





# Conservation and management of protected areas - from doing nothing to doing everything



Anete Pošiva-Bunkovska, Key expert, ELLE

INSPIRING ENVIRONMENT



**EU4Environment** Green Economy in Eastern Partner Countries



#### Conservation measures: an overview

- Actual mechanisms and actions to be put in place for a protected site with the aim of achieving the sites conservation objectives.
- Site-specific conservation objectives and measures should correspond to the ecological requirements of the habitats and species present on the sites.
- Measures should be comprehensive, realistic, quantifiable and measurable.
- Conservation measures must be applied to all protected areas.
- Generally established at the local/site level, but they can also be designed at the regional or national level, or even agreed at the cross-border, biogeographical or EU level.
- Protected area management plans a way to set objectives and measures in an open and transparent manner.







#### Classification of conservation measures



 Preventive/ passive measures: prohibition on activities that might have negative impact on species and habitats to be protected within Emerald network or Natura 2000 sites



 <u>Active conservation</u> <u>measures:</u> either for species and habitats that rely on human activities and ecological niches created by them, or in cases where ecosystems or their components are degraded by human activities and restoration to their optimal state is necessary







#### Preventive measures

- Typically, applied to climax ecosystems (and their characteristic species) of specific biome.
- Classification of preventive measures by their strength:
  - Strict protection regime (no human activities, few visitors allowed either in guided groups, on specific paths or no recreational visits alloved at all)
  - **Regulated protection regime** (most economical activities prohibited (e.g. forest clear cutting, drainage), visits and extensive activities allowed all year or within specified time periods)
  - Selective protection regime (most economical activities allowed, restrictions apply to specific, relatively small areas or specific activities)







#### Example: Strict protection regime



Source: https://www.daba.gov.lv/lv/media/3194/download?attachment

- Baseline for scientific research
- Biodiversity conservation improvements
- complex considerations
- (is the site fire-prone?; for which species and habitats is it designated, what are minimum necessary areas for their functioning? Is buffer zone necessary ?)
- Can't include the habitats and species, which requires proactive management
- Public misunderstanding of site value and lack of support for nonintervention zones

#### **Moricsala Nature Reserve**

- Natura 2000 site of 818 ha
- **Objective:** to preserve historically established natural ecosystems
- Strict Regime Zone (entire Moricsala and Lielā Alksnu islands) and regulatory regime zone (parts of the Usma Lake aquatorium surrounding the islands)
- Unauthorized access is strictly prohibited







### Example: Regulated protection regime





"Non intervention in practice" – achieving conservation objectives by natural processes



Active conservation – achieving conservation objectives by conservation measures



- Tourism and education	- Very site-specific - Tourism pressure
- Biodiversity conservation	- Management costs
- Ensuring a balance between environmental conservation and the social needs of local community	<ul> <li>Restricts traditional use of land and resources by locals</li> </ul>

#### Drawa national park, Poland

- Natura 2000 site Uroczyska Puszczy Drawskiej
- 12 strict protection zones officially designated for protection of natural processes - no human activities are legally allowed
- Biodiversity and structural improvements
- 5 educational trails, canoe trail, geological path etc.







#### Example: Selective protection regime



Source: https://www.lvmgeo.lv/kartes



- Weaker - Encourages biodiversity stakeholder protection involvement (habitat - Balance between fragmentation environmental etc.) conservation and - Can long-term the social and nature economic needs conservation goals of local be achieved? communities

#### Micro reserve and its buffer zone within landscape protection area «Vestiena» (N2000) in Latvia

- Micro reserves are areas designated to ensure the protection of protected species or habitats outside specially protected nature territories, as well as within specially protected nature territories if none of the functional zones provide such protection
- Buffer zones established around micro reserves that support the conservation of bird species, forestry activities are prohibited during the period from March 1 to July 31
- Other activities are generally permitted, with some exceptions for specific target species



**EU4Environment** Green Economy in Eastern Partner Countries



#### Active conservation measures (some examples)

<b>Ongoing measures</b> to improve or maintain structures and functions of specific ecosystems	Restoration measures to revert human-induced degradation of ecosystems
<ul> <li>Mowing and grazing in grasslands, shrublands and similar semi-natural ecosystems</li> <li>Coppicing, pollarding and similar harvesting practices</li> <li>Maintenance, removal or improvement of historical drainage systems where they ensure proper management of semi-natural habitats</li> <li>If allowed - burning in areas where this practice has created semi-natural habitats</li> <li>Maintenance of habitat connectivity and species migration corridors</li> <li>Invasive species prevention</li> <li>Predator control</li> </ul>	<ul> <li>Restoration of hydrological regime in wetlands, grasslands, freshwater bodies; restoration of the riverbed's natural state</li> <li>Restoration of semi-natural ecosystems (clearing of trees and shrubs etc.)</li> <li>Mimicking of absent natural processes (e.g. creating dead wood in forests, prescribed burning of forests, adding sand to coastal dunes etc.)</li> <li>Removing of invasive alien species</li> <li>Re-introduction of species or improvement of species composition (e.g. introducing breeding pairs of animals; transplanting epiphytic lichens, seeding mixtures for grassland species improvements, planting grasses for dune stabilization etc.)</li> <li>Restoration of marine ecosystems</li> </ul>



**EU4Environment** Green Economy in Eastern Partner Countries



# **Example:** Promotion of extensive grazing through contractual nature conservation in Baden-Württemberg, Germany



- The support of contractual nature conservation was a central measure in the 2014-2020 RDP for Baden-Württemberg to promote grazing adapted to nature conservation objectives.
- Sheep and goat farms were prominent among participants.
- Compared to non-participants, the farms participating in the measure farmed more extensively and with a greater emphasis on grassland. The majority of farms participating in the measure also had contracts with other contractual nature conservation measures.

Source: https://eu-cap-network.ec.europa.eu/publications/promotion-extensive-grazing-through-contractual-nature-conservation\_en



**EU4Environment** Green Economy in Eastern Partner Countries



# **Example:** Reintroduction of coppice forestry in Czech Republic



- Very few sites where traditional coppicing is practiced; motivation of re-introduction is nature and landscape conservation but might be economically viable for good quality firewood production
- Education of forest owners and public necessary
- Hard to reintroduce landscape-level coppicing practices in the complicated land ownership situation; legal obstacles and bureaucratic processes



**EU4Environment** Green Economy in Eastern Partner Countries



## Example: restoration of habitats and wildlife of the Skjern River, Denmark



River Skjern, 1992	0	1	2	З	4	5 kn
Irrigation ditch, 1992						

Source: https://www.eea.europa.eu/en/analysis/maps-and-charts/river-skjern-denmark

- In 1960s heavily drained and canalised for agriculture
- In 1980s the Danish government launched a plan to restore marginal lands
  - <u>Objectives</u>: **restore** 875 ha of river valley and **improve** biodiversity over 1,600 ha, **remeander** 20 km of the river to improve water quality and natural processes, **reintroduce** grazing



**EU4Environment** Green Economy in Eastern Partner Countries



### **Example:** recovery of Posidonia Oceanica seagrass meadows, Spain



- Posidonia Oceanica seagrass species that provides essential functions to the Mediterranean ecosystem, acts as a natural carbon sink
- The waters of Andalusia host around 6700 hectares of seagrass meadows, 90% of which is now protected in 12 Natura 2000 sites
- Developed and applied a methodological guide to restore large-scale degraded areas and ensure the non-invasive recovery of Posidonia Oceanica
- Collection and cultivation of Posidonia Oceanica fragments and seeds grown under laboratory-controlled conditions or obtained directly from natural seagrass meadows -> seedlings transplanted into degraded meadow areas
- First step towards a new understanding of reforestation in the marine environment.



**EU4Environment** Green Economy in Eastern Partner Countries



**Example:** integrating Conservation and Community Engagement in Free-Roaming Cat Management, La Graciosa, Canary Islands



- Natura 2000 protected area
- One of the challenges large free-roaming cat population that threatens the island's native biodiversity
- Trap–Neuter–Return program
- 81.4% sterilization rate achieved in targeted urban zones
- Active involvement of the local community
- Long-term effectiveness compromised by incomplete coverage
- Limits administrative restrictions and opposition from conservation groups



**EU4Environment** Green Economy in Eastern Partner Countries



# **Example:** control of invasive alien species to restore threatened habitats in inland wetlands of northern Tuscany



Source: http://www.life-sostuscanwetlands.eu/index.php/en/map-of-the-area/

- 4 Natura 2000 network sites in northern Tuscany
- All the sites are seriously threatened by the presence of invasive alien species (fauna and flora)
- Actions include reduction of coypu (*Myocastor coypus*) and crayfish (*Procambarus clarkii*) in waterbodies and wetlands, improving water quality by phytodepuration and manual trimming and mechanized cutting of *Amorpha fruticosa* and *Robinia pseudoacacia* trees to restore natural plant communities and structures



**EU4Environment** Green Economy in Eastern Partner Countries



## Example: restoration of Amalvas peatland, Lithuania



Source: https://life-peat-restore.eu/en/project/lithuania/

- One of the LIFE Peat Restore project site
- Amalavas raised bog mostly overgrown by birch and willow trees.
- The restoration measures implemented consisted of:
  - dams constructed
  - non-native vegetation removed, the biomass was used to fill drainage ditches
  - sphagnum mosses reintroduced in former peat mining areas to promote peat formation







#### **Example:** restoration of Estonian alvar grasslands



Source: Life to alvars. The restoration and grazing reintroduction on 2500 hectares of Estonian alvar grassland. Layman's report on LIFE+ project 2014-2019

- 1/3 alvar grasslands in Europe are found in Estonia
- 25 project areas at 16 different NATURA 2000 sites
- Background: less than 30% of area being managed annually, without grazing the biodiversity typical to open pastures disappears
- **Objectives**: to restore 2,500 hectares of the most valuable yet overgrown alvar grassland areas, ensure their continued traditional management, and raise awareness among various stakeholder groups affected by the project implementation
- Actions: reduction of the tree and shrub layers to a coverage of up to 30% (using chain swipe mower and the common forestry machinery), farmers equipped with necessary grazing supplies, involvement of ~ 600 private landowners, grazing infrastructure established (25 shelter, 200 km of fences etc.), information panels set up, seminars and trainings held



Funded by

**EU4Environment** Green Economy in Eastern Partner Countries



# Prioritizing conservation measures, possible conflicts of targets

- Priorities based on species and habitats protected within the Emerald site (which of them are reason for establishing the site), their state of conservation in the country
- Priorities based on "umbrella" species principles conservation measures targeted to umbrella species benefit large number of other species and habitats
- Priorities based on "value for money" largest measurable improvements in conservation state for the resources available
- Priorities based on involvement of local communities which conservation measures can benefit the local community (either directly by providing investment or contracting their services, or indirectly by creating new sources of income)?







#### Links and resources

- <u>https://environment.ec.europa.eu/topics/nature-and-biodiversity/nature-restoration-regulation/success-</u> <u>stories\_en</u>
- <u>https://life-peat-restore.eu/en/</u>
- <u>https://renewables-grid.eu/activities/best-</u> practices/database.html?detail=172&cHash=bf48d9a8366b1b814ccfd36445bd85d8
- <u>https://webgate.ec.europa.eu/life/publicWebsite/project/LIFE09-NAT-ES-000534/conservation-of-posidonia-oceanica-meadows-in-andalusian-mediterranean-sea</u>
- <u>https://www.mdpi.com/2076-2615/15/3/429</u>
- <u>https://www.natura2000.nl/sites/default/files/Bibliotheek/Europa/CEC%202013%20Setting%20conservation</u> <u>%20objectives.pdf</u>