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MINISTRY OF ENVIRONMENT AND ENERGY

CAEN

Protected Areas and/or Natura 2000 Sites Management Planning Guidelines

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Protected areas and/or Natura 2000 sites management planning guidelines

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translation in English

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Representatives of the Ministry of Environment and Energy, Croatian Agency for Environment and Nature, National Parks Public Institutions, Nature Parks Public Institutions, County Public Institutions and non-governmental organisations were a part of working groups that drafted these Guidelines from December 2016 to December 2017.

The drafting process was guided by Željka Rajković, UNDP consultant, with the support from Marko Pećarević.

Main working group:

Ministry of Environment and Energy: Loris Elez and Marijana Kapa

Croatian Agency for Environment and Nature: Irina Zupan, Karla Fabrio Čubrić, Gordana Zwicker Kompar, Ivana Ilijaš, Ramona Topić

Public Institutions: Vladislav Mihelčić (Kornati National Park), Milena Ramov (Telašćica Nature Park), Dijana Župan (Učka Nature Park), Petra Bralić (Krapina-Zagorje County)

Wider working group:

Ministry of Environment and Energy: Marijana Kolar, Mila Preradović, Daniel Springer

Croatian Agency for Environment and Nature: Maša Ljuština, Biljana Opačić, Petra Rodić

Public Institutions: Sandro Dujmović (Brijuni National Park), Natalija Andačić (Paklenica National Park), Biljana Janev (Maksimir), Norma Fressel (Vransko jezero Nature Park), Morana Bačić (Natura Jadera)

NGO Sunce: Milena Šijan and Zrinka Jakl

Translation was done by Buga Novak and supported by the Plitvička jezera National Park Public Institution. The technical revision of the translation was conducted by Croatian Agency for Environment and Nature (Karla Fabrio Čubrić and Biljana Opačić).

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1 Abbreviations

CAEN	Croatian Agency for Environment and Nature
EU	European Union
GC	Governing Council
IUCN	International Union for Conservation of Nature
MEE	Ministry of Environment and Energy
METT	Management Effectiveness Tracking Tool
MP	Management Plan
NCIS	Nature Conservation Information System
NM	Natural Monument
NP	National Park/Nature Park
OS	Open Standards (for the Practice of Conservation)
PA	Protected Area
PA – BAT	Protected Areas Benefits Assessment Tool
PI	Public Institution (Protected Area Management Authority)
RAPPAM	Rapid Assessment and Prioritization of Protected Area Management Tool
SCI	Sites of Community Importance
SL	Significant Landscape
SMART	Specific, Measurable, Achievable/Adaptable/Attainable, Realistic, Timely
SPA	Special Protection Areas
SWOT	(analysis of) Strengths, Weaknesses, Opportunities, Threats
VMAP	Visitor Management Action Plan

2 Glossary

This glossary includes relevant terms from nature conservation legislation, although not exclusively, and serves to better understand the terms in management planning used in these Guidelines.

Action plan is an integral part of the Management Plan. If a certain management segment requires detailed elaboration due to its complexity or importance, it is possible to draft an action plan for that segment which will clearly define management and/or conservation objectives as well as further elaborate activities and indicators.

Conservation measures are mechanisms and activities used for implementing conservation objectives for species and habitats.

Conservation objectives are descriptions of what should be achieved in the conservation of a species or habitat type in Natura 2000 sites in order to contribute to the general favourable status of that species or habitat at the EU level. Conservations objective may be a form of a specific management objective.

Evaluation or assessment of values is a process of analysing the condition of values within certain themes of the management plan based on existing data, including pressures, threats or risks. This evaluation serves as the basis for defining management objectives and activities.

Indicators are data and information obtained through measurement, calculation or assessment in order to monitor management plan implementation and management effectiveness. They indicate the need for changing direction or adapting management.

Management activities are tasks or duties that need to be implemented in order to reach management objectives.

Management objectives are clear descriptions of what should be achieved during a longer period, and minimally during the implementation of the management plan. Management objectives can be general and specific.

Management plan for a strictly protected species is a national level planning document that determines the status of the species, defines management objectives and activities needed for achieving or maintaining a favourable status of the species as well as indicators for monitoring management effectiveness.

Management zonation is a result of the zoning process that divides the protected area into limited spatial units (zones). It separates geographical areas for conservation of specific values while considering their management needs. The zoning process determines the existing needs and plans the future ones with the aim of long-term conservation of values.

National categories of protected areas are strict reserve, national park, special reserve, nature park, regional park, natural monument, significant landscape, park-forest and monument of park architecture.

Natura 2000 is a European ecological network made of areas with natural habitat types or habitats of wild species that are of interest for the European Union, which allows for conservation, or when needed, return to favourable conservation status.

Natura 2000 sites zonation refers to the zones of distribution of target species and habitats.

Protected area is a geographically clearly defined area designated for nature conservation and managed with the aim of long-term conservation of nature values and accompanying ecosystem services.

Protected area and/or Natura 2000 site management plan is a planning document determining the status of the site, which defines management and/or conservation objectives and activities needed for achieving these objectives as well as indicators of plan implementation.

Species and habitats conservation includes a series of measures needed for the maintenance or recovery of natural habitats and populations of wild species in a favourable status.

Sustainable use of natural resources is the use in accordance with long-term conservation of natural goods and the implementation of their ecological, economic and social functions on a local, national and global level.

3 Introduction and context

3.1 Area management

Protected areas and/or Natura 2000 sites management includes the implementation of numerous measures and activities needed for long-term conservation of natural and other values of the area, within the responsibilities assigned to individual institutions according to the Nature Protection Act (OG 80/2013 and 15/2018) and other related by-laws.

The work of PI's that manage protected areas and Natura 2000 sites usually consists of these segments:

- Natural values conservation – inventory of biodiversity and geodiversity, monitoring and evaluating state of values, ensuring sustainability of use of natural resources (if permitted in the area), implementing active conservation measures for species and habitats (maintenance or restoration of habitats, re-introduction of species, etc.),
- Cultural heritage and traditional values conservation – cultural and traditional values inventory, monitoring and evaluating state of values, implementing active conservation measures with the emphasis on those that impact the area's natural values,
- Visitor management (if visitation is permitted and appropriate in the area) – visitation development and implementation, interpretation of the areas values, educational programs and development of appropriate visitor infrastructure, monitoring the impacts of visitation on natural and other values of the area,
- Cooperating with the local community to ensure long-term conservation of the area's natural values – communication with stakeholders of the area, promoting nature conservation and the role of stakeholders in the area, informing local communities on the mechanisms of conservation and related opportunities, development of joint projects and stimulating environmentally sustainable development of the area.

PI's manage areas according to management plans. Management plans are further elaborated and implemented through the Annual program of protection, maintenance, conservation, promotion and use of protected areas.

3.2 Management principles

Several decades of managing protected areas worldwide and measuring its effectiveness in terms of nature conservation has shown that in order for it to be successful it is important to adhere to principles of adaptive and participatory management. These principles have also been implemented in Croatia over the past 15 years.

3.2.1 Adaptive management

Adaptive management is based on a cyclic management process that allows for information and experiences from the past to be included into more efficient future management. This is therefore both a cyclic and developmental process of systematic and continuous management improvement, which is based on results and experiences of existing management practices.

Management in nature conservation is not exact science, therefore planned management activities may not have the desired result. In case the outcome is not achieved, management activities should be adapted. In order to monitor whether set objectives are being reached, it is also necessary to monitor the implementation of activities. Adaptive management ensures achievement of management objectives through continuous adaptation of activities.

The process of adaptive management is most often shown through a scheme of cyclic phases of assessment, planning, implementation and monitoring (figure 1).

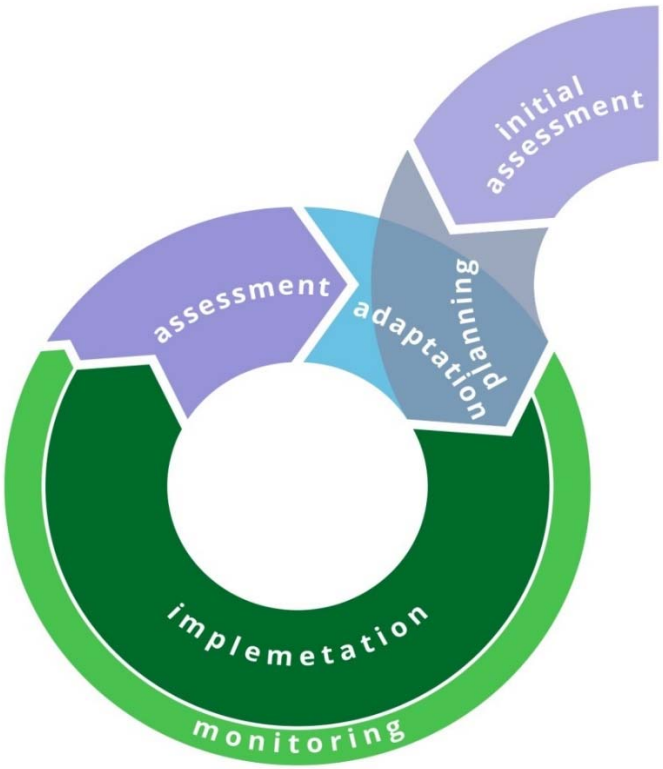

Figure 1. Adaptive management cycle (graphic by N. Mileusnić)

If management planning is initiated for the very first time, the cycle begins with collecting and analysing data in an initial assessment of the area. Based on this evaluation the phase of management planning starts, during which management objectives and activities are defined and all parts of the management plan are fully developed. The implementation follows after the management plan is adopted. Parallel to management activities implementation, monitoring activities are also implemented. After the implementation part of the cycle, based on the monitoring results and the achievement of objectives, the situation is reassessed and if

necessary, the objectives and activities are adapted through repeated planning phase (adaptation through planning).

Principles of adaptive management are not specific for site management – they are equally applied in management of all forms of organizations, systems, businesses, as well as in project management.

3.2.2 Participatory management

Participatory management (in the context of a protected area or Natura 2000 site) refers to various levels and diverse methods of stakeholder involvement in different phases of the management cycle.

Analyses of PA management effectiveness showed that managers, regardless of implemented activities, cannot ensure long-term conservation of natural values of an area without the support of the local community. Management effectiveness is directly correlated with the level of understanding, support and involvement of local community in management.

Degrees and types of involvement of different stakeholders in management vary – from involvement in certain activities, joint projects or involvement in the planning processes, to participation in significant management decision making.

3.3 What do these guidelines include?

“Protected areas and/or Natura 2000 sites management planning guidelines” serve as a practical guide for management plans development.

These guidelines should help site managers in the process of management plans development recommending the **structure of the process** as well as the **content of the management plan** itself.

Guidelines include recommended content and format of the management plan, procedure for its adoption and amendments, recommendations related to designing and guiding the plan development process, as well as elaborate certain elements of the management plan in more detail (themes, objectives, activities, indicators, zonation, etc.).

Guidelines elaborate the process of management planning for areas protected in national categories as well as Natura 2000 sites.

These guidelines are based on the Nature Conservation Act. Legislative framework as well as these guidelines will continue to improve in the future, however the planning principles will remain the same.

4 Management plans in Croatia

Protected area and/or Natura 2000 site management plan is a strategic document of the PI that determines the state of the area and defines management objectives and activities needed for achieving these objectives as well as indicators for monitoring plan implementation. Management plan is adopted for a ten-year period during which it enables effective and adaptable management of a protected area and/or Natura 2000.

4.1 Managing Natura 2000 sites and areas protected under national categories of conservation

Management plans are mandatory for all Natura 2000 sites and for all areas protected in national category. The Ordinance on ecological network (OG 124/2013 and OG 105/2015), among other things, establishes a list of Natura 2000 sites with accompanying target species or habitat types. The Act on Amendments to the Nature Protection Act (OG 15/2018) prescribes the adoption of an ordinance that will establish PI's competencies for managing individual Natura 2000 sites.

Management plan for marine Natura 2000 sites, which are partly or entirely outside of Croatian territorial waters, but within sea borders under national jurisdiction, will be delivered by the ministry responsible for nature conservation.

From a management point of view, national categories of protected areas have some additional mechanisms that do not exist for Natura 2000 sites, such as the Ordinance on protection and conservation, concession agreements, etc. On the other hand, for Natura 2000 sites, other administrative sectors (forestry, hunting, water management, fishery, etc.), which have an obligation to implement conservation measures for target species and habitats through appropriate planning documents are defined. In order to ensure that the activities planned through these documents are in accordance with the objectives and measures for Natura 2000 network, sectorial planning documents have to pass the process of Natura 2000 impact assessment.

Forest management plans for the forestry units covering Natura 2000 sites will be an exception, since they will then serve as management plans for parts of the ecological network that encompass forests and forest land. These forest management plans have to include all the elements of the Natura 2000 site management plan, as prescribed by the Nature Conservation Act, and those in charge of developing these plans and programs have to obtain approval for its implementation from MEE. MEE, CAEN and competent PI's will be involved in the process of developing these plans and programs. Therefore, some Natura 2000 sites may have several management plans that will encompass conservation objectives and measures for certain target species and habitats.

4.2 Management plans that encompass several sites

A single PI may manage numerous sites and needs to distribute its resources accordingly. From a managers point of view it is useful to have all objectives and planned activities in one strategic document.

Certain PI's manage more than 100 Natura 2000 sites, and at this moment are not capable of developing and adopting management plans for all of them. These PI's will develop their management plans according to their capacities, and in the end have several separate documents. Their implementation monitoring will be made easier by a newly planned module that will be accessible at the Internet website of the Nature protection information system (NPIS).

A long-term goal is to merge all the management plans of one PI so that all the planned activities for all the areas the institution manages are in one document. This will make it easier for the PI to manage all the areas under its competence and plan its resources, both human and financial.

During the preparation for "Development of Natura 2000 Management Framework" project, Natura 2000 sites were grouped in a certain number of management plans. Sites were grouped through trilateral discussions between CAEN, MEE and individual PI's according to geographic proximity, ecological proximity (conservation objectives and ecological values compatibility) and stakeholder complexity assessment.

A management plan is developed thematically. This means that in case when one plan is developed for all sites a PI manages, or when several sites are grouped into one management plan, the plan is made in a way that each theme includes appropriate activities for all sites.

When management plan encompasses several sites, due to better transparency, monitoring and reporting, **relation tables** are made for each site according to management themes and conservation objectives. Relation tables are an additional way to group management activities and to help with their monitoring.

Grouping according to themes is a basic method to group (all) management activities. In order to have an overview according to conservation objectives and measures, a **relation table for each Natura 2000 sites and for each target species and habitat** should be developed. Examples of these relation tables can be found in section 5.4.4.1.

4.3 Management plans for sites managed by several PI's

In case one protected area covers the territory under the competence of two or more PI's, one comprehensive management plan will be developed. PI's will develop the management plan jointly and simultaneously; however one PI is the coordinator of the planning process. Each PI is responsible according to its territorial jurisdiction during the drafting of the management plan, and will organize workshops and later implement the activities relevant to this area. Such a comprehensive management plan is adopted by the Governing Council of each PI, but each PI implements part of the plan that is under its competence.

Management plans for internationally protected areas

Management plans for internationally protected areas are not separate management plans. Activities and obligations arising from international designations should be taken into account while developing a comprehensive management plan for the area.

These activities and obligations need to be included in the existing management themes, not in a separate theme. Special attention should be given to reporting (as one of the obligations), as well as capacity building with the aim of managing internationally protected areas.

Some internationally protected areas also encompass several protected areas or several PI's may manage one area of international designation (e.g. MAB – biosphere reserve). In that case, each PI incorporates in its management plans obligations related to this designation according to its territorial jurisdiction. If it is an obligation related to international designation, a joint management plan for such an area can be developed based on individual plans of PI's.

4.4 Strategies and action plans in relations to management plans

Management plans need to be harmonized with existing national nature conservation strategies/plans like the Nature Protection Strategy and Action Plan of the Republic of Croatia (OG 72/2017). Also, there are management plans for strictly protected species as planning documents which, on a national level, determine the status of the species, define management objectives and activities necessary to achieve or maintain a favourable status as well as the indicators for monitoring management effectiveness. When the species is present in a particular protected area, activities from national management plans for species should be incorporated into the management plan for that protected area/Natura 2000 site, and if needed, further elaborated.

Apart from management plans, PI's develop other strategies, such as communication strategies, marketing strategies, etc. In case these strategies are needed, but not developed at the same time as the management plan, their development should be planned as an activity in the management plan. If these strategies have been developed and adopted previously, activities planned within them should be incorporated into the new management plan.

PI's may also develop action plans related to a specific management aspect of particular importance or complexity (for example, visitation in Plitvička jezera NP) as a part of the management plan. Depending on the management needs within a certain area, activities concerning a specific management segment are drafted either as an independent action plan or as one of the themes in the management plan. In case the action plan is adopted separately from the management plan the adoption procedure is the same as the one for the adoption of a management plan. In case there was no management plan when the action plan was developed, when starting the next planning cycle it is important to integrate these documents into one.

Given the fact that numerous PI's have taken over an obligation to produce a Visitor Management Action Plans (VMAP) through projects within the Operational Programme Competitiveness and Cohesion 2014-2020, Specific Objective 6c2 "Increasing attractiveness, educational capacity and sustainable management of natural heritage destinations", you can find the *Instructions for*

evaluation during development of the Visitor Management Activity Plan in protected areas in Annex 8.1.

Strategies that cover more than managing protected areas and define activities that are not implemented only by PI's cannot be adopted by the Governing Council of the PI (for example, strategies for sustainable tourism) and cannot be a part of a management plan. However, if the PI participated as a partner in the development of these strategies and obliged itself to implement planned activities, these specific activities need to be incorporated into a management plan and explained in terms of their significance and role.

4.5 Tools for monitoring the management plan implementation

Bioportal is a geoportal of the Nature Conservation Information System (NCIS) and the central place for presenting and exchanging all the data from the nature conservation sector. Bioportal contains or will contain all the data on the distribution of species and habitats as well as monitoring data collected through projects within the Operational Programme Competitiveness and Cohesion 2014-2020.

The internal extension of the Bioportal is intended as a central place where PI's, CAEN and MEE can exchange data. Through the "Development of Natura 2000 Management Framework" project it will be upgraded with the development of a new module for monitoring of management effectiveness. This module will include data from all management plans and all defined conservation measures for target species and habitats in order to monitor their implementation and management effectiveness.

The internal extension of the Bioportal will be the official place for storing PI's management plans, annual programs and reports. That way all spatial and other protected areas and Natura 2000 sites management related data will be in one place. This module will help to improve management plans drafting, as well as implementation monitoring. It will also allow for exchange of experiences between PI's related to management of certain target species and habitats as well as other aspects of management.

5 Management plan structure

Protected area and/or Natura 2000 site management plan is PI's strategic and operational document that determines the status of the site, defines management and/or conservation objectives and activities needed for achieving these objectives as well as indicators of plan implementation. Management plan is adopted for a ten-year period during which it enables effective and adaptable management of a protected area and/or Natura 2000 site.

The purpose of a management plan is to:

- summarize information about the protected area and/or Natura 2000 site,
- analyse the state of the area,
- anticipate potential conflicts and offer solutions,
- guide the staff and ensure management continuity,
- monitor levels of success and allow for management adaptability,
- allow for transparent and effective distribution of PI's resources and capacities,
- make it easier to apply for financial support,
- support communication with stakeholders,
- facilitate knowledge exchange,
- support sustainable use of space,
- increase the transparency of PI's activities.

Questions answered by specific parts of the management plan

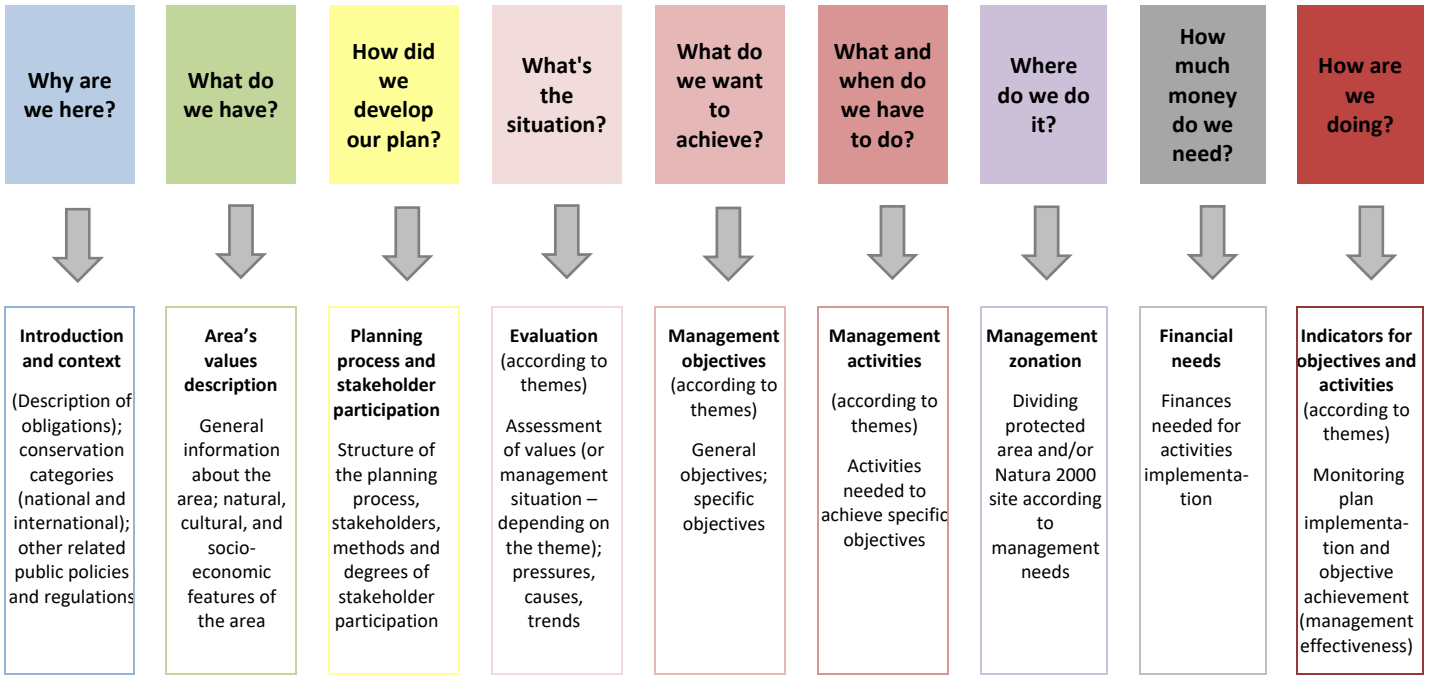

Figure 2. Functions of the specific parts of protected area and/or Natura 2000 site management plan (according to: Vukadin, 2017b)

Development of every management plan should be approached in the same way; however, the duration of drafting and the size of the plan will depend on the complexity of the area for which it is being developed. The planning process (see section 6) is always based on the same principles and consists of the same stages. However, not all management plans have the same content or cover the same themes – in some cases it will be just about the conservation of natural values and development of PI's capacities wile preservation of cultural heritage will not be relevant, etc. Also, some management plans will contain additional themes specific for a certain area (for example, hydrology and water management in the management plan for Vransko Jezero Nature Park). It will take less time and resources to develop a management plan for a small Natura 2000 site with a small number of target species and habitats, than it will be for complex sites with diverse ecosystems and various ways of use. Such a simple management plan will be a short document that will refer only to target species and habitats.

In any case, a management plan should not be too large so that it can be used regularly, practically and simply. **The basic structure of a management plan includes the following sections:**

- Introduction and context
- Planning process and stakeholder involvement
- Description of the area's values
- Management
  - Management plan themes: evaluation according to themes, general and specific objectives (and indicators of achieving specific objectives), management activities (and indicators for activity implementation), priorities, time schedule and collaborators
  - Management zonation
  - Financial needs
- Literature
- Annexes

5.1 Introduction and context

Section *Introduction and context* of the management plan clarifies the existing legislative and administrative framework for managing the area.

In this section it is important to briefly discuss the following:

- PI's authority for managing the area,
- what is a management plan,
- what is the purpose of the management plan,
- list international designations (if there are any),
- list national categories of conservation (description from the Nature Conservation Act),
- list Natura 2000 sites,
- briefly list basic information about the PI (when was it established, organigram with filled positions).

5.2 Planning process and stakeholder involvement

This section of the plan describes the **methodology of management plan development**. It needs to explain the structure of the planning process and the role of institutions and individuals in this process – the methodology of collecting site information, evaluation of themes (analysis of values and threats), setting objectives, planning activities and indicators for each theme, and management zoning. This section includes a short description of the independent work of the planning team, PI's internal workshops and stakeholder involvement in the planning process.

Description of the **stakeholder involvement process** briefly shows who was involved in plan development, and in what scope. It also states in which specific phases of the process the stakeholders participated, with a short description of the participation process. It is necessary to briefly describe the reasons of stakeholders' involvement in the process in relation to their role in particular management segment. This section needs to explain that the participation results are visible in other sections of the plan through evaluation according to themes, set objectives, planned activities and their priorities, and defining PI's collaborators. If it is necessary due to the demanding stakeholder involvement, it is possible to describe the whole process in detail. Stakeholder analysis isn`t an obligatory part of management plan. **The list of stakeholders and the method of their involvement** should be placed in the annex.

This section is written at the end of the planning process, when it is possible to reflect and briefly describe development of the plan and the stakeholder involvement.

5.3 Description of the area's values

The purpose of this section is to collect and structurally present the information about the area and its values. It serves as the basis for evaluation, planning and decision-making and gives a precise and clear picture of the area for all users of the management plan. This section lists only the basic information easily understood by the general public. It is important to know that every information mentioned in the plan, including the description of the area's values, has a purpose.

This section describes the values of the area, which are analysed later in the management part of the plan. Based on that evaluation management objectives will be developed.

It is written in the beginning of management plan drafting process; however it should be revised after the evaluation according to themes.

This section needs to include the following:

- **maps with boundaries of different relevant designations (protected area/Natura 2000 sites and international designations)**,
- **reason for the areas' protection** (if it is a protected area) – very short description of features for which the area is protected (for example, from the Proclamation Act),
- **basic values of the area** – short description of key natural features of the area (key biodiversity – target species and habitats, and key geodiversity – if present), key cultural values and heritage (if present) and key socio-economic features. It is recommended to use the Natura 2000 Standard Data Form (SDF) as the source of information for describing

Natura species and habitats, as well as documents on the distribution of species and habitats which is produced by CAEN in cooperation with the PI for each Natura 2000 site,

- **use (types of use)** – short review on the historical development of the area (different biotic and abiotic factors, e.g. extensive grazing in Lonjsko polje Nature Park, digging of Prosika in Vransko Jezero Nature Park or construction of the hydropower plant in Krka National Park), existing forms of use of natural goods (users and the ways of regulating the use as well as PI's role in the process, e.g. agriculture, forestry, hunting, fishing, collecting wild species, tourism, important infrastructure), determining the most important activities of the local community (agriculture, fishing, tourism services); if possible, also put a map of land use and infrastructure.

Problems and pressures should not be mentioned in this section (except maybe some historically important ones, as mentioned above) because they will be elaborated in the evaluation according to themes.

It is recommended not to go into too many details; however, the amount of text will depend on the complexity of the area. Although this section should be understandable to all stakeholders, the text should use Croatian and Latin names of the species.

5.4 Management

This is the most important part of the management plan, which the PI will use the most in its daily work. The *Management* section is used for defining PI's direction and activities in the next 10 years – it defines the vision, themes and general objectives, evaluates the state according to themes, sets specific management objectives with indicators, defines management activities with indicators and priorities, collaborators and time schedule, management zonation, financial needs and management plan implementation monitoring methods.

5.4.1 Vision

Defining a vision is a key step in management planning and it represents the framework for the implementation of the management plan.

Vision is a short description of the ideal future state of the entire area in a long-term period (consisting of one or two sentences).

It represents the path towards successful management. **Vision should be based on values**, not on solving pressures and threats.

Once when the vision is defined, it becomes the point everyone refers to in case of disagreement or misunderstanding. The vision also contributes to a sense of ownership over the management plan by the PI staff, as well as the stakeholders, as this is very important for its successful implementation.

Effective implementation of the plan contributes to the fulfilment of the vision, and in an ideal case the vision will be met in the future.

EXAMPLE OF A VISION
Vision for Telašćica Nature Park Telašćica Nature Park is a well-known area of conserved unique nature, an area of contrast with its steep cliffs and peaceful bays and salt-lake Mir. Local people perform their traditional activities in harmony with nature, while satisfied visitors enjoy the diversity having an opportunity to taste autochthonous island products.

5.4.2 Management plan themes

Themes are part of the management plan dealing with related set of questions (individual segments of site management). **Themes represent the main part of the *Management* section, and evaluation according to themes results in setting general objectives**.

The following list of possible management plan themes has been defined based on years of experience in management planning and monitoring annual programs and reports:

1. **Conservation of natural values**
2. **Sustainability of use of natural resources**
3. **Cultural heritage and traditional values conservation/Cultural heritage conservation**
4. **Visitor management, interpretation and education**
5. **Cooperation with the local community**
6. **PI's capacity development**

This is a list of possible themes and a method of grouping values thematically. **Each management plan does not have to have all the listed themes, nor does this list imply mandatory titles of individual themes.** However, it does offer an appropriate way to group themes, although depending on the complexity of an area certain themes may be merged or will not exist at all. Also, it is possible that due to specific features of an area and management requirements it will be necessary to define additional themes.

In case of a Natura 2000 site, it is possible that some areas will encompass, for example, just themes related to: conservation of natural values, sustainability of use of natural resources and PI's capacity development. In case of a strict reserve, for example, it is possible that there will be only the theme of natural values conservation and PI's capacity development. Definition of themes will depend on the complexity of an area and challenges related to its management such as category regime, pressures and threats, local community, stakeholder impact, etc. Management plan **needs to have at least the themes of natural values conservation and PI's capacity development.**

Depending on the area, sustainability of use of natural resources will be either a separate theme or part of the theme of conservation of natural values. Theme of sustainability of use of natural resources often includes activities dealing with other administrative areas, participating in certain procedures, supervision over the implementation of nature conservation measures, etc.

5.4.2.1 Evaluation according to themes

Evaluation according to themes is the most demanding part of the plan because it has to give a concise, understandable presentation of the complex process behind it. **Evaluation is a short and understandable analysis within individual management plan themes.** It gives an overview of the situation as the starting point for setting the objectives. It elaborates the planning direction. This part of the plan sets the basis for every activity in the plan and clarifies to the reader why certain activities need to be done.

Evaluation according to themes is not intended for detailed planning, nor does it have to list planned activities, but it can suggest possible directions of action. In addition, it is not necessary to repeat in this section what was written in the description of the area's values.

During evaluation it is necessary to use the list of values, pressures and threats (defined in workshops) with the aim of clarifying the focus of the plan on certain values, pressures and threats.

It is necessary to emphasize what the stakeholders recognized as the most important / most urgent and what the PI and science consider to be the case. It is necessary to explain the capacities of the PI and the jurisdiction for planning/performing necessary activities that can sometimes be an obstacle to their execution.

Evaluation should answer the following **key questions for each specific theme:**

- What are the key components of the theme?
- Which areas are or will probably be included or affected?
- What is the status of the areas values (considering research, studies, values analysis, personal experience etc.)?
- Which factors affect the values of the area (positive and negative factors - pressures and threats) in which manner and to which extent (consider research, studies, pressures and threats analysis, personal experience etc.)?
- What are to be main management approaches, directions and priorities for the theme?

In other words, we have to answer the questions **who** (which components), **where** (which areas), **what** (what is the status based on impacts – positive ones or pressures and threats), **how** (how to reach a solution or to continue with what's already being implemented), and **when** (list priorities). Example of a good evaluation can be found in Annex 8.2.

Further down is listed what each management theme encompasses, and what's included in the theme's evaluation. Examples are given, however, each area/site will, based on its status, require more or less than what is listed here.

A. Conservation of natural values

This theme is a mandatory part of the management plan.

What does the theme include:

A. Biodiversity and geodiversity; refering to:
    a. inventory
    b. monitoring

c. research with the aim of defining management options (for example, test surfaces of overgrown wet grasslands are made to define management options which will yield optimal results)
d. active conservation measures for habitats/geosite (maintenance, restoration, sustainability of use)
e. monitoring effectiveness of conservation measures

Evaluation:

- Assessment of the most important natural features of the area
- Summarized overview of ecological and other processes that impact natural features of the area
- Summarized overview of traditional uses that condition natural features of the area (only traditional forms of use; others will be dealt with as pressures and threats if they pose a problem)
- Factors that jeopardize natural features of the area (problems/pressures and threats)
- Factors that have a positive impact on natural values conservation

B. Sustainability of use of natural resources

What does the theme include:

A. Forestry
B. Water management
C. Hunting
D. Fishing
    a. sea
    b. freshwater
E. Aquaculture
    a. mariculture (cultivation of marine organisms)
    b. fishfarming (cultivation of freshwater fish)
F. Mining
G. Agriculture
    a. cattle farming
    b. multiannual crops (for example, planting of medicinal plants)
    c. crop farming (planting cultivated plants on arable land, meadows and pastures)
    d. permanent crops (such as orchards, vineyards, olive groves)
    e. permanent grassland (meadows and pastures)
H. extraction from the wild and sustainable use of local wild species (for example, picking up wild plants, sea urchins, truffles, etc.)
I. Energy

Evaluation:

- Impact of use on the state of the ecosystem (target species and habitats) and (if there are any) other values for which the area is protected
- Existing and potential negative forms of use (pressures and threats from use) and how can they be made sustainable
- Existing and potential positive forms of use and how can they be stimulated

C. Cultural heritage and traditional values conservation/Cultural heritage conservation

What does the theme include:

- Tangible heritage/values:
  - Physical, tangible or material cultural heritage (immobile and mobile cultural heritage) includes buildings and historical sites, monuments, artefacts, etc., considered valuable to be conserved for the future. This also includes objects relevant for archaeology, architecture, science or technology of a specific culture
- Intangible heritage/values:
  - Intangible, non-material cultural heritage encompasses: practices, shows, expressions, knowledge, skills, as well as instruments, objects, handcrafts and related cultural facilities, which communities, groups and in certain cases individuals accept to be part of their cultural heritage. Examples of this could be social values and traditions, customs and practices, esthetic and spiritual beliefs, artistic expressions, language and other aspects of human activity

Evaluation:

- Assessment of cultural heritage of the area
- Factors which jeopardize cultural heritage (problems/pressures and threats)
- Ownership/authority over tangible heritage
- Authority/role of PI in conservation of cultural values and the cooperation with competent institutions
- Links to:
  - natural values conservation
  - visitation
  - cooperation with local community

D. Visitor management, interpretation and education

What does the theme include:

- Interpretation of the area and values
- Educational programs
- Organization of visitation
- Visitor infrastructure
- Visitor monitoring
- Informative and educational materials
- Recreation
- Promotion and/or raising public awareness

If the visitation is complex and requires detailed elaboration, due to great demands posed by visitor management in certain protected areas, the topic of visitor management may be dealt with through the Visitor Management Action Plan.

Evaluation:

- **Instructions for evaluation when drafting VMAP are also the instructions for evaluation of this theme** and can be found in Annex 8.1 to these Guidelines.
  Remark: For assessment it is necessary to take into consideration the above mentioned instruction and scope of analysis explained below.
- For each item make the assessment of the existing situation:

- existing state of infrastructure and planned infrastructure (trails, centres, tables, anchorages, etc.)
- research (analysis) of visitors (who is coming/which groups) as well as desired visitors
- educational programs for different target/age groups
- spatial and temporal distribution of visitors
- analysis of existing and potential visitation in the context of impacts on area's values
- visitor monitoring:
  - monitoring visitor satisfaction
  - monitoring visitors impact on area's values
  - monitoring impact on the socio-economic circumstances in the local community and PI
- PI's informative materials/information (verbal, flyers, web, apps)
- determine acceptable recreational content for the area (as well as inacceptable ones)
- cooperation with agencies, tourist boards
- promotion with the aim of attracting visitors (marketing plan)
- marking important days for nature conservation
- volunteer programs

E. Cooperation with the local community

What does the theme include:

- Activities of the local community
- Local community's role in the conservation of the area
- PI's activities directed towards local community
- Property ownership
- Local products

Evaluation:

- Defining desirable and/or acceptable activities in the area
- Guiding the local communities towards possibilities of using grants, different supports and incentives (given by EU through different programs and public authorities)
- Subsidies
- Advising (related to agriculture, regulations, etc.)
- Motivating local communities through joint project applications
- Entry into cadaster/land registry (whether the plot is within the protected area and/or Natura 2000 site)
- Stimulating local production
- Placement of local products
- Links with section *Planning process and involvement of stakeholders*

Remark: Other stakeholders are discussed under the theme "Sustainability of use of natural resources" (other sectors).

F. Developing PI's capacities

This theme is a mandatory part of the plan. Analysis of PI's capacities is done at the beginning of the planning process. During drafting of this theme the capacities for managing the areas covered in the management plan are assessed, while taking into account the total amount of work of the PI. In this theme it is important to list insufficient human resources such as experts needed for the implementation of planned activities, but it is not necessary to give the number of needed employees in total. Evaluation of staff capacities will help the PI justify the needs for further recruitment.

Remark: It is recommended to refer to the expert for a certain area of management without stating specific professions, so that PI can have greater freedom later in the recruitment stage (for example, refer to the expert for natural values conservation, and not to a biologist; or refer to the expert for cultural heritage/values, and not an archaeologist).

What does the theme include:

- Individual capacities:
  - number of people
  - competencies (knowledge, skills, motivation)
- Institutional capacities:
  - equipment
  - organization of work and working processes
  - organizational culture[1]
  - existing organizational scheme
  - regulations and plans (documents and PI's acts)
  - finances
  - international cooperation, membership in international organizations and networks

Evaluation:

- Problems in operations/functioning (causes and effects), including both individual and institutional capacities of the PI
- Perceive capacities in relation to planned activities in other themes of the plan
- Aspirations and needs (long-term); based on activities proposed in other themes and possibilities of their implementation
- Current financing and possibilities of new/other sources of financing – funds that can be used or are available and project application capacities

[1] Organizational culture represents the way of living and working in an organization. It can be defined as a general atmosphere in an organization, which is a result of impacts of different known and unknown employees in the past and present, as well as wider surroundings of an organization that impacts human behaviour and use of their capacities. Organizational culture exists on two levels – visible one (which includes status symbols, ceremonies, rituals, lingo, and culture) and invisible level (which includes values, norms, attitudes and beliefs). Source: https://hr.wikipedia.org/wiki/Organizacijska_kultura

5.4.3 Management objectives

Management objectives include general objectives and specific objectives. **A general objective is defined for each theme**. It encompasses the essence of every theme and what is aimed to be achieved within each theme. They represent the vision of a theme of the plan.

General objectives are simple to understand and present to others. General objectives allow everyone involved in the process to share a common, clear idea of what should be achieved in the future.

General objective is a qualitative outcome difficult to measure or quantify, therefore it does not have an indicator.

General objective should be clear and concise – ideally one to two sentences.

Implementation of the general objective is done through the implementation of specific management objectives. In other words, by monitoring fulfilment of specific objectives, the fulfilment of general objectives is monitored; therefore, general objectives do not require indicators.

Specific objectives represent a clear description of what is to be achieved through management. They are based on the area's values and the analysis of the state of those values. They are usually defined for a longer time period, and minimally for the duration of the management plan (10 years).

Specific management objective is a specific measurable statement on what needs to be achieved in order to meet the general objective. Specific objective is a desired state of certain aspects of the area which will be achieved through implementation of plan activities. General objective for each theme should be achieved with the complete fulfilment of all specific objectives for a certain theme.

PI and stakeholders can only truly understand what is to be achieved and whether it is achieved, only by having specific and measurable objectives and their indicators defined. **The objective reflects the desired state of the VALUE, and not the MEANS (METHODS) to achieve the desired state**.

Objectives have to be SMART. This means that the objective needs to be:

S SPECIFIC = clearly defined so that it is equally understood by all.
M MEASURABLE = it should be measurable so it can be verified to what extent it has been achieved.
A ACHIEVABLE / ADAPTABLE / ATTAINABLE = allows for adaptations.
R REALISTIC / RELEVANT = should express what is possible and necessary to achieve.
T TIMELY / TIME-BOUND = the time period during which it will be achieved has to be defined.

Sometimes due to limited availability of data and knowledge, or due to the need to group objectives for certain related values (for example, grouping objectives for all mammals, or total cultural heritage), it is not possible to achieve SMART effect within each objective. In that case it is possible to achieve the same effect through measurable and specific indicators of that

objective - in order to be able to monitor management impacts, individual specific objectives together with their indicators need to be SMART (see frame on page 26 and annex 8.3).

EXAMPLE OF A GENERAL OBJECTIVE
Theme A: Natural values and landscape conservation **General objective:** Valuable marine and terrestrial habitats and their related species are conserved and protected through regulation of sustainability of use of natural resources and the promotion of their values.

Objectives have similar grammatical structure (according to Appleton & Hotham 2007):

GRAMMATICAL STRUCTURE	EXAMPLE
time period	During the next 10 years
values/feature of the area	reed beds
passive verb	are conserved
desired state	in their current extent and state.

While defining objectives passive form of verbs is used, in order to have objectives that reflect the state which is to be achieved rather than the activities that need to be undertaken.

Examples of verbs in passive commonly used in objectives drafting (Appleton & Hotham 2007):

Maintained	Promoted	Monitored
Conserved	Increased	Prevented
Insured	Enabled	Decreased
Achieved	Developed	Regulated
Produced	Facilitated	Removed

EXAMPLES OF SMART OBJECTIVES
Example 1*
Objective that is not SMART: Bird populations in the Neretva estuary are conserved.
Objective that is SMART: In the next 10 years the bird population in the Neretva estuary is conserved at the level of conservation objective.
Indicators: minimum of 30 specimens of *Charadriidae* minimum of 14 nesting couples of *Ardea purpurea* minimum of 12 specimens of *Acrocephalus arundinaceus* minimum of 40 ha of conserved reed bed
Example of an activity that contributes to the objective: Establish regular hunting supervision to prevent poaching of birds.
Example 2**
Objective that is not SMART: Wetlands returned to their natural state.
Objective that is SMART: Within 5 years, 100 ha of wetlands in the Neretva estuary is revitalized.
Indicator: surface of revitalized wetland habitats

*SMART objective has a time frame (T), but the measure (M) is not given numerically because the objective covers several bird species whose conservation objectives are defined in the *Ordinance on the conservation objectives and basic measures for bird conservation at Natura 2000 site* as the size of the population. In order to achieve measurability (M) and added specificity (S) associated indicators are used.

**SMART objective which is specific (S) and in which the measure (M) and time frame (T) are precisely given – in that case the associated indicator does not have to contain a value or added explanations because SMART effect was achieved in the definition of the objective.

Grouping conservation objectives

Sometimes it is necessary to group conservation objectives for practical reason (see Annex 8.3). For example, conservation objectives for several types of bats can be grouped into one objective for bats.

Suggested grouping of conservation objectives:

- grasslands
- forests
- aquatic (freshwater) habitats
- marine habitats
- coastal habitats
- underground habitats
- wetland habitats
- underbrush
- rocky habitats (carbonate rocks with Chasmophytes)
- terrestrial invertebrates, but separate from underground fauna
- amphibians and reptiles together in herpetofauna
- all bird species; if it is an area significant for birds, than group them as winter population, nesting population, transiting population
- all species of bats or place them together with other mammals
- all species of large carnivores or place them together with other mammals

These are just suggestions which in no way limit a PI to group conservation objectives in the most appropriate way. It is not possible to foresee all situations - it is up to each PI to determine whether and how it will group conservation objectives. For simpler or smaller areas there may not be a need to group conservation objectives, while for more complex, demanding and large areas it will be necessary to do so.

How detailed should it be?

Number of objectives and how specific and detailed they are, will all depend on the size, diversity and knowledge about the area, as well as PI's capacity to implement these objectives. It is important to make a plan that can realistically be implemented. Development of conservation objectives and measures for Natura 2000 habitats and species at the national level greatly contributes to the development of SMART objectives related to biodiversity.

Practice has shown that it is not always possible to set SMART objectives. The more the objectives are SMART, it will be easier to monitor their implementation and to conclude whether the PI's work is yielding desired results.

5.4.4 Management activities

For each theme there is a wide range of possible management activities. Selection of activities depends on the general and specific objectives and theme evaluation. In order to take into account different ways of achieving objectives, it is possible to use different types of activities. Below you will find a list of possible types of activities that help managers decide on the most appropriate direction to take; this is particularly important for large and complex areas.

Types of activities are general directions available to managers in order to achieve the desired objectives. Effective management planning includes careful consideration of different available options before making a final decision on the necessary action. It is important to select the right management directions for individual situations, and these have to be based on data and best practices (Appleton & Hotham 2007).

List of types of activities that can be selected:

- research
- monitoring
- education
- informing
- regulation
- active management
- motivation
- communication
- strengthening PI's capacities
- infrastructure
- maintenance (of roads, fire protection, etc.)

Management activities are tasks or duties that need to be undertaken in order to contribute to achieving management objectives. Management activities should solve pressures and threats (which were previously identified and ranked). The assumption is that the implementation of all activities should lead to fulfilment of objectives.

Activities should also be written in SMART way. They are written for a shorter time period than objectives, maximum up to the duration of the management plan. As in the case of specific objectives, activities can be placed into SMART framework through related indicator - activity and associated indicator(s) need to have all the SMART characteristics (see the box on page 28).

Table 1. Useful verbs for writing management activities (Source: Appleton & Hotham (2007)

If you want to…	You can use the verbs…
Ban or stop something	Ban, prevent any further, stop all, remove
Exert control	Regulate, control, restrict, zone, remove, reduce
Actively protect	Protect, patrol, guard, close
Carry out a process or regular activity	Conduct, hold (an event)
Persuade people to act or to make a change of action	Allow, promote, encourage, invest, give
Provide assistance to stakeholders with actions that are in the PI`s interest	Assist, enable, support
Provide financial resources	Build, raise, establish, develop, hire, acquire, buy
Inform or educate	Declare, report, distribute, educate, raise awareness
Reach agreement	Meet, negotiate, agree
Encourage consensus	Mediate, arrange
Encourage partnership	Cooperate, work with
Delegate	To authorize, to contract

In strategic documents such as management plans sometimes it is not possible to define activities in the SMART form. In that case a more general activity is defined in the plan, and is later

elaborated on the annual level into one or more SMART activities in the Annual program of protection, conservation, maintenance, promotion and use.

Activities need to clearly and unambiguously suggest what should happen, and not what we are trying to achieve. The usual sentence structure describing the activity should consist of a **verb, object and qualification** (Appleton & Hotham 2007).

ACTIVITY EXAMPLES
Example 1 - SMART activity in management plan In the Natura 2000 site HR2000561, in the first five years of plan implementation revitalize one pond a year according to recommendations for revitalization of ponds. Indicator: number of revitalized ponds. **Example 2 – Activity which is SMART taking into account the associated indicator** In the first five years of plan implementation, revitalize ponds in the Natura 2000 site HR2000561 according to recommendations. Indicator: one revitalized pond a year. **Example 3 – Activity which is SMART when it is further elaborated in the Annual Program** Activity in the Management Plan: Design and implement revitalization of ecologically significant ponds in the Natura 2000 site HR2000561. Indicator: Revitalization designed. Ponds revitalized according to recommendations. Activity in the Annual Program: Year 1 - Develop a program for revitalization of ponds with recommendations. - Revitalize the pond by St. Michael's church according to the Revitalization Program. Year 2 - Revitalize Manđuša pond according to recommendations from the Revitalization Program. Year 3 - Revitalize Perušina pond according to recommendations from the Revitalization Program.

For each activity it is necessary to define implementation indicators, set the priorities, time schedule and collaborators for implementation of activities. Each activity will be assigned with one of three levels of priority.

Classification of priorities:

- **Priority 1** will be assigned to activities necessary for the conservation of values for which the area was designated as a protected area or Natura 2000 site. These are key activities that need to be implemented in order to meet management objectives and have to be implemented throughout the duration of the plan. Failure to meet the activities of priority 1 would jeopardize the entire plan. Activity of priority 1 does not mean that the activity needs to be done first, but that it needs to happen when it is planned (for example, monitoring values at risk, PI's legal obligations, workers' safety and protection, visitation regulation, visitor safety, fire protection, welfare of animals, etc.).
- **Priority 2** will be assigned to activities which are also key to conservation of values, but whose temporary delay in implementation should not result in serious consequences. Activities of priority 2 need to be implemented during the duration of the plan. There is a certain flexibility but there needs to be a justified reason for not implementing these

activities (for example, activities related to conservation of species which are not target species, monitoring of species and habitats which are not at risk or decreasing in numbers, long-term projects, informing the visitors, etc.).

- **Priority 3** will be assigned to activities that are of long-term importance but can be delayed (desirable activities). They can be undertaken when the time and/or funds allow, or when it is possible given PI's capacities, if that does not jeopardize implementation of activities of higher priority. Identifying these activities is important in order to make it possible in the future to better respond to new circumstances or opportunities (for example, unexpected financial donations etc.).

Conservation measures

Conservation measures for Natura 2000 target species and habitats are a combination of measures and activities needed for achieving defined conservation objectives for target species and habitats. **Some measures are a description of the state of the objective, while some measures are activities**.

As quality of data is not the same in all Natura 200 sites, some measures need to be elaborated in more details through definition of activities. In the management planning process, **conservation measures are transposed into management activities** (see Annex 8.4). Conservation measures can be transposed into one or more management activities. Also, conservation measures are incorporated into planning documents of other administrative areas.

Some conservation measures are already defined as management activities, for example: *forest areas in multi-aged silviculture and even-aged silviculture older than 60 years must contain at least 10 m^3/ha of dry wood, and during designation it is mandatory to leave the trees with cavities used by hole-nesting birds.*

Conservation measures are prescribed by the **Ordinance** (for SPA, OG 15/14) according to which the state implements its obligations from EU directives prescribing that measures need to be legally binding. Conservation measures will be updated with amendments to the ordinance, as new data will become available.

Management activities include only activities implemented by the PI (on its own or in cooperation with others). Conservation measures prescribed pursuant to the Ordinance or defined in the process of planning preparations include several administrative areas – not just the nature conservation sector but also other administrative areas such as water management, forestry, agriculture, etc.

EXAMPLE OF RELATIONSHIP BETWEEN MEASURES AND ACTIVITIES

MEASURES: Prevent any disturbance of the underground winter bat colonies, particularly in the period from November to the end of February.

ACTIVITIES:

By 2020 set physical conservation, *bat friendly* fences at the entrances to underground objects where it contributes to conservation of the object.

Once a year during monitoring, control whether the fence is functional.

Annually monitor the state of bats during winter in the four known underground objects.

5.4.4.1 Activity relation tables

5.4.4.1.1 Relation tables between conservation objectives and measures and management activities

At the end of plan drafting, after defining conservation objectives and measures, and specific management objectives and management activities, it is necessary to develop a **relation table between conservation measures and management activities for each Natura 2000 site** for every target species and habitat (tables 2 and 3).

Table 2. Example of relation table between conservation measures and management activities (species and habitats)

Overview of conservation objectives and measures and associated activities for target species and habitats					
Area identification number: HR5000038					
Name of the area: Lastovsko otočje Nature park					
Croatian/English name of the species/habitat	**Scientific name of the species / habitat code**	**Conservation objective**	**Conservation measure**	**Administrative area**	**Activity code**
veliki potkovnjak/ Greater Horseshoe Bat	*Rhinolophus ferrumequinum*	Winter colony with a minimum of 40 to 60 individuals preserved; shelters conserved (underground objects – particularly Rača Cave, tunnels Hum 1 and Hum 2 and army tunnels in Jurjeva luka)	Corridors between shelter and hunting grounds preserved through maintenance (or putting up) of high hedges, tree lines or forest habitat;	agriculture; forestry; nature conservation	EA3, FC12
		Winter colony with a minimum of 40 to 60 individuals preserved; shelters conserved (underground objects – particularly Rača Cave, tunnels Hum 1 and Hum 2 and army tunnels in Jurjeva luka)	Implement conservation measures for habitat 8330	nature conservation	AB2, AB3
Preplavljene ili dijelom preplavljene morske špilje/Submerged or partially submerged sea caves	8330	14 littoral caves preserved	Favourable habitat conditions conserve in littoral caves by maintaining the sea water quality by preventing construction and waste deposition;	nature conservation	AB1, AB2, CA1, CA2, CA3, FC9, FC10
		14 littoral caves preserved	Regulate tourist visitation/diving in caves;	nature conservation	AB4, EB3, FC11

A relation table between conservation measures and management activities is made in order to associate activities with measures, not only to transform measures into activities. It can also be used for checking whether the plan covers all the objectives and conservation measures of the Natura 2000 site encompassed within the plan and determine if it is necessary to add activities within certain themes. A relation table is also made for clearer reporting and monitoring of conservation objectives and measures implementation.

Relation table is made in a way that every conservation measure is associated with the codes of all management activities by which it is implemented.

Table 3. Example of relation table between conservation measures and management activities (birds)

Overview of conservation objectives and measures and associated activities for target species and habitats									
Area identification number: HR1000038									
Name of the area: Lastovsko otočje									
Scientific name of the species	**Croatian/English name of the species**	**Category for target species**	**Status of the species**			**Conservation objective**	**Conservation measures**	**Administrative area**	**Activity code**
			Nesting	**Transit**	**Winter**				
Calonectris diomadea	veliki zovoj (kaukal)/ Scopoli's Shearwater	1	G			Conserved favourable habitats (steep, rocky coast) for maintenance of the nesting population of 200-350 pairs	eradicate rats and cats in nesting areas	nature conservation	AF1, AF2, AF3, AF4, AF5, EA5, EB5
Falco peregrinus	sivi sokol/ peregrine falcon	1	G			Conserved nesting habitats (high rocks, steep cliffs) for maintenance of nesting population of 2-3 pairs	ban of sport and recreational activities in the period from 15 February to 15 June in 750 m radius around known nests; implement conservation measures on power lines to prevent collision and electrocution of birds; electricity infrastructure to be planned and built in a way to prevent collisions and electrocution of birds	nature conservation; energy	AF1, AF2, AF3, AF5, AH3, EA5, FC1

5.4.4.1.2 Relation tables for monitoring/presentation of activities in individual protected areas or Natura 2000 sites

For management plans that encompass several protected areas and/or Natura 2000 sites, PI may need to present the activities from different management themes associated to individual areas that they refer to. In that case, a relation table can be made according to areas managed by that PI (table 4).

As in the case of the relation table for conservation objectives of the Natura 2000 site, this relation table is also done at the end of the plan drafting process. It can also serve the purpose of checking whether the plan is covering all relevant areas.

5.4.5 Indicators and monitoring implementation and management plan effectiveness

Given that management planning is a continuous process and that management should be adaptive, there is a need to measure the effects of the activities defined in the plan for which indicators are used (Appleton & Hotham 2007).

Indicators reveal whether the objectives are achieved and activities implemented. They monitor management effectiveness and suggest if there is a need to change course/objective and adapt management.

Management plans define indicators for specific objectives and activities. Achievement of objectives is assessed every five years, and implementation of activities every year. Objectives are monitored through the evaluation of the management plan which is done after (a minimum of) five years. Activities are monitored through annual programs and annual reports.

Table 4. Example of relation table between management plan themes and activities for individual protected areas and/or Natura 2000 sites

Nature monument Hrast in Kaštel gomilica	
Theme	**Activity code**
Natural values conservation	AA3; AC8
Visitor management, interpretation and education	DA4; DB12; DF1
Cooperation with the local community	EG9; EH10;
PI's capacities development	FB21
SL Vidova gora / Natura 2000 site HR2000937	
Theme	**Activity code**
Natural values conservation	AA1; AA2; AB8; AD15
Sustainable use of natural goods	BA5; BC5
Cultural heritage and traditional values conservation	CA1; CB4
Visitor management, interpretation and education	DA12; DA13; DC12; DE20; DF1
Cooperation with the local community	EA75; ED11
PI's capacities development	FB1; FC14
Natura 2000 site HR2001363	
Theme	**Activity code**
Natural values conservation	AA3; AB4; AD15
Sustainable use of natural goods	BA4; BA12; BB2; BF5; BG2
Cultural heritage and traditional values conservation	CB2
Visitor management, interpretation and education	DE1; DE2; DF1
Cooperation with the local community	EG5; EH1
PI's capacities development	FA1; FA2

There are five **levels of indicators**:

1. **input**
2. **activity**
3. **output**
4. **result/outcome**
5. **impact**

Every specific objective and every management activity is assigned with at least one, and often more indicators. Level 4 and 5 indicators are normally the most powerful as they really show what is being achieved through the plan, rather than just record what is being done (Appleton & Hotham 2007). They are generally indicators of achieving specific objectives. Level 1, 2 and 3 indicators help us monitor whether activity is implemented and to which extent; they are also generally speaking, easier to measure. They are most often used as activity implementation indicators. For high-quality assessment of management effectiveness and adaptation needs, it is necessary to use a combination of indicators of all levels – in the end of the implementation period, the manager needs to be able to conclude whether management is effective and whether the objectives were achieved (objective indicators) and if they were not, is it because not

everything that was planned was implemented (activity indicators unachieved) or because of wrong planning (activity indicators achieved).

When assigning indicators one should aim at higher level indicators (level 4 and 5). Whenever possible one should strive to "improve" the indicators and use higher level indicators.

Table 5. Indicator levels and their definitions (Source: Appleton & Hotham (2007) & Dijana Župan (2011)

Indicator level	What do we measure?	Definition	Remark
1	**Input**	The amount of resources invested in an activity (i.e. financial funds).	Measuring the input merely records what has been invested, not the results of the investment. Inputs are weak indicators of success.
2	**Activity**	Invested effort to carry out activities (i.e. number of meetings, time spent in the field, number of workshops).	Activity indicators can be useful in recording effort expended for a particular activity but do not consider the difference that the effort made.
3	**Output**	Specific products from an activity (i.e. designed project, printed brochure, filled questionnaires).	Outputs can be timely documented and are clear and useful indicators of completion of activities, but normally do not measure the effect of the activities.
4	**Result / Outcome**	"Local" influence of the activity, specific changes made by the activity (i.e. reduced ship ballast waste, increased visitors knowledge on the values of the park).	Outcomes measure specific changes in conditions resulting from the activity. They are highly useful indicators, but can be harder to measure.
5	**Impact**	Wider consequences of the activity, contribution to the objective (i.e. changes in visitors behaviour as a result of awareness raising, increasing *Posidonia oceanica* beds area).	Impact measures the wider change caused by the activity and often its contribution towards plan objectives and purpose. These are useful measures but are often very hard to monitor in the short term.

EXAMPLE OF DIFFERENT LEVEL INDICATORS

Activity: Implement a training program for rangers in order to prevent poaching successfully.

Indicators:

1. A minimum of HRK 10000 a year is invested in rangers' training
2. A minimum of 6 rangers have completed the training program
3. Training manual for rangers was drafted as a result of the training program
4. Poaching was reduced by 30%
5. Population of wetland birds is growing

In order to monitor the objectives it is necessary to establish an indicator for each objective, which would ideally be a level 5 indicator (impact indicator) and/or level 4 indicator (result indicator). If the objectives are well defined, it should not be too demanding and the process itself gives another opportunity to check the objective.

EXAMPLES OF OBJECTIVES AND INDICATORS
Example 1 Objective: During the implementation of the plan, the number of Park visitors is increased without a negative impact on natural values of the area. Indicators: - number of visitors increased 5% a year (**level 4 – result**) - populations of species sensitive to disturbances are stable (**level 5 – impact**) - there are no changes in grassland flora in the visitation zone (**level 5 – impact**)

Indicators are written in the form of a statement that describes what is being measured, how it is measured (measurement unit) and if it is known, the value of what is being measured (Appleton & Hotham, 2007)**.** For example, the indicator "a minimum of 10-12 couples of the moustached warbler are conserved" measures the population of the moustached warbler by measuring the number of couples, whose value is at a minimum of 10-12.

It is important that the indicators are measurable, precise, durable and sensitive.

The same indicator can be used for monitoring several activities and/or objectives. For example, state of population of selected species or habitats will probably, besides the objective indicators in theme *Natural values conservation*, also be the objective indicator in themes *Sustainable use of natural goods* and *Visitor management, interpretation and education*.

Examples of parameters which can be monitored to determine management effectiveness are listed further down in the text. For each theme examples of objective indicators are given (higher level indicators) and/or activity indicators (lower level indicators). The list is not comprehensive or limiting but rather presents a recommendation and an example of parameters than can be monitored and in what way.

A. Conservation of natural values

Biodiversity

In the process of monitoring species and habitats it is necessary to collect data on the numbers and distribution of species and habitats and other selected parameters, identify and monitor impact of activities implemented for the purpose of conservation of species, and monitor pressures and threats to species/habitat/group of species or habitats that need to be mitigated or removed.

For each ecosystem (depending on how they are divided) a set of indicator species can be defined. It would be ideal to monitor trends in population and in habitat/distribution for these species, monitor pressures/threats and implementation of planned activities. These three together (through several indicators) give the information needed for evaluating management effectiveness.

The stability of ecological processes can also be monitored, for example, preservation of mosaics of grassland habitats in early phases of succession, or maintenance of favourable hydrological conditions as a prerequisite for survival of wet habitats and related species. The dynamics of the travertine formation can also be monitored (physical and chemical conditions such as pH values, saturation index, etc., ecologically acceptable flow, etc.), growth process of speleothems (physical and chemical conditions, microclimate), etc.

Monitoring species and habitat types

Monitoring of conservation status ensures the assessment of the conservation state of a species/habitat/value and also serves to evaluate management effectiveness (by informing as well as directing management activities) and effectiveness of implemented conservation measures and activities, regardless if this is done at a site level or at the national level. At a site level it is important to establish monitoring for all target species/habitats, particularly if conservation measures are implemented for them. Monitoring frequency will depend on the objective but also on the state of a species or habitat in a given area and on the level of pressures they are exposed to.

Site monitoring answers the question *What is the state of conservation of species/habitats at the site?* and contributes to the answer to the question *To what extent do conservation activities at the site contribute to favourable status at the national level?*

National monitoring answers the question *What is the state of conservation of species/habitats on the national/biogeographic level?* and among other things answers the question *Do protected areas and Natura 2000 sites contribute to achieving a good state of conservation of a species or habitat?*

Questions in blue closely correlate results of site monitoring with results of national monitoring. Results are comparable if the methodology is harmonized. That is why it is important, whenever possible and appropriate, to harmonize monitoring methodology for a species/habitat on the site level with the one on the national level.

Comparison of site monitoring and national monitoring for species and habitats are the following:

1. Methods proposed within the framework of national monitoring program most often can be applied in the site monitoring program. For site monitoring program it may be appropriate to plan some different or even more detailed and more demanding methods that will answer some site-specific questions related to management activities.
2. Although the methodology may be the same, the size of the sample and sampling frequency is different at the national level than at the site level.
3. Monitoring results are the basis and guidelines for changes in management. Changes may reflect on the changes in conservation measures at a Natura 2000 site or protected area level through a management plan (for example, through amendments of the plan), while on a national level (particularly for widely present species and habitats) these monitoring results may fit in, for example, conservation measures within plans for managing natural resources (forests, waters, hunting…) or in management plans for species or in conditions for species use.

Site monitoring directly assesses activities of the management plan, but national monitoring can not so directly assess the reasons behind observed changes in monitoring results.

More on monitoring and guidelines for site monitoring can be found at CAEN's website (http://www.CAEN.hr/hr/tematska-podrucja/prirodne-vrijednosti-stanje-i-ocuvanje/pracenje-stanja-prirode).

Guidelines for developing national monitoring programs, list of species and habitats for which programs were developed and the programs themselves, can be found at: http://www.CAEN.hr/hr/tematska-podrucja/prirodne-vrijednosti-stanje-i-ocuvanje/pracenje-stanja-prirode/provedba-pracenja.

Lists agreed upon at the EU level can be used to prepare monitoring program for species or habitats, including sizes of population, and defining threats and conservation measures, which were developed for the reporting purposes according to the Habitat Directive and Birds Directive that can be found at the European Environment Agency's (EEA) website under References:

Habitats Directive: http://cdr.eionet.europa.eu/help/habitats_art17

Birds Directive: http://cdr.eionet.europa.eu/help/birds_art12

Some parameters can be monitored by a *proxy* indicator with which it is possible to collect information with fewer capacities. That way it is possible to focus on *umbrella species* (for example, Saproxylic beetles as a measure of conservation of forest species dependent on deadwood) or proxy (indirect) parameters (for example, number of sold fishing permits as a measure of fishing pressures, because it is not possible to collect data on the real fish catches on the river).

Geodiversity

For geosites/geoheritage one can monitor their numbers, surface areas, density, state (whether they are polluted, whether they are covered, are there damages, is the process stable, the level of groundwaters, water flows, physical and chemical quality indicators, sediments, erosion, etc).

B. Sustainability of use of natural resources

Effect of sustainable use of natural goods is measured through biodiversity.

For each sector (forestry, fishery, hunting, water management etc.) participation in developing and monitoring nature conservation conditions (if there are any) in sectoral documents (forest management plans, hunting management plans, fishery plans, etc.), mitigation measures (if there is appropriate assessment for a plan or program), activity implementation (for example, regular meetings and field visits with Croatian Waters), joint projects with other sectors, implementation of user education, etc. can be monitored.

C. Cultural heritage and traditional values conservation

For cultural heritage one can monitor the numbers and the state of tangible and intangible cultural heritage (for example, list of cultural heritage, state of conservation, etc.).

Tradition values are a tool for conservation of natural values and traditional way of life. For tradition values the numbers and the state of traditional activities that existed or still exist can also be monitored (for example, traditional ways of grazing, using traditional tools for freshwater fishing, etc.).

D. Visitor management, interpretation and education

For visitation the number and distribution of visitors, visitors' attitudes, visitation impacts (for example, erosion, disturbance, litter), visitor safety, list and spatial distribution of visitor infrastructure or the number of visits to info-centres and visitor centres can be monitored.

Related to education, the number of functional educational programs and number of participants can be monitored; level of awareness of visitors and local community, satisfaction of program participants, etc. can be measured.

Related to promotion, articles in the media and press releases can be monitored.

E. Cooperation with the local community

In cooperation with the local community, attitudes towards PI and also PI's attitudes towards local community; records of meetings, workshops and trainings with the local community (number of meetings, number of participants, topics, etc.), number and continuity of publications intended for the local community, records of joint activities and projects (numbers, themes, etc.) can be monitored. The local community's benefits from the protected area (socio-economic

research), for example employment, tourist offer, incentives, placement of local products, etc. can be monitored also.

F. PI's capacity development

For human resources the number of employees, whether all positions are filled, level of education of staff (knowledge and skills), training (number of training days per staff and per department, type and topic of training), job satisfaction, etc. can be monitored. Working processes in the institution can also be monitored.

Related to legal acts, the existence and level of harmonization of valid PI's legal acts with legislation can be monitored. Also, the number and the state of the equipment can be monitored.

Cooperation, partnerships, participation in EU and other projects, etc. are also monitored.

5.4.5.1 How to ensure availability of indicators?

In order for indicators to be easily accessible, PI needs to keep appropriate records. **Keeping records is necessary for PI's business**.

Sometimes several different indicators can be measured at once (for example, during a field visit a presence of a species, as well as poaching activities can be monitored), and indicators may overlap (for example, spatial data entered into the GIS database). That's why it is necessary to review all the indicators and list additional activities dealing with collection of appropriate data which will monitor implementation. Very often these activities foresee establishment of different records and reporting systems on individual segments of work.

PIs already have at least the following records which are a part of the annual report:

- adopted planning documents and general legal acts
- procured and rented material resources (property, movables, equipment)
- employment: newly employed staff and staff who left the PI
- staff training and education
- implemented research and monitoring of species and habitats
- number of visitors, number of visitors per site, visitor research
- number of daily field reports and misdemeanours/forbidden activities according to zones or areas of ranger control
- records on the type of misdemeanour/forbidden activity
- issued concession permits
- issued concession approvals
- number of developed educational programs

In addition, numerous PIs already have well established GIS databases.

These are **the types of records** that PIs can use with the aim of implementation monitoring:

- spatial data bases
- field reports
- implementation of measures (for example, eradication, controlling the spread of a threat, fire protection, etc.)
- information materials

- organized public events
- participation in public events
- implementation of education
- field training
- press releases
- visitor infrastructure
- ticket sales
- infrastructure projects
- volunteer programs and number of volunteers
- official correspondence and statements
- meetings
- agreements and partnerships
- projects
- procurement plan
- list of equipment
- education of staff
- recruitment and staff profile
- official documents and procedures
- annual programs and reports
- annual financial plans and reports, etc.

Development of implementation monitoring includes collection and systematization of activity indicators in appropriate databases/records, through which additional activities that monitor plan implementation and achievement of objectives are defined. Examples of activities for monitoring implementation can be found in the following frame.

Defined activities for monitoring implementation need to be distributed in the appropriate management themes. A great portion of these activities will fit into the *Developing PI's capacities* theme.

EXAMPLES OF ACTIVITIES FOR IMPLEMENATION MONITORING*
Databases • Establish and regularly update database with an overview of implemented research, monitoring, studies, project designs, and monitoring programs with the accompanying reports and papers. • Establish and regularly update area's spatial database (GIS database) which includes: o management zonation of the area o data on biodiversity o data on geodiversity (including speleological sites) o data on cultural heritage.
Records – field reports, measures implementation • Content, format and records of rangers' daily field reports should be harmonized with indicator elements needed for monitoring implementation and management plan effectiveness. • Keep daily field reports (by all employees in the field). • Establish and keep records of implemented measures of eradication/control of spread of invasive and allochthones species. • Establish and keep records of PI's and authorized institutions' reports on forest conservation and firefighting measures.

- Establish and keep records of implemented nature conservation conditions and measures for the Program of water maintenance works in the area of protection against adverse effects of waters (issued by MEE, proposed by CAEN).
- Establish and keep records of implemented measures for conservation of target Natura 2000 species and habitats.

Records – informational materials, public events, education, field training, press releases

- Establish and keep records of produced informational materials, distribution plans and the number of users, their profile and satisfaction.
- Establish and keep records of the number and type of public events organized by PI and in which the PI has participated, including the number of participants, and partnering organizations.
- Establish and keep records of educational activities and materials, including the number of users, their profile and satisfaction.
- Establish and keep records of implemented "schools in nature", field classes of schools and universities, internships, profile and number of involved schools/students, faculties/students, and ways of PI's support.
- Keep records of appearances in the media and press releases, and statistics of the official website and social network pages.

Records – visitation infrastructure, ticket sales, infrastructural projects

- Establish and keep records of the number, contents and maintenance of educational-informational and other trails and tourist signalization.
- Establish and keep records of methods of selling tickets, the number of sold tickets. (For parks, this is dealt with an electronic ticket sales and control system.)
- Establish and keep records of project documents and implemented works related to construction and infrastructure projects.

Records – official correspondence and statements, meetings, agreements and partnerships

- Establish and keep records of PI's official correspondence and statements, and minutes from the meetings related to advocacy and cooperation with other institutions and stakeholders.
- Establish and keep records (including minutes) of all meetings held with bodies of state, regional and local administration and self-administration, and users of natural goods in regards to their management obligations.
- Establish and keep records of all meetings and other actions related to supporting local community and stakeholder groups which implement activities in the area (for example, cleaning speleological objects, management of privately owned forests, building of traditional architecture, maintenance of habitats such as mowing grasslands, etc.).
- Establish and keep records of cooperation agreements, membership in networks and contracts with partnering institutions, organizations and concessionaires.

Records – projects, procurement, equipment

- Establish and keep records of proposed and approved projects that PI has participated in or supported in any way.
- Keep records of the procurement plan for equipment and services, and procurement reports.
- Keep records of equipment and vehicles, and reports on their maintenance.

Records – education of staff, recruitment, staff profiles

- Keep records of PI's staff participation in formal and informal trainings.
- Keep records on recruitment and profiles of employees.

Records – official acts and procedures, annual programs and reports, annual financial plans and reports

- Develop a plan for adopting official documents and introducing PI's standards and internal procedures, keep records on the status of their preparation and adoption.

- Drafting and adopting annual programs and reports and financial plans and reports.
- Minutes from sessions of the Governing Council.

* Examples of activities in this frame are not written in SMART form

Possibility of additional systematization of monitoring plan implementation and effectiveness

Those PI's which are already capable of doing so, may additionally systematize indicators and may more effectively monitor the management plan.

After the indicators are defined, they should be listed. Additionally, the list of indicators can also be systematized according to group of related indicators (as an additional table):

a) Indicators whose objective is to monitor the status of the species/habitats/eco-systems/geodiversity
b) Indicators whose objective is to monitor pressures/threats
c) Indicators whose objective is to monitor implementation of activities

After the indicators are grouped, it needs to be checked whether there are monitoring programs for these indicators (if they are necessary). Then it needs to be marked which indicators are monitored through some of the monitoring programs for species and habitats, and check whether the existing programs for monitoring indicators overlap with the monitoring program. In the end it should be checked which indicators can be monitored together/with one monitoring program, and then the programs need to be harmonized (changed, amended, abolished, new ones prepared/planned).

All the above needs to be listed and a joint program for monitoring the plan implementation should be drafted.

5.4.6 Management plan coding

In order to easily monitor plan implementation and effectiveness, draft relation tables, as well as plan and report on an annual level, it is necessary to code the management plan. Each theme, specific objective and activity needs to have a unique code. Themes are labelled with letters (A, B, C…), as well as objectives (for example, objective A.A, A.B, A.C), and activities with related objective's letters and numbers (for example, activity A.A.1, A.A.2, A.A.3).

EXAMPLE OF MANAGEMENT PLAN CODING

THEME A. NATURAL VALUES CONSERVATION

OBJECTIVE AA: Population of fish species is conserved or increased compared to levels determined by initial assessment.

ACTIVITY AA1: Monitor the population of fish species every three years.

ACTIVITY AA2: During the first year of plan implementation establish a monitoring system and then monitor the number of fishermen and catch quantities in the Park's area every year.

ACTIVITY AA3: In order to strengthen cooperation, regularly organize annual meetings with fishermen and their organizations.

5.4.7 Management zonation

Before these Guidelines were developed, **standard for management zones of protected areas in Croatia** was used. For these Guidelines the last amended version developed by the State Institute for Nature Protection in 2013 was upgraded and adapted to best practice.

Management zonation is a result of the zoning process which divides a protected area into zones (limited spatial units). It separates the geographical areas for conservation of specific values while considering the degree of their conservation and management need. Zoning is one of the basic tools in site management planning with the aim of long-term conservation of values. In the zoning process the existing management needs are established and future management needs are planned with the aim of nature conservation.

Management zones are defined ranging from an area with almost no human impact to a zone in which an area can be significantly changed by human impact. The sequence of zones does not imply the value of specific areas, but it reflects spatial management needs for a specific protected area with the aim of conserving specific biodiversity and geodiversity.

Zones are defined according to conservation needs of certain values, while taking into account permitted and/or appropriate human activities.

When zoning, all available spatial data and background studies should be taken into account - for example the distribution of Natura 2000 species and habitats, data on other significant species and habitats, cultural values, geosites, and assessment of their state, data on the existing and planned infrastructure, settlements, land use, etc.

Zone boundaries are designed in a way to be clear and easily recognizable. It is important to have a possibility of controlling individual zones, in order to ensure the effectiveness of measures implemented in individual zones.

Management zonation is adaptable and should be harmonized with new data crucial for conservation of values. This can be done during revision of the management plan or sooner if needed.

To which areas/sites should management zonation apply?

Management zonation is used for all areas protected in national category, and where appropriate, for Natura 2000 sites. Management zonation should be applied at Natura 2000 sites when PI's conclude that it could be useful in their work.

Management zone standard foresees the three basic zones:

- I Strict protection zone (with Sub-zones IA and IB),
- II Active management zone (with Sub-zones) and
- III Sustainable use zone (with Sub-zones).

All zoned areas/sites do not need to have all envisaged zones. This will primarily depend on the management needs. Presence of certain zones, particularly of the strict conservation zone is conditioned by the regime of the national category of protection. Certain areas will not include I Strict conservation zone, but it does not suggest that zonation should not be done. In some cases for sub-zones of II Active management zone zoning is a remarkably useful tool.

In which case should a Natura 2000 site be zoned if the site isn`t nationally protected?

Zonation can be a solution for conservation objectives and measures that are not compatible within a single site. For example, at Neretva delta the active management zone is divided in two sub-zones. For *Charadrius alexandrinus* it is necessary to remove the vegetation on the sites which are favourable for nesting, while for *Himantopus himantopus* it is necessary to elevate platforms among vegetation. Given the fact that species inhabit the same area, the zoning process can define zones in which habitats for nesting of *Charadrius alexandrinus* will be revitalized (through removing the vegetation) and zones in which the vegetation will be left and only platforms will be elevated for nesting of *Himantopus himantopus.*

For mapping of zones the use of following colours is recommended:

Zone	Color
IA	dark green
IB	light green
II	yellow
III	purple

Management plan, in its section dealing with the management zonation, describes and maps individual management zones and sub-zones of the area. Description contains management objectives for the zones and sub-zones, areas/sites that they include, an overview of desirable and undesirable activities in the zone/sub-zones, and maps clearly display zones/sub-zones with their boundaries.

Sub-zones can be labelled by a variation of the basic zone colour or differently if appropriate (for example, dotted), but every map has to contain a legend.

The same management zonation is applied to land and sea, and zones are shown on the same map. Also, tables show percentage statistics of certain zones in the total surface of the protected area.

5.4.7.1 I Strict protection zone

Strict protection zone encompasses areas of natural ecosystems unaffected by humans or the ones which will be excluded from human impact in the future. As these ecosystems are integral

ones, they do not require the application of active conservation measures. Interventions are allowed only exceptionally in emergency circumstances (for example, firefighting, invasive alien species eradication, recovery of damages generated by extreme events such as pollution, disasters, etc.).

Management objective in this zone is to conserve natural processes and natural ecosystems.

This zone most often includes natural forests and rivers, sea and rocky habitats.

Extraction of natural resources of any type (for economic, recreational or for personal use) is not permitted in this zone. Only scientific research and monitoring the state of natural values with an appropriate PI's supervision are permitted.

If area's category of protection, features or management need require so, the strict conservation zone may be divided into two sub-zones – IA and IB. Zone IA corresponds to a *no take – no entry* zone, while IB is a *no take* zone.

In sub-zone IA access is limited to scientific research, monitoring and ranger supervision/control.

In sub-zone IB, besides scientific research, monitoring and ranger control, a very-low intensity visitation is allowed under the PI's supervision and guidance, with the obligation to only use trails for visitors or, for example, vessels of certain size and speed. In this zone no visitor infrastructure is planned.

In accordance with the definition of the category in the Nature Conservation Act, this zone should cover majority of surface in strict reserves and national parks.

5.4.7.2 II Active management zone

Active management zone includes semi natural ecosystems, geosites, and isolated sites of cultural heritage which require implementation of active management measures of maintenance or renewal with the aim of long-term conservation. This zone includes natural ecosystems in which the category of protection allows use of natural goods, and which require enforcement of measures for securing sustainability of use. In this zone it is expected to have a stronger involvement of the PI.

Management objective in this zone is to conserve and/or improve the state of biodiversity, geodiversity, and cultural heritage.

Scientific research and monitoring of natural values and PI's supervision are permitted in this area, as well as the implementation of active measures aimed toward conservation and improvement of the ecosystems (terrestrial and marine), geosites and cultural heritage. In accordance with the Nature Conservation Act on permitted activities within certain categories of protected areas, this zone permits agriculture, hunting, fishing and forestry in accordance with the prescribed nature conservation requirements and conservation measures.

Visitation is permitted only if corresponding conditions depending on the conservation objectives in a certain area are obeyed. Accordingly, there is a possibility to establish minimal interpretation and education content and trails that do not require any interventions, except for the activities with the purpose of maintaining visitor safety (fence, cutting down dangerous trees alongside the trail, etc.).

In national parks and strict reserves this can be represented in smaller parts of the area, while in nature parks and majority of other national categories of protection and in the Natura 2000 sites, this is usually the largest sub-zone.

This zone can be divided into sub-zones, if needed, that will be focused on conservation/improvement of a certain ecosystem (for example, sub-zone of grassland conservation, sub-zone of wetland revitalization, etc.), geosites or cultural-historical sites. In Table 6, there is a list of possible titles for sub-zones.

5.4.7.3 III Sustainable use zone

Sustainable use zone includes smaller parts within a protected area in which the nature is significantly changed by a certain type of use, or parts of areas which are singled out as the most appropriate sites for different forms of high-intensity use, all in accordance with the nature conservation objectives, as a certain compromise between nature conservation and use.

Management objective in this zone is sustainability of present and planned use of space in accordance with the conservation objectives of the area.

This zone is most often divided into sub-zones depending on the type of use, for example Sub-zone of settlements, Sub-zone of visitor infrastructure, Sub-zone of quarries, Sub-zone of ports etc. (Table 6).

This zone usually encompasses:

- settlements
- separate objects of different purpose (mountain lodges, transmitters, army camps, etc.)
- areas of present intensive use (quarries, areas of intense agriculture production, etc.)
- significant visitor infrastructure, for example entrances, maintained visitor trails (walking, hiking and biking trails and paths), visitor centres, toilets, hotels, restaurants, etc.
- ports and anchorages
- roads and inland waterways
- forest roads and trails

Maintained visitor trails (walking, hiking and biking trails and paths) do not necessarily have to be displayed in the maps as sustainable use zones due to inappropriate scales in the maps; however it is necessary to state in the text that they are a part of sustainable use zone. As already mentioned, not all trails and paths need to be in the sustainable use zone - that will depend on their maintenance requirements and intensity of use.

5.4.7.4 Sub-zones

Zones can be divided in many sub-zones according to their specific management needs, which will be determined according to management options (as a reflection of the zone management objective). Within the sub-zones all the general rules for the zone will be applied, with more detailed specification of the type of PI's and users' activities and regulation of human impact depending on management needs.

Table below suggests the sub-zones titles that can be used when defining sub-zones.

Table 6. Proposed titles of sub-zones for Management zoning

ZONE TITLE	SUB-ZONE TITLE
I Strict protection zone	IA
	IB
II Active management zone	Sub-zone of species and habitats conservation (for example, grasslands, forests, aquatic habitats, bogs…)
	Sub-zone of habitats restoration
	Sub-zone of eradication/control of invasive species spreading
	Sub-zone of geosites conservation
	Sub-zone of cultural heritage conservation
III Sustainable use zone	Sub-zone of settlements
	Sub-zone of visitor infrastructure (info centres, visitor centres)
	Sub-zone of tourism and catering infrastructure
	Sub-zone of ports
	Sub-zone of anchorages
	Sub-zone of intensive agriculture
	Sub-zone of active exploitation fields
	Sub-zone of army facilities

Zonation in other management documents

Management zonation is feasible only if there are tools for its implementation. Management plans are strategic documents/operational plans of a PI with limited strength, and limitations that refer to different types of use that have to be transposed into appropriate legal acts. According to the Nature Conservation Act, limitations and prohibitions related to management zones of a protected area are prescribed in more details by the **Ordinance on protection and conservation** and **Decision on protection and conservation measures for a protected area**.

Limitations foreseen according to zonation for a Natura 2000 site theoretically may be made mandatory for all site users if they are defined as conservation measure for the area in the **Ordinance on conservation objectives and measures** related to target species and habitats for particular Natura 2000 sites.

Additionally, specific types of limitations and prohibitions may be incorporated into National and Nature parks´ **spatial plans**, and in case of other national categories of protection and Natura 2000 sites they may be incorporated into other spatial plans.

Given the fact that management/planning documents are rarely produced at the same time and that there may be small differences in zonation, in the new documents which use newer data on the basis of which zonation is defined, zonation from different management/planning documents has to be compatible at least on the level of the main zones, to avoid any conflicts in management and planning of future area use. If there are significant changes in zonation, it is necessary to harmonize zonation of older documents accordingly.

5.4.8 Financial needs

Financial part of the plan is cost assessment aiming for better and more realistic planning. The aim of this section is to get a general idea on funds needed to implement the management plan.

Management documents, particularly those that refer to a 10-year period cannot assess in detail the needed financial resources for such a long time period.

Detailed assessments of financial needs are done in annual financial plans. Annual financial plans are done for a three-year period and the plan is prepared for the upcoming year with the projection for next two years.

Annual programs and annual financial plans

At the time these Guidelines were written, there was still no link between annual programs and annual financial plans, however the Ministry of Environment and Energy and PARCS project were working on the establishment of Financial Management Information System (FMIS) for National parks and Nature parks. The long-term objective is to connect the adoption of the annual program and financial plan, and later to introduce an accounting system based on activities, so called ABC method (*activity based costing*). It will then be possible to connect annual financial plans and annual programs and monitor the implementation of management plans based on activities.

Management plan includes at least the implementation costs of certain plan activities, meaning that it is not necessary to list all additional costs (for example, overheads, human resources).

If the PI decides to present costs of regular work, it can present them through individual themes, i.e. in the cost of implementation of a certain activity it can also include regular work and possible additional costs (for example, third party payments). PI's which are experienced in writing project proposals already have the experience of planning activity-based costs and including the staff work into the activity implementation cost (for example, number of field days, number of days needed for drafting a report, etc.). Certain regular activities such as ranger control and administration can be shown through the theme *PI's capacities development*.

If the PI decides not to show costs of regular work in its management plan it is necessary to stress it - when assigning financial figures to certain management activities it must be clearly stated that these costs do not include costs of PI staff.

At the time of writing these Guidelines, majority of PI's, when planning their finances at the management plan level, did not assess the staff cost. However, it should be done at least on the annual level. In the future, the assessment of all costs in management plans should be done and the PI's are encouraged already, if possible, to assign all their costs in the management plan.

When determining the finances it is also necessary to plan for increase in human resources. As was explained in the section *Management Plan Themes*, the increase in human resources should be stated in the theme of *PI's capacities development*.

It is not necessary to list financing sources because they are defined on the annual level. However, during assessment of financial needs it is necessary to take into account all available sources of financing.

5.4.9 Management plan implementation format

All parts of the Management section, except for vision, zonation and evaluation according to management themes are presented in the final version of the management plan in the table format (Table 7). This table can also include a column on the estimated expenses for each year of plan implementation.

Table 7. Table with activities, indicators, time schedule and collaborators

THEME A. NATURAL VALUES CONSERVATION														
General objective: A														
Activity code	Activity	Activity indicator	Priority	**Time schedule**										**Collaborations**
				G1	**G2**	**G3**	**G4**	**G5**	**G6**	**G7**	**G8**	**G9**	**G10**	
Specific objective AA: Indicators of specific objective AA:														
AA1														
AA2														
AA3														
Specific objective AB: Indicators of specific objective AB:														
AB1														
AB2														

5.5 Literature

Section *Literature* lists all sources and references used during drafting of the management plan. It does not serve to list all the research studies done in a certain area, nor does it list all the laws and bylaws relevant for nature conservation. It should only include the literature used in the process of management planning. It can also refer to the Standard NATURA 2000 form (SDF), which contains further references.

It is not relevant which citation method is used (Harvard citation or some other) but it is important that **all used references are cited according to the same system and that all literature references include the following: all authors, years of publication, title, publisher and place of publication**.

5.6 Annexes

Section *Annexes* is used for enclosing information that the PI considers important for understanding the management plan, and which are not appropriate to be presented in the main body of the management plan, for example, due to the type of the information (various lists) or its length. **Section *Annexes* is an optional section**. If the PI decides that Annexes are necessary they should be listed in the end of the document.

List of possible annexes:

- List of stakeholders (also possibly the level of their involvement)
- List of species (list of endangered and strictly protected species) and habitats

- Certain relevant maps, for example map of habitats, vegetation map, cultural objects, etc.
- List of sites of architectural heritage and cultural heritage monuments

List of annexes not relevant for the management plan:

1. Laws and by-laws and documents regulating management of the area
2. Overview of inventory and research projects
3. Textual description of areas' boundaries

6 Process of management plan development

Management planning is just one step in the adaptive management cycle (figure 1, section 3.2.1), and these guidelines are dedicated to that stage. In narrower terms, planning refers to a stage in which vision, management objectives and activities are defined. However, appropriate defining of objectives and planning of business activities is not possible without a comprehensive analysis of the situation – the evaluation. Therefore, just as the evaluation and planning stages in reality are intertwined, they are also both implied when referred to the management planning in the context of these guidelines.

6.1 Management planning principles

Management plan is a strategic and operational document of a PI, aimed at their responsibilities and partnerships that can be achieved by its implementation. It should be **commitment driven** and based on the obligations arising from the category of area protection, both national and international.

Management planning should be considered as a process, rather than a product. The **planning process** is as important as the plan itself. The process should involve the whole staff, as well as the stakeholders of the area. The larger is their **involvement in the process**, the stronger will be the sense of ownership over the management plan and the partnership for its implementation. Moreover, the structured process within the PI contributes to the establishment of the team and enhances its effectiveness.

The **size of the management plan** should reflect the size and complexity of the area. However, the plan must not be too extensive so that it can be used and consulted on a daily basis. It has to be written in a clear and understandable way, and readily **accessible** to the PI staff and the stakeholders of the area.

The management plan should **reflect established practice and procedures** (if legal and effective in terms of nature conservation), and should be harmonized with area management context. This does not exclude introduction of new ideas or practices, but if the plan is perceived as too radical or too threatening it may not be accepted.

The management plan should foresee the capability to **adapt**, modify, update and alter any of its components in response to changing circumstances or new insights.

The plan should define and strive for ideal objectives, but in accordance **with the recognized realistic circumstances**. It should plan for **its own sustainability/feasibility**, as well as that of the area it concerns.

The planning process and the management plan should be **formally** recognized and adopted by all relevant authorities/institutions.

And finally, the management plan should be based **on the best available knowledge** at the moment of its development. Although there must be a certain amount of data on the values of the area already present, the plan should also encompass gathering of information that is missing.

6.2 Steps in the management planning process

Management plans of Natura 2000 sites and protected areas are developed through a single structured process. Designing the structure of the management planning process is a very important and sensitive task, which requires a certain amount of time, knowledge of planning principles and techniques, critical thinking skills and the capability of causal foresight.

The management planning process is comprised of a series of steps and methods that result in an adopted management plan. If the process is well structured and implemented, it will produce an added value – it will strengthen the cohesion and dedicated team work of the PI staff, and enhance the understanding and support of the stakeholders.

Below are the **steps in the planning process** which were compiled based on the existing experience in management planning in Croatia. It is important to mention that these steps do not necessarily have to follow that order. Where possible, it is noted that a specific step takes place in a longer period of time or that it has to be reiterated several times during the management plan development.

The steps of the management planning process or types of activities that need to be performed during the process:

Preparation for planning:

- Establishing the planning team
- Structuring the planning process (what, when and how)

(Initial) assessment phase:

- Evaluation of the current management plan implementation (if there is one) or analysis of PI`s work (if a plan does not exist)
- Stakeholder identification and analysis
- Developing stakeholder participation plan
- Informing stakeholders
- Gathering stakeholders opinions and views (where necessary)
- Gathering existing data and analysis of values, pressures and threats
    - This includes gathering of the existing data by reviewing current literature and other sources of information, as well as through stakeholder workshops and internal workshops
- Defining objectives and conservation measures for Natura 2000 sites (CAEN and PI`s in collaboration)
- Evaluation according to management themes (usually carried out after defining management plan themes)

Planning stage (adaptation through planning):

- Writing the introduction and context section (at any point in the management planning process)
- Writing the description of the area values (at any point in the management planning process)
- Writing the planning process and stakeholder participation section (at the end of the planning process)
- Defining the vision for the area

- Defining management plan themes
- Defining general objectives
- Developing specific objectives and indicators (with reference to conservation objectives)
- Developing management activities and indicators (including the transposition of conservation measures into management activities)
- Developing additional activities and indicators for implementation monitoring and management plan effectiveness
- Defining management zones (it can be done at an earlier stage, not necessarily after developing management activities)
- Assigning priorities and timetables and identifying collaborators in the implementation
- Planning financial resources for the implementation of the management plan
- Adding annexes

6.2.1 Establishment of the planning team

Management plans developed independently by external consultants, without a structured process and significant participation of the PI staff are poorly received within the PI and rarely used and implemented. When excluded from the planning process PI staff misses to gain new skills and experience needed for the upcoming site management. Additionally, due to poor understanding of the area and situation, such plans often fail to define real management needs and objectives for the area. On the other hand, experienced consultants, planners and facilitators guiding the PI staff through the structured planning process can significantly help the PI team in the plan development. The result is high quality and applicable final document.

In order to ensure appropriate management objectives, directions and activities, PI staff should be fully engaged in the management planning process. Additionally, the PI staff will have a stronger sense of the ownership of the plan. The planning process should be guided by a selected planning team.

The core planning team should include:

- Leader of the planning process (an experienced planner within the PI or an external consultant)
- Management planning coordinator within the PI (if the process is led by an external consultant)
- Facilitator (an experienced facilitator within the PI or an external consultant)
- Director of the PI
- Conservation manager of the PI
- Chief ranger
- PI employee – biological science specialist
- PI employee – other nature sciences specialist
- PI employee – social science specialist
- Heads of all organisational departments of the PI

In PI's that do not have all the above personnel, the core planning team should include all staff members that might significantly contribute to management planning.

Beside the above members of the core team, the following can occasionally be invited:

- Individual members of the PI's Governing Council
- Individual members of the PI's Collaborative Council or Committee
- Representatives of responsible authorities (nature conservation, physical planning, etc.)
- Representatives of key stakeholders
- Any other individuals and stakeholders whose contribution, knowledge and/or expertise may be important

Management planning process should be monitored by the representatives of CAEN and MEE.

PI experienced in management planning or the one that manages less complex areas can design and lead the management planning process independently. If deemed necessary, it may involve a facilitator for individual stakeholder workshops.

If a PI lacks experience in management planning, or manages a larger and more complex area (for example, with conflicts from the past), it will need both a planner and a facilitator in order to ensure the quality of the planning process and the management plan itself. In that case, it is necessary to appoint a person from the PI as a coordinator of the management planning process.

Management planning through the OPCC *Development of Natura 2000 Management Framework* project

The assessment of PI's responsible for managing protected areas and Natura 2000 sites in Croatia indicated a lack in capacities needed for independent management planning. Therefore, within the next five years, the ***Development of Natura 2000 Management Framework*** project will provide support for the development of 106 management plans for over 350 protected areas and Natura 2000 sites.

Regardless of the planning process leader, the management plan is developed and written by the PI. Consultants assist in structuring and leading the process, advise the PI, review certain sections of the management plan, where required, and edit the final document.

It is important that all the members of the core planning team are able to commit the time and effort to the planning process. In case individual members are not able to be actively engaged in the process, they should not be a part of the core team, but participate in its activities when needed.

As soon as the core planning team is established, its members should get acquainted with the planning process. It is important that members of the core team understand the management planning process and their role before the process begins. This is the responsibility of the management planning leader and/or coordinator.

At the very beginning of the planning process, the core team should meet with other relevant staff of the PI and explain the importance and the role of management plan and its development.

External expert advisers in management planning and their role

In most cases, the PI does not have the staff trained and experienced in planning and facilitation, or the complexity of the area and its situation require the engagement of external specialist advisers. Specialist advisers to be engaged in such cases are:

- **Planning process manager (planner):** A planning specialist who designs the structure of the planning process according to these guidelines, and according to specificity and the PI's capacities. In agreement with the PI, the planning specialist leads the planning process, coordinates individual steps of the process, provides guidance to the PI in relation to planning steps, coordinates consultations and internal and stakeholder workshops, advises and provides guidance to the PI at every step of the planning process, contacts and hires other specialists and institutions if necessary, and compiles, adjusts and edits individual sections of the management plan.
- **Workshop facilitator:** In collaboration with the planner and the PI, a workshop facilitator designs the stakeholder consultation process and workshop structure, facilitates the workshops ensuring constructive participation of all stakeholders in achieving workshop objectives, analyses and processes workshop results, participates in other forms of consultation with stakeholders in the management planning process, and reports on the completed stakeholder consultations. If necessary, the facilitator also participates in the internal workshops with the members of the planning team.

In case of an insufficient degree of knowledge of the key values status within the PI and/or if the PI needs help in identifying management options, the following specialists can also be hired:

- **Specialists for species and habitats ecology or other specialists for key values:** They advise the PI and the planner in case of uncertainties related to a specific species/habitat or other values of the protected area and/or management options which have to be planned for a specific species or habitat or other values conservation.

6.2.2 Planning process structure

Successfully completed process and the development of the plan that is "owned" by the PI staff and the stakeholders, implies a designed structured process which includes a series of internal PI workshops, alternating with individual work and appropriate stakeholder workshops. Every step (regardless of their implementation order) has to be adequately addressed at stakeholder workshops (in accordance to the defined stakeholder participation plan), internal workshops with the core planning team, or through individual work. The number of days that will be spent on the PI team activities at internal workshops is usually much higher than the number of days required to organize stakeholder workshops. Additionally, gathering data, analysis, writing individual sections and final editing of the plan will require a lot of individual work by the members of the planning team.

Management planning is an iterative process, which means that in the course of the management planning process previous steps often have to be revisited.

When designing the planning process structure it is important that every selected work method (workshops, meetings, questionnaires, etc.) has a clearly defined objective which is understandable to everyone involved and related to the completion of specific steps in management planning.

Table 8. Management planning process, implementation and adaptation (according to: Vukadin, 2017)

	PLANNING PROCESS				IMPLEMENTATION AND MONITORING
	Compiling information	**Analysis and evaluation**	**Strategy development and decision making**	**Writing documents**	
Management plan development	Collecting and reviewing current literature and available information, including reports on the implementation of previous MP/annual programs; Conducting field assessments and collecting information on the site; Consultations with specialists	Analysis of gathered information; Identification of values and threats (factors) to these values; Evaluation of values conservation status; Assessment of relevance and management priorities	Development and selection of management options – the implementation section of the plan (objectives, activities, indicators, priorities, implementation costs, timetable, collaborators in implementation)	Writing the final draft of the MP; Writing summaries; Production of related information materials; Establishing data bases;	Implementing planned management activities and monitoring MP implementation; Monitoring species and habitats conservation status; Detailed elaboration of activities and indicators through annual programs; Regular recording of monitoring results (internal PI bases, annual reports on PI activities, etc.)
Adaptation of management	Data bases updated with monitoring results and information on species and habitats conservation status; New insights and practices	Analysis of the data collected through monitoring management activities and the species and habitats conservation status; Analysis of good practices and other information;	Decision-making about required adaptations to selected management methods	Regular MP amendments through annual programs; Revision of the management plan	Implementation of adapted management methods and further monitoring (of the management plan implementation and the species and habitats conservation status)
	← CONSULTATIONS AND COOPERATION WITH STAKEHOLDERS →				

6.2.2.1 Workshop contents and facilitation techniques (tools)

Each workshop has to have a clear objective, structure and guidance, while stakeholder workshops most often need to be facilitated. Facilitation helps guide the process towards a defined objective and requires certain skills and knowledge. Facilitator is a person that is educated and skilled to help people achieve better communication. Facilitator has to be impartial and focused on the communication process, not on the content. He must not impose his own ideas and thinking, but has to reflect and direct the discussion among participants (Dialogue Matters 2017). The position of the PI and nature conservation sector at workshops is communicated by the PI, MEE and/or CAEN staff.

Just as a workshop has to contribute to one of the steps in the process, so must its individual segments contribute to the objective of the workshop. Therefore, it is necessary to choose techniques used for each segment based on their function, and ensure that they fulfil the workshop objective. For example, if the subject of a workshop are values, pressures and threats, the objective is to agree on the values or to properly identify pressures and threats.

Moderating a discussion is a method that is widely used at all workshops and meetings. It ensures constructive discussion and equal participatory positions of all involved.

Presentation as a tool enables the circulation of as much information as possible in a short period of time and is frequently used at the beginning of a workshop, to set out the framework or limitations, and for feedback after group work. Most often, it is used to present the planning process and the role of the management plan or the results of a particular analyses at workshops, mainly with stakeholders.

A suitable evaluation tool at the beginning of the process is the **SWOT analysis** (*strengths*, *weaknesses*, *opportunities and threats analysis*). This method enables recognition of strengths and weaknesses of site managers or certain aspects of their work, as well as opportunities or threats in their environment that can affect their work. This analysis is used both at internal and at stakeholder workshops.

For visualization and analysis of pressures and threats, their causes and relations between them it is also useful to draft a **problem tree** (or a suitable OS tool – **conceptual model**). By its conversion into a **solution tree** it is possible to gain overview of the desired conditions and possible directions of problem solving. The **results chain** tool of the OS has a similar purpose.

Grouping of participants is used when certain themes need to be elaborated in more detail, to facilitate work or enable discussion and exchange of knowledge which would be impossible in a larger group. Once the group work is done, it is necessary to present the results to other workshop participants. This method is often used to define activities within different management themes.

Listing or writing of stakeholder ideas, for instance on a flip chart, can be used to gather useful information or creative ideas. Sometimes it is necessary to narrow down these ideas/information and to **identify** key **priorities**. Identifying priorities enables participatory selection among equally acceptable activities.

Metaplan can be used in case it is necessary to collect or exchange stakeholder ideas, expectations or problems, while keeping their anonymity. This is a method in which stakeholders write down their ideas which facilitator then collects, groups and presents to everyone involved.

Table 9. Contents that should be addressed during workshops for management plan development

Internal workshops*	**Stakeholder workshops***	**Section of the plan into which materials/contributions/results/suggestions from workshops are incorporated**
Presence and availability of required data		
Stakeholder analysis and selection of involving methods		Planning process and stakeholder participation
Analysis of previous MP implementation or the existing PI practice	Presentation of previous MP implementation or the existing PI practice and collecting comments	Management – materials for defining management activities and evaluation according to themes (primarily for the theme PI's capacity development)
Informing the members of the Governing Council on current results and forthcoming process		Planning process and stakeholder participation
Identifying or reviewing values, pressures and threats	Identifying or reviewing values, pressures and threats	Management – material to be defined: Management theme General and specific objectives Activities
Drafting or reviewing the vision for the protected area	Elements of the vision for the area if the plan is drafted for the first time or reviewing the vision if necessary	Management – Vision
Defining management plan themes	Presentation of management plan themes and general and specific objectives and collecting comments	Management – Evaluation according to themes
Analysis of the status/situation according to management themes		
Defining general objectives according to management themes	Presentation of management plan themes and general and specific objectives and collecting comments	Management – Objectives according to themes
Defining specific management objectives/conservation objectives		Management – Objectives according to themes
Indicators of achieving specific objectives		Management – Objectives according to themes
Developing management activities and/or conservation objectives	Developing management activities for selected management themes	Management – Management activities according to themes
Identifying indicators of activity implementation		Management – Activities indicators according to themes
Assigning priorities, collaborators and timetables	Identifying collaborators	Management – Management activities according to themes
Planning activities for monitoring		Management – Management activities according to themes
Finance planning		Management – Financial needs
Management zoning (mandatory for national and nature parks)	Presentation of management zoning and collecting stakeholder comments	Management – Management zoning
Presentation of the management process and plan to the members of the Governing Council	Presentation of the management process and plan	Planning process and stakeholder participation
	Public hearing	Planning process and stakeholder participation

*Individually described contents can be addressed in a number of workshops, depending on the complexity of the area, stakeholders and/or PI's activities.

It is often used at internal and stakeholder workshops for identifying values, pressures and threats and/or gathering ideas.

One of the techniques that can be used is **mapping**, or placing of collected information on a map, which can provide for example an insight on a place/location where certain stakeholder activities take place.

In case of significant conflicts between the PI and stakeholders, **conflict management and resolution** methods should be applied.

In all workshop segments it is imperative to treat all participants with respect.

Choosing a suitable technique requires thorough consideration. Additional information on facilitation techniques is available in publications on stakeholder involvement and facilitation listed in Section 7 *Useful references*.

After each workshop it is important to process and structure its results, prepare them for subsequent activities, share them with workshop participants, and if necessary to hold additional consultations or meetings. Results from each workshop are used in certain sections of the plan (table 9).

Table 9 describes the content which has to be addressed on the workshops, but it does not prescribe the number of workshops. It is a minimum of workshop contents which depends on whether a new plan is drafted or the existing plan is amended.

If a management plan is not drafted for the first time...

If a management plan is not drafted for the first time, then in the planning preparation stage it is necessary to conduct the **analysis of the previous management plan implementation and of the achievement of its objectives** (**or of the current management plan** if it is being amended).

6.2.3 Stakeholder involvement in the planning process

Stakeholders should be engaged in the planning process. The stakeholders are all those who have their share, title and/or interest in the management plan implementation. Stakeholder involvement in management planning is called participatory planning. Participation is about ensuring that those who are, directly or indirectly, affected by a plan are enabled to contribute their views, knowledge, experience or ideas to the plan's development. Participation has its benefits and risks, but it has become a standard in nature conservation. Excluding stakeholders from decision-making results in a lack of support and hostility towards the PI, and hinders the effective conservation of the area (Appleton & Hotham 2007). Participatory planning encompasses skills both in management planning and in engaging stakeholders and facilitation.

Stakeholders can be involved in the planning process on several levels:

a. They can be given certain information about an already developed management plan
b. They can be asked to provide specific information about different themes
c. They can be consulted about different themes
d. They can participate in decision-making

The higher the level of participation, the higher is the complexity of the process and the need for facilitation. Participation is an approach which gathers people of different interests to communicate, share knowledge, build understanding and to agree on future actions. This approach can be used to improve communication and decision-making in a number of situations. Good practice includes a balanced, skilled and well designed process of decision-making led by a facilitator (Dialogue Matters 2017).

Stakeholder involvement is preceded by the **analysis of the status of stakeholder participation.** The analysis considers the information that has to be collected, before the stakeholder involvement. Apart from that, the PI has to know which stakeholder information it needs in order to decide which stakeholders to involve. Some planning-related information that may be important to the site manager include: how do stakeholders use the area, are they land owners, what are their sources of income, what is their opinion about the PI, etc. In gathering the information, the primary stakeholder is the local community, or the people who live and/or work in the protected area/Natura 2000 site.

One part of this analysis is the **identification of stakeholders**. Stakeholders can be identified by various methods, for example geographically, according to their use of the area or according to management themes. They can also be identified through the sectors (stakeholders from civil, public and private sector), taking into account that representatives from all the relevant sectors, not just nature conservation, have to be involved. Identification should be as extensive as possible to make sure that all stakeholders have been considered. Further analyses can then be used to narrow down their number and to identify their role. Identification should be as specific as possible; later in the process it is possible to group stakeholders and appoint representatives of individual groups.

If a management plan is being amended, there already are certain information on stakeholders present, so the initial analyses will be shorter, and insights about stakeholders much deeper.

Stakeholder identification is followed by the **stakeholder analysis.** For that purpose, various recognized methods can be used to help select stakeholders and the level of their participation in planning. Some aspects to consider include current level of stakeholder participation in the PI's activities, their perception of PI, the use of different methods for assigning priorities, etc. A good way to assign priorities is to consider the stakeholders who will be mostly affected by the plan, as well as those who have major influence on successful implementation of the plan and achieving of its objectives.

Everything mentioned so far can be considered as preparation for the development of **participation plan** which will be different for every PI and reflect future management needs. Participation plan is a preparatory document defining the course of participation. It contains a list of (sometimes grouped) stakeholders, planned level of participation and all activities in the process (with methods) in which they will participate. This enables PI’s to extend or to simplify stakeholder participation in the management planning process. For example, the need for a stakeholder survey or the number of stakeholder workshops is planned according to the size and complexity of the area and the needs for collaboration. Foreseen activities should be set in the timeframe of the plan development by taking into account elements (themes), the below described participation methods and tools listed in the section 6.2.1.1.

Section 8 *Useful references* provides additional references on identification and analysis (prioritization), as well as the levels and methods of involving stakeholders into the process.

PI should ensure appropriate **method and quality of communication** with stakeholders. Communication should be timely, transparent, clear, focused and relevant. For example, it is important that stakeholders obtain information about the workshop **on time**; they should know **how the results will be used**; they should **understand the content** shared with them, **as well as their role in the process**; they should understand that the amount of that content is not excessive; they should know that the **subject being discussed is relevant/significant for them**. It is also necessary to adequately choose the method of involvement – that is in line with stakeholder characteristics and adaptable.

6.2.3.1 Stakeholder involvement methods

Usual methods for information gathering, especially at the beginning of the plan development, are **interviews, semi-structured interviews, questionnaires or focus groups.** Focus groups can also be used to deepen the knowledge about specific themes in later stages of the process.

Intensive, facilitated workshops are used for participation in decision-making, agreement about the values, defining objectives and planning management activities, and they are held at the beginning, in the middle and at the end of the management planning process, depending on the workshop subject.

Consultations related to various contents of the plan can be organized when it is necessary to obtain feedback, which can then be accepted or rejected.

Site managers should encourage the most active form of stakeholder participation, but they also have to consider whether it is suitable and realistic with regard to the situation at their site. The level of participation varies according to the relevance of different stakeholders to the implementation of individual management activities.

Benefits of stakeholder participation (according to Appleton & Hotham 2007):

- Gaining quality information about the stakeholders and the area, and the insights on their attitude about the area
- Understanding perspectives of different stakeholders can ensure a more realistic, effective and sustainable plan
- Stakeholders can obtain the right information about the PI activities
- Stakeholders can become more aware of problems, resources and opportunities of the area's management
- Involvement in the process can encourage support for plan implementation
- Relationships with stakeholders can be strengthened and dialog enhanced

Risks of stakeholder participation:

- Some groups or individuals may not be comfortable expressing their views openly in official situations or larger groups of people
- Poor dialog and communication can undermine the process of participation
- Since the participation process requires certain compromises to be made, it is important not to diminish the technical basis of the plan and its focus on conservation of values
- Participation does not mean that everyone can get the desired. The process can create unrealistic expectations and disappointment

Another important aspect is that the participation process is not linear; it requires periodical returning to gathering information about stakeholders, engaging of subsequently identified stakeholders, etc.

It is important to emphasize once again that participatory planning does not imply the fulfilment of all stakeholder wishes, but provides a platform for participation, building relationships and respecting opinions. In addition, a part of the stakeholder participation process is providing accurate information about the mandate and authority of the PI in relation to adequacy and/or legality of individual stakeholder wishes.

6.2.4 Drafting individual segments/sections of the plan

6.2.4.1 How to draft sections *Introduction and context* and *Description of the protected area values*?

At the beginning of the process it is necessary to collect and review all existing available sources of information: reports on the work of the PI, personal notes, records and data bases, scientific papers, studies, management plans from other sectors, statistical reports, maps, aerial and satellite imagery, historical documents, etc. This is a time consuming task and it serves as the basis for writing opening sections of the plan and description of the area. Additionally, to collect information that is less known/accessible or not written it is often necessary to discuss the matter within the PI, and sometimes with the stakeholders.

The section *Introduction and context* contains only factual information and lays out the framework and purpose of the management plan. It is written by one or several members of the core planning team of the PI. It can be written at any stage in the planning process.

The section *Description of the area values* provides information about the area in the form of clear and concise description of the fundamental values of the area. It is written on the basis of gathered information and data and knowledge available at the moment of drafting. Usually, it is compiled by several members of the core planning team, divided by professions and specialties. This section is to be written at the beginning of the management plan development, however, it has to be reiterated and reviewed after writing the evaluations according to themes.

6.2.4.2 How to conduct the analysis of values, pressures and threats?

Values, pressures and threats are usually defined during workshops – internally with the PI staff and externally with stakeholders of the area. Good organization of workshops often requires individual work of the planning team members on existing research and analysis of practices in the area management.

Identification and analysis of values, pressures and threats is carried out during workshops. The mostly used tool for identification is the metaplan, whereas the usual analytics tool that can be used with stakeholders is the SWOT analysis. While working with the PI staff, apart from the SWOT analysis, more complex analytical methods listed in the section 6.2.1.1. can also be applied. It is also very useful to assign priorities to pressures and threats during workshops in order to facilitate analysis.

The analysis of values, pressures and threats represents the baseline for defining management themes, objectives and activities (figure 3).

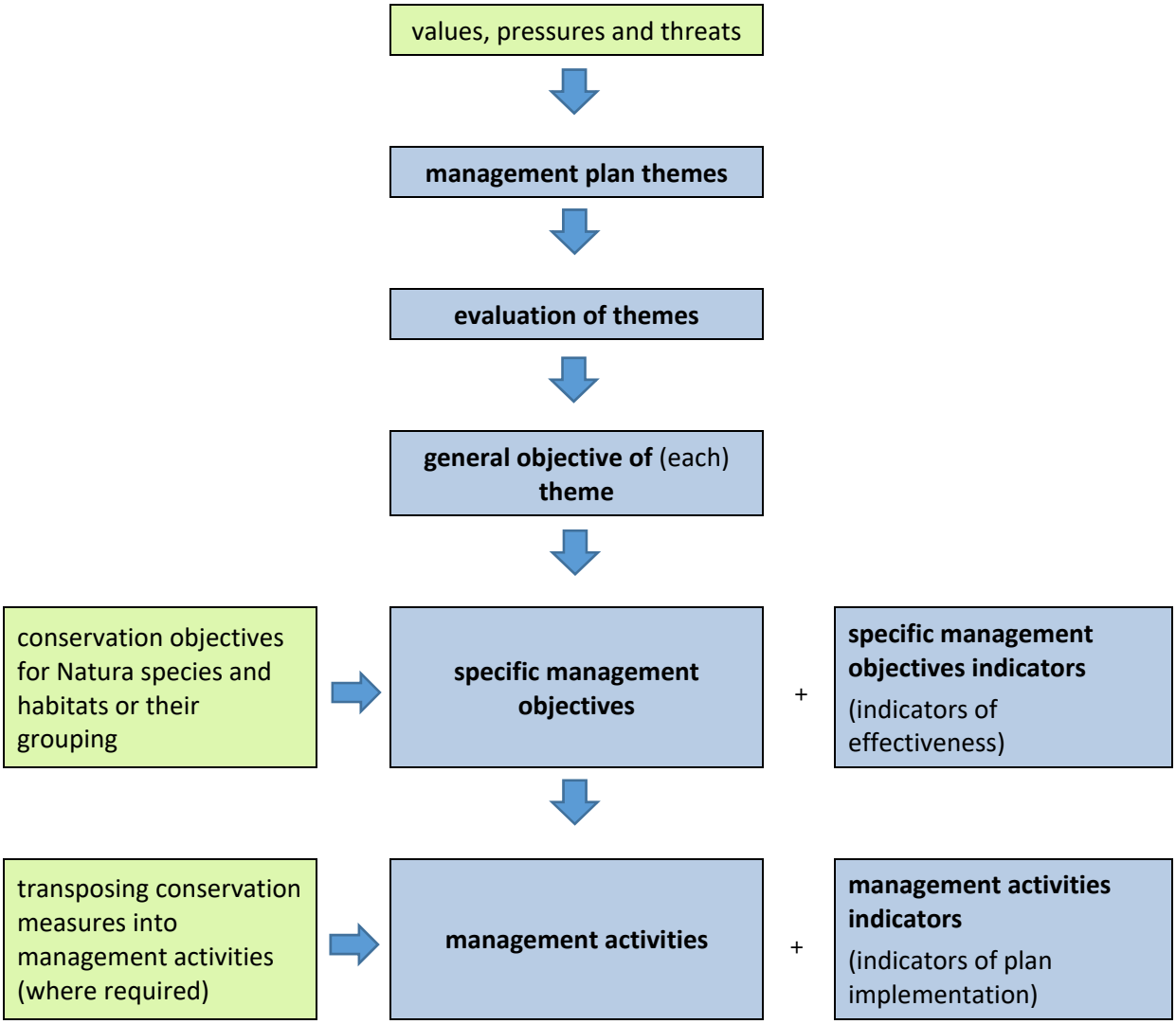

Figure 3. Main steps of the process related to drafting of the management section of the plan

6.2.4.3 How to define the vision for the area?

The vision should be designed collaboratively by as many employees of the PI as possible, so it would reflect the image of the area everyone strives for. It is recommended to involve stakeholders in the process as well, because designing the vision is a good opportunity for them to recognize that everyone (or nearly everyone) has a very similar vision of the area.

To describe the vision, one has to move away from current management issues the PI is faced with and imagine that they are solved. Therefore, the best way to design the vision is to move some 20 years ahead into the future and to imagine the area in a desired way and then describe it.

The vision can be defined by various methods, including drawing, writing down the elements of the vision or by conceiving an integral vision.

Designing the vision is not easy and it should be reiterated throughout the management planning process until all members of the planning team agree on it.

QUESTIONS WHICH MAY HELP IN DEFINING THE VISION
• Imagine yourself 20 year from now, the year is 2038. • The area looks just like you always wanted it to be! • Who is in the area, who is coming? • How does the area look like? What is the nature like? • How is the area developing, how is the nature conservation funded? • What is still here, what has been preserved? • What is new in the area, where is it heading? • What is the behaviour of local population, how do the visitors behave?

6.2.4.4 How to carry out the evaluation?

Evaluation is the core of the thought process of management planning. It is a qualitative overview of the situation in every segment of management (theme) from where the establishing of objectives and selecting of management directions and activities begin. Each particular theme is approached analytically, by assessing the status/situation within each theme. All weaknesses (problems) as well as their direct and indirect causes are considered. Strengths and opportunities (available possibilities) are also considered. In this process the SWOT analysis and other analytical methods (see section 6.2.1.1) should be consulted, because they can help to equally consider positive and negative aspects of management and to take the constructive approach to problem-solving.

Analyses for evaluation according to themes are conducted at internal workshops of the PI, usually in a facilitated process which gives every participant the opportunity to share his views and suggestions. It is best that, regardless of the theme, all departments of the PI participate in the evaluation, because it can help provide a more comprehensive perspective of the situation, a wider range of ideas and mutual understanding within the PI. For data interpretation or understanding certain factors a help of external experts (specialists for specific segments) will be needed.

As management problems are usually very complex and multi-layered, the time needed for this part of the process must not be underestimated. It is often the case that the ideas for management activities arise spontaneously in the discussions during the evaluation and subsequent individual work, so logically these two steps of the process should be combined.

The process of evaluation is closely related to devising specific management objectives within each theme and serves as the basis for selecting management activities. The evaluation is based on the results of the stakeholder and internal workshops related to the analysis of values, pressures and threats. The evaluation should also consider other available analyses, such as different management effectiveness tracking tools (RAPPAM, METT), protected areas benefits assessment (PA BAT), assessment of the level of local communities participation (WWF indexing), etc.

Following the evaluation-related team work at workshops, the collected and analysed data, as well as the above instructions for the status analysis (see section 5.4.2.1), will serve as the basis for compiling a short textual **evaluation according to themes.** The size of this section will depend

on the complexity of the theme and the existing data, and it is usually independently compiled by a selected member of the planning team for a specific management theme.

Once the objectives and activities are defined, the evaluation text should be revisited and revised where appropriate so as to ensure that the evaluation justifies what is planned.

6.2.4.5 How to define objectives?

Conservation objectives

In a broader sense, each specific management objective related to a natural value can be considered a conservation objective. **However, in the context of these guidelines it is used in its narrow sense and represents the term defined by two EU directives (The Habitats Directive and The Birds Directive) and it is associated with the management of Natura 2000 sites.** Conservation objectives are defined for every single target species and every single target habitat type of a Natura 2000 site. For Special protection areas (SPA) conservation objectives are already prescribed by the Ordinance on the conservation objectives and conservation measures for birds in SPAs (OG 15/2014). The Ordinance will also prescribe conservation objectives and measures for conservation of areas important for species and habitat types (Sites of Community Interest – SCI, future Special Areas of Conservation - SAC).

Conservation objectives and measures (for SCI areas) are prepared by CAEN in collaboration with the competent PI in the preparatory stage of planning. The first step in defining objectives and measures is the analysis of the existing data (researches, monitoring, studies and other data), for which CAEN is responsible. Studies and surveys containing data on the values and threats to the area (written by scientists and specialists in the process of defining the Natura 2000 ecological network), the data on environmental requirements, the data on population sizes of species in the given Natura 2000 site and the data on the quality and distribution of habitat types are the base for CAEN for determining conservation objectives and measures and maps of species/habitat type distribution (Natura 2000 zonation). Conservation objectives are established according to the surface of the habitat type or that of habitats suitable for the target species, or according to the population size of the species (e.g., number of nesting couples or individual birds). For some rare species or species of very low abundance the population size can be expressed by the number of sites where it is occurring or the number of quadrats of the quadratic network of a certain resolution (e.g., 1x1 km or 5x5 km) where the species resides, etc. Once the draft objectives are defined, each objective is assigned a suitable conservation measure, again on the basis of the data available to CAEN.

In the second step, CAEN and the PI review and amend conservation objectives and discuss conservation measures (their adequacy, feasibility, etc.). Where necessary and possible, the data on distribution of certain species or habitat type should be checked on-site (when possible, threats should also be recorded).

Since the conservation objectives and measures for the SPAs were established without individual consultations with PIs, conservation objectives and measures for birds will also be reviewed in the joint work on SCI areas, and the Ordinance will be amended accordingly.

Development of the map (by CAEN) of distribution areas for target species and habitat types within the Natura 2000 site includes, but is not limited to:

- Collection and analysis of data on species and habitats in the Natura 2000 site (research results and reports, inventory and monitoring, data from handbooks for defining habitats and red lists)
- Collection of cartographic documentation (boundaries of Natura 2000 site, maps from the web portals DGU – DOF, TK 1:25,000, HOK 1:5,000, habitats map RH 1:25,000)
- Collection and analysis of documents describing the parameters of ecological niches of species or environmental and geomorphological conditions of a habitat based on which distribution areas can be determined, which are then more accurately defined using the data on actual distribution
- Defining the distribution zone of the species/habitat type (defining the distribution of species and habitat types, possibly on the basis of orthophoto (1:5,000), and representation of the zone as a polygonal *.shp file* in GIS; point or line layers are accepted as an exception).

Zone types for distribution of species and habitats:

- **Species/habitat type zone** – distribution area of species/habitat type
- **Species structure zone** – the key element of a habitat or the key feeding or breeding site of the species within the species/habitat type distribution zone; the area that is critical for the species, the key element of the habitat or the key feeding or breeding site of the species (e.g., a puddle for amphibians)
- **Species/habitat type expansion zone** – reservation of space for future expansion of species/habitat type which is not in the good state of conservation; management activities should help achieve favourable conditions for the expansion of species/habitat type; it is defined during the management plan development, and exclusively in the case of need (invasive species, succession, etc.).

Natura 2000 zonation according to distribution of target species and habitat types of the Natura 2000 network is an ongoing process. Zones are updated over time, in line with the new data collected or obtained by monitoring of distribution of species and habitat types (e.g., current map of habitats which is updated every 10 years, identification of invasive species during ranger patrol, new data on parameters describing favourable habitats for species, etc.). In this regard, close collaboration between the PI and CAEN is important for the exchange of new data and updating of zones.

Distribution maps of Natura 2000 species and habitat types are not attached to the management plan; however they serve as a basis for management zonation and defining necessary activities, and as such they will be available on the Bioportal.

Specific objectives

Establishing objectives is a long-term task which requires discussion and team work at internal workshops.

When establishing objectives, attention should be focused on the desired state, not the activity – it should be defined what has to be achieved, and not how. The important thing to think about is **what does the PI want to achieve**. The desired state should ultimately be the result of management activities.

Establishing objectives is a skill that is learned exclusively through developing SMART objectives in practice (see section 5.4.3.).

Specific management objectives are defined based on the identified values. Conservation objectives, if any, represent the initial point for establishing specific objectives within a theme related to the natural values conservation.

Achievement of the objectives has to be proved. Therefore, simultaneously with establishing of the objectives, the planning team should define the indicators for measuring their achievement, which is also done at the internal workshops. Usually there are multiple indicators identified for one objective. For specific objectives for the Natura 2000 species and habitat types, which are usually grouped together in larger and more complex areas, the conservation objective for specific species/habitat type can also be an indicator of the objective achievement (see Annex 8.3).

6.2.4.6 How to define management activities?

Once the objectives are defined, development of management activities begins. The objectives represent the framework for defining activities.

For each specific management objective one or usually several activities for its achievement should be defined. Activities are defined at internal workshops of the core planning team, but also at stakeholder workshops. While defining activities, it is useful to appoint collaborators who will work together with the PI on the implementation of these activities.

Activities have to be defined in a way that they respond to the pressures and threats identified earlier in the process (and listed in the evaluation according to themes).

After defining management activities, it is necessary to **identify indicators of implementation for each activity**. Activities and indicators together should have all SMART characteristics (see section 5.4.4. and Annex 8.4.).

Questions that should guide the process of defining management activities:

- Will the management activities ensure that the management objective is achieved and that objective indicators can be measured?
- Are there any repetitions or conflicting activities?
- Do the evaluations according to themes justify the objectives and activities?
- Are the indicators adequate; do the indicators measure outcome or result (where possible)? (Appleton & Hotham 2007)

These questions are used to assess the activities and, where required, to review the activities or even the management objectives.

After the development of management activities and their indicators, the **priorities, timetables and the revision of the collaborators are determined**.

Each activity is assigned one of three priority levels (described in section 5). When assigning priorities, it is necessary to consider the timetable for each activity, while taking into account the

PI's capacity required for its implementation. For each activity it has to be determined when and how often it will take place, and how long it will last.

Also, it has to be determined (or double checked) which collaborators (individuals, groups or organizations) will take part in the implementation of each activity. Names of specific institutions, organizations or individuals shouldn`t be listed here, except in cases where a specific institution is competent/authorized for certain activities. The groups of stakeholders should be listed, for example external consultants, associations, etc.

The assignment of priorities requires participation of managers of all departments, because it is important to reach an agreement on priorities and to understand the amount of work time required to complete certain activity.

It is often the case that a large amount of activities is planned for the first year of the management plan. In that case it has to be checked whether all activities are achievable/realistic (in terms of staff, time and finances) and, if necessary, activities have to be reassigned accordingly over the period of ten years.

The sample table with activities, indicators, timetable and collaborators can be found in section 5.4.8.

Iterativity of the process is emphasized at the late stages of planning – when developing activities, usually there is a need to rewrite previous steps, e.g. evaluation. When defining adequate indicators of the activity implementation (or the objective achievement), sometimes it is also necessary to redefine certain activities (or objectives).

6.2.4.7 How to develop monitoring of implementation and management plan effectiveness?

Monitoring of implementation and management plan effectiveness monitoring is developed by reviewing the list of the existing **activities required for monitoring and by developing new activities that will document results of activities and the achievement of management objectives**. The final list of monitoring activities must ensure that the PI, at any moment, can determine the degree of activities implementation or achievement of the objectives.

Monitoring of species, habitats, cultural or other values is planned in appropriate themes, and it is listed in corresponding activities of the plan. The results of such monitoring activities show the degree of implementation and management plan effectiveness, but these are not the only activities providing such information.

Monitoring of the implementation and management plan effectiveness help to:

- Perceive the effect of management activities;
- Resolve the problem if the values of the objectives achievement indicator are not satisfactory;
- Indicate the deficiencies in management plan implementation;
- Systematize the continuous data gathering in PI`s daily work.

Since the management plan encompasses a large number of activities which need to be implemented and which implementation will be monitored, the **priority is to establish an integral monitoring and reporting system** which will be used by the PI on a daily basis. This

system also includes **the records of the work performed and the information storage** (like data bases, tables, etc.).

Monitoring of the plan implementation requires significant engagement of the planning team members, and the amount of the data gathered requires the establishment of adequate records and data bases. The collecting, storing and systematization of indicators in corresponding data bases creates new, additional activities which monitor the plan implementation and (indirectly) the achievement of objectives. **Activities related to the monitoring of the implementation and management plan effectiveness should be placed in themes they refer to.** This means that the records should be grouped and assigned to specific themes of the management plan. A large portion of these records will be a part of the *PI's capacities development* theme.

6.2.4.8 How to develop management zonation?

Management zonation is developed at internal workshops of the planning team. It is based on the available documentation and data on natural values and the needs for their conservation/management. Spatial data are collected through the planning process, and the area is subsequently divided into zones depending on the current and future management needs related to nature conservation. The management zonation and the implementation section of the plan (objectives and activities) must be compatible. When finished, the management zonation is presented at the stakeholder workshop. The arguments for each zone are presented and discussed with the stakeholders. Only explained suggestions without significant negative impact on natural values are accepted.

6.2.4.9 How to draft the section on financial needs?

Once the management activities have been planned, including the timetable and collaborators, it is necessary to define their funding.

This is done by **associating cost estimates to each activity for each year of its implementation**. Implementation-related expenditures, or the cost estimates of activities are yearly specified in tables.

Then the management plan has to be reviewed to check if it is realistic, including the revision of priorities, in order to comply with the PI's financial capabilities. Activities of the priority 1 need to have secured funding. When developing this part of the management plan, **all available funding sources need to be taken into account, even any new financial mechanisms**.

After the revision of finances, they can be grouped as follows:

1. by priorities (table 10);
2. by management plan themes (table 11);
3. by types of activities (table 12)

All PI's staff responsible for financial planning, as well as the heads of all organizational departments of the PI should participate in this part of management planning. Even if each departments plans its finances independently, it is important that they subsequently review the finances section of the management plan together. Realistic assessment of financial needs is only

possible if it is done jointly, because then everyone is aware of all activities of the management plan.

Table 10. Example of financial grouping according to priorities

IMPLEMENTATION-RELATED EXPENDITURES BY PRIORITIES											
PRIORITY	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**TOTAL**
1	…	…	…	…	…	…	…	…	…	…	**…**
2	…	…	…	…	…	…	…	…	…	…	**…**
3	…	…	…	…	…	…	…	…	…	…	**…**
TOTAL	**…**	**…**	**…**	**…**	**…**	**…**	**…**	**…**	**…**	**…**	**…**

Table 11. Example of finance grouping according to management plan themes

IMPLEMENTATION-RELATED EXPENDITURES BY PLAN THEMES											
THEME	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**TOTAL**
A	…	…	…	…	…	…	…	…	…	…	**…**
B	…	…	…	…	…	…	…	…	…	…	**…**
C	…	…	…	…	…	…	…	…	…	…	**…**
D	…	…	…	…	…	…	…	…	…	…	**…**
E	…	…	…	…	…	…	…	…	…	…	**…**
F	…	…	…	…	…	…	…	…	…	…	**…**
TOTAL	**…**	**…**	**…**	**…**	**…**	**…**	**…**	**…**	**…**	**…**	**…**

Table 12. Example of finance grouping according to types of activities

IMPLEMENTATION-RELATED EXPENDITURES BY PLAN THEMES											
TYPES OF ACTIVITIES	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**TOTAL**
research	…	…	…	…	…	…	…	…	…	…	**…**
monitoring	…	…	…	…	…	…	…	…	…	…	**…**
education	…	…	…	…	…	…	…	…	…	…	**…**
informing	…	…	…	…	…	…	…	…	…	…	**…**
regulation	…	…	…	…	…	…	…	…	…	…	**…**
active management	…	…	…	…	…	…	…	…	…	…	**…**
incentives	…	…	…	…	…	…	…	…	…	…	**…**
collaboration	…	…	…	…	…	…	…	…	…	…	**…**
developing PI's capacities	…	…	…	…	…	…	…	…	…	…	**…**
infrastructure	…	…	…	…	…	…	…	…	…	…	**…**
maintenance	…	…	…	…	…	…	…	…	…	…	**…**
communication	…	…	…	…	…	…	…	…	…	…	**…**
TOTAL	**…**	**…**	**…**	**…**	**…**	**…**	**…**	**…**	**…**	**…**	**…**

6.3 Steps for management plan adoption

After the planning process and the development of the management plan the process of its adoption begins.

As previously mentioned, it is preferable that the Governing Council participates in the management planning process. Considering that the adoption of the management plan is the

responsibility of the Governing Council, it is important that it is acquainted with the whole process and the management plan draft during the planning process, not when the adoption procedure begins.

In order to accelerate the process of the plan adoption, it is recommended to seek unofficial opinion of CAEN end MEE before starting the formal procedure. It is possible that additional consultations will be needed in this process.

Management plan adoption steps (figure 4):

- Informal opinion of CAEN and MEE on the management plan draft (simultaneously)
- Decision of the Governing Council to submit the management plan draft to public hearing
- Notification of public hearing – the Notice: (Public hearing is held pursuant to the Nature Conservation Act and the Ordinance on information and participation of the public and interested public in environmental matters).
  - Where to publish:
    - Official publication, local publications, local bulletin boards, PI website, etc.
    - By email to all stakeholders who have been participating in the development of the management plan draft.
  - The notice includes:
    - Location of the public consultation
    - Starting date and duration of the public hearing
    - Location and date of public presentation (one or more)
    - Deadline for submission of written comments, suggestions and objections
    - Instructions for submitting comments, suggestions and objections
    - Information that the report will be available on the website for 60 days after the notice.
- Public hearing:
  - Public consultation lasts at least 30 days
  - Where to display the management plan draft:
    - The premises of the PI, municipality, county, websites, etc.
    - In case it is a larger area, the management plan draft should be displayed on several places.
  - One or more public presentation:
    - The plan is presented by the PI.
    - Minutes of the public presentation will be recorded.
    - Comments at the public presentation will be answered immediately or in writing.
- Comments, suggestions and objections during the public hearing
- Report on the public hearing with observations on the comments:
  - The report includes:
    - Information on participants of the public hearing
    - List of participants who provided comments, suggestions and objections (full name or institution)
    - Status of the answer (accepted, partially accepted, rejected, noted)
    - Explanation of the PI
  - To whom the report is sent to:
    - Publish on the website of the PI

- Ask other parties to publish the report on their websites (e.g., municipality)

o Incorporation of amendments
o CAEN issues the mandatory preliminary opinion on the final draft of the management plan (it does not require the decision of the Governing Council)
o The decision of the Governing Council on the adoption of the plan – after obtaining the positive preliminary opinion of CAEN the Governing Council decides on adopting the management plan (the decision states that the plan is valid from the date of obtaining the consent of MEE)
o The Governing Council submits the management plan to MEE for acquiring consent
o The management plan is adopted after obtaining the consent of MEE
o Public availability of the management plan – the management plan sent to all interested parties, MEE and CAEN, and is displayed on the PI`s website and internal Bioportal (it does not have to be in print).

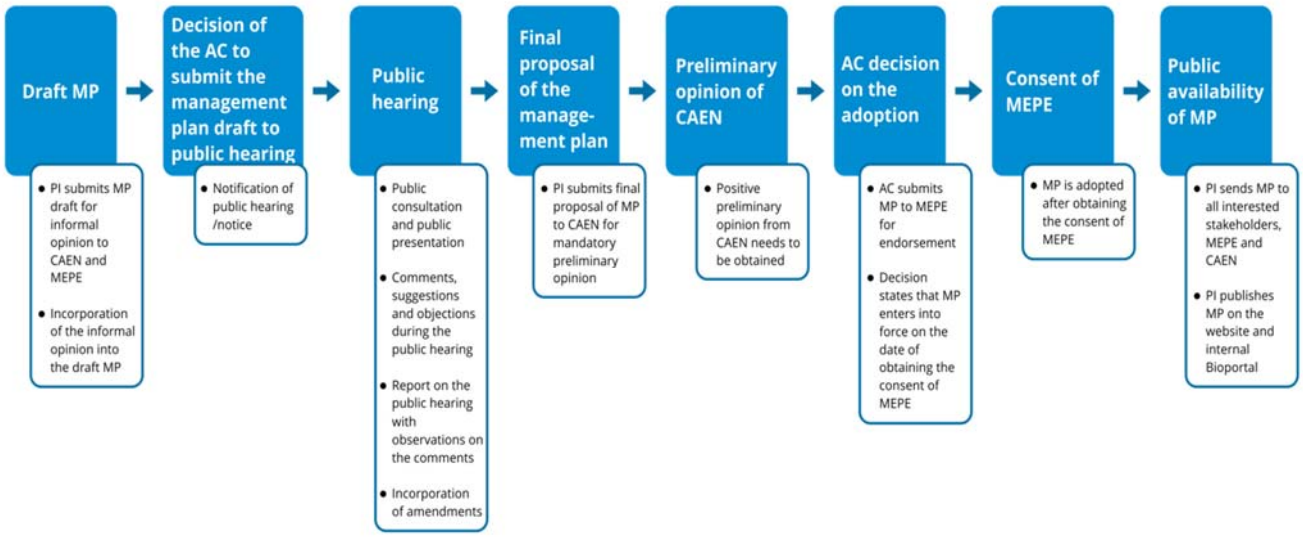

Figure 4. Steps for management plan adoption

6.4 Steps for management plan amendments

In just a few years of implementation, PI can already conclude whether certain activities have been well planned, and if they contribute to the achievement of objectives. **After five years, the implementation and the effect of the management plan have to be evaluated and amended, where appropriate.**

The amendment process is shorter than the process of the development of the whole management plan. **The change of up to 30% of management activities is considered as an amendment of the management plan. If more than 30% of management activities needs to be changed or if management objectives need to be changed, the development of the new management plan must be approached**, through the process defined for the development of the (new) management plan.

The steps of management plan amendments are the following:

- Internal workshop for the PI
    - Aim: evaluation of the objectives and activities:
        - Using indicators for the activity implementation
        - Using indicators for the objectives achievement
        - Analysis has to be based on the monitoring results for natural values which was carried out in the meantime (within previous five years)
- Stakeholder workshops:
    - Aim: presentation of the evaluation results, gathering opinions and information from stakeholders for the amendments and agreement on any additional activities
    - Key stakeholders participate (including CAEN and MEE)
- PI amends the management plan by:
    - Updating the evaluation according to themes – according to the analysis of the results of monitoring natural values and of the management plan implementation (carried out within previous five year) while taking into account stakeholder opinions and views
    - Deleting and/or amending new activities and their indicators

The plan undergoes the adoption procedure – this procedure is the same as for the adoption of the (new) management plan (see section 6.3.)

6.5 What happens after the management plan adoption?

Once the management plan is adopted, the implementation stage begins (see the cycle of adaptive management (figure 1, section 3.2.1)). As soon as it begins, it is necessary to start monitoring the plan implementation and its effectiveness – implementation and monitoring are parallel stages of the cycle. The aim of monitoring the implementation and effectiveness is to recognize whether the management activities are being implemented and are the objectives being achieved. Systematic monitoring enables the PI to observe the management implementation and effectiveness in order to gather experiences according to which they can further adapt management activities.

Management plans are implemented through annual programs, in which management plan activities can be further elaborated, where appropriate. When drafting the annual program, the management plan itself is already partially reviewed (both in terms of content and finances). The PI implements planned activities, including those that are relevant to monitoring implementation and effectiveness, and drafts the annual program and the corresponding report on the realization of the annual program which is used to monitor the activities implementation on the annual basis.

Monitoring of the plan implementation and effectiveness is done by collecting and storing information/data on the implemented activities through databases and records, or by establishing an integral system for monitoring, reporting and storage of information that the PI uses on a daily basis. These information provide the basis for regular meetings related to the monitoring of the management plan and annual program implementation and for development of annual reports. **A minimum of semi-annual monitoring of the annual program**

implementation and effectiveness is proposed; monitoring of the implementation and effectiveness on a yearly basis is mandatory when drafting the annual report.

The development of the management plan according to these guidelines is the first step in monitoring the performance of the management activities. The ultimate objective is to establish a system for monitoring and evaluation which is regularly implemented and used in adaptive management. These guidelines will, together with the future establishment of a module for monitoring management effectiveness on the internal portal of NPIS, significantly contribute to this objective. It is the site managers responsibility to utilize this management planning tool for a more effective management and finally for a more effective nature conservation.

What if the objectives are not being achieved?

Maybe the reasons are some external factors?

Is there any (key) activity missing?

Are the activities well designed?

Are the defined activities being implemented at all?

If the answer is yes, then **the desired state is not being achieved despite following the plan…**

…and that the management needs to be adapted.

7 Useful references

Below are the references which have been used for writing these guidelines, along with some additional publications referred to in certain sections of these guidelines.

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- IUCN – Best Practice Guidelines. URL: https://www.iucn.org/theme/protected-areas/publications/best-practice-guidelines (2017-09-10)
- IUCN - PANORAMA Platform URL: http://www.panorama.solutions/
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- Ministry of Environment and Nature Protection & State Institute for Nature Protection (2016) Smjernice za izradu izvješća o ostvarivanju plana upravljanja i godišnjeg programa zaštite, održavanja, očuvanja, promicanja i korištenja zaštićenih područja (*Guidelines for the*

development of the report on realization of the management plan and annual program of protection, maintenance, conservation, promotion and use of protected areas)

- Nature Protection Act (2013; 2018) Official Gazette 80/2013 and 15/18
- Open Standards for the Practice of Conservation (OS) URL: http://cmp-openstandards.org/
- Ordinance on the conservation objectives and conservation measures for birds in the SPAs (2014) Official Gazette 15/2014
- Ordinance on information and participation of the public and interested public in environmental matters (2008) Official Gazette 64/2008
- PI Nature Park Telašćica (2012) Nature Park Telašćica – Management plan
- PI NP Paklenica, PI Nature Park Velebit and PI NP Sjeverni Velebit (2017): Management plan draft for Velebit biosphere reserve
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8 Annexes

8.1 Instructions for evaluation during development of the Visitor Management Action Plan in protected areas

Visitor Management Action Plan in protected areas[2] is a part of the management plan, and depending on the management requirements of certain PAs, it represents either a separate action plan as an annex to the management plan (in cases where visitor management is complex and requires detailed elaboration) **or one of the management plan themes. Its development follows the same principles of adaptive management and participatory planning, and includes the same sections as a management plan (evaluation, specific management objectives, activities and effectiveness indicators).**

Visitor Management Action Plan has to be compliant with the objectives within the management plan. Its primary purpose is to balance protected areas values conservation with visitor use.

The instruction for evaluation during development of VMAP in protected areas **does not represent a mandatory content of the plan**, but is an **analytical tool in the plan development**.

It is necessary to analyse existing planning and management documents as well as PI activities related to visitation and tourism during the development of the Visitor Management Action Plan. This analysis is in fact the evaluation of themes below (1-5). Based on the evaluation it has to be determined whether a specific theme is relevant for the PA and should be planned within VMAP. All themes should be elaborated in the context of visitation and tourism in the PA, even when related to other areas of work of PI.

If a PI has developed a theme or a sub-theme that is not listed in the below examples, it should be added to VMAP and evaluated.

During evaluation these following visitation-related planning and management documents need to be analysed:

- Planning and reporting documents (management plan, sustainable tourism plan, the existing Visitor Management Action Plan, studies related to the capacity of the area and/or visitation, annual programs and reports on the implementation of the annual program)
- Spatial plans of areas with special features (for national parks and nature parks), spatial plans for other PAs as well as provisions defining the spatial arrangement, number and function of infrastructure facilities
- Documents and acts related to international designations (if relevant)
- Existing management effectiveness evaluations in protected areas (e.g., METT 2012 and 2014)
- Existing acts and internal documents of the PI (rules, decisions, protocols, programs)
- Other relevant documents and/or current practices within the PI

[2] Visitor Management Action Plan in terms of the call for project proposals "*Promoting sustainable use of natural heritage in national parks and nature parks*" (project code: KK.06.1.2.01) is the equivalent of a Visitor management study.

Whether the activities have been planned, implemented completely or in part, and whether they are relevant for future planning, should be analysed, according to following themes and sub-themes:

Theme 1 – Infrastructure and capacities for visitor management

Examples of sub-themes:

- Data base of existing tourist facilities of the PI and other entities in the PA
- Capacities for PI's visitor management (human resources, staff qualifications, means for visitor management)
- Identifying accommodation resources in the PA and its surroundings which comply with the development of local community and conservation of PA's values
- The existing infrastructure and means of visitor transportation (e.g., visitor centres, marked trails and installed signposts/guideposts, accessibility for people with disabilities, organized transport, etc.)
- Defined and advertised working hours (for PA and facilities within the PA and their timeframe for conducting visitor programs)
- Establishing control over visitor entry points in the PA (when an entrance fee is charged)
- Risk management programs (in case of a accidents, wildfires and similar situations)
- Solving waste management issues, including recycling, and wastewater treatment in tourist facilities (in collaboration with competent entities)
- Laying the foundations for services pricing and PI's concession approvals

Theme 2 – Existing restrictions and/or recommendations for activities related to conservation and presentation of values

Examples of sub-themes:

- Management zoning (management zones and/or overview of the area with values suitable for visitors)
- Setting recommendations and/or restrictions of visitors number and type of activities (e.g., desirable and undesirable activities, number and timeframe for activities) and defining solutions to the conflicts arising from different types of recreation and/or non-recreational activities (e.g., shared hiking/cycling trails)
- Assessing and determining capacities (limits) and related regulations (relating to the number of visitors and/or groups, in terms of time (days/seasons) and space restrictions)
- Establishing a booking system in accordance with capacities
- Analysis of the spatial and temporal distribution of visitors as well as their flow
- Defining limits on noise levels, light pollution, water use in infrastructure facilities, etc.
- Setting the criteria/requirements for granting concessions and concession approvals
- Informing visitors on the code of conduct, restrictions and recommended activities in the PA

Theme 2a – Visitor monitoring

Examples of sub-themes:

- Establishing monitoring of visitors impact on the PA's values
- Establishing monitoring of visitors (their number, socio-demographic structure, type of use and their impact on the PA) and their satisfaction and motivation (through questionnaires)

Theme 3 – Services and programs for visitors

Examples of sub-themes:

- Data base of existing tourist services and activities of PI and other entities running activities in the PA
- Establishing tourist services and activities (souvenir shops, catering, etc.) and assessing their compatibility with concepts of sustainable development of the local community
- Establishing education and interpretation programs, guided tours and trips organized by the PI and other entities organizing such activities in the PA (while paying special attention to whether they were based on the appropriate presentation and promotion of values for which the area is protected)
- Printed education and interpretation materials

Theme 4 – Collaboration with stakeholders related to visitors and tourism in the PA

Examples of sub-themes:

- Collaboration with stakeholders related to visitors and tourism in the PA
    - Examining opportunities for collaboration with the local community, local stakeholders related to tourism and other stakeholders from tourism sector
- Analysing economic and socioeconomic impact of visitors and tourism on local community

Theme 5 – Communicating with visitors

Examples of sub-themes:

- Continuous raising of public awareness with regard to the area's values, nature conservation and natural values in Croatia and beyond in general, and associated organization of events, festivals, etc.
- Developing communication strategies or establishing communication channels for visitors and tourism
- Devising marketing plans (market analysis, defining products and systems for advertising goods and services (branding), etc.)
- Visual identity and compatible solutions for infrastructure, materials and services
- Establishing grants and adoption programs
- Printed promotional materials

8.2 Example of a good evaluation

Evaluation of the *Conservation of natural values* theme

Excerpt from the Velebit Biosphere Reserve draft management plan (Paklenica National Park PI, Velebit Nature Park PI and Sjeverni Velebit National Park PI, 2017).

The state of valuable natural features in the BR is assessed as good. Natural processes in the majority of the BR area are undisturbed. In general, there is high biodiversity and geodiversity in the area, which has served different institutions as a research and educational polygon (e.g. Universities, Research Institutes). So far, we have established long-term collaboration with universities from our country as well as other European countries which conduct student practice and fieldwork in the BR.

The Velebit Mountain BR is a textbook example of Dinaric karst, mostly overgrown with beech forests and grasslands. Primeval beech forests have been recognized as ecosystems with exceptional value and put on the UNESCO World Heritage List as „Ancient and Primeval Beech Forests of Carpathians and Other Regions of Europe ". Beech forests of this area comprise the oldest and the largest beech forest complex in the East Adriatic coast and are an important habitat for numerous animal species including the Natura 2000 species such as large carnivores, woodpeckers, owls, beetles and bats. Forests in the BR are managed by guidance of Forest Principles and Sustainable Forest Management approach. Potential threats identified include poaching, fire risk, and excessive and poorly controlled adventure events.

Since this area was inhabited throughout the past, a significant grassland surface has been created by human activities that are now islands within the forest belt, and have largely contributed to overall biodiversity. Some plant and animal groups have been inventoried and mapped so far (such as birds, bats, large herbivores, amphibians), but there is a significant number of taxa whose number of species and abundance is still unknown, and Special focus should be put on indicative taxa as orchids, grasshoppers and butterflies. Vegetation succession is a major problem. Overgrowing of the lower and middle altitude grasslands is recognized as one of the biggest threats for biodiversity loss in this area. Only a small percent of grasslands under succession is being maintained by mowing. In the inland part of the BR, some grasslands and meadows are being maintained by grazing, but the majority of the grasslands are unmaintained. Future planned activities include cooperation with local community in habitat restoration and traditional usage of grasslands (sustainable livestock breeding and agriculture).

On the highest peaks of the mountain, above the tree line, natural grasslands were also maintained in the past by seasonal pasture. Alpine climatic conditions are prevailing in recent years and the biodiversity of these grasslands is in potential threat by climate change, which may especially be felt in the change of occurrence and abundance of relict alpine plant species and the changes in areal of animal species sensitive to climate changes (butterflies, wintering and nesting bird species, small mammals etc.).

Some monitoring protocols concerning the Natura 2000 species (e.g. beetles, birds of prey, common bird species) have been established in the cooperation with the experts on those taxa, but in order to be able 9 to estimate the effects of climate change on geo- and biodiversity, more species and habitat types should be included in monitoring. Other important Natura 2000 species

should be monitored, when the PI capacity improves, such as cave beetles, owls, woodpeckers and viper, since monitoring protocols for those taxa are fully developed on national level.

There has been some species extinction, such as vultures, during the last few decades, some of which are extinct nationally and some locally, mainly due to lifestyle change of the residents of the area and negative global trends in the populations concerned. Disappearance of vultures from the area may be correlated with abandoning the traditional livestock breeding, rapid depopulation and uprising of the touristic activities in the nesting area. Some species are identified as highly endangered or on the verge of extinction (such as Golden Eagle, whose population in the BR is being regularly monitored and the monitoring activity is also foreseen in this Management Plan). Negative trends in abundance of some species have been recognized on the national level and the cooperation has been established with authorities and centres that promote protection and actively deal with the remained populations. The cooperation includes, among the other, activities of the reintroduction of critically endangered species to their former habitats.

Homogenous and preserved nature with mainly strong populations and good habitat fitness provide resistant ecosystems. As invasive species are concerned, there is no problem in the core zone, and only locally small surfaces around settlements is affected in the buffer and transition zone. We don't have the complete list of invasive species and it should be made in the future actions. Tree of Heaven and the Common Ragweed are identified as the most problematic invasive species in the BR, the latter causing health problems. It is necessary to raise awareness and draw attention of local community on the potential threats of invasive species and the importance of healthy ecosystems in sustainable development and long-term usage of ecosystem services.

Some Ecosystem services stand out as greatly valuable such as flowering plants abundance and their role in pollination and beekeeping. Bees are abundant in this area since this is the pristine habitat for their survival. Forest ecosystems provide valuable services such as control of soil erosion, carbon storage, production of clean air, natural disasters mitigation. Forests are also important in terms of mitigation and adaptation to climate change. Forests cover more than 50% of the core and buffer zone of the BR. Since forests comprise the majority of the core and buffer zone of the BR, provide diverse range of valuable ecosystem services and since forestry is one of major economic activities, Velebit Mountain BR activities foreseen by this Management Plan follow the Sustainable Forest Management approach and Forest Principles in overall promotion of the Ecosystem approach.

Climate trends towards long dry periods combined with vegetation succession and difficult to reach terrain, impose a high fire hazard risk. Measures of fire risk mitigation have been established by remote surveillance of the area and regular patrols as well as the usage of the fire potential indicator. Volunteer fire brigades inside the BR are interlinked and the collaboration with the BR management is established. In PI's managing the BR, some employees are trained as firefighters and future activities include efforts in rising awareness on fire risks among the local community.

8.3 Example of transposition of conservation objectives into management objectives and/or corresponding indicators

<table>
<tr><th>Name of the species/habitat type</th><th>Conservation objectives for the Natura 2000 site</th><th>Management objectives</th><th>Indicators of the objectives achievement</th><th>Explanation</th></tr>
<tr><td colspan="5">Grouping of conservation objectives into management objectives
(The case of a complex area with a large number of values, i.e. target species and habitats)</td></tr>
<tr><td>Schreiber’s bat</td><td>migratory colony of at least 3000 individuals conserved and 9 known habitats preserved</td><td rowspan="5">By 2027 existing populations of important mammal species and their suitable habitats are conserved at the level of conservation objectives and preliminary research.</td><td rowspan="5">• Migratory colony of the Schreiber’s bat of at least 3000 individuals
• 9 known habitats of the Schreiber’s bat
• 2 wolf packs
• 22,000 ha of forest and other natural habitats suitable for wolves
• 7700 ha of habitats suitable for the Balkan snow vole (partially open karst habitats)
• Population density of the karst dormouse of at least 3 individuals per ha
• Population density (maintained) at the research level planned for 2019</td><td rowspan="5">Objectives to conserve one bat species, the wolf and the Balkan snow vole were merged into one management objective. The endemic karst dormouse and the wildcat were also added to that objective although they are not Natura 2000 target species. The indicators of the objectives achievement were applied to achieve the SMART effect, and the values of the conservation objectives were translated into indicators. Similarly, values of the estimated population size form the preliminary inventory research in 2016 were applied for the karst dormouse. As at the moment of the plan development the state of the wildcat population was not known in the given area, the corresponding indicator was tied to the research to be carried out in the first years of the plan implementation.
The objective covers the A,R and T criteria, and the indicator covers the S and M criteria – the objective and the associated indicators together provide the SMART effect</td></tr>
<tr><td>Wolf</td><td>2 wolf packs conserved and suitable habitats (forests and other natural habitats) preserved</td></tr>
<tr><td>Balkan snow vole</td><td>7700 ha of suitable habitats for the species (partially open karst habitats) conserved</td></tr>
<tr><td>Karst dormouse</td><td>/</td></tr>
<tr><td>Wildcat</td><td>/</td></tr>
<tr><td colspan="5">Direct translation of conservation objectives into management objectives
(The case of a simple area with a small number of target species and habitats)</td></tr>
<tr><td>Vrgorac goby</td><td>Conserved 3360 ha of suitable habitats for the species (oligotrophic freshwaters, near karst springs, presumably it also lives underground)</td><td>By 2028, 3360 ha of habitats suitable for the Vrgorac goby is conserved.</td><td>• Surface of the oligotrophic freshwater near karst springs</td><td rowspan="2">Conservation objective for one species was directly translated into one management objective and the corresponding indicator. The objective covers the A,M, R and T criteria, and the indicator covers the S criterion – the objective and the associated indicator together provide the SMART effect</td></tr>
<tr><td>Marsh fritillary</td><td>Conserved 30 ha of suitable habitats for the species (grasslands)</td><td>By 2030, 30 ha of habitats suitable for the Marsh fritillary is conserved.</td><td>• Surface of grassland habitats</td></tr>
<tr><td>9410 acidophilus mountain spruce forests (Vaccinio-Piceetea)</td><td>Conserved 115 ha of the existing surface of the habitat type.</td><td>By 2028, 115 ha of acidophilus mountain spruce forests is conserved.</td><td>• Surface of acidophilus mountain spruce forests (Vaccinio-Piceetea) 9410</td><td>Conservation objective for one habitat was directly translated into one management objective and the corresponding indicator. With the objective formulation the SMART effect was fully accomplished.</td></tr>
</table>

8.4 Examples of the conversion of conservation measures into management actions and/or corresponding indicators

Name of the species/habitat type	Conservation measures for the Natura 2000 target species and habitats	Management actions	Indicators of the management actions implementation	Explanation
Conservation measure translated into several actions (The case of more generally defined conservation measures)				
European dry heaths	Prevent vegetation succession	In 2019, conduct a research with local population to determine the historical practice of dry heaths use	• Report on the conducted research • Historical use of dry heaths determined	One conservation measure was elaborated in the Plan and divided into several required actions. In this case, the existing surface of the target habitat is known, and for the purpose of conservation the exact number of hectares of the habitat is defined. At the moment of planning it is not known how exactly this could be achieved, and a research is required in order to identify management options. The SMART effect is already achieved in the actions alone, while the indicators have contributed to the specificity (S) through further elaboration.
		In 2020, establish a maintenance system for dry heaths with a defined method and frequency of the actions	• (Developed) maintenance program for dry heaths • Maintenance actions are implemented at the frequency defined in the program • (Developed) program for monitoring flora and fauna of the maintained dry heaths • Analyzed trends of change in the composition of flora and fauna and, as required, adapted maintenance program for dry heaths	
Conservation measure translated into one action (The case of more precisely defined conservation measures and/or known states and actions)				
Pseudo-steppe with grasses and annuals (*Thero-Brachypodietea*)	Controlled burning and clearing of overgrown habitats (open rocky grasslands);	During the plan implementation, clearing the eumediterranean grasslands by controlled burns every three years and regular monitoring of the habitat state	• Minutes of the implementation of active protection measures • Report on the effectiveness of active conservation measures	One conservation measure is translated in the Plan into single action. In this case, the management option was already known during the plan development and elaborated in terms of the maintenance program and monitoring the effectiveness of habitat maintenance, so it was possible to clearly define the action. The SMART effect is already achieved in the action alone, while the indicators have contributed to the specificity (S) through further elaboration.
Rhinolophus ferrumequinum	Restrict the use of plant protection products and mineral fertilizers in habitats suitable for the species and their immediate vicinity;	Encourage the Advisory Service to organize lectures in the local community on the restrictions on use of chemicals in agriculture	• At least 1 meeting a year with the Advisory Service • Collaborative organization of at least 2 lectures a year	One conservation measure is translated in the Plan into single action. In this case the PI is not an immediate competent institution for implementing the measure, so the action is planned to influence the competent institutions. The action itself has the characteristics S, A and R, while the indicator defines the M and T criteria. The action and the associated indicators together achieve the SMART effect.