Abstract

LIFE NATUR' ADAPT

Adaptation to climate change of the Chastreix-Sancy National Nature Reserve

VULNERABILITY ASSESSMENT AND ADAPTATION PLAN

BACKGROUND

The Chastreix-Sancy National Nature Reserve is located in the Dore Mountains (Puy-de-Dôme, France). Created in 2007, it covers an area of 1 895 ha managed by the Parc naturel régional des Volcans d'Auvergne. It hosts a mosaic of mountain habitats as well as livestock and forestry activities and outdoor sports.

The vulnerability assessment and the adaptation plan are documents aiming to initiate an approach to adaptation to climate change on the reserve. Both were developed as part of the LIFE Natur'Adapt project, coordinated by Reserves Naturelles de France.

METHOD

Based on the analysis of local climatic changes in Chastreix-Sancy, about fifty local actors (tourist industry, farmers, naturalists) were polled (online questionnaires and individual interviews) to assess the vulnerability or the opportunity of the territory of Sancy. A total of 19 ecological objects, 7 socio-economic activities and 13 management tools and resources were analyzed.

The adaptation is based on the items identified during the vulnerability and opportunity assessment (exposure, sensitivity and capacity to adaptation to climate change) and on the analysis of the possibilities for action: ensuring abiotic conditions, managing extreme events, improving conservation states, increasing connectivity, reducing non-climatic pressures (current and future ones) or exploring other strategies (translocation, relocation, improvement of knowledge, implementation of a warning role, etc.). This enables the reserve to take a position and identify long-term objectives (30 years) and operational objectives (10 years) that will guide the operations to be implemented.

SUMMARY OF THE VULNERABILITY ASSESSMENT

CLIMATE

- **+ 1.2°C** in 30 years (1961-2020)
- **- 14%** snowfall in 30 years
- ↗ water needs of vegetation
- = steady annual and seasonal rainfall
- ? unknown (lack of wind data)
- ↗ soils drying up

CHANGES WILL CONTINUE THROUGH 2050 AND WILL WORSEN OR STABILIZE DEPENDING ON PLANETARY GREENHOUSE GAS EMISSIONS BY 2100

VULNERABILITY

Very likely regression of the species and habitats of the subalpine stage (> 1 400 m) which could lead to a loss of heritage of the reserve regarding the fauna and flora of the Sancy crests.

Decrease in water resources, drying up of wetlands and acceleration of spontaneous dynamics: regression of peatlands and loss of heritage.

Vulnerability of local actors (snow sport and activities, grass farming), modification and/or intensification of practices that may impact the landscapes and species of the reserve, possible conflicts of use on water and grass resources.

Fragile balance in the control of attendance and erosion of the crests, particularly in connection with the channeling of visitors and paths maintenance.

OPPORTUNITY

Growing interest in the mosaic of the reserve's natural habitats, the unmanaged areas and the exclosures that will go with the progression of wood plants and the arrival of new species.

Opportunity to develop more partnerships, obtain funding dedicated to climate change and discuss on a long-term prospective vision of the territory in order to create a local dynamic of awareness and adaptation.

Opportunity for tourism stakeholders to further develop outdoor sports.

SUMMARY OF THE ADAPTATION PLAN

Climate change is leading to rethinking management at different levels: at the issues level, during the definition of the objectives, or during the development of operations, as illustrated below.

ISSUES

Reconsidering issues and their hierarchy

The mosaic of natural habitats was not the first issue of the reserve, nor perhaps the most vulnerable, but appears to be an essential lever for adaptation to climate change, or even global changes. The reserve's primary ambition was therefore to create a mosaic of varied, rich and connected natural habitats able to respond to future disturbances.

OBJECTIVES

Reconsidering the definition of objectives

Local climatic changes are implacable for the subalpine zone: cold and snowy conditions will regress. This situation drives the reserve to review its long-term objective for the ridges from "*Maintaining and locally improving the good state of conservation of the natural habitats of the subalpine zone*" (2014-2018 management plan) to *"Preserving the functioning and the good ecological state of the ridge areas and alerting to the probable regression of the subalpine zone".*

ACTIONS

Bring out or strengthen operations

Raise awareness and support the adaptation of local actors' practices to climate change.
Promote spontaneous dynamics: + free development, + trees in meadows and riverbanks.
Monitor, including out of the reserve, connectivity of habitats and progression of new species.
Locally bring "the voice of natural habitats": alerting people, enhancing buffer zones, etc.
Prepare for changes in the workload (maintenance, monitoring) and develop resources for it.

The reserve adaptation plan is a step forward in taking into account the climate change challenges. The adaptation guidelines and the objectives will be refined, integrated and validated through the processing of the second management plan by 2022. Their implementation and the evaluation will be guaranteed by the regulatory application of the future management plan.

CONSULTATION OF ENTIRE DOCUMENTS

Vulnerability assessment (fr)

Adaptation plan (fr)