Report on participation in international conference "Monitoring the effectiveness of Nature conservation"

September 3 – 6, 2007 in Birmensdorf, Switzerland

Report by regional coordinator of the LIFE Nature project "Restoration of Latvian floodplains for EU priority species and habitats" Ainars Auniņš

Background

The LIFE-Nature project "Restoration of Latvian Floodplains for EU priority species and habitats" is finalising the habitat restoration works that have been planned. At this stage we are starting to evaluate the effectiveness of the carried out actions to the target species of the project. As it has been planned in the project action F.2, we have set up a monitoring programme to be able to monitor the impact of the habitat restoration actions. The established monitoring system has been reported presented in the First Progress Report. We have regularly collected data on the distribution and numbers of the target species in the project sites according to this programme. During the recent years the science in nature monitoring as well as the methods in trend detection has greatly progressed. To ensure better quality of the analysis and the most appropriate analysis methods chosen, it was necessary for the project experts responsible for the effectiveness monitoring of the project actions to regularly follow the recent developments in the conceptual framework and analytical methods for monitoring data as well as successes and failures of other nature conservation and restoration projects to detect positive responses of target species after habitat management actions.

Thus we asked for a permission to attend an international conference "Monitoring the effectiveness of Nature conservation" organised by the Swiss Federal Research Institute WSL. Many presentations of other habitat management and restoration projects showing similar case studies were planned in the conference programme. Also conceptual plenary lectures and presentations on site management and monitoring were planned as well as several presentations on monitoring target species response to the carried out habitat

restoration works and setting up monitoring based decision support system for site management.

Organization of the Conference

The international conference "Monitoring the effectiveness of Nature conservation" was held on September 3 – 6, 2007 in Birmensdorf, Switzerland in the premises of the Swiss Federal Research Institute WSL.
The following six Sessions took place in the conference:

1. Biodiversity and biotic indicators
2. Resource design and monitoring strategies
3. Success/failure of conservation programmes
4. Detection and evaluation of changes
5. Scale, grain and extent
6. Conservation policy

These sessions took the first three days of the conference having two sessions per day. During these sessions different authors presented their projects as well as scientific results or practical achievements. A general discussion was organised after each of the sessions. Between the presentation sessions there was a time devoted to poster session where ca 40 posters on various aspects of monitoring were exhibited. Among these was also the poster of the Project "Impact of floodplain restoration on populations of Corncrake and Great Snipe in Latvia". The last (4^{th}) day was a practical experience during a field trip to places where mire habitat restoration actions had taken place as well as we were introduced to various monitoring activities carried out in these sites and the recent results.

A field trip to mire landscape of Rothenthurm where several habitat restoration projects have been carried out and to several monitoring plots of the Swiss Biodiversity Monitoring programme was organised on 6^{th} of September, 2007. During the trip we were introduced to restoration (rewettening) activities that have been carried out in the Rotherthurm mire landscape with detailed information on how the success of the project and impact of rewettening activities on target habitat and indicators of its quality was monitored. At the end of the trip we also visited several of the Swiss Biodiversity Monitoring plots where we were introduced to sampling design and field methods used for bird, plant and butterfly monitoring.

Participants

Regional coordinator of the LIFE Nature project "Restoration of Latvian floodplains for EU priority species and habitats" Ainars Aunins participated in the Conference. The other participants included representatives of other scientific and nature conservation organizations dealing with monitoring of species populations and habitats as well as dealing with monitoring of impact of nature restoration and management to target species and habitats. The symposium was organised by Swiss Federal Research Institute WSL.

Lessons learnt

1. The conference provided a good overview of the current state-of-the-art in various aspects of biodiversity monitoring. A particular emphasis was put on the multiple effects of scale: whether we speak about sampling design, scale of analysis or errors introduced by scale factors or spatial dependence of observations. These considerations are very important regarding analysis of the monitoring data collected during our LIFE project. Ignoring these considerations may lead to wrong conclusions either by not detecting response of the target

species where one exists (known as Type II error) or just the opposite – detecting response that is actually false (Type I error) as it is caused by problems with spatial dependence of data or wrongly chosen scale of analysis. The knowledge obtained during these presentations as well as during discussions after the sessions will be used analysing the data collected during the LIFE project and writing the final monitoring report of the project (activity F.2).

2. The programme covered both types of monitoring: long time observations and success control. No doubt, each type of monitoring has different set of analytical tools and approaches due to differing targets. Knowledge on long term monitoring is more widespread than that of the management success control. At least in Latvian conditions, proportionally more attention is paid in the University programmes to the long term biodiversity monitoring than to monitoring short-term effects of the management programmes. Thus it was very important to get much of a new knowledge regarding the approaches which are valid and more appropriate when the task of the monitoring is to control the success of the habitat restoration or management programmes. Several presentations were devoted to these topics including one of the 'keynote' talks: “Managing protected areas – how do we know if we are doing it right?” by J. Williams from JNCC, UK.

During the discussions on effectiveness monitoring a very important question in the context of our LIFE project was raised: it is very often observed that there is a pronounced time lag before many of living organisms start to respond (or this response is measurable) on management actions that have been carried out. This may be caused by a number of reasons such as depleted populations of target species, time necessary for the formation of microhabitats and others. If the monitoring activities are financed only during the project itself (as this is a case with most of the LIFE Nature projects), there is a risk that the response of the target species might not be observed during the observation period as it is too short for the given task. Thus it would be necessary to find some funding to carry on the observations also after the LIFE project until the effect of the management actions can be measured.

3. There were very fruitful discussions during the Poster sessions as well as between the other conference sessions regarding the information presented in the poster of our LIFE Nature project “Impact of floodplain restoration on populations of Corncrake and Great Snipe in Latvia”. The poster raised an interest being an example of successful recovery of the severely depleted Great Snipe *Gallinago media* population through measures of habitat restoration in Latvia. We have collected annual target bird species, indicator bird species and habitats data from all our project sites to monitor the impacts of the actions carried out by the project. However, the time period of observations is very short – just 3 breeding seasons and it is too early to show the improvement through traditional trend analysis techniques. However, discussions with other participants of the conference gave several ideas how to proceed with analysis to include geospatial information of habitat quality change in the analysis.

4. During the excursion we visited the sites where mire rewettening activities had been carried out in the Rotherthurm mire landscape. Many of these mire patches had been drained in the past thus altering the natural hydrology in these sites. This aspect makes them similar somehow to the floodplain areas of our LIFE project as all of our project areas have experienced the drainage to a larger or lesser extent in the past. Also the effect of the drainage is similar – it results in overgrowing if no recurring management is carried out. Rewettening measures restores hydrological regime of the sites close to original one that was destroyed due to drainage. The question of elimination of the impact of drainage has often been raised regarding long term management of the floodplain areas of our LIFE project. Even more, the restoration of hydrological regime has been put among future tasks in the site management plans of the floodplain territories elaborated during the LIFE project. Thus it was very rewarding to gain the experience in the sites where similar actions had been carried

out. There had always been debate on the most efficient way of restoring the hydrological regime. Most often it was considered that the simple blocking of drainage ditches would be sufficient. Although it would raise a water table in the area, the open water in the ditch would be a subject to evaporation which is undesirable. Swiss example suggests that additionally to the blocking dams, the ditches could be filled with saw dust. This allows better regeneration of the habitat so that after less than 10 years after the action it was practically impossible to tell that formerly there had been a ditch. It also makes management easier as the ditch had been a constraint to efficient use of the management technique.