CHAPTER 10

Sustainability Issues in Management of Tourism in Protected Areas: Case Study of Plitvice Lakes National Park

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Introduction

Protected natural areas, as popular tourism attractions, are burdened by many negative influences largely due to human activities. Their sustainability, in terms of conservation of the underlying phenomenon, is dependent on the quality of management (Alexander, 2008). The protected natural areas are extremely important for the success of Croatian tourism. Croatia belongs to European countries with high percentage of land and sea under various forms of protection and with large number of various protected natural areas. According to the Nature Protection Act in 2012, there were 433 protected areas, covering land area of 682,451 hectares or 12.1 per cent of total land area and sea area of 60.339 hectares or 1.9 per cent of the Croatian territorial sea area (Government of Republic of Croatia, 2013). It is thus no surprise that the natural scenery is the main tourism attraction with over 20 per cent of all tourist arrivals in Croatia motivated primarily by exploring nature protected areas (NPAs), especially national and nature parks (Institute for Tourism, 2006). The constant

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increase of number of visitors to NPA represents, therefore, a threat to sensitive resources of these protected areas.

With the already large number of visitors that are expected to increase in the coming years, it is extremely important to balance all activities in these areas—protection, education, research, recreation and tourism through mechanism such as spatial planning and management plans. One such area under significant pressure from visitor and facing manifold of management challenge is the Plitvice Lakes National Park. It is the oldest Croatian National Park, under UNESCO protection since 1979, located in the middle of Croatia, on a main route to the Croatian Adriatic. Its main attractions are cascading lakes set amid thick forest, attracting thousands of visitors each year. The Park is the main economic generator of the region, creating jobs and supplementary incomes for local residents in otherwise sparsely populated and economically depressed area of Croatia. The sensitive natural environment, visitor pressure, region's economic dependency on the Park and inadequate infrastructure present management challenge and make it thus an excellent case study for the national park management. The aim of this chapter is, therefore, to illustrate the key challenges faced by the extremely sensitive and equally popular nature protected area based on a research carried out from 2013 to 2015 into environmental, social and economic/tourism sustainability. The chapter starts by a brief overview of the current discourse of the protected areas management and their sustainability issues. Then it moves on to a case study of Plitvice Lakes National Park to identify and discuss the main management challenges arising from tension between the need for environmental protection and much needed revival of an economically and socially deprived rural region.

Management of Protected Natural Areas

The global network of parks is currently crucial for maintaining and improving conservation of biodiversity and environment in general. Therefore, the need to manage protected natural areas emerged immediately after proclamation of national parks (Marinović-Uzelac, 2001). Initially, only certain aspects were managed, such as forest systems and more prominent ecosystem components (Martinić, 2010; Orlić, 1983), with the management and control system differing from country to country and depending on the particular management objective. Common to all was the significant central government involvement through legislation. As it

became clear that the nature protection cannot be achieved by the official designation and regulation acts alone (Dudley et al., 1999), the system of nature protection evolved into an active integrated sustainable management. Such management is regulated with emphasis on sustainable types of tourism (Hockings, Stolton, Leverington, Dudley, & Courrau, 2006), accompanied by monitoring of sustainability indicators to provide measurable units of information on economic, environmental and social condition (Böhringer & Jochem, 2007).

Such integrated sustainable management of NPAs requires a tailor-made approach to each NPA characteristics and particularities (RodríguezRodríguez, 2012). These models of sustainable management are based on cooperation and partnership (Borrini-Feyerabend, Kothary, & Oviedo, 2004), as this makes them more flexible than centralized systems, especially in situations that require quick reaction, such as natural disasters, serious violations of the environment integrity and sudden changes in visitor demand. Furthermore, such models accommodate interest of regional and local communities, the key stakeholders in the process of nature protection and NPAs management. Although the management of the NPAs is becoming more sophisticated and better regulated, there is a growing concern that this dominant discourse in NPAs management is not able to devise a suitable visitor management system when faced with continuous growth of visitors that represent a growing threat to both environment and society (Borrini-Feyerabend et al., 2013).

There are a number of factors that can have significant adverse impacts on biodiversity, especially when corrective actions are not put in place (Martinić, 2010). A study into relationship between management and 26 environmental impacts conducted internationally by the World Wide Fund (Carey, Dudley, & Stolton, 2000) reveals significant correlations between lack of appropriate management and threats to NPAs environment. Since each NPA is unique, there is a great diversity of risks potentially leading to a wide range of negative impacts. Taking into account these risks, the adaptive management is often recommended as an optimal management model. At the core philosophy of adaptive management is its ability to identify critical uncertainties regarding natural resource dynamics and the design of diagnostic management experiments to reduce these uncertainties (Holling, 1978; Walters, 1986). Thus, appropriate strategies are designed to minimize or ameliorate likely risks of each NPA and ensure its sustainability (Growcock & Pickering, 2011; Steven, Pickering, & Castley, 2011).

Regardless of a particular management model, the sustainable management of the protected area is, in principle, characterized by the presence of different influences broadly grouped into political, economic and environmental (RodríguezRodríguez, 2012). While sustainable management that takes into account all those influences and devices practices and processes adapted to the specific conditions of each NPAs is a complex and demanding process, it is usually efficient. It is understood as a cyclical process with a set of predefined activities implemented in order to meet the set objectives. Also, it is based on the assessment or evaluation of the NPA's current state, identification of key issues and challenges and definition of clear objectives, so that management actions can be planned and implemented and their impact measured.

The issues of the NPA management and optimal management models discussed so far are not comprehensive but deliberate selected to frame the case study of the Plitvice Lakes National Park. In line with the aim of this chapter, the following section fleshes out the most relevant aspects of the NPA sustainability issues in order to provide a solid foundation of the consequent discussion on sustainable management of the Plitvice Lakes National Park.

Sustainability Issues in Protected Natural Area

The issue of sustainability of protected areas was, up to twenty years ago, on the margin of scientific research because of the common perception that the protected natural areas are, by their very existence, sustainable. While their sustainability is threatened in many ways due to transport, foresting, agriculture and global climate changes, a significant threat, as already alluded to in preceding section, are visitors and their projected growth. Thus, when NPAs become popular tourist attractions, they face the similar threats identified in a broad tourism literature on socio-economic impacts of tourism (Cole, 2004; Growcock & Pickering, 2011; Hobbs et al., 2010; Newsome, Moore, & Dowling, 2013; Steven et al., 2011; Wills, 2015). While the visitors bring economic benefits to the community, they often undermine the traditional way of life and cultural identity of local communities with new economic activities substituting traditional ones. While this might not be a significant threat to destination communities in general, in the case of NPA, traditional way of life and local culture that have shaped the cultural and natural landscape are often the key reason for setting up the NPA, and failing to maintain traditional

cultural practices can undermine the key values for which the NPAs were created at the outset. This tension between the goals of nature protection and the growth of visitor economy in or around NPAs is likely to increase in the immediate future (Newsome et al., 2013). Namely, given the scope of nature destructions that we are experiencing today, the nature protection is an urgency today. Human manipulation, exploitation and destruction of the natural environment are so great that the entire physical and biological systems of the planet are subordinated to the need for intensive use of our planet's resources. The lack of ethics in dealing with the natural environment (Taylor, 1989) is largely a result of the dominance of profit-oriented values (Pejnović & Lukić, 2014), which has an impact on many aspects of the natural environment.

At the same time, many rural and peripheral regions, faced with economic and population decline, need to devise regeneration strategies, and designation of NPAs is seen as an ideal mechanism for regional economic revival through tourism. Although the prefix eco is often added to this type of tourism, the state of environment is inevitably disturbed by the presence of visitors or, even more so, by their concentration in, usually, the most attractive spots in the NPA. The most adverse impacts relate to waste, wastewater and traffic (Monza, D'Antoniob, Lawsonc, Barberd, & Newmane, 2016; Rodriguez-Jorqueraa, Krollb, Toorc, & Denslowb, 2015), although all infrastructure required for tourism irreversibly alters the natural and social environment (Opačić, Lukić, & Fürts Bjeliš, 2005). Even when the negative impacts are minimal, they are likely to cause severe damage through accumulation (Newsome et al., 2013). Equally important is the visitor pressure in relation to the size of NPA where, as a rule, the larger the area, the easier it will absorb different influences (Growcock & Pickering, 2011). As an illustration, Kruger National Park in South Africa spread over 1.9 million hectares and receives around 800,000 of visitors annually. In contrast, Plitvice Lakes National Park with a surface area of 29,000 hectares receives up to 1.3 million visitors. In addition some recreational activities can cause environmental damage occurring after a short period of use (Cole, 2004), while in other activities, such as camping, negative effects occur gradually. Finally, negative impacts of tourism can occur as a result of construction of tourism facilities, depending on the location sensitivity, building materials, equipment and infrastructure (Martinić, Kosović, & Grginčić, 2008).

Apart from environmental and economic sustainability, there is also social sustainability to consider in NPAs management. While local com-

munities, with their traditions, cultures and lifestyles, are integral to NPAs, they are often marginalized in the management process and their core cultural values and identity undermined by urbanization (Penga, Liua, & Sunb, 2016), class differentiation (Gurneya et al., 2014) and acculturation (Gu & Ryan, 2008; Macloed, 2006; Marinović-Uzelac, 2001; Rekom & Go, 2006; Robinson, 1999).

However, all these potentially adverse impacts that can arise due to tourism in NPAs can be ameliorated or minimized with appropriate management actions. Thus, the management ability to devise and implement appropriate strategies is of crucial importance (Newsome & Lacroix, 2011). For ensuring environmental protection while fostering tourism economy and preserving social fabric, it is important to identify and explain the processes and interrelationships in the ecosystem and the social environment (Hobbs et al., 2010).

With the preceding discussion focused on the importance of management on NPAs, the optimal management models for achieving their ecological preservation and economic and social sustainability, each NPA is a unique case, albeit sharing certain similarities. This case study is focused on relatively small National Park, protecting the extremely sensitive complex of hydrological, geological and biological features, located in otherwise economically depressed region and experiencing a huge pressure from visitors. Management is caught in between the need to preserve its sensitive eco- and geo-system and to act as the chief generator of economic and social revitalization of the region.

Case Study of NP Plitvice Lakes

Plitvice Lakes National Park is the oldest national park in Croatia, established in 1949, and the first area in Croatia included on UNESCO world heritage list in 1979. There is tradition of tourism dating back to the nineteenth century (Ivanuš, 2010) with a sharp increase in visitor numbers from the 1970s, corresponding to the tourism boom on the Adriatic coast. Since the very beginning of tourism, it was the engine of regional economic development. The economic importance of the Park is best described by the fact that the Public Institution Plitvice Lakes National Park (PLNP), in charge of Park's management under supervision of the Ministry of Environmental and Nature Protection, employs around 800 people, making it the largest economic entity in the region.

Plitvice is a complex of 16 lakes, connected by travertine waterfalls and surrounded with virgin forests and meadows that spread over 29.7 thousand hectares. The natural phenomenon of Plitvice Lakes is a result of complex interactions between geological, geomorphological, physical-chemical and biological components of the complex ecosystem of the wider area. As a unique water-sediment system closely linked with the environment, the lakes are very sensitive to environmental changes and under constant threats from the surrounding area (Pavletić, 1957).

Located on the main transit route from central Europe to Adriatic Coast and relatively close to the Croatian capital Zagreb (130 km) and Adriatic coast (about 100 km to the closest seaside resorts Crikvenica Riviera) (Fig. 10.1), they are easily accessible to residents and tourists. There are two main entrances to the Park, with parking facilities, info centers and souvenir shops.

The most attractive area around the lakes covers only one per cent of the Park's surface, and it is accessed by 24 km of trails and bridges and

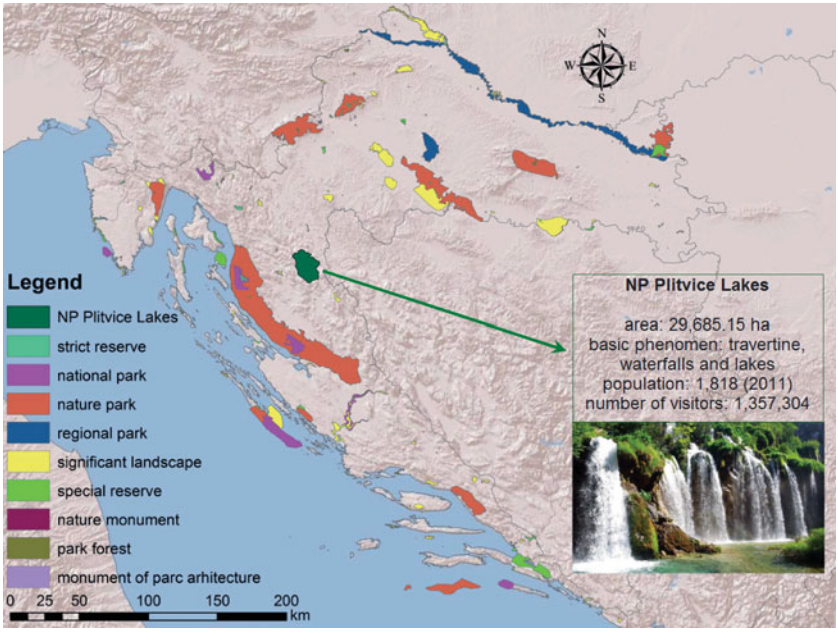

Fig. 10.1 Location and main characteristics of Plitvice Lakes National Park

two 50-m docks on the lake Kozjak (Public Institution NPPL, 2014a). The visitor trails are primarily constructed as wooden bridges on the travertine barriers allowing visitors to see the most attractive parts of the Park. There are two types of trails leading to major attractions, of three, six and eight hours' duration. In addition, there is a dense network of walking and cycling trails throughout the entire Park for those wishing to stay longer and explore all features of the Park.

Although new building construction within the Park's boundary is now forbidden, there are three hotels with 698 beds, built from the 1950s to 1980s and currently owned and managed by the Public Institution NPPL. The Park's infrastructure and the entire region have suffered extensive damage during the Homeland War. Consequently, with the free-market economy after 1995, houses of local residents in surrounding villages have been rebuilt to a modern standard, often with extra accommodation for short-term rental. Micro and small entrepreneurs have set up restaurants and family hotels, and two large camping grounds and hotels were restored and now also managed by the Public Institution NPPL.

The beginning of management and general care for the lakes can be traced back to the Society for Landscape and Beautification of Lakes and Environment founded in 1883 (Vidaković, 1977). In 1949, it was protected as National Park managed by the National Park Directorate set up the same year and in charge of the Park up to 1990. The first period of control was extremely successful against the initial objectives, although some, such as the construction of tourism infrastructure, were not in line with today's management objectives of protected areas (Petrić, 2012). This was achieved despite the lack of management plans that are, nowadays, considered to be the most important for NPAs management. After the Homeland War, management of the area was re-established and focused primarily on the reconstruction of visitor facilities, infrastructure and promotion (Petrić, 2012).

Thus, from its foundation in 1949, the Plitvice Lakes National Park is managed by the federal government through the Directorate before and then the Public Institution after 1995. The local community is considered as an unimportant stakeholder with its role reduced to that of an observer or adviser, without any real influence in decision making process. Initially, this centralized model worked well with the federal government ensuring ample funding for much needed public and tourism infrastructure, management and marketing. However, centralized management proved to be inadequate over time. It has focused primarily on the economic performance of the Park, paying scarce attention to the management of

location-specific impact zones. Hotels and restaurants close to the lakes, without proper waste and sewage collection, concentration of visitor facilities in the small and most sensitive area of the Park and pathways erected damaging the travertine barriers are some of the inherited problems.

In contrast to the earlier period, today every Public Institution in charge of managing NPA is required to have management plan, including the Plitvice Lakes National Park. The main objective of the PLNP Management Plan (Šikić, 2007) is protecting the environment and integrating stakeholders, with management aims focused on the preservation and use of natural resources, education and promotion of protected area in the context of its national importance. In practice, however, management does not pay significant attention to stakeholders, while its activities, as outlined in the Public Institution PLNP Annual Plan (2014a), are concentrated on development of recreation facilities and Park's promotion domestically and abroad. This 'practical' management orientation is a result of the situation in which the Public Institution PLNP, formally in charge of nature protection, is, at the same time, the institution that manages the hotel facilities and tourism superstructure, which are in potential conflict with the postulates of protection. While the nature protection calls for control of visitor numbers, the economic viability of tourism and hospitality facilities depends heavily on visitor expenditure. Paradoxically, income generated from visitor entrance ticket sales is often diverted from nature protection into subsidizing low-performing accommodation and restaurant facilities.

Tourism in the NP Plitvice Lakes

The Park was visited in 2015 by about 1.3 million people (Public Institution PLNP, 2016), mostly day visitors (Table 10.1). Coinciding with the growth of tourist arrivals to the Adriatic since the 1970s, the Park has witnessed a steep increase in visitor numbers from 1970, to reach three quarter of a million by 1985, with a slight decline in 1990, just before the outbreak of War. However, visitor numbers picked up quickly, to exceed the pre-War level by 1995, to about 1.4 million currently. Such growth can be partly attributed to the attractiveness of the Park, overall increase in country's tourism popularity, but also better accessibility brought by significant improvement in road access via an extensive network of highways completed by 2010. With the introduction of new accommodation facilities up to the 1980s, the number of overnight stays has increased similar to the number of arrivals. However, in the post-War period, the

Table 10.1 Number of visitors and overnight stays in Plitvice Lakes National Park, 1970–2011

Year	*Number of day visitors*	*Change rate of day visitors (%)*	*Number of overnight stays*	*Change rate of overnight stays (%)*
1960	96,708	–	49,210	–
1965	156,570	61.9	103,954	52.7
1970	247,202	57.9	125,876	17.4
1975	400,009	61.8	250,191	49.7
1980	532,253	33.1	318,041	21.3
1985	763,390	43.4	549,784	42.2
1990	667,844	−12.5	431,367	−27.5
1995[a]	0	−100.0	0	−100.0
2000	597,884	100.0	88,763	100.0
2005	855,866	43.1	157,007	43.5
2010	962,322	12.4	173,227	9.4
2015	1,357,304	41.0	201,160	13.9

Source: Public Institution NPPL (2016)
[a]Homeland War period

number of overnights in relation to the number of day visitors is much lower than before. One of the reasons can be better accessibility removing the need for an overnight stay. The other reason is that the visitors are now preferring small hotels and private accommodation in villages near the Park to the large and uniformed hotels within the Park. Whatever the reason, the hotel facilities within the Park, experiencing low occupancy rates, need to be subsidized in contrast to the earlier time when they were the source of the Park's income.

Apart from the prevalence of day visitors, the visitation pattern is highly seasonal. The absolute number of visitors, if evenly spread throughout the year, would not pose a significant threat. However, as Fig. 10.2 clearly illustrates, visitation is concentrated in summer months. In 2013, for example, on 18 days the number of visitors exceeded 10,000, and there were about two months (62 days) with more than 8,000 visitors per day. In addition, visitors have tended to shorten their length of visit over the years. In 2013, 80 per cent of visitors stayed for about three hours, in comparison to 69 per cent in 2007 (Marković, 2015). Such short stay burdens the infrastructure and environment while bringing minimal economic benefits to the Park and regional community. At the same time, carrying capacity for the Park as a whole, but also of its most sensitive locations, is still not determined.

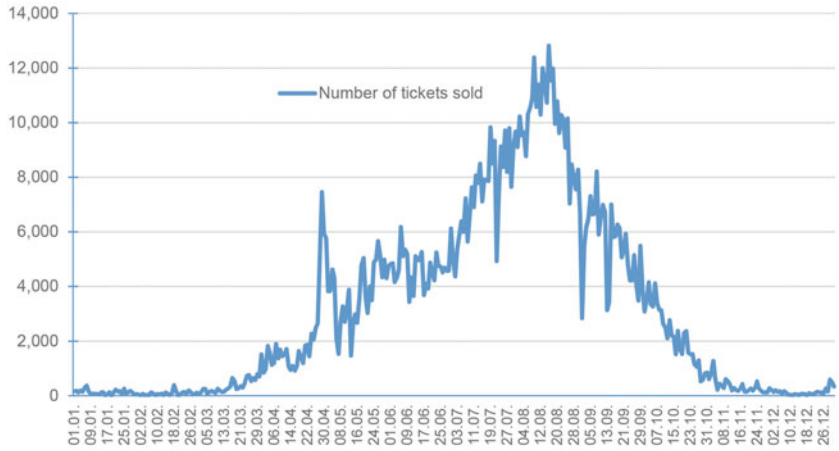

Fig. 10.2 Distribution of visitors in NP Plitvice Lakes in 2013 (*Source*: Public Institution NPPL (2014b))

The growth in visitor number exacerbated by the seasonal concentration in a small area of the Park affects not only the sensitive natural system but also the quality of visitor experience. Visitor surveys conducted in 2013 (Marković, 2015) show a decline in satisfaction in comparison to that conducted in 2006 (Institute for Tourism, 2006). While the overall satisfaction is still high, in particular in relation to information provision and signage, there is a decline of satisfaction with the quality of services—hospitality of employees, provision of parking, interpretation boards, availability and the quality of service facilities (cafes, restaurants, washrooms), souvenirs and provision of additional activities within the Park. The visitor satisfaction varies, though, with the length of stay, with those staying for up to three hours being most, and those staying overnight and using a range of facilities or services within the Park, least satisfied.

Sustainability Issues

The Plitvice Lakes National Park management is, in essence, faced with three major challenges—to protect the sensitive environmental system, ensure economic sustainability of the region and deal with visitor pressure. Each is a source of unique problems and challenges.

In terms of environmental protection, the Plitvice is facing serious environmental degradation. Current studies of Park's lakes are concentrated on hydrological and microbiological changes in lakes over recent decades coinciding with intensive tourist development. Flow measurements that are conducted since 1954 on lake Kozjak indicate the gradual reduction of flow over the past 60 years (Barešić, 2009; Bonnaci, 2013). This means that the retention time of the water in the lakes has increased; the lakes are becoming more closed from the hydrological point of view, indicating that the area is over-burdened by anthropogenic activities.

Humans by their intensive activities in the environment often cause the so-called cultural eutrophication, which can cause the death of lakes in a very short period. The system of Lower Lakes and river Korana canyon is already under marshification due to eutrophication caused by the increase of the intake of organic matter and bacteriological water pollution. The pollution comes from the household sewage pits (as the entire region does not have sewerage system) from where the wastewater spills easily due to water permeable terrain and underground connectivity of the entire system. This problem is likely to increase as there is already intensive building reconstruction and expansion in surrounding villages for tourism and second-home markets. Research reveals that an increased amount of dissolved organic matter (pollution) has stopped the process of travertine creation in some parts of the lakes (Pribičević, Medak, & Đapo, 2011). While it is a natural process that takes hundreds of years, through human activities (tourism, agriculture, transport, etc.), this process is significantly accelerated. The available biochemical data indicate that the lakes are experiencing intense anthropogenic eutrophication.

These hydrological changes affect the entire lake system. Changes in vegetation and water level are most intensive and noticeable on the smaller lakes. At the same time, there is a trend of increase of water level in the lakes as a result of the growth of travertine barriers and wetlands vegetation (Riđanović, 1989; Rubinić & Zwicker, 2011). However, the most alarming is the fact that the water flow measurement profiles of the lakes are experiencing the greatest declining trend in the whole area of the Croatian karst (Rubinić & Zwicker, 2011).

In addition to hydrological change, another anthropological pollution is the concentration of synthetic surface active agents that are ingredient of detergents which is increasing in the two largest lakes—Kozjak and Prošćansko. This is most likely a consequence of the wastewater from the

hotels entering the lake occasionally due, most likely, to malfunctioning of the hotels' sewage systems.

Finally, the wooden trails are anchored in highly fragile travertine barriers. Although these types of structures are highly attractive, they exert stress on the delicate mechanics of travertine barriers. The vibration produced by the excessive number of visitors threatens with the collapse of some travertine barriers. An additional threat to the travertine barriers is the formation of new illegal paths and the vantage points.

While those hydrological changes are very important for the protection of the Plitvice Lakes basic phenomenon, they are not so obvious to a casual observer. In comparison, landscape changes are readily perceived. Landscapes are an essential element of the natural environment in all natural areas and crucial to their appeal and identity. However, it is the fast pace of change that presents the key threat to landscape and ecosystem values. An analysis of the changes in land cover of the Plitvice Lakes from 1991 to 2012 by five main types—water, forests, built surface, fallow and meadows and fields and grasslands—revealed shrinkage of the farming land (grassland and meadows), expansion of forest as well as succession of fallows back to the forest. There was only a small increase in the built area (Fig. 10.3). It seems, thus, that the economic development spurred by tourism has transformed the rural economy and the identity of space through the abandonment of land, rather than through the construction of new surfaces (Marković, 2015). Also, this process is reducing biodiversity of the area, since the grasslands and meadows are richer in total number of species than forests.

Further, similar changes can be observed in the villages in and around the Park. The villages have experienced spatial expansion, introduction of new building forms and materials and changes in landscaping. This transformation from rural to urban forms is more intense in the villages in closer proximity to the lakes, while peripheral villages are abandoned and their rural structures are disappearing.

Since its inception, the Plitvice Lakes National Park was given a role of regional economic rejuvenation via tourism development. However, its central management and poor cooperation with local stakeholders seem to be failing on this promise. Up to 1995, the communities in the vicinity of the Park increased at the expense of peripheral villages that experienced population decline, as people moved close to the Park due to better infrastructure, social services and job opportunities. Since the 1990s, villages

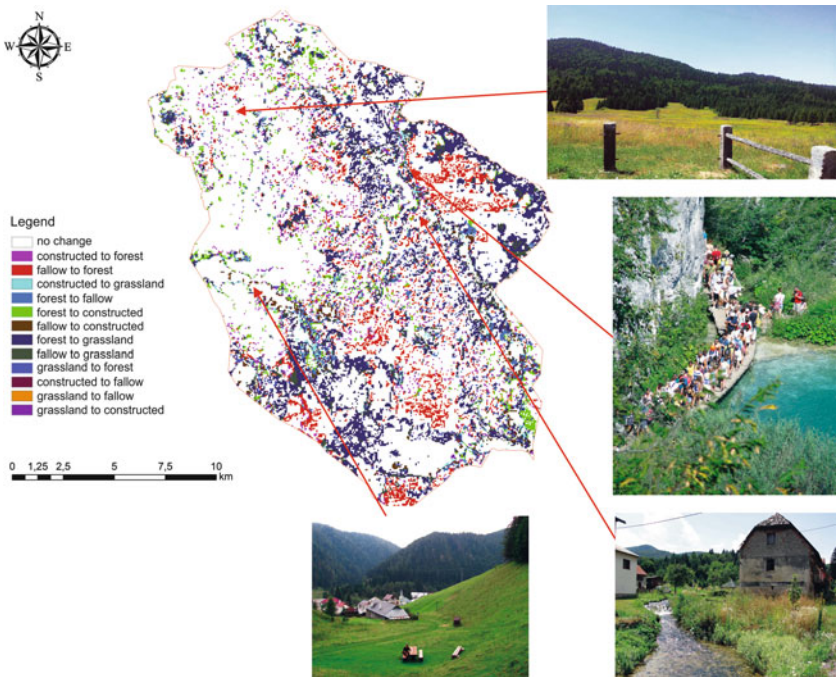

Fig. 10.3 Changes of land cover in area of NP Plitvice Lakes from 1991 to 2012 with illustrations

close to the Park also experienced depopulation, although the rate of emigration is lower than in other parts of rural Croatia (Marković, Pejnović, & Boranić Živoder, 2013). The large proportion of visitors in relation to local residents (annual ratio of resident and visitors is 1:744) and the weak demographic potential is insufficient to independently maintain and expand tourism products and services. The lack of labor and entrepreneurship is substituted by daily migration of workers from distant areas. Tourism demand, as well as the natural beauty of the area and provision of basic infrastructure, has also attracted real-estate investors and, thus, created a certain kind of class differences between the newcomers who have the capital and the local community that benefits minimally from the Park. While local residents consider it important to maintain local identity currently under threat from uncontrolled urbanization and acculturation, for which they blame mostly tourism, a resident survey revealed that over

75 per cent was not able to state one prominent feature of its traditional identity, while only third of them is actively involved in activities aimed at identity preservation, ranging from membership in associations preserving local traditions right through revitalization of traditional production (Marković, 2015).

Conclusion

This case study illustrates that the relationship between formal nature protection, nature protection management and its outcome in terms of sustainability is complex and burdened by diverse expectations of many stakeholders. The Plitvice Lakes National Park is an example of many of the tensions inherent in its management—being very attractive natural attractions—it is a magnet for thousands of visitors, yet located in deprived rural area, and it is also an important regional generator of income and jobs. At present, it appears that the centralized management model, although well-functioning in the past, is not able to meet the standards of environmental protection nor bring economic benefits to the region. The protected area is suffering environmental degradation, while the economic benefits are not sufficient to result in demographic rejuvenation.

The intensive tourism development and forecast growth in tourism numbers creates and/or exacerbates a number of diverse issues, ranging from environmental threats (primarily hydrogeological), natural and cultural landscape changes, local community loss of identity and decline in visitor satisfaction. The uncontrolled development of tourism is currently creating a strong imbalance for all sustainability dimensions. With the management caught in between fulfilment of its basic objectives of nature protection and financial performance, it seems that there are no winners. Economic benefits of the Park for local population are not sufficient to reverse the negative economic and population trends and bring the much needed communal infrastructure improvement, while the nature protection is insufficiently implemented and controlled to prevent serious environmental degradation.

The future development of Plitvice Lakes National Park requires continuous research of economic, social and environmental processes, so that the future development can, to a greater extent, be aligned with the principles of sustainable development. Most of the modern management models are based on cooperation with stakeholders and consideration of all three pillars of sustainability, while the management model focused mostly on environmental protection is gradually abandoned. Thus the solution

for specific issues in protected areas may be an integral management model that will summarize the best international practices and the specific needs of the NPA and its region. There is no doubt that the further development of Plitvice Lakes area must be based on the concept of mixed economy, in which tourism should be a generator of sustainable development, managed jointly by the State and community, towards sustainability of the environment and the society.

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