Climate change in N2000 sites and other protected areas

Case studies from The EUROPARC network

This report corresponds to the objective:

1.1. CLIMATE CHANGE – Development and implementation of EU policy

- Contribute to improve the management of N2000 sites and protected areas facing Climate change impact, particularly in a transnational situation.

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Introduction

In 2007 EU endorsed an integrated approach to climate and energy policy and committed to transforming Europe into a highly energy-efficient, low carbon economy. If this commitment to a low carbon economy is to be fully realized, it will need to be undertaken through mechanisms in all member states. With particular regard to nature conservation and the delivery of ecosystem services, as well as taking action against the loss of biodiversity, protected areas across Europe need to be working collectively towards this goal.

The EUROPARC Federation, as the largest networking organisation for Europe's' Natura 2000 and protected areas managers, has the ability to harness the experience of the protected area community, including N2000 sites managers. The issue of climate change naturally transcends political borders. Therefore EUROPARC beliefs that the experiences and expertise of EUROPARC's Transboundary Areas on that topic paired with information and discussions taking place in the protected area community worldwide is invaluable and can serve as good practice examples for a wider European network.

The case studies presented at the EUROPARC TransParcNet meeting and later on at the EUROPARC Conference 2013 can contribute to an improved management of N2000 sites and protected areas facing climate change impact. Through sharing and disseminating good practices in climate change adaptation and mitigation EUROPARC helps to build capacity in protected area managers in adaptive management techniques. Showcasing the impacts of climate change on protected areas and N2000, as well as their strategies and value to mitigate climate change, eventually results in influencing decision makers to provide "solutions" for climate change adaptation in protected areas.

Case studies on climate change research, adaptation and mitigation from EUROPARC's Transboundary Areas

The participants of the TransParcNet meeting brought examples of research activities and projects from their transboundary protected areas on climate change and mitigation and the affect on biodiversity management. Case studies from Germany, Finland, Norway, Russia, Italy and Slovenia were presented.

1. The partner protected areas Prealpi Giulie Natural Park (I) and Triglav National Park (SLO) are participating, together with seven other protected areas in the transboundary cooperation project „Climaparks" beetween Italy and Slovenia, which goal is to monitor climate change in protected areas in order to limit its impact on the environment (www.climapark.eu). The protected areas have been involved in promoting research activities related to flora and fauna, increase and encourage the public transport and in the realization of a photovoltaic system in the headquarter of a project park in Prato di Resia. An energy plan has been drafted in order to be able to make proposals to implement sustainable interventions and to raise awareness on the issues of waste and the consumption of energy savings. The plan will also encourage the use of renewable energy sources in the area as solar, water and forest biomass. The series of interventions proposed could have resulted in 2020 in the reduction of the detrimental emission of about the 35%.

The full report detailing the research results of the project is available here:
http://issuu.com/climaparks/docs/printed_version

2. The poster presented by Trilateral Area Pasvik-Inari (FIN/NO/RUS) explained the research project that the three countries run together to measure the affects of climate change on the rich natural resources of Europe's far north (www.pasvikmonitoring.org). Transportation and industries in the area are fast developing, creating the need to monitor environmental effects in order to predict and reduce any harmful impacts of the growing activity. Global warming also possesses a challenge in the northern areas. The project can be seen as an example of good quality cooperation not only between different protected areas in various countries but also as a model for jointly developing tools used by environmental authorities and researchers when assessing the impacts of airborne emissions, regulations of waterways and climate change. Of most interest for the participants of the TransParcNet meeting were, amongst others, the research activities of modelling the dispersion and deposition of airborne pollutants to assess possible climate change. The expected result of this research activity is a model animation showing the airborne concentrations and deposition of sulphur and heavy metals and assessment report on observed climate changes in the border region.

3. A controversially discussed topic, Assisted Migration – Biological, ethical and legal aspects, was presented by the Transboundary Area Oulanka-Paanajärvi (FIN/RUS) (www.luomus.fi/escape). Assisted migration is a new approach to counter the loss of biodiversity caused by climate change and habitat fragmentation. The rapidity of environmental change, forces species to adapt to evolving conditions, disperse to other regions or go extinct. Since many species won't be able to adapt in due time, the moving of species to an area where they are predicted to move in the future anyway, could be a new chance to halt the loss of Europe's biodiversity. On the other hand this practice challenges the values of conservation, e.g. authenticity, might come with biological risks and must not be necessarily ethical or even required for saving species. More research has to be undertaken; discussions are to be raised in the community of protected area managers and policy makers.

4. The fourth example on climate change adaptation was a study undertaken by the Bavarian Forest National Park (D) (http://www.europarc.org/uploaded/documents/1464.pdf).The research shows impressively the effects of climate change on midrange mountain species and populations and that they are disproportional sensitive to climate change. Furthermore the results support the view that mobile ectothermal arthropods show a direct response to climate fluctuations, but not birds and plants. Communities are undergoing a process of reorganization in their species compositions.

During the EUROPARC Conference 2013 in Hortobágy National Park (N2000 site HUHN10002) the topic of climate change came up for discussion in workshops on integrated management, invasive species, nature restoration, the new LIFE programme, forest management. Workshop presentations are available (http://www.europarc.org/conferences/presentations-past-c/europarc-2013-pres/) as well as a summary of those workshops focusing on adaptive management in the role of climate change adaptation and mitigation (http://www.europarc.org/download/1666.pdf)

Furthermore EUROPARC member Bundesforste Österreich realised an interesting study about climate change and biodiversity which is available (http://www.salzburg.gv.at/klimastudie.pdf).

Conclusions

The participants of the Conference workshops concluded:

- Climate change facilitates spreading of alien species - Southern part of Europe affected most (workshop 6).
- Bog restoration and flood plain restoration (example from Kemeri National Park, workshop 4) is not only successful for habitat diversity and climate change adaptation but also benefits human's wellbeing.
- The Natura 2000 network has the capacity and the ambition to bring all Natura 2000 sites a favourable status of maintenance and tackle the problem of biodiversity loss.
- We shouldn't only concentrate on Natura2000 sites, but the surroundings as well. EUROPARC should think about a LIFE project to create a seminar for experts from different countries on climate change and adaptive management techniques.
- To exchange as many experiences as possible at an upcoming international conference for professionals is urgently needed.
- Climate Change adaptation and mitigation can be an opportunity for a better maintenance of protected areas. At the moment the policies are too separate.
- The LIFE programme is extended with financial support for integrated projects and climate change. LIFE sub-programme for Climate Action includes as priority areas: adaptation, mitigation and governance and information. A good example form the EUROPARC network on how to integrate different types of funding can be found in Metsähallitus Natural Heritage Services (FIN).
- LIFE should promote implementation and integration of environment and climate objectives in other policies and Member State practice.

The conclusions of the participants of the TransParcNet meeting are the following:

- Transboundary protected areas in vulnerable regions like the Alps or the far North of Scandinavia are very concerned about the effects of climate change on biodiversity in their regions. Therefore they are very committed to bring research on the effects of climate change in protected areas forward.
- There is still a lack of quality baseline data noticeable. Parks should have long-term data acquisition and analysis protocols in position.
- Different standards of research and research tools make common data collection difficult. Transboundary protected areas can help to harmonise data collection and monitoring with their expertise and experience in cooperating in a transnational context.
- To achieve good results in climate change adaptation and mitigation it is crucial to include the surrounding of protected areas, communities, business partners.

- Transboundary cooperation on climate change leads to very comprehensive results on different aspects necessary to understand and mitigate climate change effects (weather and climate monitoring, biodiversity monitoring, visitor monitoring, energy consumption) in a specific area.
- Jointly developed tools used by environmental authorities and researchers when assessing the impacts of airborne emissions, regulations of waterways and climate change work effectively.
- Midrange mountain species and populations are disproportional sensitive to climate change.
- Climate change adaptation and mitigation should lead to discussions on ethics in biodiversity conservation.

These examples drawn from protected areas practice show that climate change and its impact on ecosystems, habitats and species is beginning to be more widely understood. Climate change is considered to be a factor in the changing conservation status and indeed loss of biodiversity hence the need to gather direct input from protected area experience and expertise to compliment the academic analysis. Where climate change mitigation and adaptation initiatives have been developed in one region, through our networking opportunities, these can be shared across the whole network and help to develop a more coordinated strategic and coherent approach.

However the discussions amongst participants of the TransParcNet meeting and the Conference Workshops showed that there is also the need for more tangible research results on the affects of climate change for the individual protected areas, adapted to their very situation. Further actions need to be undertaken to close the gap between researchers' interest and the needs of protected area and N2000 site managers.

Further action

- EUROPARC will organise a 2 day workshop to link scientific research and management practice, gathering a multi-disciplinary panel with researchers from environmental and social sciences in order to address climate change and its immediate and derived effects on protected areas.
- EUROPARC will produce guidelines for collaboration between protected areas and academia on the topic of climate change.
- EUROPARC is discussing the creation of a seminar for experts from different countries on climate change and adaptive management techniques.
- EUROPARC will facilitate a full day workshop for up to 25 people to examine current practices in climate change mitigation in N2000 sites and other protected areas, with a view to considering process for benchmarking target setting, monitoring and reporting across the member states.
- EUROPARC will engage with its international partners, through the MOU agreements with South America, Australia, and the US to gather case studies and benchmarking practises in climate change mitigation to add to the European experience.

- EUROPARC with its Sustainable Tourism Working Group will include topics of climate change, energy efficiency and waste management into the European Charter for Sustainable Tourism in Protected Areas, to promote environmentally responsible business practices among the 438 private businesses that are involved in 25 Charter Areas.