

# Action Plan for Implementing the Convention on Biological Diversity's Programme of Work on Protected Areas

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**CROATIA**

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# Protected area information:

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## Lead implementing agency:

Ministry of Environment and Nature Protection

*(by the end of 2011 Ministry of Culture)*

## Multi-stakeholder committee:

No.

# Description of protected area system

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## National Targets and Vision for Protected Areas

Strategic objective from the National Strategy and Action Plan for the Protection of Biological and Landscape Diversity (*Official Gazette 143/08*): Continue development of the system of protected areas, efficiently manage protected areas, increase the total area under protection and promote active participation of the public concerned.

More detailed targets and vision are available in existing and future Protected Areas' Management Plans.

## Coverage

433 protected areas

8.48% overall coverage

12.07% of terrestrial surface

1.94% of marine surface

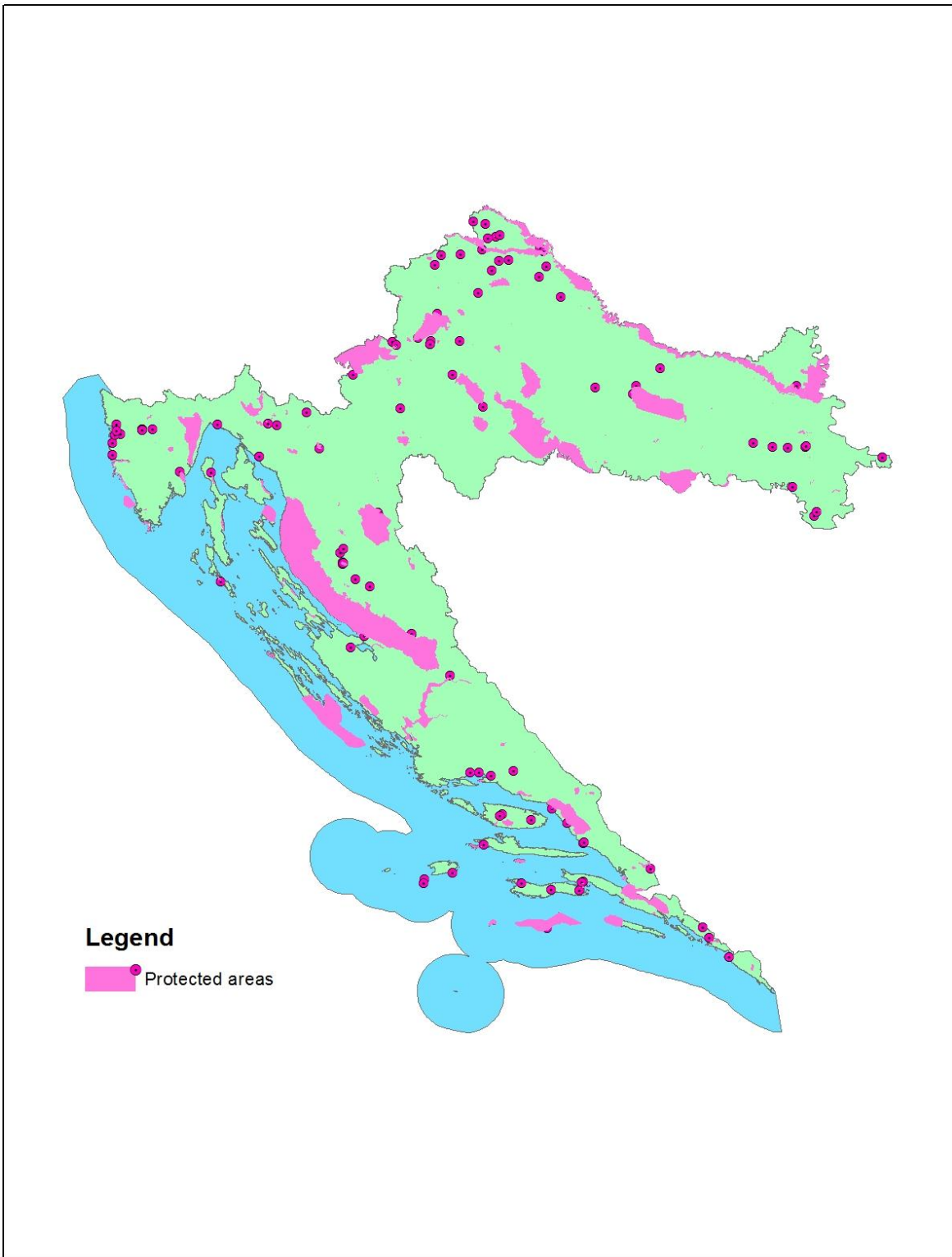


Figure 1: Protected areas in Croatia

## Description and background

The Nature Protection Act (*Official Gazette 70/05, 139/08, 57/11*) ensures protection of particularly valuable parts of animate and inanimate nature. The Act regulates the method of designation of protection status, management; sustainable use and adequate supervision of protected areas, and also the method of termination of protection status if the characteristics of protected area no longer exist. The Act lays down nine categories of protected areas.

Category	No. of PAs	Mainland	Sea	Total
Strict Nature Reserve	2	2,395.35 ha	0.00 ha	2,395.35 ha
National Park	8	73,566.77 ha	21,905.59 ha	95,472.36 ha
Special Reserve	80	32,094.66 ha	12,007.38 ha	44,102.04 ha
Nature Park	11	401,754.64 ha	17,866.99 ha	419,621.63 ha
Regional Park	2	102,791.82 ha	0.00 ha	102,791.82 ha
Natural Monument	85	190.42 ha	0.00 ha	190.42 ha
Protected Landscape/Seascape	85	123,306.10 ha	8,988.43 ha	132,294.54 ha
Forest Park	33	3,270.09 ha	0.00 ha	3,270.09 ha
Horticultural Monument	127	937.70 ha	0.00 ha	937.70 ha
Minus sites inc. in other PAs:		57,856.70 ha	429.00 ha	58,285.70 ha
<b>TOTAL:</b>	<b>433</b>	<b>682,450.85 ha</b>	<b>60,339.39 ha</b>	<b>742,790.24 ha</b>
<b>Percentage of Croatian territory surface area:</b>		<b>12.07 %</b>	<b>1.94 %</b>	<b>8.48 %</b>

Table 1: PA's statistics

In order to ensure protection of threatened and particularly valuable area in a short time period, a preventive protection instrument has been introduced. For the duration of preventive protection, which may last for a maximum of three years, all provisions of the Nature Protection Act apply to the area under preventive protection.

Spatial organisation, the manner of use, physical planning and protection in a national park and nature park is regulated by the spatial plan for the special-feature areas.

Since some protected areas have over time lost the values on account of which they were proclaimed as protected, and the boundaries of some areas were not precisely defined at the time of proclamation (first PA proclaimed 1947), the Nature Protection Directorate of the Ministry of Environment and Nature Protection (MENP) and the State Institute for Nature Protection (SINP - Central institution dealing with expert tasks of nature conservation in Croatia) are reviewing the

Registry of Protected Areas, which will result in the termination of protection status, change of boundaries or category of protected areas.

Beside PA's in 2007 the Government of the Republic of Croatia has proclaimed the ecological network (*Official Gazzette* 109/07) with a system of areas of ecological importance and ecological corridors. The ecological network is a system of most valuable areas for threatened wild species and habitat types which are sufficiently contiguous and mutually interrelated by corridors, thus enabling communication and exchange of species. Croatia's National Ecological Network covers 47% of the terrestrial land area and 39% of the marine territory.

With this legal provision the Republic of Croatia is harmonised with the European legislation in the field of nature protection, and following proclamation of NATURA 2000 on Croatia's accession to the European Union.

## Governance types

Governance by the Government. PAs are managed by Public Institutions (PIs) – National Park PIs, Nature Park PIs and County PIs.

Category of protection according to the Nature Protection Act	Level of governance
National park	State/Ministry
Nature park	State/Ministry
Strict reserve	County governance
Special reserve	County governance
Nature monument	County governance
Regional Park	County governance
Protected landscape	County governance
Park forest	County governance
Horticultural monument	County governance

Table 2: Governance types

On state/national level public institutions (PIs) responsible for management of national parks (8) and nature parks (11) are established by the Government. All these institutions are funded for primarily state budgeted, and are under jurisdiction of MENP.

On regional (county) level, County public institutions (CPIs) have been established. CPIs are responsible for management of other protected areas as well as for management of ecological network/NATURA 2000 sites within their respective counties. CPIs are established by regional self-government units and the City of Zagreb that may transfer their founders' rights to the local self-government units (cities, municipalities). For the moment there are 20 CPIs (out of 21) on the county level and 6 at the local level.

## Key threats

Threats to protected areas are analysed in management plans. PA management effectiveness assessment of National and Nature Parks showed the following key threats:

- Key pressures/threats in terrestrial protected areas include unsettled disputes regarding land tenure and use rights, the conversion of land use and uncontrolled vegetation succession.
- Key pressures/threats in marine protected areas include fire management issues, unsettled disputes regarding land tenure and use rights and uncontrolled vegetation succession.
- Key pressures/threats in freshwater protected areas include water management issues, invasive species and wastewater management issues. It is worth noting that freshwater protected area managers expect these pressures to increase in the future.
- Marine and freshwater protected areas are exposed to a number of pressures and threats that are of a much higher degree than those in terrestrial protected areas. In particular, none of the terrestrial pressures/threats reaches the scores determined for fire management and unsettled disputes regarding land tenure and use rights (marine protected areas) and for water management and invasive species (freshwater protected areas).

More detailed analysis available in *Effectiveness of Protected Area Management in Croatia: Results of the First Evaluation of Protected Area Management in Croatia Using the RAPPAM Methodology*. (available at [http://www.cbddinaricarc.com/pdf2010/CRO\\_RAPPAM\\_report.pdf](http://www.cbddinaricarc.com/pdf2010/CRO_RAPPAM_report.pdf)).

## Barriers for effective implementation

Insufficient data (inventorying and mapping), staffing levels and insufficient financing have always been stated as important issues that hinder the effective PA management in Croatia.

Staffing levels vary, but in general they are very low. At the state level (MENP, SINP and National and Nature Parks) have better capacity than regional level PA management authorities (with a few exceptions). This is always connected with financing, but also with the fact that the importance and value of nature protection still needs to be recognized at the regional (county) level, not to mention local level (cities and municipalities).

As for insufficient financing, sustainable financing has been recognized as a priority and is being included in different project proposals, as well as ongoing projects.

Also, effective PA monitoring system has to be established in order to improve adaptive management. Implementation of the NATURA 2000 will gradually ensure efficient monitoring and reporting. The actual mechanisms still need to be developed, but the government is working on

these issues through its regular activities and also through the implementation of different projects that deal with the NATURA 2000.

Enabling environment for the integration of nature protection sector into other sectors, such as harmonizing sectoral policies and laws is one of the main challenges for effective implementation. In accordance with the Nature Protection Act, nature protection measures should be incorporated in all natural resource management plans and spatial plans. There is significant progress in this regard, but still, the process cannot be considered as a routine. Due to the fact that both spatial plans and management plans of national and nature parks have zoning prescribed within them, it is necessary to harmonize the content and the scope of those two, in order to avoid overlapping, prioritization, etc. Work on this is ongoing, but there is still work to be done to fully harmonize the content and the scope of the two documents. In order to improve agricultural land management and prevent vegetation succession, especially in grazing areas, meadows and grasslands, efforts should be made to continue collaboration with the Ministry of Agriculture and local and regional self-government units. To make use of the EAFRD funds for nature conservation, Croatia started working on preparation of extensive AE programmes focusing on nature conservation and build necessary human resources and institutional capacity for accessing EU funds to insure funding mechanisms for of NATURA 2000 areas. The activities planned in next period will be implemented through EU Natura 2000 Integration Project (NIP) and are jointly coordinated by MENP and Ministry of Agriculture.

Perverse incentives still exist (such as water usage fees) and it is necessary to continue to work on removal of perverse incentives that hinder effective management.



# Status, priority and timeline for key actions of the Programme of Work on Protected Areas

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## Status of key actions of the Programme of Work on Protected Areas

Status of key actions of the Programme of Work on Protected Areas	Status
• Progress on assessing <b>gaps in the protected area network</b> (1.1)	3
• Progress in assessing <b>protected area integration</b> (1.2)	3
• Progress in establishing <b>transboundary protected areas and regional networks</b> (1.3)	3
• Progress in developing <b>site-level management plans</b> (1.4)	3
• Progress in assessing <b>threats</b> and opportunities for <b>restoration</b> (1.5)	3
• Progress in assessing <b>equitable sharing</b> of benefits (2.1)	2
• Progress in assessing protected area <b>governance</b> (2.1)	2
• Progress in assessing the <b>participation</b> of indigenous and local communities in key protected area decisions (2.2)	3
• Progress in assessing the <b>policy environment</b> for establishing and managing protected areas (3.1)	3
• Progress in assessing the <b>values</b> of protected areas (3.1)	3
• Progress in assessing protected area <b>capacity</b> needs (3.2)	3
• Progress in assessing the <b>appropriate technology</b> needs (3.3)	3
• Progress in assessing protected area <b>sustainable finance</b> needs (3.4)	2
• Progress in conducting <b>public awareness</b> campaigns (3.5)	3
• Progress in developing <b>best practices and minimum standards</b> (4.1)	2
• Progress in assessing <b>management effectiveness</b> (4.2)	3
• Progress in establishing an <b>effective PA monitoring system</b> (4.3)	2
• Progress in developing a <b>research program</b> for protected areas (4.4)	2
• Progress in assessing opportunities for <b>marine</b> protection	2
• Progress in incorporating <b>climate change</b> aspects into protected areas	1

Status: 0 = no work, 1 = just started, 2 = partially complete, 3 = nearly complete, 4 = complete

## Priority actions for fully implementing the Programme of Work on Protected Areas:

- Assess equitable sharing of benefits
- Implement sustainable finance mechanism
- Establish effective PA monitoring system and research programme
- Strengthen nature protection through harmonizing sectoral policies
- Incorporate climate change aspects into PAs
- Integrate PA values and ecological services into the national economy

## Timeline for completion of key actions

Most of the priority actions are planned to be implemented in the following 5 years, some until 2020.

## Action Plans for completing priority actions of the Programme of Work on Protected Areas

### Action 1: Assess equitable sharing of benefits

Continue to develop and implement the compensation mechanisms and policies for access and benefit sharing, as well as develop equitable benefits-sharing mechanisms.

Key steps	Timeline	Responsible parties	Indicative budget
Analyse compensation mechanisms	2013	MENP	
Implement policies for access and benefit sharing	2017	MENP, PAs	
Develop equitable benefits-sharing mechanisms	2020	MENP, SINP, PAs	

### Action 2: Implementation of sustainable finance mechanism

With regard to sustainable financing of PAs, new PA funding mechanisms should be further developed, as well as PA business plans. Legal barriers to sustainable financing should be removed through the environmental fiscal reform.

Key steps	Timeline	Responsible parties	Indicative budget
Develop new PA funding mechanisms	2017	MENP, PAs	
Develop PA business plans	2017	PAs	
Environmental fiscal reform	2020	MENP, Ministry of Finance	

### ***Action 3: Establishing effective PA monitoring system and research programme***

Establish monitoring system, first for priority species and habitats and then for other species and habitats. This is important for reporting and monitoring pursuant to the Habitats and Birds Directives. Also, it is necessary to set up research priorities.

<b>Key steps</b>	<b>Timeline</b>	<b>Responsible parties</b>	<b>Indicative budget</b>
Establish monitoring system for priority species and habitats	2015	SINP, PAs	
Establish monitoring system for other species and habitats	2017	SINP, PAs	
Set up research priorities and develop research process	2015	SINP	

### ***Action 4: Strengthen nature protection through harmonizing sectoral policies***

Continue to work on the enabling environment for the integration of the nature conservation into other sectors (harmonizing sectoral policies and laws to support effective management planning and policies). Coordination with forestry sector is fully underway, with agriculture sector is starting, but with fisheries and water management sector still needs to be significantly improved.

<b>Key steps</b>	<b>Timeline</b>	<b>Responsible parties</b>	<b>Indicative budget</b>
Coordination with forestry sector (implementation of NATURA 2000)	2013	MENP, SINP, Ministry of Agriculture	
Coordination with agriculture sector (Agri-Environment Program)	2014	MENP, SINP, Ministry of Agriculture	
Coordination with fisheries and water management sector (regulation of fisheries in MPAs and NATURA 2000 sites)	2016	MENP, SINP, Ministry of Agriculture	

### ***Action 5: Incorporate climate change aspects into PAs***

Croatia reports to the UNFCCC regularly, but more attention should be focused towards PAs. These activities will have to be coordinated with another Directorate within the Ministry of Environment and Nature Protection. The scientific and development research into climate has been carried out by the Meteorological and Hydrological Service of Croatia (MHSC) within the framework of the National Climate Programme and scientific research projects supported by the MHSC and the Ministry of Science and Technology.

Key steps	Timeline	Responsible parties	Indicative budget
Addressing immediate threats regarding climate change	2015	MENP, PAs,	
Coordination with all relevant institutions	2015	MENP, SINP, PAs, MHSC	
Develop climate resilience and adaptation plan	2020	MENP, SINP, PAs, MHSC	

### ***Action 6: Integrate PA values and ecological services into the national economy***

PA values and ecological services should be integrated into the national economy. This should include a more detailed valuation of ecosystem services that PAs provide and raising awareness of the PA values and ecological services at both institutional (sectoral) level and among general public. The more long-term process will be the introduction of the activity based costing (ABC) into the government budgets.

Key steps	Timeline	Responsible parties	Indicative budget
Broader PA valuation study	2016	MENP, SINP	
Raise awareness of the PA values and ecological services on national level	2016	MENP, SINP, PAs	
Introduction of the activity based costing (ABC) into the government budgets to improve resource allocation procedures, budgeting process, accounting and monitoring and financial planning	2020	MENP, Ministry of Finance, PAs	

# Key assessment results

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## Ecological gap assessment

*Source: WWF Dinaric Arc Ecoregion project. (2009), Protected Area Gap Analysis*

Altogether, 133 targets were identified in Croatia. 78 targets (58.6 %) were covered, 52 (39.1 %) resulted as a gap and 3 (2.3 %) as a total gap. According to the results obtained, the system of terrestrial PAs of Croatia should be considered efficient for the protection of biodiversity. However, some important gaps were identified. According to the results, Croatia's PAs system adequately covers land at higher altitudes, while lowlands and hilly areas (between 0 and 600 m.a.s.l.) were not adequately covered with PAs. This is indicated also in the distribution of gaps that predominantly occur in lowland targets. Forests of the coastal areas (evergreen forests) and higher mountain areas are adequately covered, while those of lower hilly areas result in gaps.

Karstic fields, which are widely distributed in the country and are of vital importance for biodiversity, are not adequately covered with PAs.

Gaps were identified among reptile species, especially in those species occurring in the warmest lowland areas.

Significant gaps were also identified in freshwater fish. The great majority of them are endemic to the region, and in most cases they were found to be inadequately covered with PAs.

## Management effectiveness assessment

*Sources: Porej, D. & Rajkovic, Z. (2009), Effectiveness of Protected Area Management in Croatia: Results of the First Evaluation of Protected Area Management in Croatia Using the RAPPAM Methodology (national and nature parks), Ministry of Culture of the Republic of Croatia*  
*Rajkovic, Z. (2009), Effectiveness of Protected Area Management in Croatia: Results of the First Evaluation of Protected Area Management in Croatia Using the RAPPAM Methodology (public institutions at the county level), Ministry of Culture of the Republic of Croatia*

Based on the outcomes of the RAPPAM analysis, recommendations have been developed, updated and aligned with the Strategy and Action Plan for the Protection of Biological and Landscape Diversity.

### **A) For National Parks and Nature Parks:**

#### **1. Water management**

In resolving outstanding water management issues, efforts should be made to improve co-operation between public institutions, the Ministry of Environment and Nature Protection and the water management sector, in particular, Croatian Waters Management Company. Nature protection requirements and measures as well as ecological network conservation guidelines should be incorporated in drafting management plans for water areas and preparing and implementing water management projects and actions. In addition, all plans, programmes and projects that may significantly affect the conservation objectives and integrity of ecological network sites should be subject to appropriate assessment procedures under the Nature Protection Act.

## **2. Agriculture and vegetation succession**

In order to improve agricultural land management and prevent vegetation succession, especially in grazing areas, meadows and grasslands, efforts should be made to continue collaboration with the Ministry of Agriculture and local and regional self-government units.

In order to prevent vegetation succession, public institutions are recommended to commence maintaining grazing lands and meadows or to make them available for use under concessions or management contracts.

## **3. Unsettled disputes regarding land tenure and use rights**

The issue of unsettled disputes regarding land tenure and use rights stems from protected area designation acts (adopted pursuant to the legislation in force at that time), which mostly do not include a list of cadastral plots falling within a particular protected area, preventing their registration into land registers. The solution to this problem should be agreed through co-operation between the Ministry of Environment and Nature Protection, the National Survey Agency and the Ministry of Justice.

## **4. Fire management**

To resolve the issue of fire management, discussions should be continued with the Ministry of the Interior and the National Protection and Rescue Agency. It is also recommended to secure the required funding to recruit firemen and/or provide additional training for the staff of national and nature parks.

## **5. Capacity building**

The completed analysis clearly shows that, in most of the parks, staffing levels are insufficient for effective protected area management, which partly ensues from insufficient funding for new employment initiatives, both at the central budget level and in terms of revenues generated by public institutions themselves.

Public institutions are recommended to conduct an analysis of their actual needs and situation regarding the required staffing levels. Based on the findings of such an analysis, and should this prove necessary, it is recommended to make a new job classification and draft new Internal Organization Rules in order to ensure higher management effectiveness. Based on the foregoing, the employment of new staff would be continued by using both own funding sources and central budget appropriations.

## **B) For County Public Institutions:**

### **1. Sectoral agencies and local and regional authorities**

Collaboration between the nature protection sector and other sectoral agencies, such as those for forest and water management, is improving. However, further efforts should be made to enhance intersectoral co-operation, especially with the Croatian Forest and Water Management Agencies.

Some county-level public institutions are not involved in the preparation of forest management documents, whereas the others receive management documents from the forestry, hunting and fishing sectors for approval. As for the water management sector, it still fails to request the issuance of approvals for its water management documents. Forest and hunting management documents are submitted to the Ministry of Environment and Nature Protection for approval and the issuance of requirements. All requirements issued by the Ministry of Environment and Nature Protection are forwarded to the county-level public institutions, save for those that are laid down for physical plans and natural resource management plans, which are, for the time being, not delivered to the county-level PIs. Formal requests made by PIs in order to review and/or copy sections of management documents do not receive a green light from their 'owners' because they charge high fees for such services.

Most of the county-level public institutions maintain exceptionally good co-operation with their county authorities. They have, however, highlighted some lack of understanding of their role as public institutions managing protected natural assets on the part of their counties' administrative departments for physical planning and environmental protection.

The counties' administrative bodies responsible for physical planning fail to involve county-level public institutions in procedures for the issuance of permits (location and building) and other documents. County-level public institutions have access to the process of adopting physical planning documents only to the extent such documents are also available to the general public. Amendments made to physical planning documents have now started taking account of the ecological network, but its sites still happen to be ignored when planning the use zones of particular areas.

The collaboration of county-level public institutions with local authorities varies. Local authorities are involved in the designation of new protected areas to the extent that these procedures are accessible to the general public.

## **2. Ministry of Environment and Nature Protection and State Nature Protection Institute**

Collaboration with central governmental agencies is relatively good but there is still some room for improvement. The procedure for the issuance of concession approvals is well-defined. Under the PAMS project, efforts are being made to standardize forms and analytical methods for data entry into the GIS application. The State Nature Protection Institute is preparing procedural instructions for monitoring priority species and habitats in line with the EU directives. The maps of ecological network sites can be requested from the State Nature Protection Institute.

## **3. Local communities, associations and researchers**

Most of the county-level public institutions have reported having good collaboration with local communities.

Efforts are required to improve communication with associations (hunting, fishing, sporting and other organizations) and site users. When issuing its research permits, the Ministry of Environment and Nature Protection, as one of its requirements, asks the applicants to deliver their research results to the relevant county-level public institution, and forwards its permits to county-level public institutions for their information.

## **4. County-level public institutions**

The county-level public institutions have different requirements for equipment, staff facilities and visitor facilities. There is also a need to develop internal codes of conduct as well as management plans. Through their participation in the EU Natura 2000 Integration Project (NIP), the county-level public institutions will be enabled to meet some of their needs.

## Sustainable finance assessment

Sources: World Bank. (2009), *Sustainable Financing Review for Croatia Protected Areas*  
World Bank. (2009), *Study of best practices in financing protected areas in Croatia (proposal)*

### **Proposed Recommendations and Actions**

#### **A) Diversifying incomes**

1) Undertake study and training on **international sources of funding**.

Compile summary report on key potential sources of international funding with guidance as to how best to apply. Hold training on proposal writing.

2) Review **park features** that could generate revenues.

Undertake a park registry to identify all possible features in PAs that could potentially help generate additional revenues. This should include: potential use of alien species; buildings for conversion/renovation/change of use; regulatory services (eg water supply and flood control for 'payments for ecosystem'). Follow up with brainstorming and scoping study to assess those with potential, and then develop an implementation plan.

3) Review **other opportunities for raising revenues**.

Explore the potential for developing PA wide opportunities for raising revenues eg from payments for ecosystem services, souvenir shops, selling PA related stamps etc.

#### **B) Visitor fees**

4) Explore PA **entrance fee options for specific PAs and nationally**.

For selected PAs, undertake site specific assessments to consider whether overall revenues could be significantly improved through price differentiation and alternative visitor control schemes. Also consider whether it is worthwhile introducing a broader PA wide scheme using appropriate technologies.

5) Assess options for **extending seasons and spreading visitors** across PAs.

Develop an initiative together with the Ministry of Tourism, Croatian National Tourist Board, county tourist boards and other interested organisations to explore ways of extending the visitor season for PAs and to encourage and attract visitors to inland parks.

#### **C) Concessions**

6) Explore and share best **strategies for developing concession approvals (ie visitor related)**.

Undertake a project to investigate how best to develop and manage visitor activity related concession approvals, sharing experiences from within Croatia and exploring examples from elsewhere. This could involve holding a workshop.

7) Review **issues, legislation and options around concessions (ie extraction related)**.

Determine the case and an appropriate implementation process for changing the way concessions operate within PAs.

#### **D) Government management and contributions**



8) Develop an overall integrated **national financial strategy for all PAs**.

Explore options for developing an approach for establishing a more strategic way of managing Croatia's PA financing system. Develop a finance database in the MENP for monitoring of PA finance (is sustainable finances and revenues rather than just costs). Provide sustainable finance training.

9) Develop a **business case for increased government and local funds** for PA management.

Develop a business case for central and local government to increase their financial contribution to Croatia's PA system.

10) **Improve coordination between Gov Ministries** and departments.

Undertake a study to explore issues and opportunities relating to different Government Ministries and departments working more closely together.

11) Explore potential benefits from **merging local municipality PIs with County PIs**.

Assess options and the potential benefits for alternative ways to share entrance fee revenues between municipality PIs and County PIs.

## **E) Partnerships**

12) Consider switching to a more **Parastatal PA system**.

The MENP should consider switching to a more parastatal PA management system (ie functioning more like a private company operating at arms length from the government).

13) Assess **Trust Fund options**.

The MENP should further evaluate alternative options for either developing the EPEEF or establishing separate PA Fund(s).

14) Explore **Public Private Partnership** options for hotels.

The MENP should explore **Public Private Partnership** options for hotels.

15) Explore options for **NGO and volunteer involvement**.

The potential for greater involvement of NGOs should be considered bay all, with a long term view as to how this might develop over time (bearing in mind the current lack of NGO capabilities and fact that volunteering is not strong culturally).

16) Enhance **park coordination**, particularly relating to financing.

The MENP should continue to work with parks and Counties to see how parks and PAs can cooperate together and obtain economies of scale.

## **F) Business management**

17) Overhaul the **accounting and finance system** (eg use an 'activity based costing' approach).

The park and PA accounting procedure should be assessed and revised to incorporate an 'activity based costing' approach. All PA activities should be categorised and matched to cost and revenue streams. More focus should be given to sustainable financing rather than simply budgeting. Also review the sustainability of PI managed tourist facilities (eg restaurants and hotels etc.)

18) Provide the right mix of **business and economics skills** for PA management.

The PA system would benefit enormously from having better access to a range of business and economics skills such as: marketing, activity based accounting, operational management,

environmental economics and sustainable financing. Various mechanisms for providing these skills throughout the PA system should be analysed and implemented (eg recruitment, sharing skills, pro-bono and voluntary contributions etc)

19) Require **business plans** to be developed, linked to PA effectiveness analysis, and coupled with training.

For those parks that have a well developed management plan and strategy, business plans should be developed. For those without management plans and strategies, business plans should ideally be developed in conjunction with them. Where possible, pilot projects should be developed, and links made to similar projects in the wider region.

## G) Legal aspects

20) Provide **training and materials on PA legislation**.

A review of the legislation is needed with a document produced to simplify the meaning and potential implications of PA legislation relating to financing (especially relating to concessions). Best practice in Croatia and internationally should also be included, and training provided for all parks.

21) Explore necessary **amendments in legislation** to avoid conflicts.

The park PIs and MENP should highlight what legislation is conflicting, and undertake an analysis as to how best to overcome the conflicts.

22) Support **land ownership resolution and mapping** studies.

The MENP should facilitate the park PIs and Counties to ensure that studies are undertaken to map out and resolve land and property related conflicts (eg PA borders and ownership issues).

## Capacity needs assessment

*Sources: WWF Mediterranean Programme Office (2009), Dinaric Arc Ecoregion Regional CB plan to overcome priority capacity gaps for the successful implementation of CBD PoWPA*

The assessment of PA capacity needs has been conducted as part of the several initiatives, such as National Programme for the Integration of the Republic of Croatia into the European Union (NPIEU) and Report on the State of Nature 2000-2007. Also, PA capacity needs are regularly assessed when developing project proposals.

Capacity needs assessment from the Dinaric Arc Ecoregion Regional CB plan to overcome priority capacity gaps for the successful implementation of CBD PoWPA:

The assessment was done at the regional level, but the priorities were determined at the national level. Identified priorities for Croatia:

1	Required Capacity (RC-2.2): Improved knowledge and skills on Economic Evaluation of PA and benefit sharing mechanism (incl. tourism; incentives, and other economic opportunities)
2	Required Capacity (RC-4.2): Skills and knowledge on standardisation of PA management

	effectiveness certification and PA management plans
3	Required Capacity (RC-3.1): Increased knowledge and skills for a sustainable financial management of PA (incl. private sector fundraising)
4	Required Capacity (RC-4.1): Knowledge and skills for the setting up of national biodiversity monitoring programme
5	Required Capacity (RC-1.3): Improved skills and knowledge for PA system gap analysis
6	Required Capacity (RC-1.7): Increased knowledge on Climate Change adaptation strategies for PA with specific focus on invasive species and forest fires
7	Required Capacity (RC-2.1): Increased knowledge and skills for stakeholder involvement in PA management and planning
8	Required Capacity (RC-3.2): Increased knowledge and skills on how to raise public awareness on biodiversity and PA importance
9	Required Capacity (RC-1.1): Improved knowledge and skills for the designation and management of marine protected areas (MPA)
10	Required Capacity (RC-1.2): Improved PA planning and management skills
11	Required Capacity (RC-1.8): Increased knowledge on Natura 2000/ Habitat Directive implementation and EIA+SEA
12	Required Capacity (RC-1.6): Increase knowledge and skills on how to deal with perverse incentives – example of agricultural land conversion
13	Required Capacity (RC-2.3): Knowledge and skills to improve inter-sectorial collaboration (research/policy/PA management level/inspection services/surveillance)
14	Required Capacity (RC-1.5): Improved skills and knowledge for trans-boundary PA management

## Policy environment assessment

Not available.

## Protected area integration and mainstreaming assessment

Not available.

## Protected area valuation assessment

*Source: Flores, M. & Ivicic, I. (2011), Valuation of the Contribution of the Ecosystem of Sjeverni-Velebit National Park and Velebit Nature Park to Economic Growth and Human Well-being: Croatia*

PA valuation assessment was made for two PA's: Northern Velebit National Park and Velebit Nature Park.

### Key findings

- Northern Velebit National Park (NVNP) and Velebit Nature park (VNP) provide indispensable services that sustain the economic benefits of tourism and nature-based tourism (NBT) in Velebit.
- Under business-as-usual (BAU), inland NBT, like coastal tourism, are impacted by economic losses.
- In an optimal sustainable ecosystem management (SEM) scenario, winter/mountain tourism can provide even higher revenues than coastal tourism, when opting to further develop ski tourism instead of golf tourism.
- Tourism/NBT both have a high multiplier effect.
- The shift from BAU to SEM in fresh water ecosystems management is indispensable to secure water flow, savings (from avoided replacement and maintenance costs), and economic benefits from hydropower generation.
- Water resources from VNP provide the indispensable natural resource (fresh water) to support a promising subsector of the economy in the region: beer production.
- VNP and NVNP's ecosystems are economically important to agriculture.
- Pollination services from wild and domesticated honeybees are indispensable to sustain agriculture, particularly the production of fruits and berries.
- SEM pollination services are indispensable to sustain the current and potentially increased production of plums and apples in Velebit.
- Non-timber forest products of NVNP, berries, and herbs, under BAU, support a local liquor industry.
- Carbon storage in forests could be instrumental in helping Croatia to fulfil potential forthcoming obligations toward UNFCCC, as well as EU, in the area of climate change and greenhouse gas emissions reduction when Croatia enters the EU.
- Forest ecosystems services (ES) in Velebit may be threatened by the impact of forestry activities that result in encroachment of PAs and disruption of ecological corridors.
- SEM fresh water ES are indispensable to sustain fisheries, both coastal and inland.
- SEM forests are essential to save costs or minimize the economic impact of natural disasters.
- SEM ES from PAs are important to sustain and increase government's income from tax collection.
- SEM fresh water ES from PAs are indispensable to provide a sustainable supply of drinking water and maintain cost-savings.
- Ecosystems services from NVNP and VNP are indispensable to improving livelihoods in and around the parks.

## Climate change resilience and adaptation assessment

Not available.