**A bottom-up practitioner-derived set of Essential Variables for Protected Area management.**

# **Supplement B: EcoPotential WP9, part B – third survey form - 2017**

**ECOPOTENTIAL**

Improving future ecosystem benefits through Earth Observations

Questionnaire for Work Package 9, on requirements of protected areas

|  |  |
| --- | --- |
| Date |  |
| Name of the represented Protected Area (PA) |  |

**Questionnaire structure:**

[PART A: Protection measures, governance and management **Error! Bookmark not defined.**](#_Toc496627302)

[**PART B: Environment 2**](#_Toc496627303)

[PART C: Economic development **Error! Bookmark not defined.**](#_Toc496627304)

[PART D: Social and cultural development **Error! Bookmark not defined.**](#_Toc496627305)

[PART E: What does your PA need from EcoPotential? **Error! Bookmark not defined.**](#_Toc496627306)

[PART F: Information on citizen science in the PA **Error! Bookmark not defined.**](#_Toc496627307)

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The collected personal data information will never be provided to third parties without your explicit unambiguous consent. Although eventually all data in EcoPotential will be available for open access, the (personal) data will be excluded in case you did not agree on sharing those data. To this end, at the start of the survey we ask you to indicate which option you want to follow for using the personal data and the (other) general data on your PA.

You can indicate the following options:

|  |  |  |  |
| --- | --- | --- | --- |
| Questionnaire respondents | Data can be used by EcoPotential partners | Data can be used by third parties | Remarks |
| Personal data (authorise the use of the answers to the survey and appearance of personal name in the acknowledgements as data provider) | General data (authorise the use of the data but stay anonymous) | Personal data | General data |
| Yes | No | Yes | No | Yes | No | Yes | No |  |
|  | ☐  | ☐  | ☐  | ☐  | ☐  | ☐  | ☐  | ☐  |  |
|  | ☐  | ☐  | ☐  | ☐  | ☐  | ☐  | ☐  | ☐  |  |

At any moment you can request to remove your personal data out of our files.

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**PART B: Environment**

**B.1. Most important Ecosystem Functions and Ecosystem Structures**

Can you indicate the most important Ecosystem Functions and Ecosystem Structures that play a role in your PA:

|  |  |  |
| --- | --- | --- |
| **Ecosystem Structure or Function** | Specify (if possible) | Importance |
| Very high  | High | Average / moderate | Small | Very small  | Not present / not mentioned |
| Biodiversity | Status, Changes, Endemism, protected species | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Carbon cycle | Storage, Sequestration | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Climate regulation | Change of microclimate | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Element cycling | Biogeochemical cycling, Hydro-geo-eco processes | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Food chain energy transfer | Energy flow | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Gene pool | Genetic resources | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Habitat suitability | Habitat availability, Feeding and breeding grounds, Ecotypes | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Hydrodynamics | Currents, Water flow, Water regulation and retention | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Land- and sea-scape | UNESCO World Heritage | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Nutrient regulation |  | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Population dynamics | Recruitment, Seed dispersal, Reproduction, Pollination, Succession, Resilience, Grazing, Predation, Species distribution | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Primary production |  | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Raw materials | Sand, Pebbles, Amber | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Secondary production |  | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Sediment characteristics | Soil composition, structure and formation, sediment transport, erosion | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Weather | Temperature, Evaporation | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Water surface characteristics | Albedo | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |

\* Examples of Ecosystem functions and structures are: Biodiversity, Carbon cycling, Nutrient dynamics, Climate regulation, Element cycling, Food chain energy transfer, Gene pool, Habitat (heterogeneity, suitability), Primary production (plants), Secondary production (animals), Population dynamics (density or growth of trees, recruitment of animals, flowering), Raw materials, Sediment characteristics, Salinity, Water dynamics

**B.2. Most important Ecosystem Services**

Can you indicate the most important Ecosystem Services that play a role in your PA, and what the benefits are:

|  |  |  |
| --- | --- | --- |
| **Ecosystem Service** | Specify the ES (and its benefit) if possible | Importance |
| Very high  | High | Average / moderate | Small | Very small  | Not present / not mentioned |
| Animals of economic use | Aquaculture, Bait, Beekeeping, Cattle, Fishing, Shellfish | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Biodiversity conservation | Protection of species, habitat and genetic resources | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Charismatic landscape | Aesthetic values, Cultural heritage, Iconic landscapes | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Charismatic species |  | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Climate regulation | incl. Carbon sequestration | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Education and research |  | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Energy production | Hydropower, Wind farms, Geothermic water | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Fire Protection | Wildfire regulation | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Flood and coastal protection | Flood and erosion protection, Coastal protection | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Food provision for animals | Grazing, Fodder | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Food provision for humans | Food collection | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Habitat for feeding and breeding |  | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Hunting | Selling licenses | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Hydrological regulation | Water flow maintenance | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Leisure activities | Recreation and tourism, Birdwatching | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Materials of economic use | Mining, Salt, Amber extraction | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Plants of economic use | Agriculture, Cork, Fruits, Timber, Mushrooms, Berries | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Pollination | Seed dispersal | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Prevention of erosion |  | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Raw materials | Sand, gravel, shell extraction | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Sedimentological regulation | Maintenance of soil fertility, Soil formation | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Spiritual significance |  | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Transport facilitation | Shipping lanes | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Waste and Toxicant mediation | Denitrification, Wastewater treatment, Nutrient regulation, Pest and disease control | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Water regulation | Fresh water, Water storage, Supply of drinking water | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |

\* Examples of Ecosystem Services are: Aesthetic qualities: Animals of economic use (cattle, fish aquaculture of oysters), Biodiversity conservation, Charismatic landscape, Charismatic species, Climate regulation, Education and research, Energy production, Fire Protection, Flood and coastal protection, Food provision for animals, Food provision for humans, Habitat for feeding and breeding (for fish or birds), Hunting, Hydrological regulation, Leisure activities, Materials of economic use (mining, salt), Plants of economic use (timber, fruits, grain), Pollination, Prevention of erosion, Raw materials (sand, gravel, shells), Resilience, Sedimentological regulation (soil protection, land incrementation), Spiritual significance, Transport facilitation, Waste and Toxicant mediation, Water regulation (fresh water storage)

**B.3. Most important pressures**

Can you indicate the most important pressures in your PA, that can form a threat to the afore mentioned Ecosystem Functions and Structures (question B1) or to the Ecosystem Services (question B2):

|  |  |  |
| --- | --- | --- |
| **Pressure** | Specify the pressure (if possible) | Importance |
| Very high  | High | Average / moderate | Small | Very small  | Not present / not mentioned |
| (Illegal) human activities | Poaching, Picking of plants, Illegal logging, Illegal fisheries | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Agriculture |  | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Bad management | Inappropriate water management | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Change in land use | Abandonment of farming, Decrease of crops, Urbanisation, Harbour Extension | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Change in species | Species loss, Successional stagnation, Aging of wild stocks, Food competition with cultured species, Prey decline | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Civil engineering | Increased number of dams | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Climate change | Change in precipitation or snow cover, Droughts, Sea level rise, Global Warming | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Diseases | Pests | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Disturbance | Anthropogenic disturbance, Off-road vehicles, Transport | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Encroachment |  | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Eutrophication | Hypertrophic conditions | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Exotic species | Invading species | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Extreme weather | Storm surges | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Fire |  | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Fisheries | Bycatch in gill nets | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Habitat loss | Habitat fragmentation, Loss of connectivity, Forest decay, Reduction of salt-marshes | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Harmfull Algae | Algal blooms | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Hydrological changes | Deepening shipping lanes, Hydraulic modification, Increased turbidity, Increased wave action, Ground-water extraction | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Increased salinisation |  | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Landscape disturbance | Visual ruining, Gas platforms | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Overexploitation | Intensive agriculture, Overfishing, Too high tourist density | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Pollution | Pesticides, Atmospheric Pollution, Sonar and sound pollution | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Predation | Incl by exotic species as rats and cats | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Sediment dynamics changes | Avalanches, Erosion, Embankments within wetlands, Dredging, Siltation | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Tourism | Recreational activities | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |

\* Examples of Pressures/Threats are: (Illegal) human activities, Agriculture, Bad management, Change in land use, Change in species, Civil engineering, Climate change, Diseases, Disturbance, Encroachment, Eutrophication, Exotic species, Fire, Fisheries, Habitat loss, Harmful Algae, Hydrological changes, Increased salinisation, Industry, Landscape disturbance, Local policy and politics, Overexploitation, Pollution, Predation, Sediment dynamics changes, Tourism