Protected area management effectiveness in Slovenia

Final report of the RAPPAM analysis

WWF

Protected area management effectiveness in Slovenia
Final report of the RAPPAM analysis

Authors: Jana Kus Veenvliet and Andrej Sovinc
Translated by: Jana Kus Veenvliet
Authors of cover photos: Paul Veenvliet and Jana Kus Veenvliet

Contents

Index of tables

Index of figures

ANNEXES

Summary

Protected areas are the most important instrument for the conservation of biodiversity. Besides contributing to the conservation of nature, they can have an important role in regional socio-economic development. However, the goals of the establishment of protected areas can only be achieved, when they are linked in a large and efficient system, which is supported by a legal framework and sectoral rules. Furthermore, protected areas should have appropriate management and sustainable financing.

In the last decades several tools for assessing the management effectiveness of protected areas have been developed worldwide. For the analysis of the Slovenian system of protected areas the RAPPAM methodology (*Rapid Assessment and Prioritization of Protected Areas)* has been used. The RAPPAM analysis has been carried out in the framework of the *Dinaric Arc Ecoregion Project*, which is lead by and financed trough the World Wide Fund for Nature (WWF). The analysis was conducted in cooperation with University of Primorska, which is currently implementing a project *Designing an efficient system of protected areas in Slovenia*. Nine protected areas were included in the assessment, which at that time had operational management authorities. These are: Triglav National Park (*Triglavski narodni park* -TNP), the Škocjan Caves Park (*Park Škocjanske jame* - PŠJ), Kozjanski Park (*Kozjanski park* - KRP), Notranjska Regional Park (*Notranjski regijski park* - NRP), Landscape Park Goričko (*Krajinski park Goričko* - KPG), Landscape Park Kolpa (*Krajinski park Kolpa* - KPK), Landscape Park Logarska Dolina (*Krajinski park Logarska dolina* - KPLD), Landscape Park Sečovlje Salina (*Krainski park Sečoveljske soline* - KPSS), Nature Reserve Škocjan Bay (*Naravni rezervat Škocjanski zatok* - NRŠZ). The majority of larger protected areas have been included in the analysis, so we can conclude that 78 % of the surfaces of Slovenian protected areas have been assessed.

The analysis of threats and pressures has revealed that the largest threats to Slovene protected areas are caused by changes in traditional land use (both abandonment and intensification). The largest pressures are tourism and recreation as well as invasive alien species. The Slovene system of protected areas includes areas with a significant importance for nature conservation. However, protected areas are not yet drivers of sustainable development and do not sufficiently bring economic benefits to the society. The analysis has clearly shown that larger protected areas are more vulnerable. However, form conservation point of view, it is necessary to designate large areas, in which it is possible to conserve minimal viable populations of species and achieve the main goal of protection – conservation of biodiversity.

The core part of the RAPPAM methodology is the *Rapid Assessment Questionnaire*, which in structure follows the logical framework of the management cycle: design and planning – inputs – management processes – management outputs – results. The quality of planning can be monitored by assessing the adequacy of the conservation goals, legal security, site design and planning. The RAPPAM analysis has shown that, in Slovenia, conservation goals are mostly well integrated in management documents. Legal security is weak, mainly due to unresolved legal and property issues and insufficient staff and financial resources. However, cooperation with local communities seems to be adequate. Concerning site design and planning, a weak point is the zonation within protected areas.

The questions concerning inputs are assembled in three sets on: staffing, communication and information, infrastructure and financing insufficient. Also, mechanisms for evaluating of reviewing staff performance are not well developed. However, the skills of the current staff seem to be appropriate. Almost all protected areas have a good or at least sufficient infrastructure. PAs reached high scores in communication within the management authorities (MAs) and with other organisations. Past financing has been inadequate but of a greater concern is long-term financing, as it seems that the long term financing of MAs is uncertain.

The sets of questions on management processes include questions on management planning, internal processes of MAs and their research work. A clear weakness of the Slovenian system of protected areas is the absence of management plans. In the time of the analysis implementation, only two protected areas had a valid management plan. In other protected areas management activities are planned on the basis of yearly plans, but this makes it difficult to plan long-term activities. Great differences in the adequacy of research and monitoring appear among protected areas. However, common to all is lack of socio-economic research and monitoring of biodiversity.

A separate part of the RAPPAM questionnaire is intended for the analysis of the overall system of protected areas. Only six protected areas have completed this part of the questionnaire. Most have evaluated the overall system of protected areas as good, lower were scores on protected area policies and policy environment, in particular the implementation of national commitments and the financial support of protected areas.

On the basis of the results of the analysis recommendations have been drafted, which have subsequently been discussed and amended at the RAPPAM workshop. These recommendations offer basic guidelines for improving management effectiveness in protected areas. The activities have been placed in five goals:
- Goal 1. Improve the effectiveness of protected area management
- Goal 2. Capacity building on institutional level
- Goal 3. Efficient management of habitats and species
- Goal 4. Sustainable financing of protected areas
- Goal 5. Enhance recognisability and importance of protected areas

1. Introduction

Biotic diversity is an invaluable, but often stills an overlooked asset. Formed trough millions of years of evolution, it consists of all forms of life, from the smallest microbes to plants and animals, habitats and ecosystems, and also relationships among species and between species and their environment. For humans biotic diversity, ensured trough balance in nature, offers different goods and services, as for example food, energy, medicines, water, air, soil and other natural resources.

Protected areas are the most important instrument for conservation of biotic diversity. The objective of designation and management of any protected area is to conserve nature, together with ecosystem goods and services as well as cultural values. However, the goals of the establishment of protected areas can only be achieved when these areas are linked in a large and efficient system, which is supported by a legal framework and sectoral rules. Furthermore, protected areas should have appropriate management and sustainable financing. It is also important to periodically review the efficiency of management activities and achievement of the objectives and to direct the management towards new challenges.

One of the tools for assessing the management effectiveness of protected areas is the RAPPAM (*Rapid Assessment and Prioritization of Protected Area Management*) methodology. The methodology [1] has been prepared by the World Wide Fund for Nature (WWF) and is based on the evaluation framework developed by the *World Commission on Protected Areas* (WCPA) of the World Conservation Union (IUCN). In general, the RAPPAM methodology is designed for broad-level comparisons among different protected areas. It can provide answers to some important questions such as: What are the threats facing a number of protected areas and how serious are they? How do protected areas compare with one another in terms of infrastructure and management capacity? What is the urgency for taking actions in each protected area? What is the overall level of integrity and degradation of each protected area? How well do national and local policies support the effective management of protected areas? What are the most strategic interventions to improve the entire system.

The Slovenian National Program on Environmental Protection 2005-2012, adopted in 2005, among others includes a goal that by 2014 the surface of protected areas should increase to 10% of the surface of Slovenia. This programme also stresses the importance of improving the management effectiveness and it foresees the establishment of a central unit for protected areas, which would take over the common administrative tasks of current MAs.

Protected areas in Slovenia, especially larger parks, are not only active in nature conservation, but also help to preserve cultural heritage, implement developmental projects, offer diversity of tourist products and education and promote Slovenia internationally. However, their missions will only be achieved, when they:

---

1 Ervin, J. 2003. WWF: Rapid Assessment and Prioritization of Protected Area Management (RAPPAM) Methodology, WWF Gland, Switzerland.

- are recognised as one of the developmental centres,
- become holders of a common developmental vision, based on the sustainable use, which is adopted on the level of state, regions and counties,
- become a place for harmonising sectoral policies (spatial planning, culture, tourism, agriculture, rural development, regional development, education, …) and planning of common projects,
- ensure integral, harmonised conservation and development, which will enable better use of the invested resources,
- become holders of harmonised mechanisms, supporting local inhabitants.

In Slovenia a system of protected areas is still being developed. Therefore, it is even more important to assess its current efficiency and to provide guidelines to enhance its effectiveness. The RAPPAM methodology is an appropriate tool for such analysis. It can be conducted in a short amount of time and results clearly point to areas where further activities are needed.

2. Description of the RAPPAM methodology

2.1. The basic framework of the RAPPAM methodology

The RAPPAM methodology includes five steps:

Determining the scope of the assessment (Step 1)
At the beginning of the analysis it has to be clearly determined which protected areas will be included in the analysis, who will participate in the process and who will be answering the questionnaire. Already in this stage it should be determined how we will proceed with the analysis of the results. To ensure a transparent process, the analysis should be conducted at a workshop, which enables a dialog.

Assessing existing information (Step 2)
In the preparation process of the analysis existing information and studies on protected areas, statistical data, and if needed maps of protected areas, should be collected. These data can be used when completing the questionnaires or in interpretation of the results.

Administering the questionnaire (Step 3)
The analysis of management of protected areas is conducted with the *Rapid Assessment Questionnaire* (ANNEX 1), which is an integral part of the RAPPAM methodology. The questionnaire should be completed by the protected area managers, and if possible also by other stakeholders, which have a good knowledge on one or more protected areas. It is recommended that the questionnaires are completed at the workshop, as this enables the participants to agree on the interpretation of questions. If it is not possible to conduct a workshop, some other form of transparent presentation of results should be sought for. It should be clearly stated how the results of the analysis will be used.

The main part of the RAPPAM methodology is made of a questionnaire, in which questions are grouped in seven sets. The first one contains basic information on protected area, including management objectives and specific management activities. A very important and extensive second set of questions deals with the analysis of pressures and threats to protected areas. Pressures are defined as activities or events that have already had a detrimental impact on the integrity of the protected area. Threats are potential or impending pressures which are likely to occur in the protected area. These can include both legal and illegal activities and can be a direct or indirect consequence of activities in the protected area. The following sets of questions deal with the context, inputs, processes, outputs and results. While most of these sets of questions focus on analysis of the situation within a single protected area, the last three sets of focus on evaluation of the overall system of protected areas.

To most questions respondents choose among four possible answers: »yes«, »mostly yes«, »mostly no«, »no«. The answer »yes« (y) is given when all or nearly all parts of the statement are true. The answer »mostly yes« (m/y) indicates that most of the elements of the statement are true or the requirements are likely to be met in the near future, but there are still some reservations for an unqualified »yes«. The answer »mostly no« (m/n) could indicate that several or maybe even most of the elements of the statements have not been completed or the

results are not satisfactory. The answer »no« means that for a given protected area none of the elements of the statements is true.

Analysing the findings (Step 4)

The methodology has a uniform scoring system of the answers, which enables comparison of analysis conducted in different regions or states. Converting the answers in points enables different mathematical operations, which can be presented on graphs. The graphs can depict trends within a single protected area or differences among several protected areas. To be able to formulate recommendations, special attention should be given to low scores in several protected areas, as these are probably the areas where most capacity building is required.

Identifying next steps and recommendations (Step 5)

The outcome of the analysis forms the basis for recommendations. It is best when decision makers and managers of protected areas are involved in this phase as well, as they will be required to follow these recommendations in their future work. The recommendations should focus on key changes, which are needed for strategic improvements towards efficient protected area management. These changes can include politics, management methods and/or funding allocation. Also the implications of the recommendations should be taken into account (e.g. the implication of reallocation the budget items). It is important to clearly state at the workshop how these recommendations will be used.

2.2. The RAPPAM analysis in Slovenia

2.2.1. Selection of protected areas for the RAPPAM analysis

Nine management authorities (MA) of protected areas have been included in the RAPPAM analysis. Included were those MAs, which at the time of conducting the analysis (in November 2008) had an operational management body (Table 1). The MA of the Landscape park Strunjanske soline has not been included in the analysis, as the public institute has formally been established only in December 2008. During the RAPPAM process, Landscape park Ljubljansko barje has been designated, but the management body had not yet been established. The PAs, included in the analysis, differ substantially in size and management type (state public institute, local public institute, and concessionaire). Theses facts had to be taken into account when analysing the data.

In December 2008 Slovenia had no less than 1251 protected areas, covering 12,11% of the territory of the Republic of Slovenia. Most of these areas have been established by local communities in the last two decades of the previous century. However, neither the management of these areas nor management authorities have been determined. Because of this, only nine protected areas have a management authority. Despite this, almost all larger protected areas have MA and all, which have been designated by the state after the year 2000 (except for the recently established Landscape park Ljubljansko barje). These nine protected areas, all of which have been included in the analysis, represent almost 78% the surface of protected areas in Slovenia. Still a bit over 20% of the surface of protected areas does not have an ensured management, which therefore stays one of the central problems of the protected area system in Slovenia.

2.2.2. Implementation of the RAPPAM analysis in Slovenia

The RAPPAM analysis has been carried out by the Slovene Ministry of the environment and special planning, the Sector for protected areas. The analysis has been carried out in the framework of the Dinaric Arc Ecoregion Project, which is lead by and financed trough WWF. In the years 2008 and 2009, such analysis will be conducted in all countries of the Dinaric Arc and presents the basis for the capacity building initiatives in the Dinaric region. Actively involved in the analysis was also the University of Primorska, the Scientific-research Center Koper, which currently works on a project *Designing an efficient system of protected areas in Slovenia*.

Knowing that it would have been difficult to ensure proper participation of stakeholders and MA at a several days workshop, the assessment process had to be adjusted. The Rapid assessment questionnaire has therefore been supplemented with explanations and examples (ANNEX 1), so that the respondents could fill in the questionnaire on their own. The questionnaire has been send to nine MAs. The analysis of the results has been carried out by Jana Kus Veenvliet and Andrej Sovinc, who subsequently also prepared the draft recommendations. The results and draft recommendations presented the basis for the workshop, which took place on 21st November 2008 in the future Landscape park Radensko polje (ANNEX 2). The main focus of the workshop was to have a discussion of the results and recommendations. After the workshop a clean copy of the recommendations has been made and sent back to the participants for comments. On the basis of the comments received, a final version of recommendations has been prepared. These present basis for further work of the Sector of protected areas and management authorities of protected areas.

The workshop has been attended by representatives from all MAs involved in the analysis, the representatives of the competent ministry, Institute of the Republic of Slovenia for nature conservation (IRSNC), staff, working on the Dinaric Arc Ecoregion Project and others (ANNEX 3).

3. The results of the RAPPAM analysis

3.1. Basic information on protected areas

Nine protected areas have been included in the RAPPAM analysis, which at the time of the implementation of the analysis (in November 2008) had an operational management authority (Table 1). In Slovenia Triglav National Park (TNP) is the only national park, of which a larger part is classified as the IUCN category[2] II, National park. Seven protected areas are classified as the IUCN category V, areas of Protected landscape/Seascape, protected area managed mainly for landscape/seascape conservation and recreation. Only Nature Reserve Škocjan Bay is classified as the IUCN category IV, *Habitat/Species Management Area*, where the management is adjusted to ensure the conservation of plant/animal species or habitat types.

The analysed protected areas substantially differ in size, which is reflected in many internal processes and management activities. Among the analysed PAs, five are managed by state

---

[2] [2] Dudley, N. (ed.) 2008. Guidelines for applying protected areas management categories. Gland: IUCN. http://www.iucn.org/dbtw-wpd/edocs/PAPS-016.pdf

public institutes, acting as management authorities. Two protected areas, designated by the state, are managed by concessionaire, which are organised as a company and as a society. Two of the analysed PAs have been established on a county level. One is managed by a public institute, established by the county, and one as a company, to which a county has awarded a concession.

Furthermore, the data on the contributions to each MAs from the state budget has been collected. These data show a more comparable picture of the financing as an overall yearly budget, as some of the PAs have popular touristic sights, enabling them to earn a substantial income from entrance fees. The protected areas, established on a county level, are partially financed from the county budgets.

Table 1. An overview of basic information on protected areas, included in the RAPPAM analysis

English name of PA	Slovenian name of PA	Acronym	IUCN category	Surface [ha]	Founder	Year of designation	Year of establishment of the MA	State/county budget allocation to the MA in 2008 (€)
Triglav National Park	Triglavski narodni park	TNP	II / V	83.807	state	1981	1975	1.376.460
The Škocjan Caves Park	Park Škocjanske jame	PŠJ	III/V	413	state	1996	1997	480.000
Kozjanski Park	Kozjanski regijski park	KRP	V	20.760	state	1981	1983	682.000
Notranjska Regional Park	Notranjski regijski park	NRP	V	22.200	county	2003	2003	150.000[3]
Landscape park Goričko	Krajinski park Goričko	KPG	V	46.200	state	2003	2004	405.200
Landscape park Kolpa	Krajinski park Kolpa	KPK	V	4331	county	2006[4]	2006	228.646
Landscape park Logarska dolina	Krajinski park Logarka dolina	KPLD	V	2430	county	1987	1992	120.000
Landscape Park Sečovlje Salina	Krajinski park Sečoveljske soline	KPSS	V	650	state, concession	2001	2002[5]	265.256
Nature Reserve Škocjan Bay	Naravni rezervat Škocjanski zatok	NRŠZ	IV	122	state, concession	1998	1999[6]	245.500

3.2. The analysis of pressures and threats

The second set of questions relates to the analysis of pressures and threats to protected areas (Figure 1). Their importance is assessed separately for each threat/pressure. **Pressures** are defined as activities or events that have already had a detrimental impact on the integrity of the protected area. **Threats** are not yet affecting the area, but are likely to occur in the future. This can include both legal and illegal activities and can be a direct or indirect consequence of activities in the protected area. For the use of the RAPPAM methodology in Slovenia, an adapted list of pressures and threats has been made, listing those that occur in at least some Pas (Table 2). Respondents were asked to describe each pressure/threats and then estimate its trend, extent, impact and permanence. **Extent** is the proportion of the PA across which the impact of the activity occurs or a threat can be expected. **Impact** is the degree to which the

---

[3] sofinanciranje ustanoviteljice, občine Cerknica
[4] Zavarovano območje je prva ustanovila občina Črnomelj leta 1998.
[5] Leto podelitve koncesije za upravljanje podjetju Soline d.o.o.
[6] Leto podelitve koncesije za upravljanje Društvu za proučevanje ptic Slovenije (DOPPS).

pressure affects overall protected area resources. The impact is »*severe*«, when a serious damage or loss to protected area resources occurred, either to soil, water, animals/plants. The impact is »*high*« when there is a significant damage to protected area resources. The impact is marked as »*moderate*«, when the damage to the protected area resources is detectable, but not considered significant. The impact is »*mild*«, when the damage may or may not be easily detectable, and is considered slight or insignificant. **Permanence** denotes the length of time needed for the affected protected area resource to recover.

2a. PRESSURES AND THREATS

Pressure: LOGGING
Detailed description of the pressure:

☐ Has   ☐ Has not been present in the last 5 years

In the past 5 years this activity has: The overall severity of this pressure over the past 5 years has been:

In the past 5 years this activity has:	Extent	Impact	Permanence
☐ Increased sharply			
☐ Increased slightly	☐ Throughout (>50%)	☐ Severe	☐ Permanent (>100 years)
☐ Remained constant	☐ Widespread (15-50%)	☐ High	☐ Long term (20-100 years)
☐ Decreased slightly	☐ Scattered (5-15%)	☐ Moderate	☐ Medium term (5-20 years)
☐ Decreased sharply	☐ Localized (<5%)	☐ Mild	☐ Short term (<5 years)

Threat:
Detailed description of the threat:

☐ Will   ☐ Will not be a threat in the next 5 years

The probability of the threat occurring is: The overall severity of this threat over the next 5 years is likely to be:

The probability of the threat occurring is:	Extent	Impact	Permanence
☐ Very high			
☐ High	☐ Throughout (>50%)	☐ Severe	☐ Permanent (>100 years)
☐ Medium	☐ Widespread (15-50%)	☐ High	☐ Long term (20-100 years)
☐ Low	☐ Scattered (5-15%)	☐ Moderate	☐ Medium term (5-20 years)
☐ Very low	☐ Localized (<5%)	☐ Mild	☐ Short term (<5 years)

Figure 1. The structure of the RAPPAM questionnaire for the analysis of pressures and threats (example for logging).

Total score of the pressures and threats is calculated trough scoring single components, as shown below (Figure 2).The scores on extent, impact and permanence are multiplied, which adds up to a degree of pressure/threat. Each threat and pressure will have a degree between 1 and 64.In the continuation of the report graphs have been made, showing the degree of each pressure/threat.

Extent		Impact		Permanence	
Throughout (>50%)	**4**	Severe	**4**	Permanent (>100 years)	**4**
Widespread (15-50%)	**3**	High	**3**	Long term (20-100 years)	**3**
Scattered (5-15%)	**2**	Moderate	**2**	Medium term (5-20 years)	**2**
Localized (<5%)	**1**	Mild	**1**	Short term (<5 years)	**1**

Figure 2. The method of scoring the extent, impact and permanence of pressures and threats.

Kus Veenvliet, J. & A. Sovinc, 2008. Protected area management
effectiveness in Slovenia, Final report of the RAPPAM analysis.
Page | 14

Table 2. An overview of categories of pressures and threats in Slovenian protected areas. Below the thick line some pressures/threats are given, which MAs have listed in the category »other«

Category	Description
Logging	Includes legal or illegal logging in protected areas. In Slovenia logging in riparian areas is subject to water management planning, and not forestry planning, therefore we include it in the category Intervention in riverine and riparian areas.
Changes of planned use	Includes the changes of planned use, for which the spatial plans are amended, and areas have designation changed to e.g. settlements, areas for tourism with infrastructure, areas or traffic infrastructure, agricultural areas or any other use that does not provide protection of land.
Changes of land use	Includes changes of land use within the existing planned use (e.g. conversion of meadows to arable land, draining of meadows, land or illegal activities on (e.g. illegal construction, illegal waste disposal)
Abandonement of traditional use	Processes caused by abandonment of traditional use of land (e.g. abandonment of mowing, grazing, orchard maintenance, salt production, pools).
Intensive grazing and mowing	Livestock grazing or mowing for fodder, which is because of intensity or timing prevents achieving goals of a protected area. The pressures due to abandonment of grazing or mowing is classified in the above category Abandonment of traditional use.
Interventions in riverine and riparian areas	Regulating streams, dam construction for recreation, fisheries, drinking water hydro-power plants. Extraction of gravel is placed in the category Mining.
Hunting and fishing	Permitted hunting/fishing, which despite quotas threatens the protected area resources, or illegal hunting/fishing. This category also includes threats caused by collection of game trophies and commercial hunting or fish stocking for sports fisheries.
Mining	All forms of drilling, mining or exploitation of underground or aboveground resources, as well as waste products produced by such activities. This also included permitted or illegal exploitation of gravel or salt.
Non-timber forest product collection	Collection of non-timber forest products, for example fruits, herbal plants (also medicinal plants), mushrooms and other natural resources of protected area, either for selling or subsistence.
Tourism and recreation	Includes e.g. mountaineering, camping, skiing, horse riding, boating, use of motor vehicles off-road (off-road vehicles) and other types of recreation. Construction of touristic infrastructure is placed in the category Changes of planned use.
Waste disposal	Improper waste disposal of permitted activities (e.g. waste landfill, waste left by visitors) and also illegal waste disposal of illegal activities (illegal disposal of construction waste or bulky waste). This category also includes filling-in small depressions and caves with construction waste.
Cross-border impacts	Cross-border pollution and acidification, increased/reduced water run-off, nitrogen load and flooding cause by improper land management in the neighbouring county, also includes weather changes resulting from climate change.
Invasive alien species	Plants or animals, which have been intentionally or unintentionally introduced by humans outside of their natural range (e.g. Rainbow trout (*Onchorhynchus mykiss*), Japanese knotweed (*Fallopia japonica*), Canada goldenrod (*Solidago canadensis*).
Traffic	Impacts of traffic on any category of existing roads (also on forest roads), either because of disturbance, noise, light pollution or disturbance of migratory routes (e.g. amphibians). Construction of new roads is placed in the category Changes of planned use, recreational off-road driving is included in category Tourism and creation.
Air traffic	Impacts of any type of air traffic (passenger airplane, sports airplane, helicopter, gliding planes, parachutes, balloons) dues to noise or pollution.
Water pollution	Direct or long-distance impacts of pollution of standing, running or sea water, which hinders the achievement of the conservation goals of a protected area.

The analysis has shown that all categories of pressures are present in at least half of the PAs, some are present in almost all (Figure 3). The only pressure, occuring in all protected areas is »waste disposal«, however the overall degree of this pressure is relatively low. The figure below also revelas some long term trends. Most pressures are expected to contine in the future, and some PAs expect new pressures (now threats) to appear.
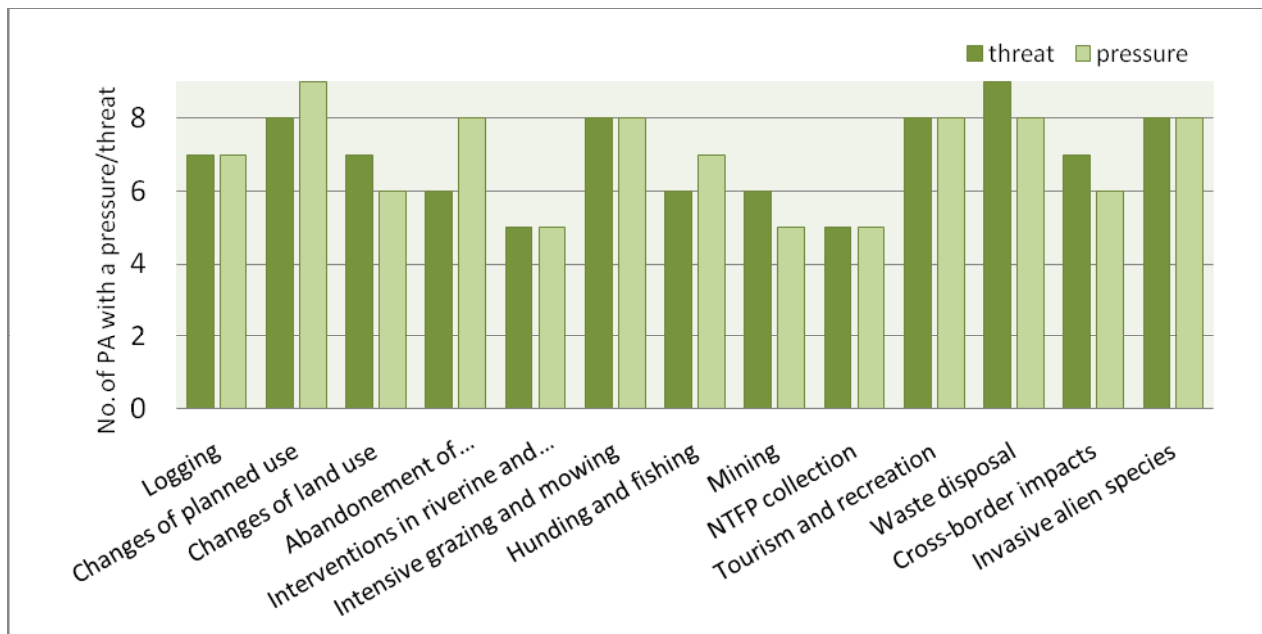
Figure 3. The number of protected areas with a pressure or threat

3.3. The results of the analysis of pressures and threats

3.3.1. Logging

In Slovenia the exploitation of forests is planned trough the forest management plans, which are prepared by the Slovenian Forest Service. Planning is based on ensuring sustainable use of forests and conservation of function of forests. Despite this, the analysis has shown that in some PAs the use of forests is not yet well harmonised with the nature conservation objectives. This problem appears to be large in particular in TNP, which is a national park, where any use or human influence should be excluded. In some protected areas problems are because of logging in forest edges and intensive logging due to economic interests. In the KPG the impact of logging in riparian areas has been placed in this category. However, the areas along rivers are often not designated as forest. These areas are not subject to forestry planning, but fall under water management planning. The overall degree of pressures and threats from logging is shown on a figure below (Figure 4).
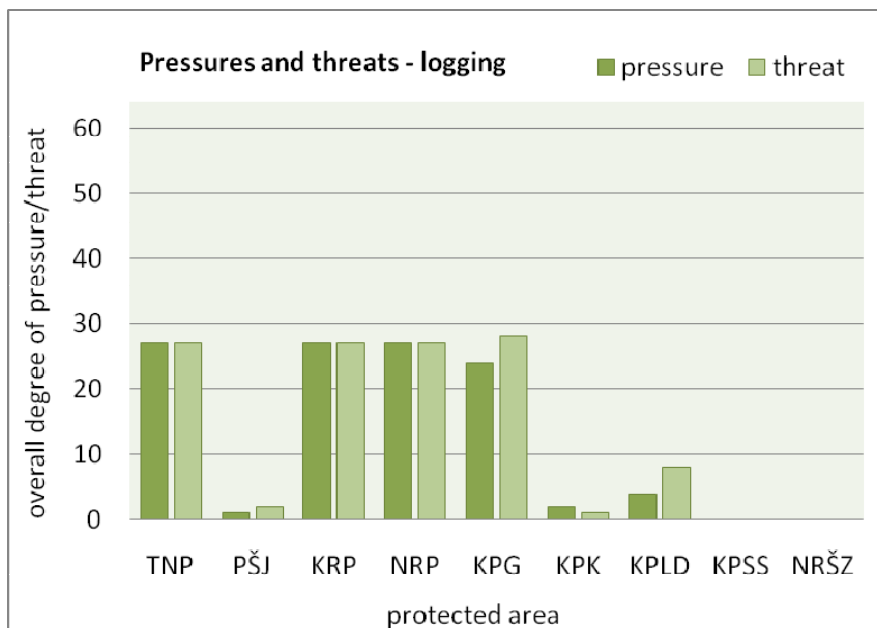
Figure 4. The overall degree of pressures and threats in protected areas due to logging

3.3.2. Changes of planned use

Since 2004 the environmental impact assessments are in protected areas and Natura 2000 areas extended by a detailed acceptability assessments[7]. However, changes of planned use presents at least moderate pressures in most protected areas. More concerning is the fact that most MAs expect this pressure to increase in the future (Figure 5). This has been addressed in the recommendations, by including the recommendation to improve the communication among MAs and the IRSNC. This should improve the role of MAs in the preparation of nature conservation guidelines.
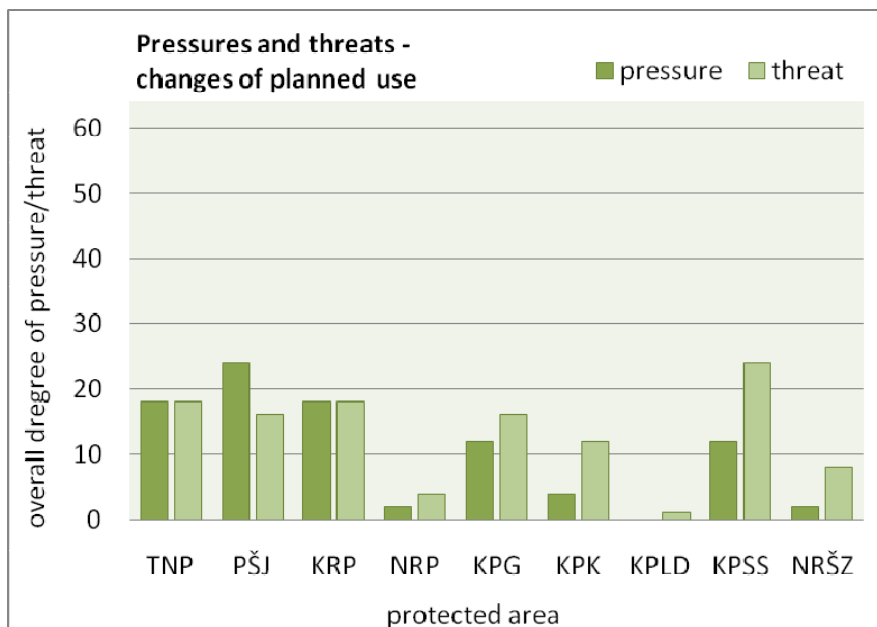
Figure 5. The overall degree of pressures and threats in protected areas due changes in planned use

7 Rules on the assessment of acceptability of impacts caused by the execution of plans and activities affecting nature in protected areas (Official Gazette No. 130/2004, 53/2006, 43/2008).

3.3.3. Changes of land use

The pressures and threats in this category are those caused by the changes of land use within the existing planned use. These changes occur mainly in agricultural areas, where conversion of meadows to arable fields is possible within the existing planned use. Besides that in some areas draining of meadows and land consolidations often occur. In this category also illegal activities concerning land use would be classified (e.g. illegal buildings, illegal waste disposal), but this has not been listed by any of the PAs. As this category contains many activities, specific for agricultural areas, it is not surprising that total scores are higher in PAs situated predominantly lowland areas (KPG, KPK, KPSS) (Figure 6). Due to serious impact of this pressure to PAs, three recommendations have been formulated:

1. To establish a process, which will enable MAs to take part in the process of determining the use of land or lease of land in protected areas, which are managed by the Farmland and forest fund of the Republic of Slovenia.
2. To ensure trough the agricultural advisory service promotion and advise on nature conservation measures, which are integrated in the agricultural subsidy schemes.
3. Besides the existing measures, formulate new nature conservation measures for ensuring sustainable land use, which are not based on agricultural, but on nature conservation programmes.
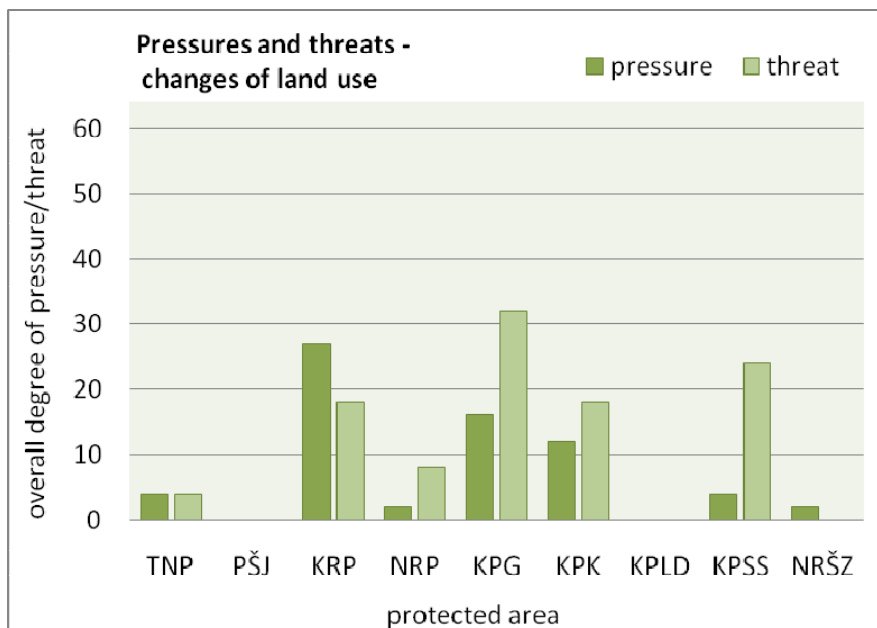
Figure 6. The overall degree of pressures and threats in protected areas due to changes in land use

3.3.4. Abandonment of traditional use

Abandonment of traditional use is also severe problem in lowland protected area, where conservation of biotic diversity is largely liked with the traditional use of agricultural land (Figure 7). However, pressures from abandonment of traditional use and intensification of grazing and mowing occur in the same protected areas. In some parts agriculture is being abandoned, while in others the production is intensified.

Besides the abandonment of grazing and mowing, the abandonment of village ponds could also be placed in this category. These ponds being small in size, the impacts have a limited extent, however they present and important loss of habitats of amphibians, water invertebrates and water plants. This threat has been listed by two PAs, but they have classified it in the category "other". In the KPSS we can, besides the abandonment of agricultural use, in the future, also expect pressures due to abandonment of traditional salt production, which has contributed to formation of characteristic ecosystems. Recommendations aiming to reduce these pressures are the same as listed at end of the former chapter.
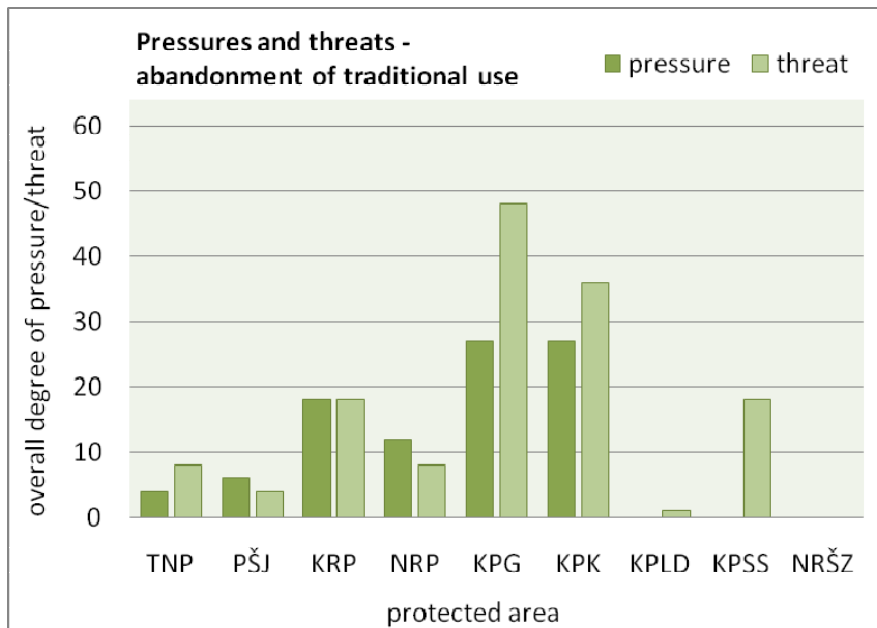
Figure 7. The overall degree of pressures and threats to protected areas due to abandonment of traditional use

3.3.5. Intensive grazing and mowing

Likewise, the pressure of intensive grazing and moving is larger in PAs situated in predominantly lowland areas. However, in many PAs, this pressure has not been detected (Figure 8). This could be either because intensive grazing or mowing is not possible due to geographic conditions or they could occur, but are in fact not present.
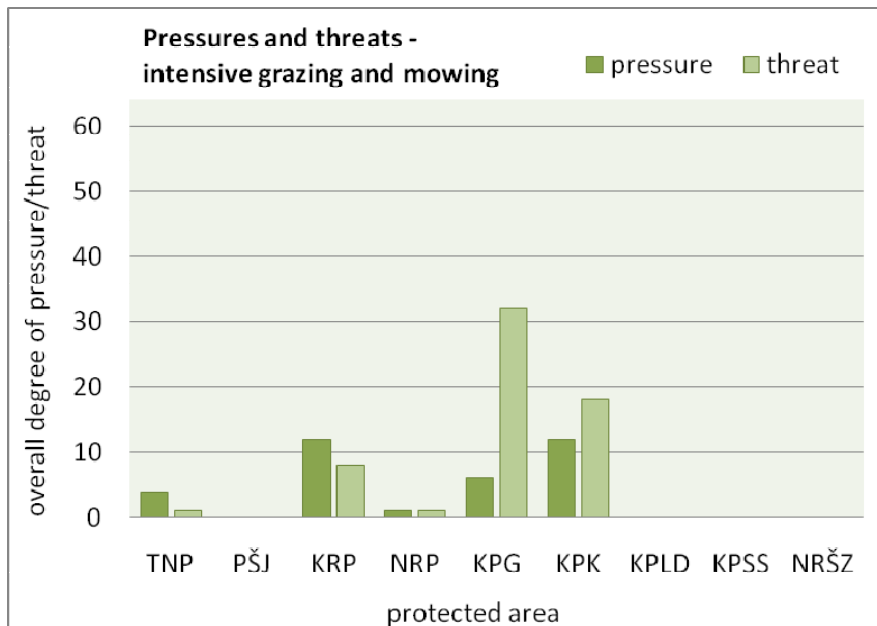
Figure 8. The overall degree of pressures and threats in protected areas due to intensive grazing and mowing

3.3.6. Interventions in riverine and riparian areas

In hilly areas these pressures appear as initiatives to use water power (small hydro-power plants), while in the lowland areas most threats arise from water management aimed at preventing flooding and construction of irrigation systems. Due to climate change, the pressures from irrigation systems are likely to further increase. This trend is expected in the area of KPG (Figure 9) which is situated in the driest part of Slovenia. In KPSS pressure from inadequate state policy to ensure maintenance of water infrastructure (dams, protecting KPSS from being flooded), has been classified in this category.

As we would have had a premonition, only a few days after the RAPPAM workshop a national disaster has hit the KPSS, as an exceptionally high tide has flooded large part of the area and has had severe consequences.
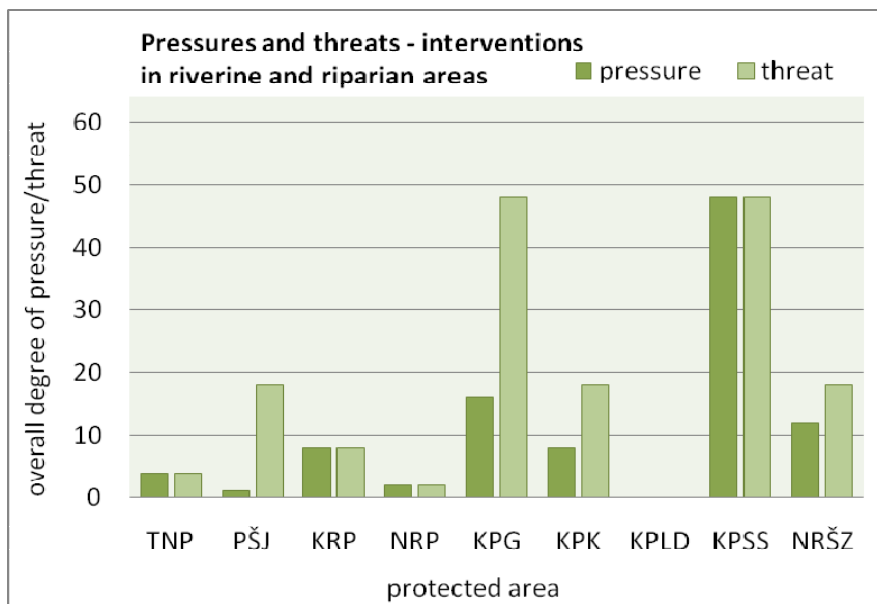
Figure 9. The overall degree of pressures and threats in protected areas due to interventions in riverine and riparian areas

3.3.7. Hunting and fishing

In Slovenia hunting is planned trough hunting management plans and fishing with fisheries management plans. These plans are prepared by expert organisations and IRSNC is involved in this process trough nature conservation guidelines. In some PAs pressures have been noted from increased hunting/fishing, in some areas there is an increased interest in creating new fishponds (Figure 10). In the area of KPSS pressures are caused by illegal hunting in the border area.
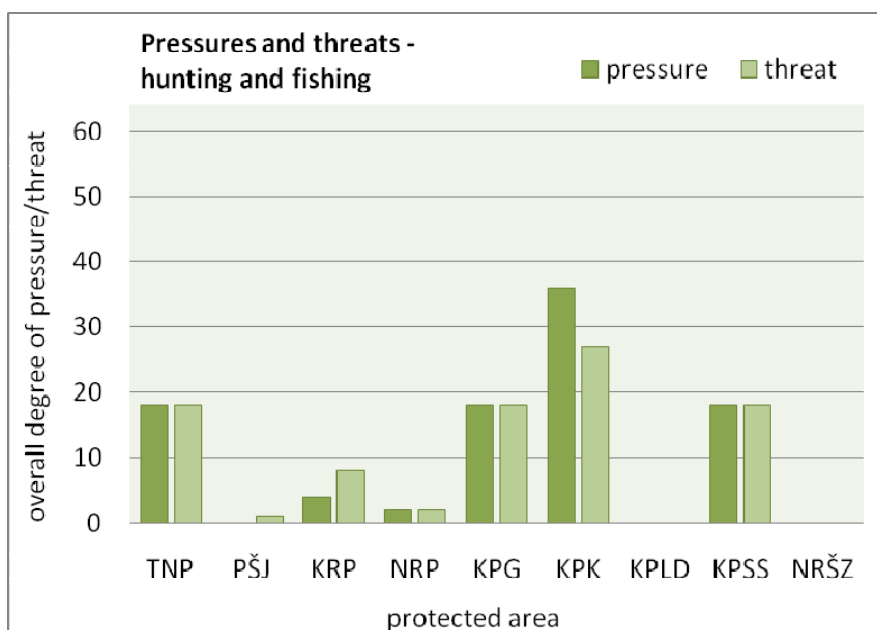
Figure 10. The overall degree of pressures and threats in protected areas due to hunting and fishing

3.3.8. Mining

Mining does not present larger pressures/threats in Slovene protected areas. The exception is KPG (Figure 11), where in the past there were many clay pits and even in the future they expect increased interest in exploitation of natural resources. In KPSS there is some discrepancy between the legislation on nature conservation and mining, as the whole protected area is also regarded as an exploitation area.
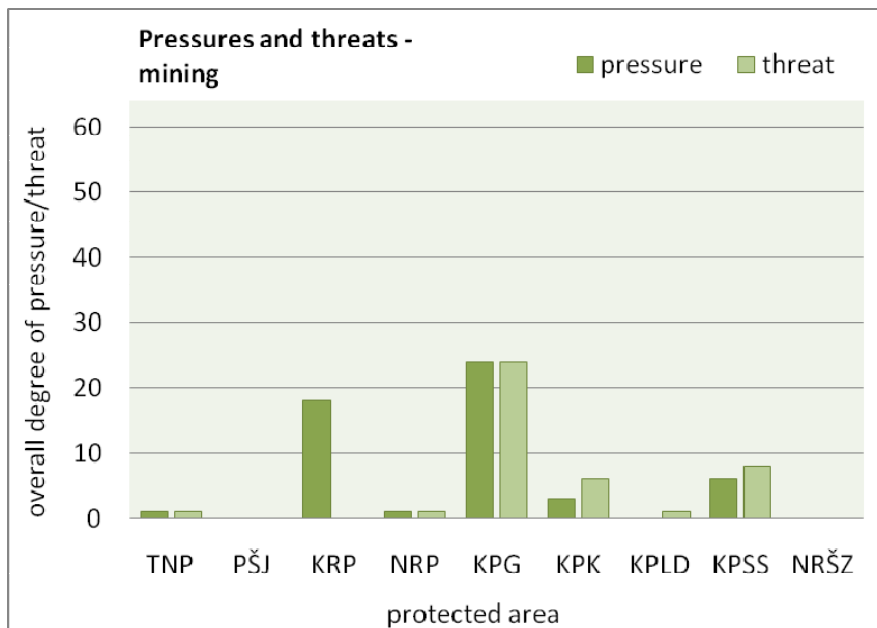
Figure 11. The overall degree of pressures and threats in protected areas due to mining

3.3.9. Non-timber forest products collection

In Slovenia the collection of non-timber forest products (NTFP) is regulated with the Rules on the protection of forests[8], and partially by the Decree on the protection of wild fungi[9]. The pressures due to mushroom picking is high in the area of KPG. This lowland PA has a dense network of forest roads and is easily accessible. Also organised mushroom picking of larger groups occurs in this area. In other PAs the pressures from NTFP collection are not present or are small and limited to smaller areas (Figure 12).

---

[8] Uradni list RS 92/2000, 56/2006
[9] Uradni list RS 57/1998
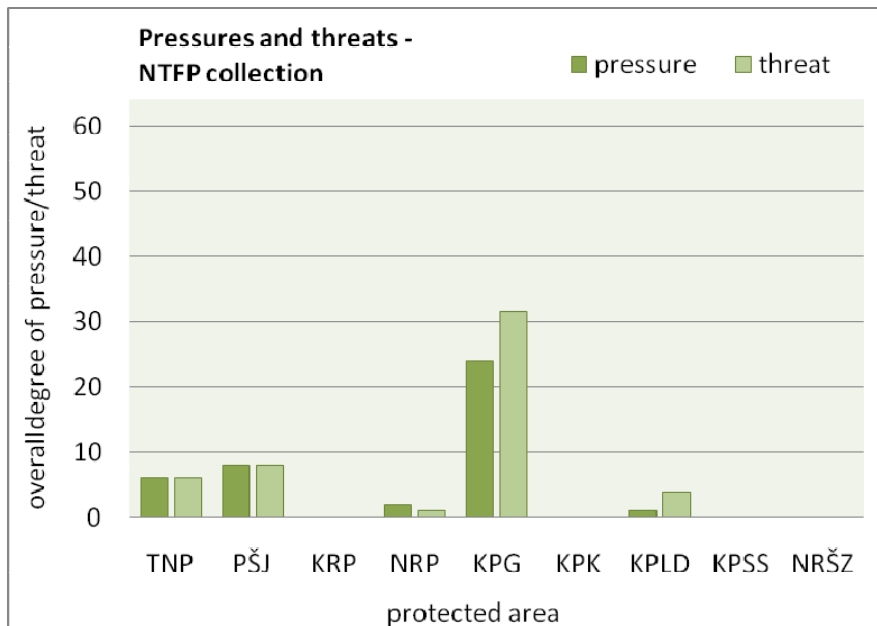
Figure 12. The overall degress of pressures and threats in protected areas due to collection of non-timber forest products

3.3.10. Tourism and recreation

The highest overall score has been given by TNP, where also the highest diversity of touristic activities take place. This increases the pressures to the area, also indirectly due to increased demands for new infrastructure. In other areas the pressures from tourism and recreation are moderate or mild, however an increase is expected in almost all PAs (Figure 13).This is likely to lead to an increased demand for expansion of tourist infrastructure. In several PAs as a particular threat an off-road driving with mountain bikes and motor vehicles has been stated. It is clear that inspection and nature conservation surveillance is not insufficient. Due to large pressures from tourism we have recommended that the MAs prepare a vision of acceptable forms of tourism (types, extent, areas), discuss this with local communities and take it into account when drafting the management plans.
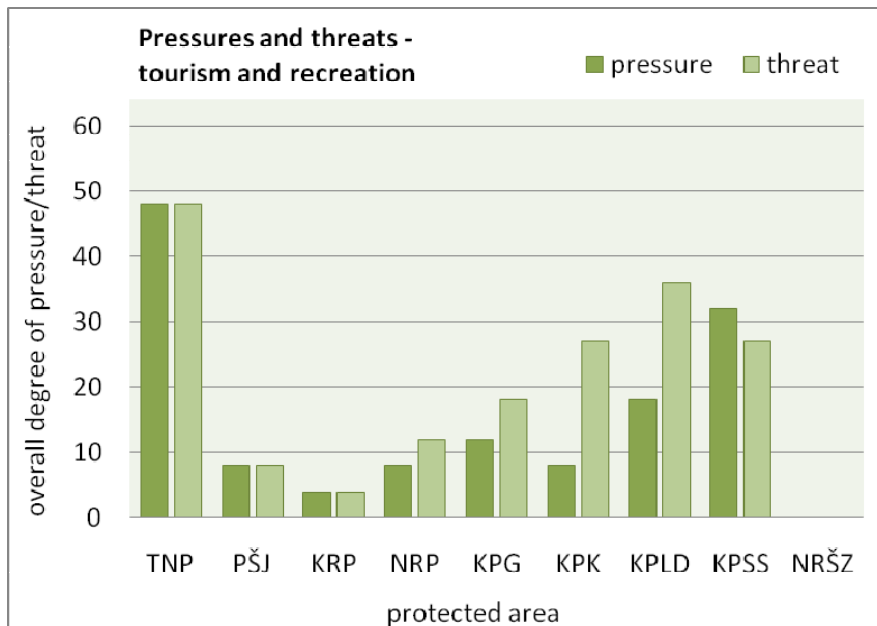
Figure 13. The overall degree of pressures and threats in protected areas due to tourism and recreation

3.3.11. Waste disposal

Pressures of waste disposal arise due to improper disposal of waste products of legal activities (e.g. garbage dumps, waste left by tourists) or illegal waste disposal (illegal dumping of construction material or large household waste). In Slovenian PAs these pressures appear to be relatively mild (Figure 14). Furthermore, in most PAs no increase in this pressure is expected, which could be due to better awareness of inhabitants and visitors of PAs.
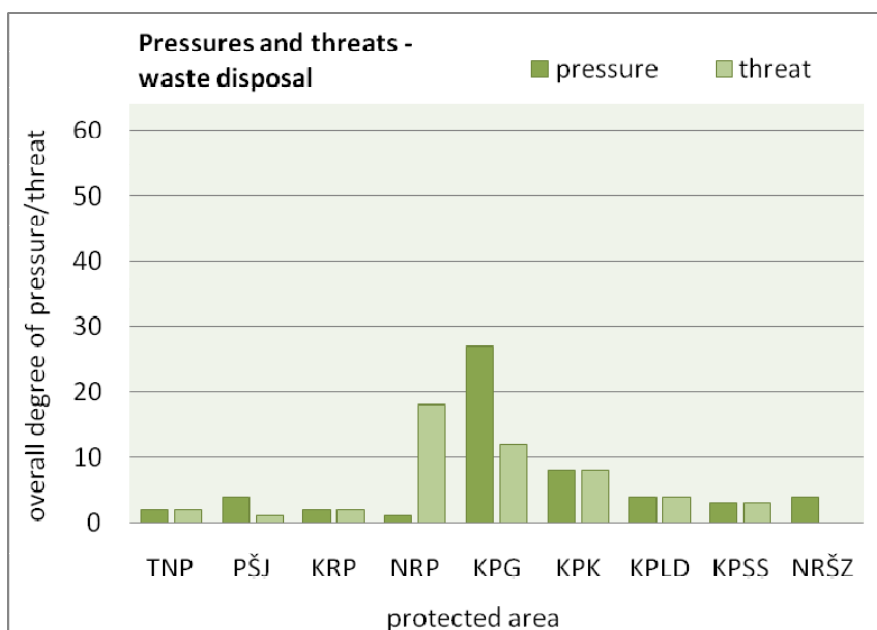
Figure 14. The overall degree of pressures and threats in protected areas due to waste disposal

3.3.12. Cross-border impacts

Cross-border impacts include impacts that occur over the national borders, e.g. pollution, acidification, increased/lowered water current, nitrogen load, flooding due to improper land management and also weather changes, caused by the global climate change. In the analyses PAs most cross-border impacts are due to long-distance air pollution and climate change. In the only costal PA, included in the analysis – KPSS, there is a significant threat that the climate change will lead to such raise of see level that the protected are would be flooded (Figure 15). The respondents have however stated that the hard data on these impacts are severely lacking.
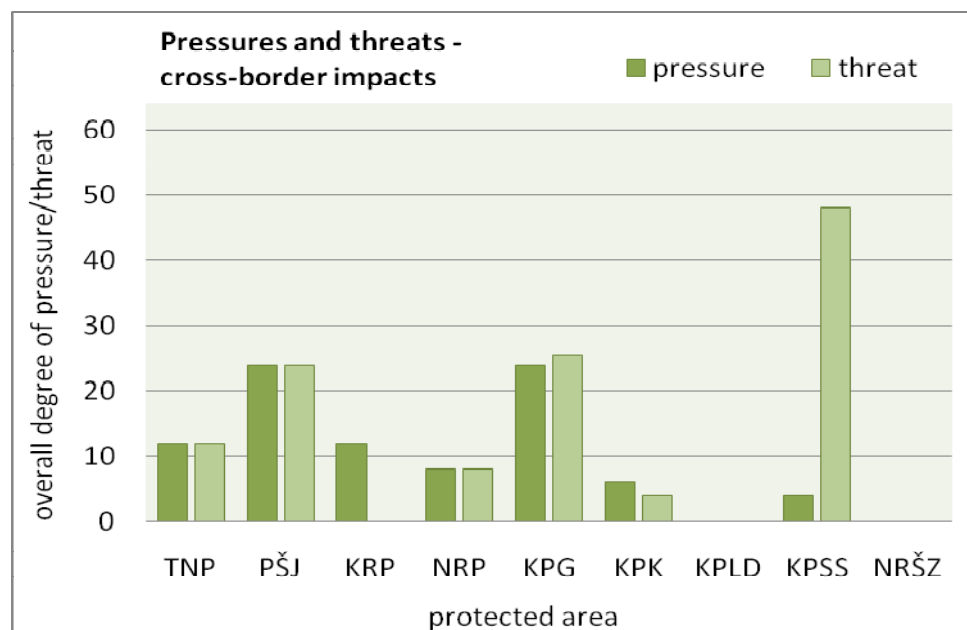
Figure 15. The overall degree of pressures and threats in protected areas due to cross-border impacts

3.3.13. Invasive alien species

Invasive alien species are increasingly threatening biotic diversity and the same trend is expected within protected areas (Figure 16). In the past some alien species have been intentionally introduced also in protected areas, mainly for the purposes of hunting and fishing. However, some alien species are spreading to protected areas from settlements. Also in this category we can notice that the pressure is higher in lowland protected areas. This is not surprising as many invasive plants do not grow in higher altitudes and also human impact in those areas is smaller. In the NRŠZ it is expected that the active management will contribute to the decline in threat of alien species and improved possibilities for their control and management. Some alien species are widespread in protected areas, and their eradication is not feasible. However, it should be considered if some alien species should be controlled in PAs, in order to limit the negative impacts to biotic diversity. In this line a recommendation has been drawn up to include special measures on management of alien species in protected areas in the future National strategy on invasive alien species.
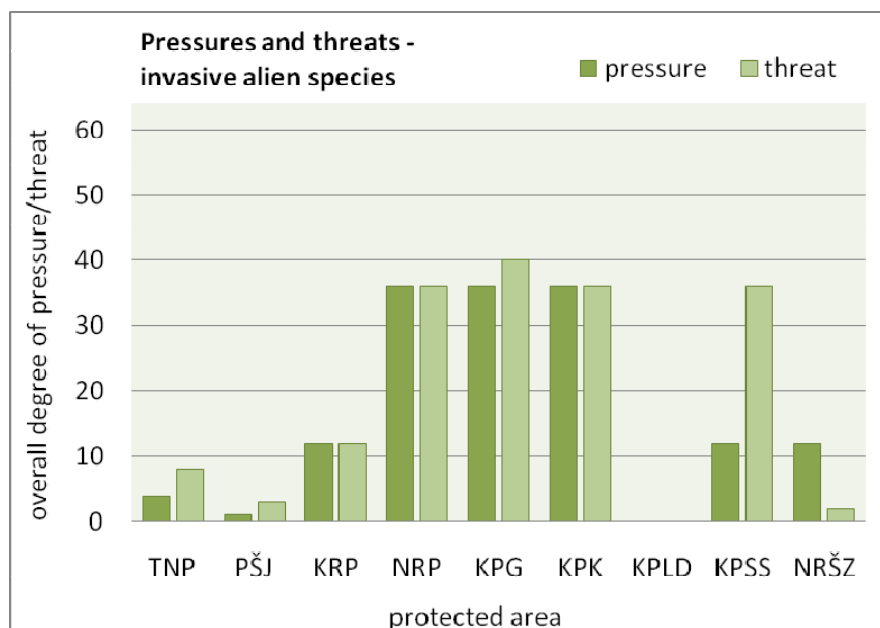
Figure 16. The overall degree of pressures and threats to protected areas due to invasive alien species

3.3.14.Common trends of pressures and threats

In general it is possible to conclude that the following characteristics greatly influence the degree of pressures and threats in protected areas:

- surface of the protected area, and with that possibilities for diverse activities,
- number of inhabitants,
- altitude, possibly limiting some activities,
- past activities in the area,
- attractiveness of the area for visitors.

Summing up the degrees of all 13 categories of pressures and threat, it is possible to estimate, which protected areas are under most threat. KPG seems to have the highest scores of pressures and threats (Figure 17). However, this result is not surprising. KPG is a predominantly lowland area with a high population density (50 inhabitants/km^2)[10] and large parts of the area are used for agricultural production. In this protected area the conservation of biotic diversity depends on maintenance of traditional use, which often can not be economically justified. Therefore, two parallel trends can be observed in this area – abandonment of traditional use and intensification of production. Both could threaten the achievement of conservation objectives. High total degrees of pressures and threats in KPG are also reflected in the high degree scored under vulnerability of the area (Figure 22).

In the area of KPSS relatively high total scores of pressures and threats are largely due to pressures in categories interventions in riverine and riparian areas, cross-border impacts and invasive alien species. The lowest total pressures and threats appear in NRŠZ, partially because

---

[10] povzeto po: Kristanc J. 2005. Parki Slovenije 2004. Poročilo po delu parkov v Sloveniji. Ministrstvo za okolje in prostor, Ljubljana

this is a small, uninhabited area, and partially because of special design of the protected area which is in fact man-made, with a purpose to achieve specific conservation goals.
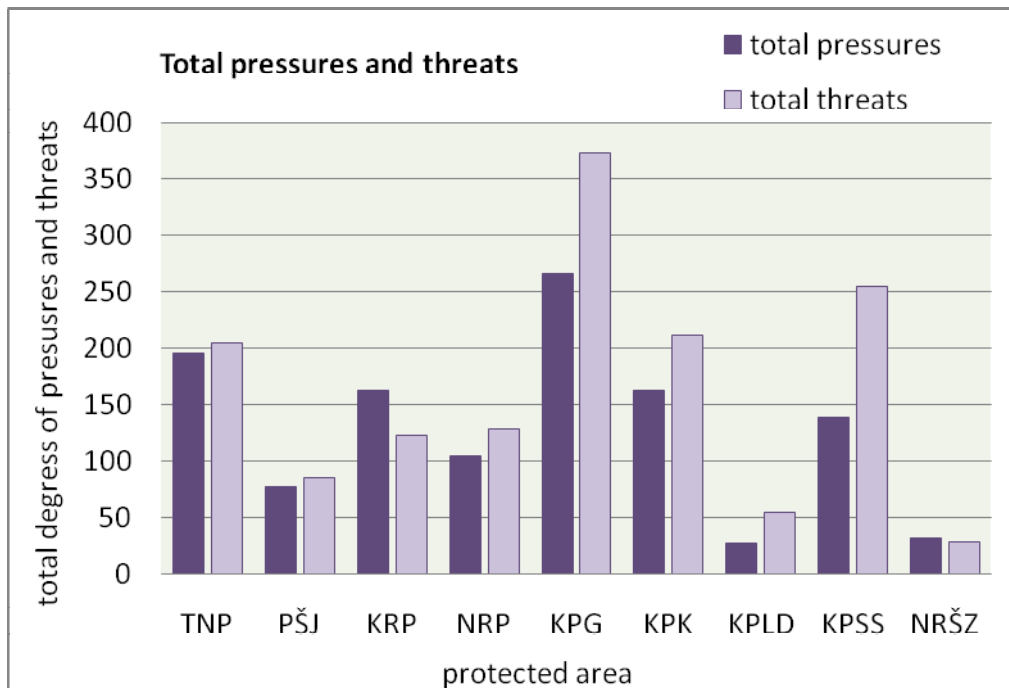
Figure 17. Sum of scores of all 13 categories of pressures and threats

The analysis has also revealed which pressures present the largest threat to the Slovene protected areas. This information can be revealed by summing the degrees of pressures/threats for each category (Figure 18). Among pressures, where negative impacts have already occurred, the larges total scores appear in categories *tourism and recreation* and *invasive alien species*. Furthermore, MAs expect these pressures to increase in the future. This outcome is not surprising, because conservation objectives are not taken integrated in the state's strategic planning of tourism[11]. Besides that, also MAs have mostly only poorly developed visions on acceptable forms of tourism and these are not harmonised with the local communities. This lead to include a recommendation that MAs should develop a vision of desired forms of tourism, harmonise it contents with the local communities and properly integrate it in the management plans. The other systemic weak points are the invasive alien species. In Slovenia, this problem has not yet been addressed on strategic level and the strategy on invasive alien species has not yet been prepared. Already in the analysis of the implementation of the Convention on biological diversity it has been pointed out that management of alien species is not adequately supported on institutional level and the tasks following from legislation are largely not implemented[12].

Surprising is a relatively high total degree of pressure form logging as the Slovenian forestry practice is known as sustainable. Still, it is clear from this analysis, that conservation objectives are not sufficiently taken into account when preparing forestry management plans. In the future, a closer cooperation between IRSNC and MAs is needed to ensure that nature

---

[11] Razvojni načrt in usmeritve slovenskega turizma 2007-2011

[12]

conservation guidelines, prepared as expert basis for the forestry management plans, properly reflect nature conservation goals in protected areas.

Results of the analysis show that in the coming years we can expect increased pressures due to *abandonment of traditional use* and *interventions in riverine and riparian areas*. Traditional use can only be ensured trough maintenance of extensive use, which is often not economically justifiable and can only be maintained with incentive measures. Such measures already exists within the agricultural subsidy schemes, however it is likely that this will not be sufficient to reverse negative trends. Therefore, it is necessary that an additional mechanism of nature conservation incentives is set up, that would support sustainable use parallel to the existing agricultural subsidy scheme. This has also been included in the RAPPAM recommendations.

Water management plans are currently under preparation. Considering the expected large impact of water management interventions in riverine and riparian areas, is necessary that MAs are involved in this process, possibly trough the nature conservation guidelines of ZRSVN.
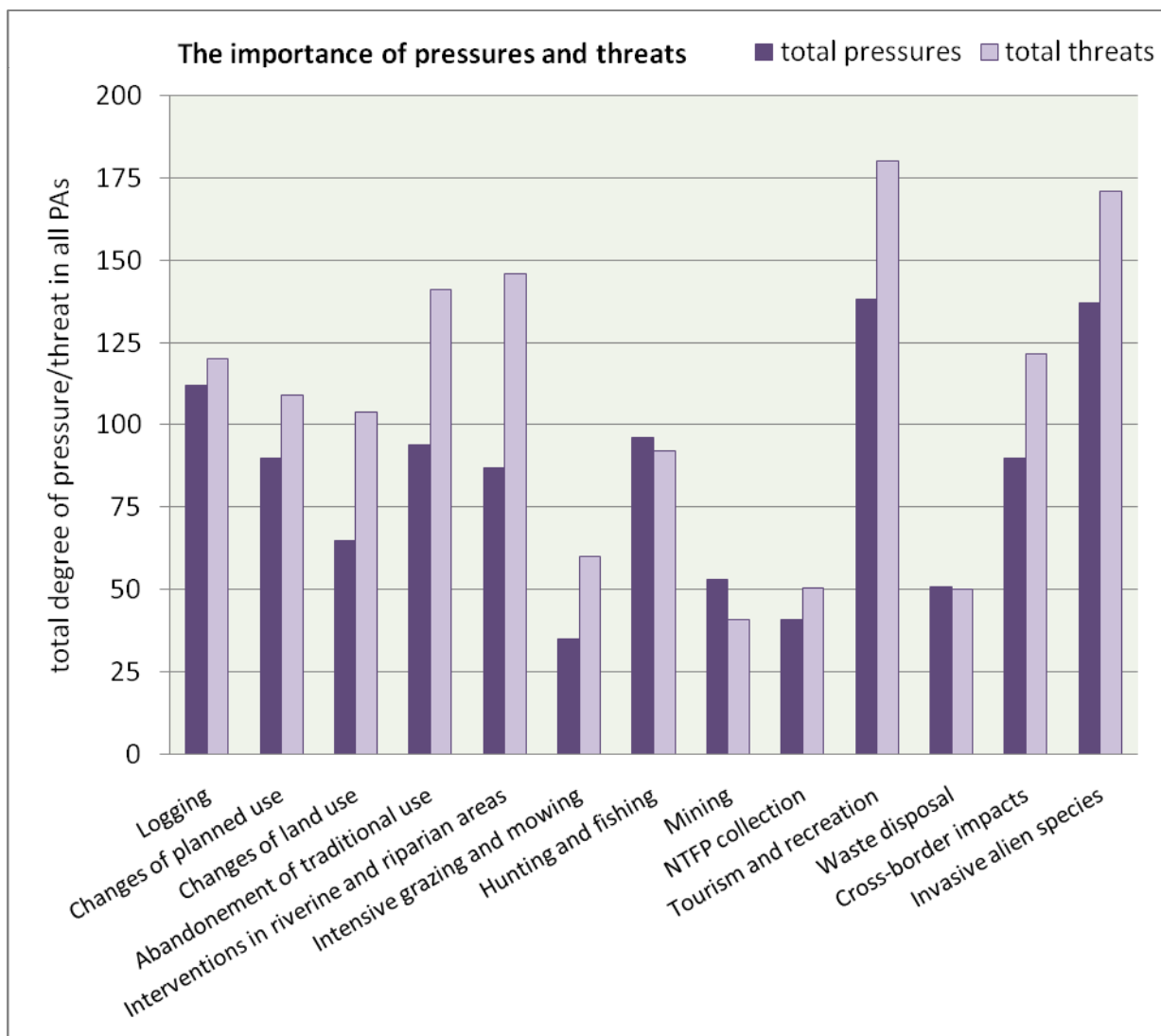
Figure 18. Total degrees of each pressure/threat in all analysed protected areas

Further information is be obtained by analysing the number of pressures which are expected to keep the same trend or even increase in the future (the threat is scored same or higher than the pressure). These results are worrying as they show that in most protected areas MAs do not see possibilities to reduce pressures in the future (Figure 19).

If we take a closer look to the types of pressures/threats in protected areas, we notice that most are in fact subject to strategic planning on state (logging, water management, hunting, fishing) or county level (changes of planned use, tourism). Therefore, the only way to be able to reduce many pressures to protected area is to ensure that MAs are better involved in the preparation of strategic plans.

To improve the current situation, four recommendations have been prepared:

1. The Ministry of the environment an Spatial planning (MESP) should enhance cooperation with other sectors regarding policies on protected areas and propose the establishment of an intersectoral working group on protected areas.
2. Establish an efficient communication between MAs and IRSNC, which will enable MAs to be better involved in the processes of preparing nature conservation guidelines.
3. Establish mechanisms and ways to involve MAs in the procedures of issuing the nature conservation consent at the Environmental agency and ensure timely and efficient exchange of information about activities in protected areas.

Ensure concerted approach of MESP and MAs in presenting the position of nature conservation
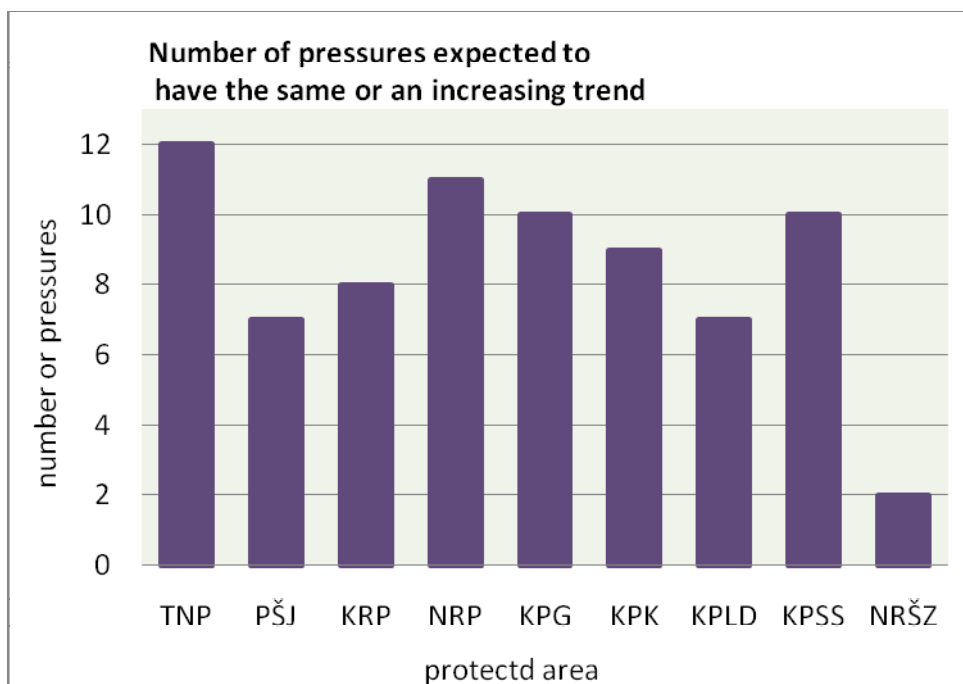
Figure 19. The number of pressures per protected area, which are expected to have the same or an increasing trend

Kus Veenvliet, J. & A. Sovinc, 2008. Protected area management
effectiveness in Slovenia, Final report of the RAPPAM analysis.

Page | 29

4. Importance of protected areas

From this chapter on, the RAPPAM questionnaire is composed of statements to which four options of answers are possible: »*yes*«, »*mostly yes*«, »*mostly no*«, »*no*«. The answers are scored the following: *yes*=5 points, *mostly yes*=3 points, *mostly no*=1 point, *no*=0 point. This scoring enables us to analyse the answers in different ways and also show some linkages. Most answers have been analysed within the given sets of the questions, but some have, because of the similarity in context, been moved to other sets of questions. To keep track with the original RAPPAM questionnaire, the original question number is given in the table below each graph. Eight PAs have returned only one questionnaire, completed by one or several respondents. Only KPG has returned two separate questionnaires, so average values are shown in the analysis.

4.1. Relative biological importance of protected areas

Biological importance is evaluated on basis of questions on occurrence of rare, threatened or endangered species, occurrence of endemic species, whether PA is sustaining minimal viable populations, contribution of the PA to the representativeness of the whole PA system, and presence of ecosystems whose historic range has been greatly diminished.

Some respondents have stressed that data to answer some of these questions are lacking (e.g. lack of data on populations of species, so it is unclear whether PA sustains minimal viable populations). This shows a weak part of the methodology, as it does not enable to give an answer »not known«. Mathematically and empty field is calculated as zero, however »*not known*« is not the same in meaning as »*no*«. This problem has been solved by calculating a different maximum value for each protected area, depending on how many answers have been given, and then converted this in percentage. For the clarity, this is called »relative biological importance«.

In any case the evaluation of biological importance is largely subjective opinion of respondents, and does not give much information on the actual nature conservation value of PAs. Furthermore, the system of protected areas in Slovenia is mostly composed of areas with high nature conservation value. Such evaluation therefore does not bring much new information, as in all PAs should have high biological importance.
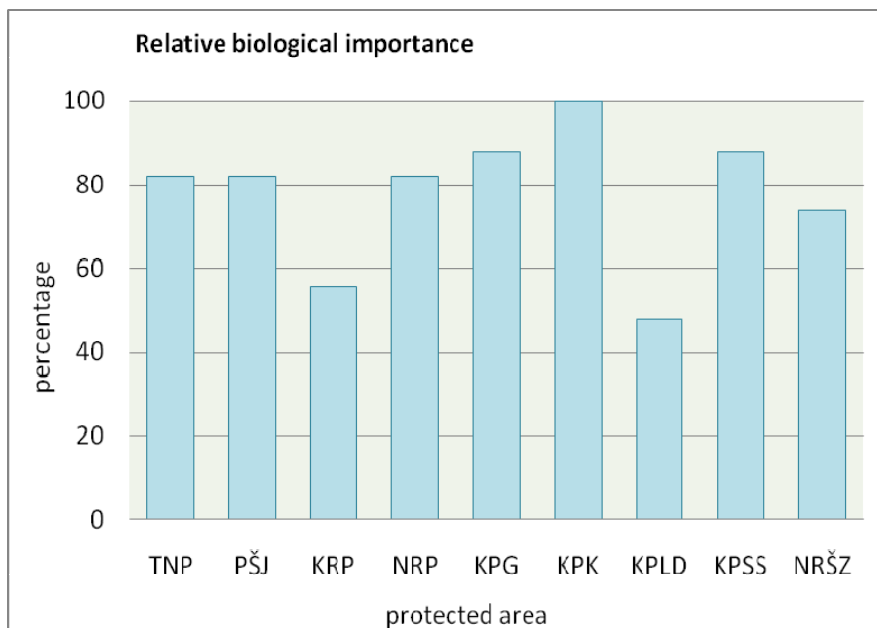
Figure 20. Relative biological importance of protected areas

4.2. Relative socio-economic importance of protected areas

Socio-economic importance of protected areas can be evaluated trough employment possibilities for local communities, development opportunities, social or economic importance of animal and plant species, importance of areas in providing ecosystem goods and services, etc. In these part respondents have answered all questions, but to keep it comparable with the former set of questions, the scores have been analysed in the same way (as a percentage of all given answers) (Figure 21).

Protected areas are often presented as the basis for sustainable development, but in Slovenia this link is still rather weak. Little research on development potential of PAs has been made in Slovenia and only in 2008 a broader analysis has been prepared[13]. PAs can significantly contribute to the employment opportunities, but such analysis has only been carried out in the area of TNP[14]. It is understandable that the relative socio-economic impact of PAs is lower than the biological, as PAs are in the first place established to safeguard biotic diversity and ensure conservation of nature. However, socio-economic importance of protected areas should be evaluated and integrated in the long-term development of PAs. In Slovenia no studies on benefits of PAs to local communities has been done so far. Therefore, it is not surprising that most MAs have given a low score in questions on employment opportunities and value of PAs for local communities. A recommendation is given that communication projects should be prepared to show the value of PAs and their benefits. To be able to value and present these benefits, additional socio-economic studies should be made.

[13] Plut *et al*. 2008. Sustainable development in protected and Natura 2000 areas – integrated approach and active role of the state. Sustainable development in protected and Natura 2000 areas in achieving coherent regional development. Research programme Slovene competiveness 2006-2013. Final report, University of Ljubljana, Philosophical facility, Ljubljana.
[14] Verša, D. 2000. The influence of Triglav National Park on employment opportunities,
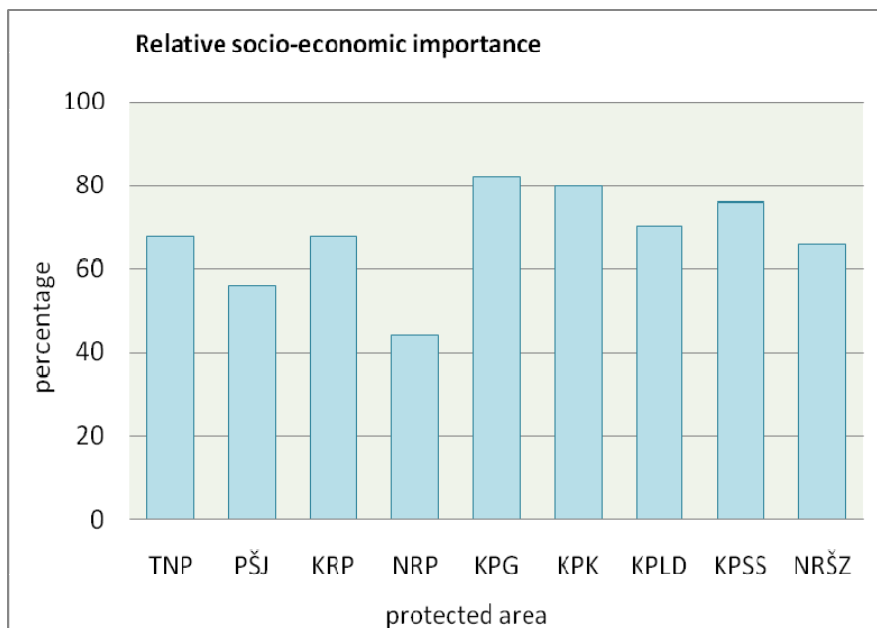
Figure 21. Relative socio-economic importance of protected areas

4.3. The degree of vulnerability in protected areas

The third set of questions of the Rapid Assessment Questionnaire deals with the vulnerability of protected areas. Vulnerability is higher in area where activities are difficult to monitor (either because of difficult access or types of activities), where law enforcement is weak, when natural resources of protected areas have a high market value and where large parts of the area are easily accessible. Vulnerability is also increased when recruitment and retention of employees the MA is difficult. In this set of questions a higher value of a score indicates larger negative impacts on protected area. Therefore, the score from these questions should not be summed up with others, where higher values indicate positive impacts on the PA management.

Similarly as in the analysis of pressures and threats, also vulnerability is highest in the area of KPG. This is mainly due to weak law enforcement, which is increased by the large part of PA being easily accessible. Furthermore, the MA is often under pressure to unduly exploit the natural resources (Figure 22). In general the following problems increase vulnerability in all PA: market value of natural resources and with those pressures to exploit these resources, and retention of the staff. The last is of course clearly linked with financing issues. Two protected areas have scored much lower vulnerability. PŠJ has controlled access to the cave system and vulnerability is only increased by the activities in the area of influence. NRŠŽ has a very small surface and consists of entirely managed protected areas, where is possible to limit most negative impacts.

	TNP	PŠJ	KRP	NRP	KPG	KPK	KPLD	KPSS	NRŠZ
☐ 5a Illegal activities	1	1	0	0	4	3	0	0	0
◼ 5b Law enforcement	1	0	5	0	5	0	0	0	0
☐ 5c Bribery and corruption	0	0	0	1	1	0	3	0	0
◼ 5d Political instability	0	0	0	1	0	0	0	0	0
◼ 5e Conflicts with traditional uses	0	0	1	0	0,5	1	0	1	0
◼ 5f Market value of natural resources	3	0	3	5	0	5	5	5	1
◼ 5g Easily accessible area	3	0	1	3	5	0	0	1	1
◼ 5h Demand for natural resources	1	0	0	3	1	3	3	1	0
◼ 5i Pressures on exploitation	3	1	3	0	4	3	0	1	0
◼ 5j Retention of employees	5	3	0	5	5	3	5	1	1

Figure 22. The degree of vulnerability of protected areas.

Of course the vulnerability of a protected area is increasing with its surface, as more activities and different interests can appear in larger areas. Besides that, is it' much easier to monitor and direct activities in a smaller protected area. Therefore a positive correlation between the degree of vulnerability and the PA surface is not surprising). However, the area of KPG seems to be more vulnerable than comparable areas. This is probably due to a predominantly lowland area, where multiple pressures to exploit natural resources occur. The area has a dense network of roads, which makes it easily accessible and at the same time makes it difficult to ensure efficient law enforcement.

Still, these results should not lead us to conclude that it is better to have more smaller protected areas. While it my be easier to ensure control and direct the use of natural resources and a smaller PA, it is at the same time more difficult to ensure minimal viable populations of species and achieve conservation objectives. Also the large edge area with neighbouring land which is not under protection regime, makes management of smaller PAs difficult.
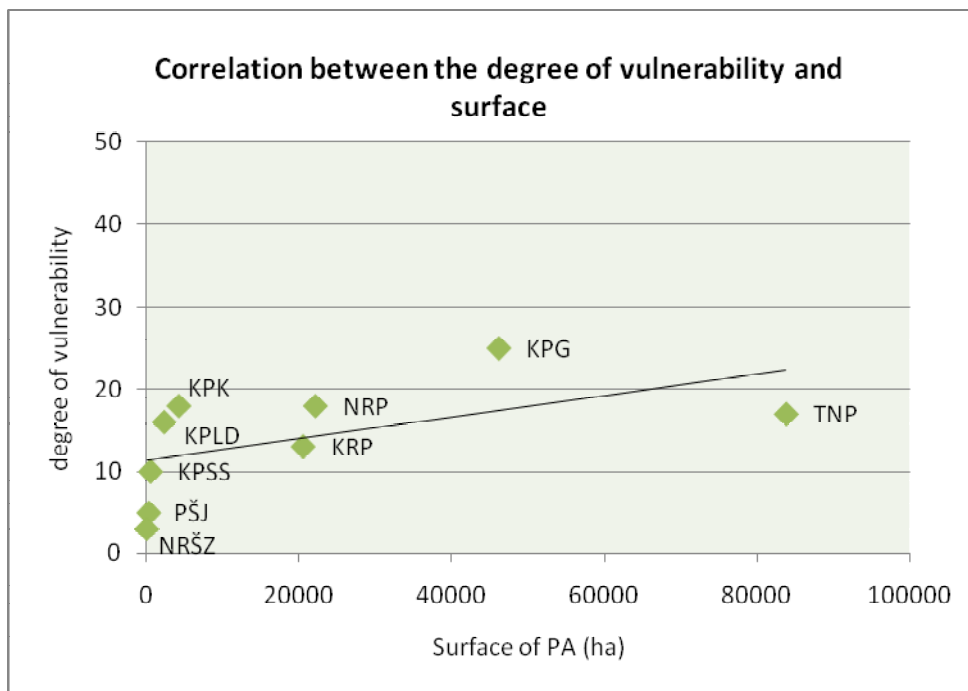
Figure 23. Correlation between the degree of vulnerability and the surface of protected areas

5. Planning in protected areas

5.1. Conservation objectives

The process of PA designation, which has been determined by the Nature Conservation Act
ensures that the conservation objectives of PAs are clearly set already in the designation
process. These objectives are also relatively well integrated in the yearly work plans of MAs and
adopted or draft management plans (MP). In almost all PAs we can note lower support of the
local communities to the objectives of the PAs (Figure). Sometimes it is indeed difficult to
ensure full support of local communities, because of different interests to exploit natural
resources. However, in the designation process of new PAs, more attention is given to reach
agreement with local communities (public hearings). The reason for KPK having a lower score is
that the MP in this PA is only in early stages of development and the objectives are not yet
integrated in the MP.

Kus Veenvliet, J. & A. Sovinc, 2008. Protected area management
effectiveness in Slovenia, Final report of the RAPPAM analysis. Page | 34

Objectives of the PA

	TNP	PŠJ	KRP	NRP	KPG	KPK	KPLD	KPSS	NRŠZ
6a Protection of biotic diversity	3	5	5	5	5	5	5	5	5
6b Objectives in the mgt.plan	3	5	5	3	5	0	5	5	5
6c Harmonised policies	5	5	5	5	5	0	5	5	5
6d Employees understand objectives	3	5	5	3	4	5	5	3	5
6e Support of local communites	3	3	3	3	3	3	5	3	3

Figure 24. The degree of adequacy of conservation objectives in protected areas

5.2. Legal security of protected areas

Questions on legal security of protected area include aspects which can affect the long-term existence and stability of the protected area. Besides the basic legal security – the existence of an adequate legal act – other issues can be important, for example possible land tenure disputes, adequate boundary demarcation, long-term stability of human and financial resources for the management of PA, and effective reconciliation of conflicts with local communities.

Even though all protected areas have valid legal acts, the acts of TNP and KRP are very old and inadequate. They have not been updated after the adoption of the new Nature Conservation Act and are not well harmonised with the current legislation and other changes in nature conservation. They need to be updated, which has been included in the recommendations. In the area of TNP, some management activities are hindered because of unresolved denationalization claims. In the area of NRŠZ the state has not yet completed the transfers of land ownership. The stability of human and financial resources is low in most PAs (Figure 25), and same trends can be observed in the detailed questions on financing (Figure 30). Relatively high scores have been achieved to the question on reconciliation of disputes with local communities, which shows that cooperation of MAs with local communities is relatively good and not as negative as it is sometimes presented in media.

Legal security of PA

	TNP	PŠJ	KRP	NRP	KPG	KPK	KPLD	KPSS	NRŠZ
7a Long-term legal security	3	5	0	5	4	5	0	5	3
7b No unsettled land disputes	0	5	5	5	3	1	5	3	1
7c Adequate PA boundary	3	5	3	3	5	5	5	5	5
7d Human/financial resources	1	3	5	3	0	0	0	1	5
7e Resolution of conflicts	3	3	3	3	3	1	5	3	5
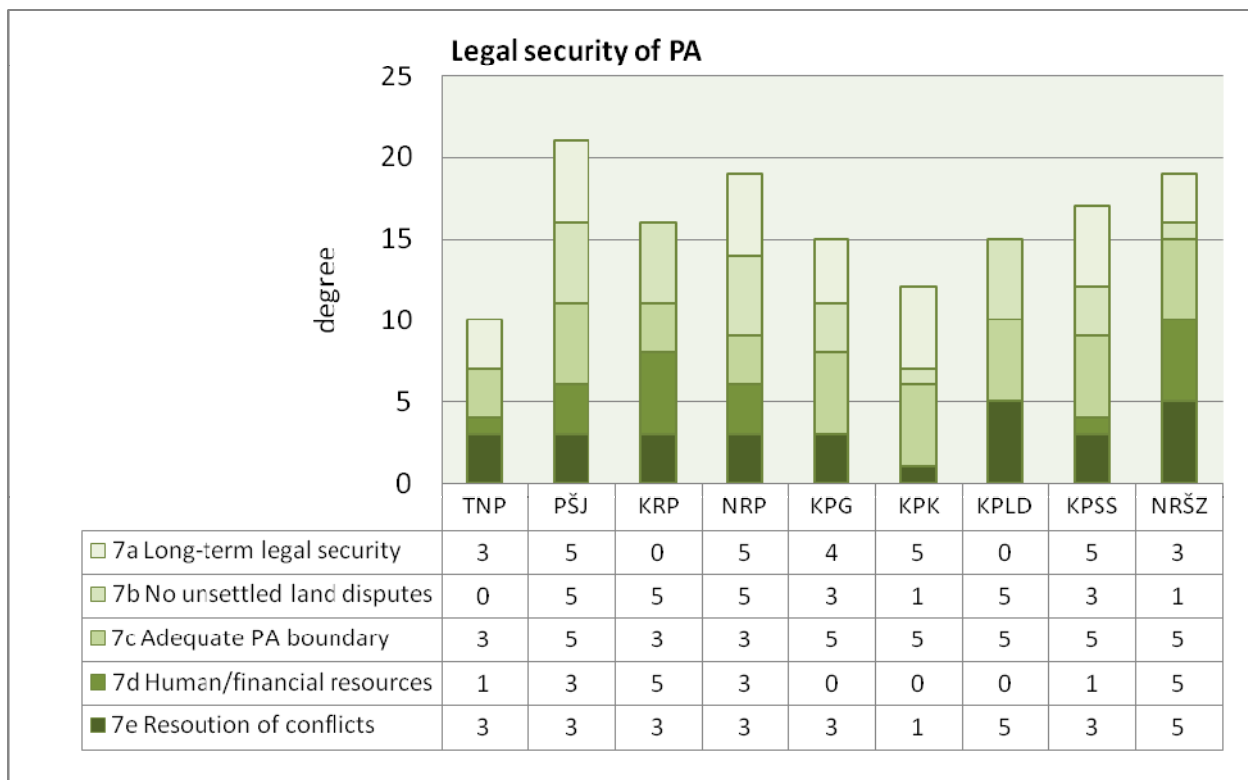
Figure 25. The degree of adequacy of legal security in protected areas

5.3. Site design and planning of protected areas

Appropriate sitting of the PA is of key importance for achievement of conservation objectives. Relevant to this is also the conation within PA, land use in surrounding areas and connectivity with other protected/Natura 2000 areas.

In Slovenia, setting the objectives, site design and sitting of PAs are integrated in the same process, therefore the high scores in this set of questions are not surprising (Figure). However, PAs differ substantially in the adequacy of zoning system. Some areas (e.g. TNP) have zonation, but are not adequate. Others may not have it, either because it has not yet been made or because it is difficult to establish it, due to large fragmentation of the area (e.g. KPG). If in some PAs it is difficult enough to ensure appropriate use within the area, but even more difficult to ensure this in surrounding areas, which are not under the protection regime. This is however much easier to achieve, when protected area is connected with another protected area or a Natura 2000 site. It is also important to note here, that more than half of protected areas are situated in border regions, where cross-border cooperation is needed to achieve conservation objectives.
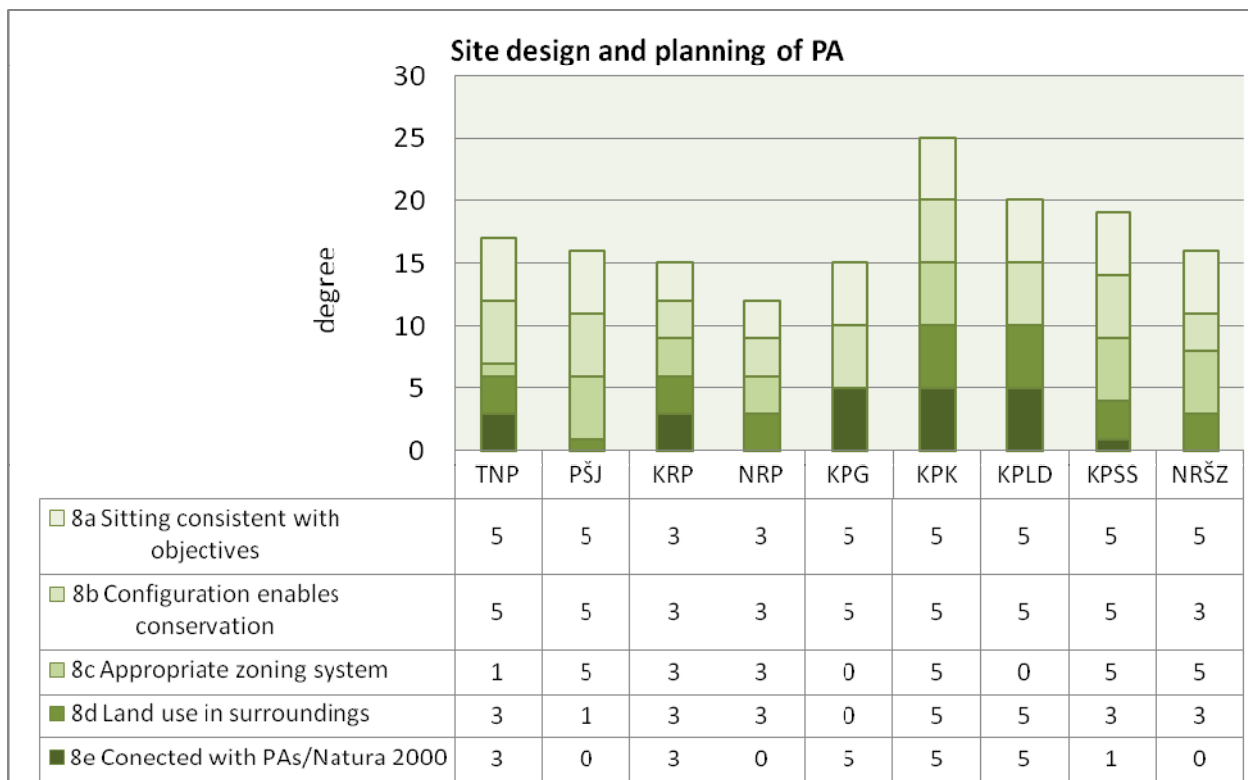
Figure 26. The degree of adequacy of site design and planning in protected areas.

5.4. Inputs in protected areas

5.4.1. Staffing and internal processes

For a proper implementation of management activities, MAs have to have an appropriate staff and clearly organised internal processes. Staff members should have adequate skills and possibilities for additional training. It is also important to offer good employment conditions to the staff and periodically review their performance.

The results on the staff quickly reveal that in more than half of the PAs the level of staffing is not sufficient to effectively manage areas, however, in most skills of the existing staff are satisfactory. In almost half of the PAs working conditions are not sufficient to retain the existing quality staff. The analysis has also revealed that three PAs have no system for reviewing the efficiency of staff. All except one PA have adequate internal processes (Figure 27Figure).

Staffing and internal processes

	TNP	PŠJ	KRP	NRP	KPG	KPK	KPLD	KPSS	NRŠZ
9a Sufficient staffing	3	3	5	0	0,5	0	1	1	5
9b Adequate skills	3	5	5	3	3	3	1	3	3
9e Employment conditions	3	1	5	3	0	1	0	3	5
9c Training opportunities	3	5	5	5	1	3	1	3	5
9d Performance reviews	1	5	3	5	0	3	5	1	5
14a Clear internal organisation	5	5	5	5	0	5	5	5	5
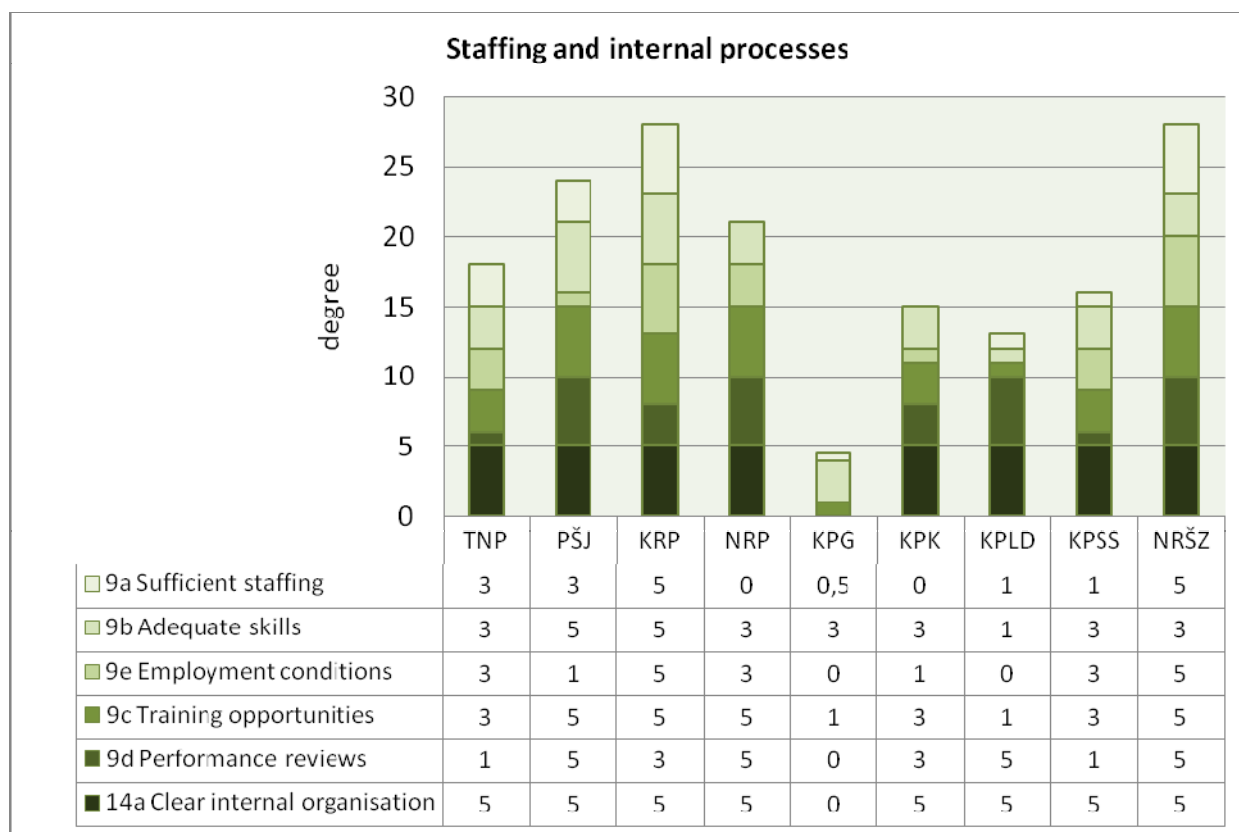
Figure 27. The degree of adequacy of staffing and internal processes in protected areas

5.4.2. Infrastructure for managing activities and visitors

For the proper functioning of MAs both the infrastructure for management activities and the
infrastructure for visitors are important.

Most PAs have evaluated current infrastructure for management as very good or good, the only
exception to this is KPG. However, less adequate are current visitor facilities. Improving this is a
must, because indirectly such infrastructure increases the socio-economic value of PAs, and at
the same time directs visitors to less vulnerable parts of PAs.

Infrastructure for managing activities and visitors

	TNP	PŠJ	KRP	NRP	KPG	KPK	KPLD	KPSS	NRŠZ
☐ 11d Equipment maintenance	3	5	5	3	3	5	5	3	5
☐ 11c Staff facilities	5	5	3	3	3	3	0	5	1
☐ 11b Field equipment	3	5	3	5	2	5	5	5	0
☐ 11a Transportation infrastructure	3	5	5	5	0	5	5	3	3
■ 10c Means for collecting data	3	3	3	5	2	3	0	5	3
■ 11e Visitor facilities	3	1	3	3	3	0	5	1	1
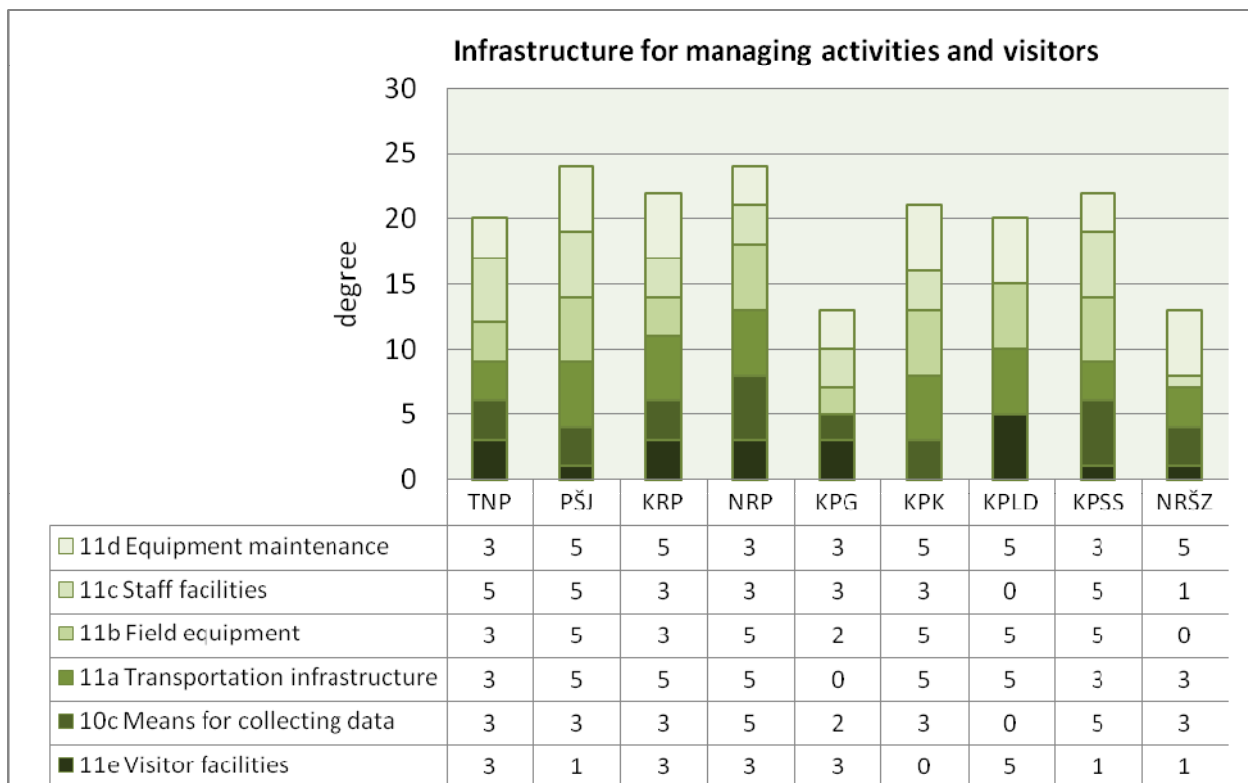
Figure 28. The degree of adequacy of infrastructure for management activities and visitors

5.4.3. Internal and external communication

In this framework we have analysed questions on *communication and information* and *internal processes*. These questions are related to and demonstrate the quality of communication within the MAs and collaboration with partner organisations. The analysis has shown that communication among employees and partner organisations in very good or good. In this field the Slovenian PAs have overall achieved the highest scores

Internal and external communication	TNP	PŠJ	KRP	NRP	KPG	KPK	KPLD	KPSS	NRŠZ
☐ 14b Transparent decision making	3	5	5	5	1	5	5	5	5
☐ 14e Overall efficient communication	3	5	5	3	3	5	5	1	5
☐ 10a Internal communication	3	5	3	5	4	5	5	5	5
☐ 10e Communication with local communities	3	5	3	5	4	5	3	3	3
☐ 14d Participation of local communities	3	5	5	5	3	5	5	3	5
☐ 14c Collaboration with partners	3	5	5	5	4	5	5	3	5
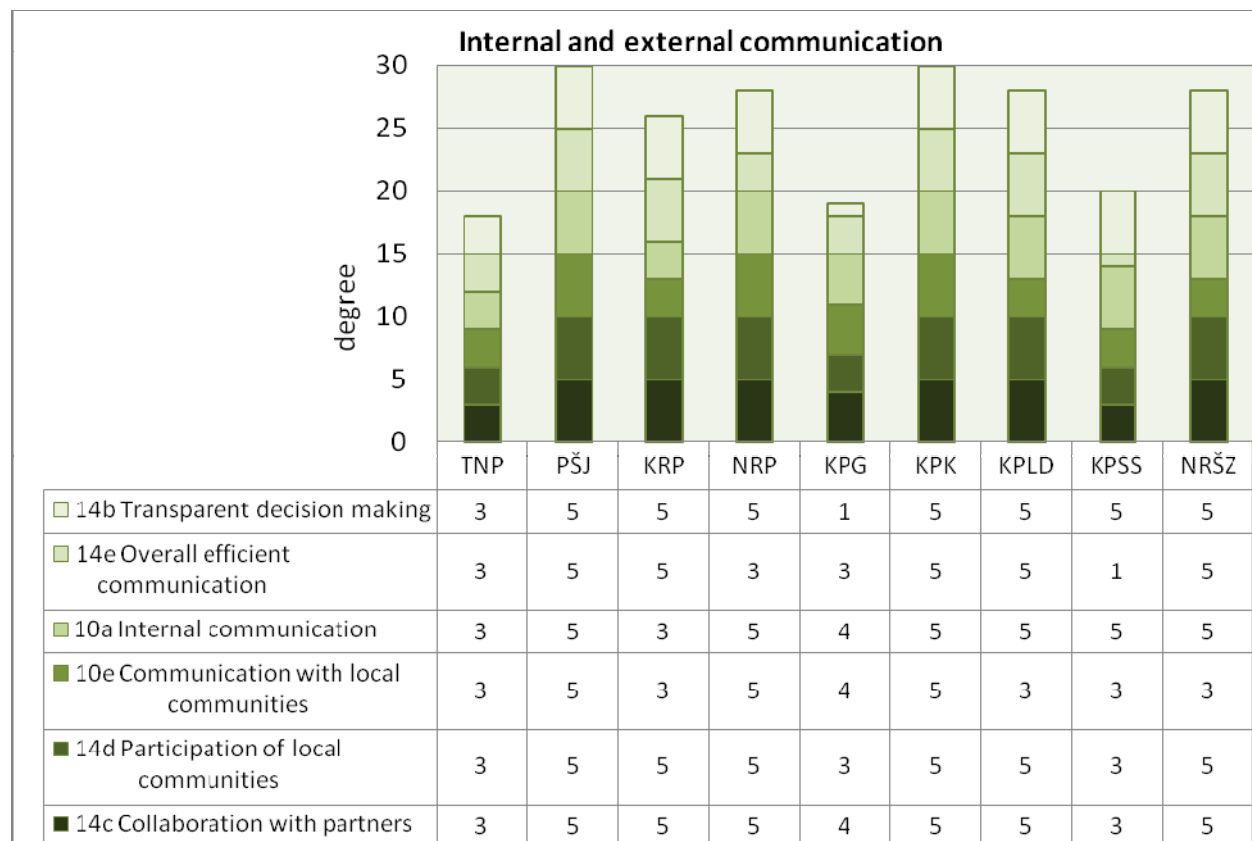
Figure 29. The quality of internal and external communication of MAs

5.4.4. Financing

Questions on financing relate to past and future short-term and long-term financing. MAs should, according to the available means, allocate expenditures according to the priority management activities and objectives. One question (12c) is related to the financial management. In Slovenia, all companies are obliged to manage their finances in accordance with Slovenian accountancy standards. This question is therefore not relevant in Slovenian circumstances. Because it could in fact hide the overall poor financing, we do not shown it on the graph.

The analysis has shown that the past financing was inadequate in four PAs (one of them is established by county). Even more worrying is the fact that more than half of the MAs are uncertain about the future financing. This might partially be a methodological error, as the question relates to the five-year period, while in Slovenia the state budget is adopted only for two years in advance. However, also long-term financing seems to be uncertain, even tough at least some protected areas, established by the state, have financing obligations clearly integrated in the acts on establishment. The allocation of existing funds is adequate in most protected areas (Figure 30).

	TNP	PŠJ	KRP	NRP	KPG	KPK	KPLD	KPSS	NRŠZ
12a Financest past 5 years	3	3	3	5	1	1	0	1	5
12b Finances future 5 years	1	3	3	1	1	0	0	1	3
12e Long-term financing	1	5	5	0	0	3	0	1	5
12d Allocation of expenditures	3	3	3	5	3	5	0	1	5
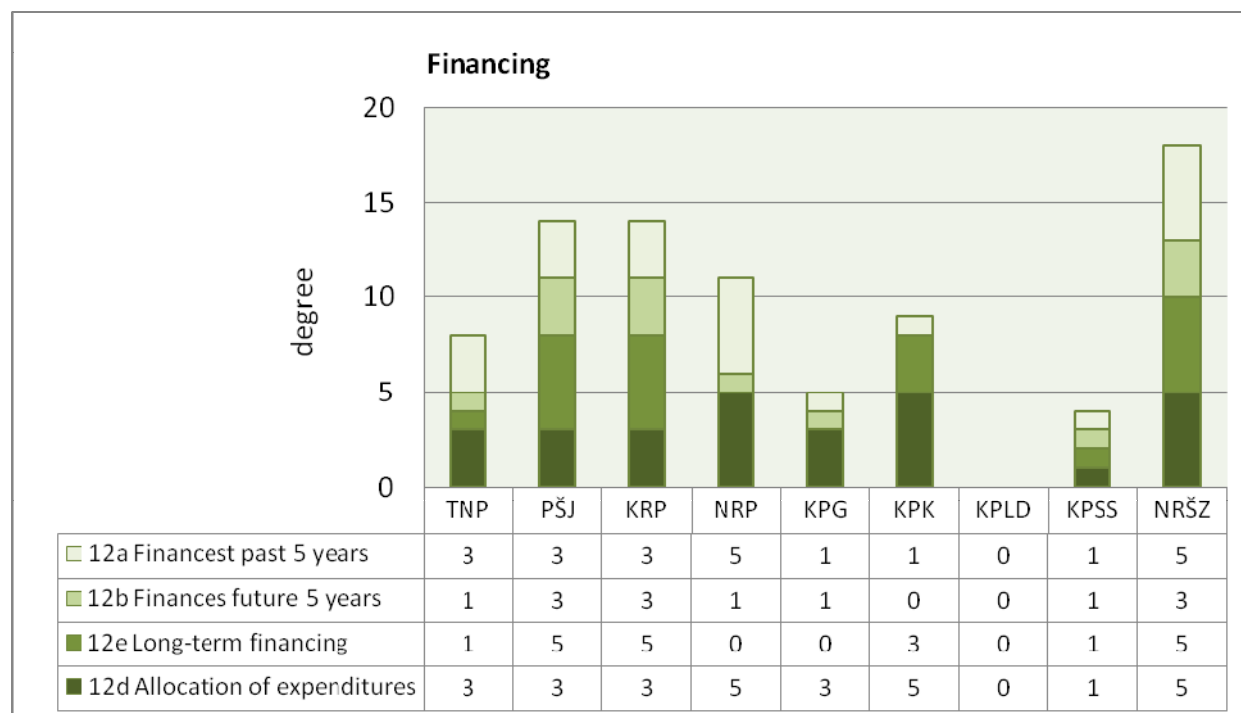
Figure 30. The degree of adequacy of finances in protected areas

5.5. Management processes

5.5.1. Management planning

Management plans present the basis for work of MAs. On the basis of MPs, managers prepare yearly work plans in which short-term management tasks and activities are determined. Questions in this part also relate to the adequacy of the available scientific data, needed for the preparation of MPs: results of monitoring, analysis of pressures and treats and overview of natural and cultural resources.

In Slovenia, the contents of a management plan is determined by the 61th article of the Nature Conservation Act[15]. By the end of the year 2008 only two protected areas had completed and adopted a management plan: Park Škocjan Caves and Nature Reserve Škocjan Bay. In other protected areas MPs have been prepared, but not yet been approved by competent bodies, or are in different stages of preparation. Until finalizing MPs, MAs are working on the basis of yearly plans. This however makes long-term planning and monitoring of management efficiency very difficult.

Development of management plans is a demanding process for the MAs, because the interests of different stakeholders have to be taken into account. Currently, a larger project is being implemented which aims to provide clear guidelines for the development of management plans This will make the process clearer and easier and it is expected to facilitate the development of plans in other protected areas. The need for development of such guidelines is also included in the RAPPAM recommendations.

---

[15] Official Gazette RS 96/2004
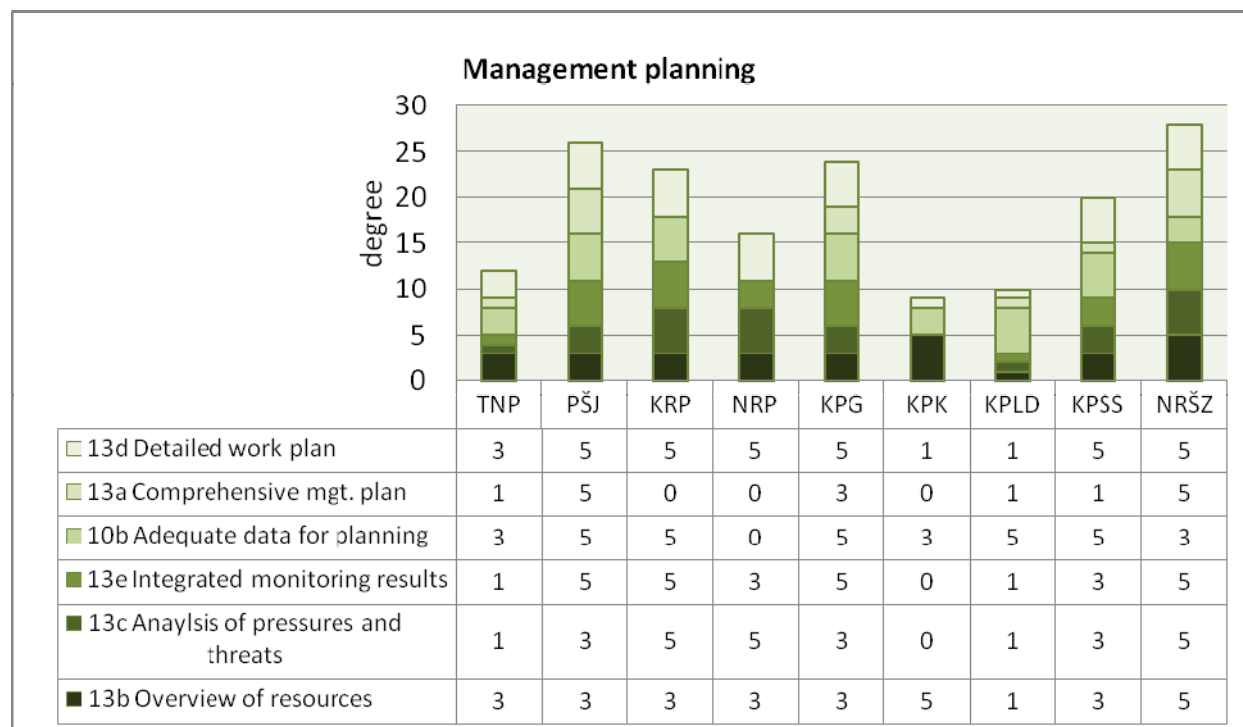
Figure 31. The degree of adequacy of management planning in protected areas

	TNP	PŠJ	KRP	NRP	KPG	KPK	KPLD	KPSS	NRŠZ
13d Detailed work plan	3	5	5	5	5	1	1	5	5
13a Comprehensive mgt. plan	1	5	0	0	3	0	1	1	5
10b Adequate data for planning	3	5	5	0	5	3	5	5	3
13e Integrated monitoring results	1	5	5	3	5	0	1	3	5
13c Anaylsis of pressures and threats	1	3	5	5	3	0	1	3	5
13b Overview of resources	3	3	3	3	3	5	1	3	5

5.5.2. Research and monitoring

The evaluation of the quality of research and monitoring is given on the basis of questions on the clarity of research needs, adequacy of ecological and sociological studies, proper monitoring of impacts of activities. Added to this part of the analyses are also questions on the system for processing the data from the set of questions on communication and information. Furthermore, in order to integrate the recent scientific findings in the management planning, the PA staff should be able to have access to scientific resources. As shown on the graph below (Figure 32), the degree of adequacy in research and monitoring differs greatly among MAs. Hoverer, almost all PAs have ensured monitoring of activities and their impacts on conservation goals. While the current level of ecological research seems to be adequate, there is a lack of sociological research. This lack of data might well be one of the reasons for low scores in socio-economic importance of PAs (Figure 21). Generally, low scores have also been achieved on question regarding the procedures for analysing data. The discussion at the RAPPAM workshop has revealed that there is a poor exchange of data on state monitoring of biodiversity and competent public authorities, therefore a recommendation in this regard has been proposed.

Kus Veenvliet, J. & A. Sovinc, 2008. Protected area management
effectiveness in Slovenia, Final report of the RAPPAM analysis.
Page | 42
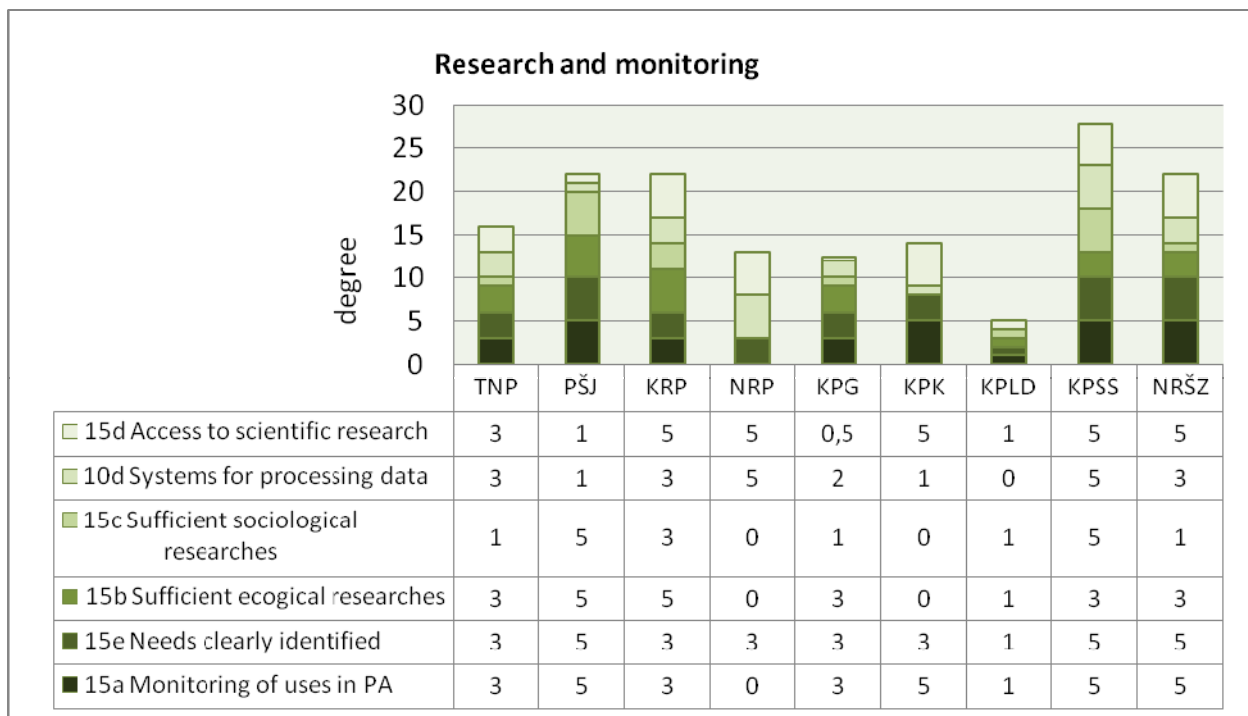
Figure 32. The degree of adequacy of research and monitoring in protected areas

5.5.3. Achieving results

The last set of questions on analysis of single PAs is the evaluation of the results achieved in the last two years. Relative high scores have been achieved by most PAs (Figure 32). Lower scores have been achieved for ecological site restoration and prevention of threats. In fact, not many site restoration projects took place in PAs which is maybe encouraging, as it could indicate that such actions are either not needed or are at least not a priority. However, in line with pervious finings of this analysis, it is clear that PAs should pay particular attention to detection and prevention of threats. To achieve this, further development of the system of nature conservation surveillance is needed, and also the efficiency of the inspection service should be improved. This has been included in the recommendations.

	TNP	PŠJ	KRP	NRP	KPG	KPK	KPLD	KPSS	NRŠZ
16a Threat prevention	3	5	3	3	0	3	1	3	5
16b Site restoration	1	1	3	0	0	3	1	3	5
16c Wildlife/habitat management	3	5	3	5	1	3	1	5	5
16d Communication efforts	3	5	5	5	3	5	5	3	5
16e Visitor management	3	5	5	5	5	5	5	3	5
16f Infrastructure development	3	5	5	3	3	5	5	3	3
16g Management planning	3	5	5	5	5	5	3	3	5
16h Staff monitoring	3	5	3	5	0	3	3	1	5
16i Staff training	3	5	5	5	2	5	3	3	5
16j Research outputs	3	5	5	5	3	5	1	3	3

Figure 33. The degree of achievement of results in different areas o management in the last 2 years

5.6. Analysis of the system of protected areas

The last three sets of the RAPPAM questionnaire contain questions for the analysis of the overall system of protected area, regarding planning, policy and policy environment. The questions relate to the whole system of protected areas, not to single areas. From nine PAs, involved in the analysis, most of these questions have only been answered by five PAs. The rest though that they didn't know the whole system well enough to evaluate it. Scoring of this part is the same as in former sets of questions, with the difference that there are ten questions per set (the maximum score is 50 points).

Kus Veenvliet, J. & A. Sovinc, 2008. Protected area management
effectiveness in Slovenia, Final report of the RAPPAM analysis.

Page | **44**

5.6.1. Protected area system-level design

These questions relate to the adequacy and representativeness of the whole PA system and contribution of the system to the conservation of species and natural processes on landscape level.

Most MAs have evaluated the PA system positively (one protected area even with the highest possible score) (Figure). Lower scores have been achieved on importance of PA system in maintaining natural processes and the level of transition areas being included in the PA system. During the discussion at the RAPPAM workshop it has been stressed that the current PA system is not sufficient to achieve all conservation objectives, but these can also achieved trough other instruments, especially trough designation of Natura 2000 sites, protection of species and conservation of nature values.
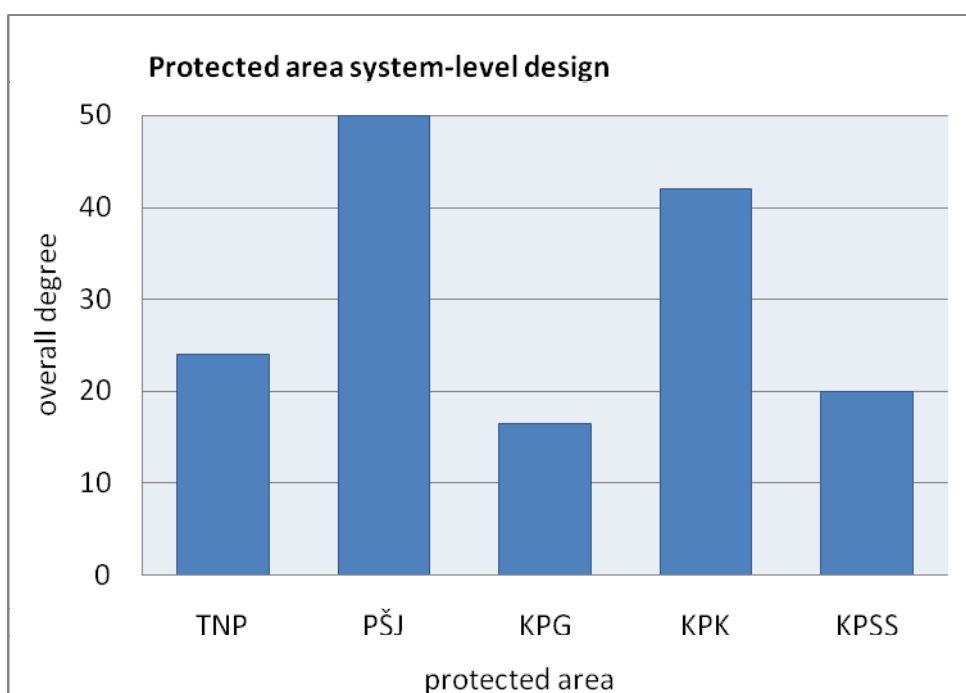
Figure 34. The degree of adequacy of the protected area system-level design

5.6.2. Protected area policies

This set of questions evaluates the common vision and objectives of the PA system, the scientific data, needed for designing the PA system and ongoing research on PA related issues.

Comparing to the previous set of question, much lower scores have been achieved in this one (Figure 35). Very low scores have been achieved in the question on the reviews of representativeness of protected areas (e.g. by gap analysis). In Slovenia, such analysis are not carried out, despite commitments under the Convention on Biological Diversity (CBD), to which Slovenia is a party, the respondents also evaluated that the total surface of protected areas is not sufficient. However, in accordance with the goals set in the Nature Protection Programme this should increase for at least 8 % in the coming years. The respondents also felt that the

adequacy of research on PA related issues is not sufficient. As in questions 15c most MAs evaluated their research priorities are clear, this could indicate a lack of communication among governmental institutions, MAs and research institutions.

While most PAs evaluated possibilities for training of employees (question 9c) as adequate, in a similar question on effective staff training the scores are very low. We can conclude that MAs organise training on their own, but would also wish to have better training possibilities organised by the state. On the basis of this, we have formulated a recommendation that MESP should organise and implement training of MAs on nature conservation issues.
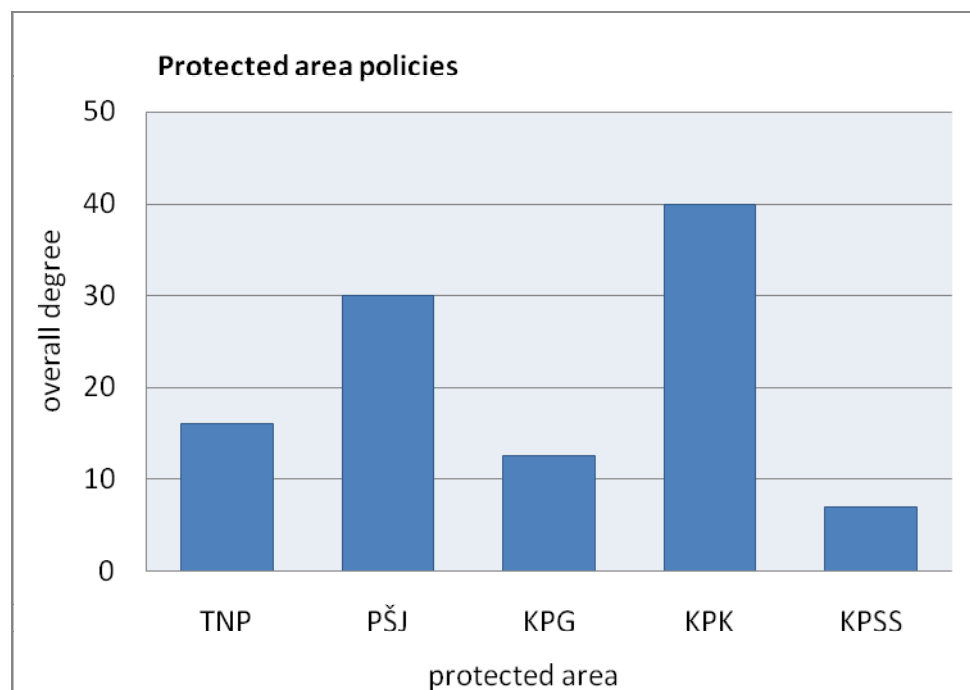

Figure 35. The degree of adequacy of protected area policies

5.6.3. Policy environment

The last set of questions evaluated the adequacy of legal framework, which enables designation and functioning of PAs, the quality of intersectoral cooperation and support of other national policies for nature conservation and cooperation with civil society and non-governmental organisations.

The respondents have evaluated the overall policy environment as moderately good (Figure 36). In particular low scores have been given to the state commitments and funding. Similarly to findings of some previous studies[16], the respondents evaluated intersectoral cooperation as weak. Also in this segment respondents have stressed that the law enforcement is weak due to insufficient inspection surveillance.

16 Kus Veenvliet, J. et al., 2005. Assessment of Implementation of the Convention on Biological Diversity in Slovenia. Thematic profile within the project National self assessment of capacity needs. Regional Environmental Center for Central and Eastern Europe.
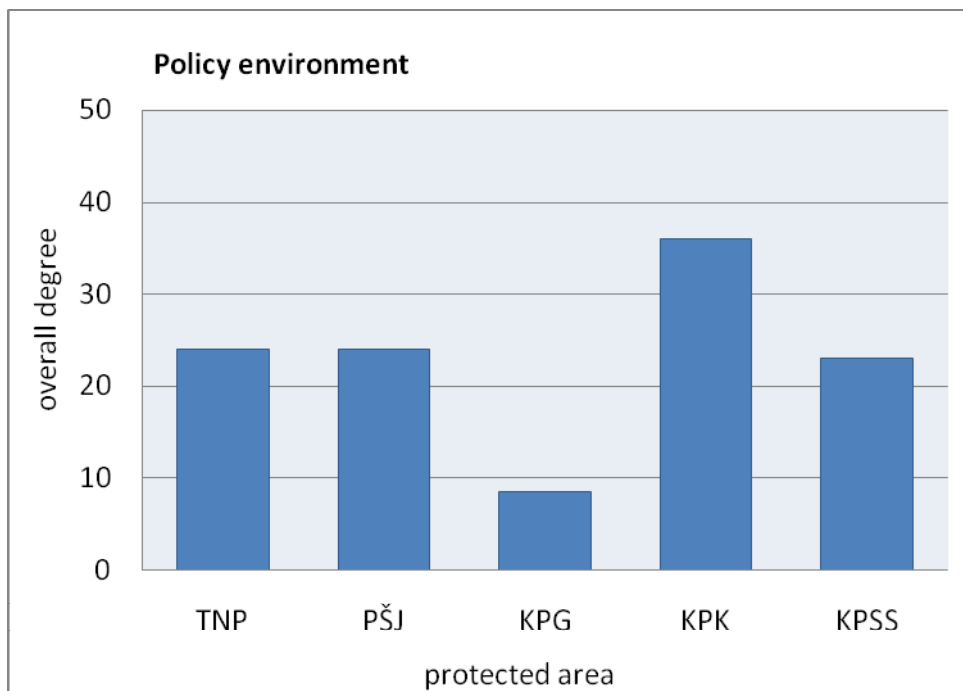
Figure 36. The degree of adequacy of policy environment

6. Applicability of the RAPPAM methodology for the analysis of management effectiveness

Also in Slovenia the RAPPAM methodology has proven an effective tool for analysing the management effectiveness in protected areas. However, as in any analysis and interpretation of results, also with this method some problems occur. These should be considered in further development of this methodology. Some of these are:

1. **Scoring pressures and threats:** In some cases the respondents were simply stating same values for past (pressures) and future (threats) impacts to protected areas, simply because it is difficult to foresee the trend of future activities. In the analysis this does not lead to more accurate prediction of trends. It should therefore be considered, if the questionnaire should be adapted so that the future threats would be easier to evaluate.

2. **Categories of pressures and threats:** The list of pressures and threats has been adapted to Slovenian circumstances, but during the analysis we noted that some categories should have been split. The example is category hunting and fishing as the impacts of the two in the same protected area can be very different.

3. **Scores in vulnerability**: A short comment should be included into methodology regarding scores on vulnerability (5th set of questions). While in all other questions a higher score means better managed area, it is the opposite in vulnerability, where a higher score means larger problems in management. The scores from this set of questions should therefore not be summed with others.

4. **Answering »not known«:** The methodology does not give a possibility to answer »*not known*«. However, if the responder does not answer the question, this will be analysed the

same as answer »*no*«, which is in meaning not the same. Especially in cases when only few questions are shown in analysis, this can give a wrong impression. This can be solved in two ways. Either methodology should allow for an answer »not known« or the instructions should be given that in case of unanswered questions a maximum is calculated for each respondent and then scores are converted in percentages (see example in Figure 20).

5. **Cumulative interpretation of the questions:** In the analysis, especially when only a small number of PAs are involved, cumulative interpretation of different questions can lead to wrong conclusions. If the analysed set of questions includes questions where most respondents have answered »yes«, and some crucial questions are answered »no«, the average scores will still be relatively high. At a glance it is easy to overlook the questions with negative answers, which are actually those we should pay most attention to when trying to improve management effectiveness.

6. **Similarity of questions:** Some questions are so similar, that the respondents do not see the difference. Because of this, they give the same answer twice, which further in analysis does not show the real situation. This problems appears for example in questions 12a and 12e (financing). Some very similar questions are also found among questions on planning, inputs and management processes. This should be considered in further development of methodology and possible revision of the questionnaire.

7. **Negative questions:** We caution for some negative statements in the questionnaire as they can be difficult to resolve for the respondent. For example in question 7b the respondent is asked »*There are no unsettled disputes regarding land tenure or use rights*«. The respondent might quickly answer »no« (there are no unsettled disputes) instead of »yes", to confirm the negative statement.

8. **Administering the questionnaire:** The RAPPAM methodology does not specify who should answer the questionnaire. In Slovenia this turned out to bean important issue. The questionnaires have been sent to the management authorities and in most cases the head of the MA has filled in the questionnaire on his own or appointed one of the staff. However, when testing this with different levels of employees in one of the protected areas, often entirely opposite answers have been given. Of course it would be better if the questionnaire would be administered by the same level of staff in all PAs – if it is in one PA answered by a director, and in the other by a nature guard, it is unlikely that the results will be comparable. Furthermore, it is not optimal that the analysis allows only for one questionnaire per PA, as we could get more respondents (but how would we then calculate the »true« answer?). In this case administering the questionnaire during the workshop could solve some unclarity and bring in some compromise. However, it should also be noted that in such "public confrontation" of the head of the PA and subordinate staff we might not always get honest answers because of the fear of the staff to publicly state their opinion. Further, while it is not possible to expect that stakeholders not working in protected areas (e. g. local tourist guides, local farmers) could answer all the questions, it would be advisable to involve them in the analysis as well.

Kus Veenvliet, J. & A. Sovinc, 2008. Protected area management
effectiveness in Slovenia, Final report of the RAPPAM analysis.

Page | **48**

6.1. Recommendations of the RAPPAM workshop

On basis of the results of the analysis, recommendations have been drafted, which have subsequently been discussed and amended at the RAPPAM workshop (Table 3). These recommendations offer basic guidelines for improving management effectiveness in protected areas. The activities have been placed in five goals:
- Goal 1. Improve the effectiveness of protected area management
- Goal 2. Capacity building on institutional level
- Goal 3. Efficient management of habitats and species
- Goal 4. Sustainable financing of protected areas
- Goal 5. Enhance recognisability and importance of protected areas

For all recommendations the responsible body and time frame have been determined (the roman number following the year denotes each quarter of a year, e.g. 2009/I is the first quarter of 2009).

Table 3. Recommendations of the RAPPAM workshop for improving the management effectiveness of protected areas

Recommendation	Responsible body	Timeframe
GOAL 1. IMPROVE THE EFFECTIVENESS OF PROTECTED AREA MANAGEMENT		
1. Prepare guidelines for the preparation of management plans of protected areas, adapted to Slovenian circumstances (guidelines for management plans, guidelines on analysis of pressures and threat, guidelines for preparation of expert documents).	MESP	2009/III
2. Prepare and implement training of MAs in drafting management plans.	MESP	2009/IV
3. Implement training of MAs on legal aspects of nature conservation and existing data bases and their use.	MESP	2009/III
4. In accordance with the new guidelines carry out an analysis of pressures and threats, at least in wider PAs, established by the state, and integrate these findings in management plans.	MA	in the process of preparing MP
5. Prepare a vision of acceptable forms of tourism (types, extent, areas), discuss this with local communities and take it into account when drafting the management plans.	MA/local communities	in the process of preparing MP
6. Enhance activities for preparation and adoption of management plans, at least in wider protected areas, established by the state.	MA/MESP	2010/IV
7. Prepare a clear overview of needs on ecological and socio-economic research and communicate this with universities and other organisations.	MA	2009/IV
8. Prepare a list of protected areas where special nature protection measures are needed and management body should be appointed.	MESP/IRSNC	2009/IV
9. To update the acts on designation of Triglav national park and Kozjanski park and harmonise them with the Nature Conservation Act.	MESP/MA	2010/IV
10. Establish nature conservation surveillance (professional and voluntary nature guards, education, employment policy, reimbursement of costs).	MESP/MA	2009/IV
GOAL 2. CAPACITY BUILDING ON INSTITUTIONAL LEVEL		
11. Prepare an overview on exercising pre-emptive right in protected areas, propose measures for improving the system and increase the budget resources for such purchases. MAs should include the areas	MESP/EA/MA	2010/II

to be purchased in their yearly programmes of work		
12. Establish a central unit for protected areas, which offers direct support to MAs (legal service, internal acts for MAs, economic and tax counselling, training of staff, preparation of project, accounting, and coordination of nature conservation surveillance).	MESP	2010/II
13. The central unit is appointed as a management authority of those protected areas, for which no specific MA has been established. At the same time, other organisations should be stimulated to take over the guardianship and management activities in such areas.	MESP	to be determined after finalizing activities under No. 8.
14. MESP enhances cooperation with other sectors in implementation of policy on protected areas and, among others, submits a proposal for establishment of intersectoral working group on protected areas.	MESP/ government	2010/I
15. MAs prepare and overview of cooperation with non-governmental organisations and seek for examples of good practise and initiate efficient cooperation.	MA	2010/I
16. Ensure concerted approach of MESP and MAs in presenting the position of nature conservation.	MESP/MA	trajna naloga
17. Establish efficient communication among MAs and IRSNC, so that MAs can fully cooperate in preparation of nature conservation guidelines.	MA/IRSNC	2009/II
18. Establish mechanisms and ways to integrate MAs in the procedures of issuing nature conservation consents by the Environmental Agency (EA) and ensure timely and efficient exchange of information on the activities in protected areas.	MESP/EA/MA	2009/IV
19. Ensure efficient inspection surveillance and system of criminal law, and as a primary step prepare an overview of records of offences in protected areas and analyse past infringements	MESP	2009/III
GOAL 3. EFFICIENT MANAGEMENT OF HABITATS AND SPECIES		
20. To establish a process, which will enable MAs to take part in the process of determining the use of land pr lease of land in protected areas, which are managed by Farmland and Forest Fund of the Republic of Slovenia.	MESP/MA	2009/II
21. To ensure the exchange of data on state monitoring on biodiversity and special monitoring in protected areas among contracting authorities, IRSNC and MAs.	MESP/IRSNC/ MA	2009/II
22. In the future National strategies on invasive alien species include special measures on management of alien species in protected areas.	MESP	2010/I
23. Trough the agricultural advisory service ensure promotion and advice on nature conservation measures, which are integrated in the agricultural subsidy schemes.	MESP/MAFF/ MA/IRSNC	on-going activity
24. Besides the existing measures, formulate new nature conservation measures for ensuring sustainable land use, which are not based on agricultural, but on nature conservation programs.	MESP/MAFF	on-going activity
GOAL 4. SUSTAINABLE FINANCING OF PROTECTED AREAS		
25. To increase budgetary resources for protected areas and ensure efficient monitoring of the expenditure of these resources by harmonising the yearly work programs and yearly reports of MAs.	MESP/MA	on-going activity
26. MESP offers support to MA when applying for international funding.	MESP	on-going activity
27. Ensure, in a form of a loan, financial resources, needed to pre-finance the project activities in MAs.	MESP/MF[17]	2009/II
28. Prepare and implement training on preparation of long-term financial plans in protected areas.	MESP	2009/IV

[17] MF: Ministry of finances

GOAL 5. ENHANCE RECOGNISABILITY AND IMPOTANCE OF PROTECTED AREAS		
29. Prepare and implement communication projects to improve recognisability of protected areas and demonstrate benefits arising from protected areas.	MA/MESP	on-going activity
30. MAs ensure proper presentation and promotion of their vision on tourism and promote their integration in state/local strategies on development of tourism.	MA	to be determined after finalizing activities under No. 5.

6.2.Acknowledgments

ANNEXES

ANNEX 1.

Program of the RAPPAM workshop, 21st November 2008

Management of protected areas in Slovenia

8:00– 8:30	Arrival of participants	
8:30 – 8:40	Mladen Berginc, head of the Sector for protected areas, Ministry of the Environment and Spatial Planning	Introductory words
8:40 – 8:50	Jana Kus Veenvliet, national coordinator for the Dinaric Arc Ecoregion Project	Protected areas in Dinaric ecoregion
8:50 – 9:00	Stella Šatalić, WWF Mediterranean programme	The role of WWF in protected areas
9:00 – 10:00	Andrej Sovinc and Jana Kus Veenvliet	Presentation of the results of the RAPPAM analysis
10:00-11:00		Discussion of the results
11:00 -11:30	Coffee break	
11:30 – 12:00	Andrej Sovinc and Jana Kus Veenvliet	Presentation of the draft recommendations
12:00 – 15:30		Discussion and preparation of the final recommendations
15:30 – 16:00	Andrej Sovinc and Jana Kus Veenvliet	Next steps and concluding remarks
16:00– 17:00	Lunch	
17:00– 17:30	Departure of participants	

ANNEXES

ANNEX 2.

Participants of the RAPPAM workshop

Name and last name	Organisation
Mladen Berginc	MESP, Sector for protected areas
Katarina Zeiler Groznik	MESP, Sector for protected areas
Jelena Hladnik	MESP, Sector for protected areas
Suzana Zupanc Hrastar	MESP, Sector for protected areas
Neža Časl	MESP, Sector for protected areas
Breda Ogorelec	MESP, Sector for policy on nature conservation
Stella Šatalić	WWF Mediterranean Programme
Jana Kus Veenvliet	Institute Symbiosis, DAE national project coordinator
Andrej Sovinc	University of Primorska, Science-research centre Koper Landscape park Sečovlje Salina
Marija Markeš	Triglav National Park
Martin Šolar	Triglav National Park
Tomaž Zorman	Park Škocjan Caves
Ivo Trošt	Kozjanski Park
Barbara Ploštajner	Kozjanski Park
Valentin Schein	Notranjski Regional Park
Irena Likar	Notranjski Regional Park
Avgust Lenar	Landscape Park Logarska dolina
Janko Halb	Landscape Park Goričko
Stanka Dešnik	Landscape Park Goričko
Boris Grabrijan	Landscape park Kolpa
Anita Golobič-Prosenjak	Landscape park Kolpa
Igor Grašak	Landscape park Kolpa
Borut Mozetič	Nature Reserve Škocjan Bay
Vesna Juran	Institute of the Republic of Slovenia for Nature Conservation
Karin Gabrovšek	Institute of the Republic of Slovenia for Nature Conservation
Živa Fišer	University of Primorska, Science-research centre Koper
Tanja Lešnik Štuhec	independent researcher
Leon Kebe	Landscape park Radensko polje in establishment
Tina Mikuš	Landscape park Radensko polje in establishment

ANNEX 3.

Acronyms

Acronym	Meaning
CBD	Convention on Biological Diversity
EA	Environmental Agency
IRSNC	Institute of the Republic of Slovenia for Nature Conservation
IUCN	(World Conservation Union
KPG	Landscape park Goričko
KPK	Landscape park Kolpa
KPLD	Landscape park Logarska dolina
KPSS	Landscape park Sečoveljske Salina
KRP	Kozjanski Park
MA	management authority
MAFF	Ministry of Agriculture, Forestry and Food
MESP	Ministry of the environment and spatial planning
MF	Ministry of finances
MP	management plan
NRP	Notranjski Regional Park
NRŠZ	Nature Reserve Škocjanski Bay
PA	protected area
PŠJ	Park Škocjanske Caves
RAPPAM	Rapid Assessment and Prioritization of Protected Area Management
TNP	Triglav national park
WCPA	World commission on Protected Areas
WWF	World Wide Fund for Nature