves for 2007 report but they will be discussed and fixed in the biogeographical process where the representatives of competent authorities and NGOs as well as scientists of different countries will participate.
- According to Estonian experience filling in the EC reporting format for a habitat type does not take more than one day if data are available. It depends of course on habitat type.
- Latvian expert considered it much more time consuming because the data are not readily available. Filling in the reporting format for these two habitat types took two weeks but actually some more research still would be needed.

**Lithuania** by Mr. Valerijus Rašomavičius, Institute of Botany

Mr. Rašomavičius gave an overview about Lithuanian aspects, questions and difficulties related to the conservation status assessment and filling in reporting format for grassland habitat types.

He pointed out the interpretation questions of some habitat types (e.g. are 6430 and 6450 present in Lithuania?; to include *Alopecurion* to 6450 or not?; how to delimitate 2330 or 6120?). Especially problematic in Lithuania is the border area of boreal and continental region. For estimating the area of grassland habitat types national grassland inventory 2003-2005 will be used.

Regarding assessment of structure and function questions related to the definition of typical species arise: should they be characteristic, dominant or frequent species? The basis in Lithuania would be phytosociological relevés ('Vegetation of Lithuania.I. Meadows').

For the assessment of future prospects the national grasslands inventory as well as best expert judgement can be used, it should be linked to the development of management plans in protected areas of Lithuania.

Mr. Rašomavičius informed that although the Ministry of Environment is responsible for reporting to the European Commission, it is still not clear who will fill in the forms – it can be State Protected Areas Service or Environmental Protection Agency.

**Discussion topics:**

- What definitions/terms in the reporting format are still unclear?
- Which parts of the reporting format are most difficult to fill in? Do we have a solution?
- What needs to be done in order to clarify these questions (next steps)?

1. As one of the unclear points the participants mentioned the **trend period** to be used in the reporting format.

- Estonian proposal was to report about two trends: one for longer period and the other from accession date;
- Easiest and most logical would be to take the accession date as starting point for reporting to EC;
- If 1994 would be the starting point for all Member States then the data would be more comparable;
- For this reporting period the Member States can choose the trend period but for the 2014 report the trend period should be 2007-2013.

**2. Favourable reference area:**

- If there has been a strong decline e.g. since 1950-ies, the favourable reference area should be higher than 1994. And it has to be taken into account that NGOs will say their opinion in the biogeographical seminars;
- Fundamental research on how big area of a habitat is needed to maintain/restore its favourable conservation status. Dynamics of the habitat type as well as integrity of sites and connectivity between sites should be taken into account but these data are not available yet;

- However, it is not possible to restore everything. Reachable tasks should be set taking into account also the restoration possibilities;
- For determining favourable reference area the historical data as well as the link between species and habitats should be used → it should be enough for maintaining viable populations of indicator species.

### 3. **Typical species:**

- Definition of typical species is not clear;
- For some habitats birds are good quality indicators and therefore should be in the list of typical species. It is easier to get data about birds than about plants;
- In Swedish system vascular plants are in the list of typical species for 70 habitats (of total 90) and birds for 45 habitats;
- The opinion of botanists was that birds are not very good typical/indicator species for grasslands because grasslands are mosaic, birds can move and therefore survive longer than some plants;
- Some insect, butterfly species are also good indicators for grasslands. However, it was noted that usually the entomologists are asking botanists about the location of some specific plants to find the butterflies;

### 4. Other parameters for **structure and function:**

- For alluvial meadows the important factors impacting structure and function are also presence of previous drainage ditches, existence of flood;
- The most important parameter used in Sweden is grazing and mowing – the height of grass is measured in the end of grazing/mowing season. By that also the requirements of butterflies, bumblebees and birds are taken into account, so grazing/mowing should not be too intensive;

### 5. **Interpretation of the habitat types:**

- In Estonia the **alluvial meadows (6450)** are nutrient rich areas along the rivers that are flooded in spring – so the classification is based on origin, ecological approach. This habitat includes wet meadows, paludified meadows as well as dry communities and all those subtypes have different typical species.
- In Latvia the classification is based on soil, nutrient richness and relevant communities;
- 6450 habitat type was added by Nordic countries but there is no relevant type in palearctic classification. It is still not clear if Lithuania has this habitat type or not. This habitat type includes different communities, mainly *Magnocaricion* and *Calthion*. As *Magnocaricion* is not covered by other habitat types then probably this community should be considered as 6450 in Lithuania;
- In Sweden 6450 are grazed and mown areas in the northern part of Sweden, mostly *Molinia* meadows.
- In UK *Alopecurus-Sanguisorba* communities are traditional floodplain meadows;
- The participants concluded that alluvial meadows are interpreted differently in the countries. For Baltic States it would be useful to have common position on the same habitat types, which is easier to defend in front of the European Commission.

## **SESSION II. Monitoring methodology for grassland habitats**

### **Grassland monitoring in Sweden and how to meet the obligations in the Habitats Directive**

*By Mr. Mora Aronsson, Swedish Species Information Centre*

Mr. Aronsson introduced the principles of the Swedish Natura 2000 monitoring programme as well as gave an overview about grassland monitoring methodology and how it meets the requirements of the Habitats Directive.

He pointed out that Natura 2000 monitoring has to be cost-effective, give information both on site level as well as on biogeographical level and it has to give information for management and restoration. Therefore the objectives for every habitat and species were set and monitoring was planned according to these objectives. It should be taken into account that monitoring has to be relevant to the management: more intensive management, threats and instability require more intensive monitoring.

Mr. Aronsson informed that there have been two grassland inventories in Sweden: one in 1980-ties (carried out by Nature Conservation Agency) and the second finished in 2004 (carried out by Agricultural Agency). These inventories were not focused on Natura 2000 although Natura 2000 nomenclature was used. During 2004-2007 the baseline survey on all Natura 2000 sites will be carried out that should give more info about structure and function. Sweden has developed one monitoring system for all Natura 2000 habitats and species because all Natura 2000 sites include different habitat types that should be monitored in the same visit to save travel costs. The new monitoring programme was tested this year and will start in 2006.

The range of a habitat is not measured directly but estimated through analysing the quality of marginal sites to detect the changes. To determine favourable reference range historical data are analysed, the reasons for decline are found out and then the targets are set.

Mr. Aronsson used seminatural dry grasslands (6210) and alluvial meadows (6450) as examples. The total area of 6210 in Sweden is 154 km<sup>2</sup> from which 44% is in Natura 2000 areas. The favourable reference area should be more than 200 km<sup>2</sup> (up to this area it is no problem to restore) but it still needs some analysing to come to the final figure. For some habitats 1994 level can be used but not for habitats with severe decline. Scientists are afraid to discuss this issue because later it might be difficult to change the opinion.

The area of alluvial meadows (6450) 79 km<sup>2</sup> (old data, probably half of it has still good quality) from which 23 % is in Natura 2000 areas. For this habitat the favourable reference area should be much more than 100 km<sup>2</sup>. Alluvial meadows are normally very important birds' sites but now mostly abandoned and rare (there is no connectivity between sites).

The area covered by a habitat type is estimated by using aero photos, satellite data, data from agricultural subsidies system and field check of borders. Field check of the area is carried out every 12<sup>th</sup> year or in case there is some disturbance.

For estimating structure and function the vegetation height is the most important parameter that is measured every 6<sup>th</sup> year (it is measured in least grazed spot using simply a plate with

lines). Frequency of negative indicators (using random plots of fixed transects); old, big and harvested trees and dead wood as well as cover of trees and shrubs is also monitored every 6<sup>th</sup> year (or in some cases the cover of trees and shrubs every 18<sup>th</sup> year). For negative indicators the objectives (thresholds) are set, if these are reached then there is no need to check any more plots.

The Swedish approach regarding typical species is that they should be positive indicators of the favourable conservation status of the habitat. Typical species should be easy recognizable and cost-effective. For all habitat types the lists of typical species are developed and the thresholds are set how many typical species should be present in how many plots to consider the status as favourable. These thresholds can be different for the same habitat in different parts of the country or even in different sites. Typical species are monitored every 6<sup>th</sup> year and it depends on size of the site whether fixed plots (in small sites) or samples (in big sites) are used.

The list of typical species or alluvial meadows does not include birds because it is too rare habitat to have some importance for birds. The seminatural dry grasslands are not relevant for birds because the areas covered by this habitat type are very small.

#### **Additional statements:**

- In Sweden the agricultural agency is monitoring all grazed sites. Mown sites are monitored by the people who are doing the mowing;
- Swedish Natura 2000 monitoring programme is available on Internet (general part also in English) but technical parts are in Swedish.

#### **Discussion on methodology:**

- In Estonia the new simplified methodology for habitat monitoring has been used this year. It is more descriptive, but the number of sites to be monitored has been tripled. The aim is to get overview about the status of the habitat types in Estonia;
- The opinion of Estonian experts was that new methodology takes actually more time than previous – this year's experience and recommendations of field workers will be used for improving the new methodology;
- In Latvia the new state monitoring programme is under development and should start next year (effective Natura 2000 monitoring in 2007). In grassland monitoring there are permanent plots in 12 sites – too few to give representative data. The last two years no state grassland monitoring has been carried out because of lack of money.
- In Lithuania there is a new monitoring programme but methodology is under development still. Monitoring of Natura 2000 sites should start no later than 2008.

#### **Discussion of unclear questions defined by the participants:**

**Cooperation:** EC does not require cooperation between countries regarding monitoring and reporting. The Member States can decide themselves how they get data but it has to be understandable for the Commission how the data have been obtained. However, it would be useful to have common understanding (e.g., habitat types) among Baltic States because it is easier to defend common position in front of the European Commission;

- **How much is enough to protect?** It depends on various factors (threats, area of the habitat etc.);

- **How the Commission will check the reported data?** In the biogeographical process the opinion of the NGOs and scientists will be asked and probably also some random checking in the countries will be done but this is not clear yet;
- **Monitoring and conservation status assessment:** Monitoring is done on site level but reporting to the Commission on biogeographical (national) level. Conservation status is assessed on both levels;
- **Favourable conservation status (FCS)** is defined on biogeographical level (EC guidelines) but there are no guidelines how to assess it on site level;
- In Sweden the development of Natura 2000 monitoring programme was initiated by the Ministry of the Environment but the project was carried out by the Environmental Protection Agency. Very many meetings were held before the result was achieved;
- The Baltic States have to define FCS for each habitat and species during next year, it is not clear how to do it;
- **How to assess if a habitat type is present in different quality in the same site?** Monitoring should have practical value, info for management. Evaluation should be done against site objectives and thresholds set. Monitoring should be done in the worst part of the area;
- **Number of monitoring plots:** In Sweden every field worker has a laptop with relevant computer programmes and maps, the gathered data can be directly inserted to the computer. The number of monitoring plots (for monitoring typical species, negative indicators) is at least 30 if the area of the habitat is less than 10 ha. Every big tree has to be counted if there are less than 50 trees in total. Natura 2000 monitoring is done only in Natura 2000 sites (4000 in Sweden), additionally the data from landscape monitoring outside Natura 2000 sites is used as background info for reporting;
- In Lithuania 25 % of monitoring is outside of Natura 2000 sites;
- **Stakeholders involvement:**
  - In Sweden the biggest problem is lack of people to do monitoring. In habitats monitoring the site managers are involved, species monitoring is mostly done by NGOs and also volunteers;
  - In Lithuania it is planned to use local staff of protected areas for monitoring of Natura 2000 sites. Landscape monitoring outside Natura 2000 areas is done by Institute of Botany. NGOs are mostly monitoring species (birds, butterflies) but they do not usually have habitat specialists;
  - In Latvia mainly NGOs have been contracted for monitoring so far. In new system probably experts from regional structures (regional environmental boards or regional inspectors) will be involved;
  - In Estonia species monitoring is carried out more by volunteers (inventories, e.g. the new breeding bird atlas). State monitoring is based on contracts with NGOs (more species), institutions (more habitats) or experts. Using volunteers will probably grow in future.
  - In UK the citizens, local communities, different stakeholders (teachers, students etc.) are involved as much as possible. Using amateur naturalists can be very cost effective. Good training, some supervision and quality control are of course needed when using volunteers. Quality check can be done for example by resampling 10 % with a different team.

## **The Earthwatch and Darwin projects: researching and monitoring coastal wetlands in West-Estonia**

*By Mr. Chris Joyce, Brighton University, UK*

Mr. Joyce introduced two projects on monitoring of coastal wetlands carried out by the University of Brighton in West-Estonia in partnership with NGO Läänerannik, Silma Nature Reserve and Matsalu National Park.

He informed that the projects are financed by the Earthwatch Institute and Darwin Initiative and are complementing each other. The Earthwatch project is a field based research project going on since 2002 that aims at investigating sensitivity of biodiversity to abandonment in coastal wet grasslands of West-Estonia as well as to find out relationships between hydrodynamics and plant communities and to monitor the effects of restoration. The Earthwatch project is carried out in Vormsi island, Silma NR and Matsalu NP by scientists working with 6-10 volunteers (from different countries) in teams. Two days training is sufficient to provide sufficient skills for carrying out the survey.

The goals of the Darwin project (2004-2007) are to establish the monitoring network for coastal wetlands and in the Baltic States, to identify ecosystem indicators for monitoring and to share this information and increase the capacity for wetland monitoring. It is done through web site ([www.vormsi.ee/darwin/](http://www.vormsi.ee/darwin/)), through organising trainings, workshops and conferences, building up network of monitoring sites and developing monitoring guidelines.

Mr. Joyce described the methodology and the indicators used for monitoring of coastal grasslands in these projects (see seminar handouts or project web site). He emphasized that those indicators are selected on purpose; the set of indicators indicates the stage of succession of the habitat.

### **Discussion:**

- The results and experience of different (international) projects could and should be used also by national authorities (e.g. for monitoring, assessment, reporting) as well as by the other projects.

### **Recommendations for the relevant authorities on further steps to be taken in order to fulfil reporting obligations as well as ensure effective monitoring of implementation of HD goals**

- Guidance needed on:
  - Defining favourable reference values (area, range)
  - Complementary info part in reporting format
  - Interpretation of typical species
  - Trend period (since data available or accession date?)
  - Assessment of conservation status
- Further steps (recommendations to MoE):
  - Start thinking seriously already now (Lithuania)
  - Work to define FCS for each habitat, species
  - Gap analysis (which data we have, which still needed)
  - Set up the system for collecting necessary info for 2007 report

## CONCLUSIONS

- Countries interpret some habitat types differently because classification of habitat types is based on different approaches. Therefore it is difficult to develop common approach regarding typical species, favourable reference values;
- It is unclear how to determine favourable reference area ⇒ EC: it should not be lower than 1994 (how about new MS?) and should be based on scientific ground, not on political decisions;
- There are different opinions on what trend period (starting point) should be used for reporting to EC;
- Reporting to EC is on biogeographical level, while monitoring is done on the site level;
- There is no common understanding on typical species;
- FCS assessment – one of the parameters is typical species as quality indicators;
- Cooperation between the countries is very useful due to political reasons (easier to defend the position in front of EC);
- Estonia: first experience this year to implement the new monitoring approach but improvements are still needed;
- Latvia is still elaborating a new monitoring programme/methodology;
- Lithuania is currently working on birds monitoring methodology while development of habitats monitoring methodology has not started yet.

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