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Natura 2000 – Solution for Eastern Europe or just a good start? The Šumava National Park as a test case

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ABSTRACT

Natura 2000 is a unique EU-wide network of protected areas, which aims to maintain European biodiversity or at least prevent its worsening based on two Directives: Bird Directive 79/409/EEC and Habitats Directive 92/43/EEC. It is assumed that this will assure the long-term survival of Europe's most valuable and threatened species and habitats. The new member states implemented the Natura 2000 Directives in their own legislation as a part of the EU-integration process. Here we present the practical difficulties of implementing these directives in the Czech Republic as a warning of the problems likely to be encountered in post-communist countries. Our results are mainly based on a case study of the Šumava National Park. We analyze, why Natura 2000 may not work here and look for possible solutions, which would require changes in Natura 2000 policies and their implementation in national policies. We show five examples of activities, which were performed or are still planned despite the fact that Natura 2000 evaluations have clearly shown that they have or would have had significant negative effects on Natura 2000 habitats and species. These include canoeing in pearl mussels core zones, logging of spruce stands, park zonation and management, and ski lift and tourist trails in capercaillie core zones. We deduce that the unstable political conditions together with the weak position of the state representatives in the Czech Republic result in a situation in which the last remnants of justice together with newly implemented EU directives easily disappear. We then show that the problems encountered in implementing Natura 2000 directives in the Czech Republic are likely to affect their successful implementation in most other post-communist countries. EU is supporting these countries financially, but this support should be much more conditional on full implementation of EU laws. Environmental subsidies should be conditional on fulfilment of the country's obligations to EU nature protection. Proper use of EU money should be directly controlled by central EU authorities, not left entirely to the recipients, the member states.

1. Introduction

Natura 2000 is a unique EU-wide network of protected areas, which aims to maintain European biodiversity or at least prevent its worsening by implementing two Directives: 1992 Habitats Directive and 1979 Bird Directive. Based on sound scientific criteria, EU member states selected more than 27,000 areas all around Europe as worthy of protection (for more details and recent data see Natura 2000 barometer available at www.ec.europa.eu). These sites are known as Sites of Community Importance (SCI) – 231 types of habitat and 911 animal and plant species, and Special Protection Areas (SPA), designated for 194 species of birds (Sundseth and Creed, 2008). Each state was supposed to provide legal protection of the Natura 2000 sites within its territory (Scheuer, 2005). It is assumed that this will assure the long-term survival of Europe's most valuable and threatened species and habitats. However, the lack of attention to the effectiveness of procedural justice in different countries sometimes resulted in conflicts, which delayed the implementation of Natura 2000 directives and undermined their effectiveness (Paavola, 2004). The post-communist countries in Eastern Europe provide good examples of these obstacles.

The new member states implemented the Natura 2000 Directives in their own legislation as a part of the EU-integration process. In the case of the Czech Republic several years of detailed habitat and species mapping and rich knowledge of experts resulted in a list of proposed SCIs and SPAs (AOPK, 2007). SCIs and SPAs cover a substantial proportion of the area of this country – 9.2% and 8.8%, respectively (Härtel et al., 2009). According to

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Czech legislation, each SCI and SAC is assigned one of the nationally acknowledged categories of protected areas, and most of them are parts of or include already existing large protected areas – National Parks (NPs) or Protected Landscape Areas (PLAs). One of the reasons is that the protection and application of appropriate management practices required by the EU Directives (especially Article 6 of the Habitats Directive) are assumed to be more easily accomplished in protected areas. Seen from the outside, this looks promising, but the reality can be different.

Recently, Kati et al. (2014) analyzed questionnaires completed by conservation scientists involved in the implementation of Natura 2000 in 24 EU member states and discussed its main strengths and weaknesses. They suggest that environmental education of local communities, involving high-quality conservation experts, strengthening of quality control of EIA studies and establishing a specific Natura 2000 fund could improve the implementation of Natura 2000 and increase public awareness.

Here we address the same problem as Kati et al. (2014), the implementation of Natura 2000, using a different method and concentrating on the situation in Central and Eastern European countries. We present the practical difficulties of implementing Natura 2000 in the Czech Republic as a warning of the effect that procedural justice has had in a post-communist country. Our results are mainly based on a study of the Šumava National Park. We analyze the results, indicate why Natura 2000 may not work here and look for possible solutions, which would require changes in Natura 2000 policies.

2. Material and methods

2.1. Study site

The Bohemian Forest, the Šumava Mts. in Czech, is a chain of mountains along the Czech-Bavarian border in the heart of Europe. This densely wooded landscape, with unspoiled marsh land, mires and bog woodlands, is unique because of its almost natural condition and size, and is a home and refuge for many endangered species of plants and animals. Šumava hosts the last viable Central European populations of several iconic species, such as the capercaillie (*Tetrao urogallus*) and freshwater pearl mussel (*Margaritifera margaritifera*). More than 200 thousand hectares remain almost entirely un-fragmented by main roads and free of large settlements. Two national parks were established in this region: the Bavarian Forest NP (BFNP, Germany, established 1969) and the Šumava NP (ŠNP, Czech Republic, established 1991). These two parks constitute the nucleus of the largest cross-border protected area network in Central Europe. The BFNP was established as a Natura 2000 site (both SCI & SAC) in 2004 and together with its Czech counterpart forms the largest terrestrial Natura 2000 site in Central Europe.

The SCI Šumava, the largest SCI in the Czech Republic (171,925 ha) was designated in 2004 (Fig. 1) and includes the ŠNP, Šumava Protected Landscape Area (PLA) and part of the Šumava Biosphere Reserve. This unique complex of natural and secondary habitats, hosting numerous rare species and habitats (especially peat and wetland habitats, primeval forests and species-rich secondary mountain grasslands), is of great natural value and of European-wide significance (Křenová and Hruška, 2012; Křenová and Kiener, 2012; Bláha et al., 2013; Křenová and Vrba, 2014; Dickie et al., 2014). The following threats to its biodiversity were recognized by state authorities already in 2004 (www.nature.cz):

- Active management of previously undisturbed forests as a part of the "battle" against bark beetle outbreaks: active management can negatively affect biodiversity;
- too intensive management of meadows close to farms can lower biodiversity;
- lack of meadow management in less accessible areas poses a threat to endangered plants, like e.g. terrestrial orchids, which require human-assisted maintenance of intermediate states of succession;
- eutrophication and drainage of wetland and bog habitats, particularly in farmed areas;
- fast-growing tourist industry (cycling, hiking, skiing, new tourism infrastructure – new apartments and ski lifts) can negatively affect biodiversity;
- water tourism (rafting & canoeing) – possible negative effect on the freshwater pearl mussel;
- poaching of lynx (the only large predator living in this area).

The SAC Šumava, also designated in 2004, is the largest SAC in the Czech Republic (97,493 ha). Nine species in Annex I of the Bird Directive are protected here (Bláha et al., 2013), including the critically endangered capercaillie (*Tetrao urogallus*). Its local population, the only viable one in the Czech Republic, is one of the few capercaillie populations in Central European highland ecosystems. The threats here, in addition to those named above, are (www.nature.cz): large scale forest fragmentation negatively affects survival of e.g. capercaillie and three-toed woodpecker; intensive and unregulated cattle grazing in some parts has a negative effect on the corncrake; increasing traffic and anthropic pressure (community development, new house building) negatively affects all bird species; tourism has had a marked effect on the core area (high mountain ranges, mires and peaks along the Czech – German border area), and is also negatively affecting all bird species; canoeing in the Upper Vltava river floodplain is negatively affecting the breeding of black grouse.

2.2. Data collection and analysis

We examined all data on the biological conditions and conservation history of the Šumava National Park in terms of success/failure in the implementation of Natura 2000. As the data originates mainly from local (Czech) sources and most of them are not on the Web of Science or any other database, we used our own databases of papers and other materials, which we have collected during our study of conservation in the Šumava National Park.

To check, whether Šumava is a special case, or rather one of many failures of implementing Natura 2000 in Central and Eastern Europe, as opposed to Western Europe, we carried out a meta-analysis, using the Web of Science to search for papers including the expressions "Natura 2000 implementation (Czech Republic or Romania or Bulgaria or Slovakia or Poland)" and "Natura 2000 implementation Western Europe". We then selected the relevant papers and discuss them below.

3. Results and discussion

3.1. Natura 2000 implementation in the Czech Republic

According to EU legislation, the favourable status of Natura 2000 sites has to be assessed every 6 years. In the Czech Republic, the first assessment was done over the period 2000–2006 and 95 natural habitats were assessed – 11 were categorized as favourable, 13 as less favourable and 71 as unfavourable. In the second assessment (2007–2012), 15 habitats were categorized as favourable, 52 as less favourable and 25 as unfavourable (for more details see https://circabc.europa.eu). More recent reports,

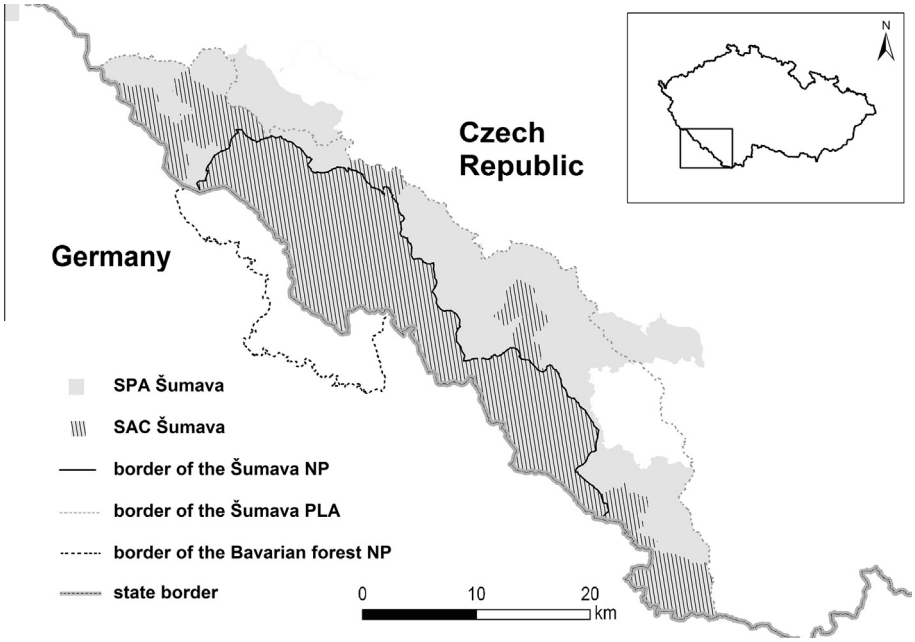

Fig. 1. Map showing the locations of the Šumava National Park (———) and Šumava Protected Landscape Area (·····) in the Czech Republic and the Bavarian Forest National Park (·····) in Germany. SPA Šumava is shown in light grey and SAC Šumava is hatched.

especially for the largest NP in the country – the Šumava NP – are even less optimistic. This is not encouraging.

After the political changes in 2011, pressure from developers escalated and resulted in unsuitable forest management practices, like logging of previously undisturbed mountain spruce stands (PC ES SCB, 2012; Dickie et al., 2014; Křenová and Vrba, 2014). In theory, implementation of EU Directives (especially Art. 6.3 of the Habitats Directive: any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect thereon, shall be subject to appropriate assessment of its implications for the site in view of the site's conservation objectives) should be very easy in a NP, which is already protected by strict national conservation legislation. This is not the case in the Czech Republic. Below are five examples.

3.1.1. Pearl mussels vs. canoeing

For more than ten years there have been attempts to ban canoeing in the Upper Vltava River in the ŠNP. This river valley is an important breeding area of the black grouse (*Tetrao tetrix*) and is surrounded by unique ecosystems with a high proportion of oligotrophic marshlands and peat bogs, which form the most strictly protected part of the NP. The shallow water and oligotrophic oxbow pools are habitats for some relict plant communities, rare and relict invertebrates and one of the last viable Central European populations of pearl mussels (*Margaritifera margaritifera*), protected by Natura 2000.

Experts have repeatedly warned the Park Authorities that canoeing, especially disturbance of the river bottom plus noise caused by the people, can seriously damage these fragile ecosystems (Absolon and Hruška, 1999; Bauer and Wächtler, 2001; Simon and Kladivová, 2006; Bílý and Simon, 2007). They suggested that a restricted number of canoes can be allowed only if the water level permits during April–August, and warned that if the number exceeds 3000 canoes per year the ecosystem will be damaged (e.g., Simon and Kladivová, 2006). Thus, the 12,000 canoes/year recorded over the period 2005–2006 clearly breached Article 6.2 of the Habitats Directive (i.e., excessive numbers of canoes caused a deterioration in natural habitats as well as disturbance of the species for which these areas were designated). In addition, Czech law (Czech Act No 114/1992 Coll. – see Miko and Borovičková, 2007), in areas where Natura 2000 is implemented, states that canoeing is permitted in NPs only under a regime set by the NP Authorities. Thus, the NP Authorities both had legal grounds (Natura 2000 plus Czech law), backed by expert opinion (Absolon and Hruška, 1999; Bauer and Wächtler, 2001; Simon and Kladivová, 2006), for immediately restricting the number of canoes to 3000 per year, which they failed to do.

Fig. 2 shows that it took a further 6 years (2007–2012) to restrict the numbers of canoes per year to those recommended by scientists. To make things even worse, part of the decline during 2007–2012 can be attributed to bad summer weather and low interest of visitors (as permission for canoeing was uncertain in this situation), rather than the activities of the NP Authorities, who did not carry out a Natura 2000 assessment, as required by Art. 6.3 of the Habitats Directive, until 2011 (Bílek, 2011). The reason for the inactivity of the NP Authorities was pressure from local politicians and absence of any reinforcement of Natura 2000 by the EU. Only after NGOs obtained a ruling from The Highest Administrative Court that the National Park Authority was in breach of Art. 6.3 of the Habitats Directive (Czech Highest Court, 2010) and reported the situation to the European Commission (Dagmar Kjučuková, pers. comm.), did the number drop to the recommended 3000 canoes/year in 2012.

Absence of regulation before 2006 and only partial regulation thereafter resulted in serious damage to the river ecosystem (Volf, 2010). This was mainly because Natura 2000 was not reinforced sufficiently (e.g., by regular controls from EU, restriction of subsidies coming from the EU, or similar measures).

3.1.2. Logging of spruce stands

In January 2007, about 700,000 trees in the Šumava NP were felled by hurricane Kyrill, which resulted in a bark beetle outbreak. Natura 2000 experts strongly recommended different levels of management (Bejček et al., 2007): (1) non-intervention in the areas where the stands of mountain spruce were most sensitive and (2) ecologically friendly forestry practices in non-natural forests at low

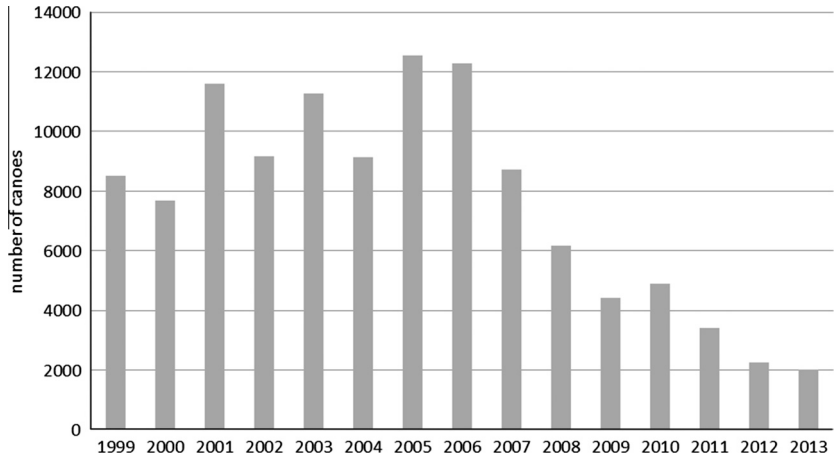

Fig. 2. Number of canoes recorded on the Upper Vltava River. Their numbers were not regulated until 2007, partially and insufficiently regulated during 2007–2011 and only from 2012 were the numbers recommended by scientists achieved. The delay in the regulation resulted in serious damage to the river ecosystem.

altitudes, where the species composition was changed by man over the last two centuries. Contrary to these recommendations and as a result of strong political pressure, in 2008 the Šumava NP Authority allowed the felling of trees infected with bark beetles at some locations where there were sensitive stands of spruce. Around 280 hectares of mountain and waterlogged spruce forests in the Bird Creek wilderness zone, containing precious Natura 2000 habitats and important localities of several Natura 2000 species, were threatened by this decision.

The situation escalated in 2011 and peaked with an activist blockade of Bird Creek. Protesters non-violently prevented illegal logging, with some of those who chained themselves to trees, harshly treated and escorted away by police. This illegal felling was also reported to the European Commission, which resulted in the initiation of EU PILOT No. 22161/11/ENVI and delegates from the European Commission of the Environment visiting some of the affected locations in 2013, but no further action by the Commission. It was the blockade, not the European Commission, which restricted the area of forest logged to only thirty-two hectares.

Even this restricted logging caused irreversible damage, which was, however, far less than originally feared after the 2008 decision of the Šumava NP Authority: a recent GIS analysis of the core part of the Šumava NP (Zýval et al., 2014) has shown that large parts of high value Natura 2000 sites were significantly negatively affected by this inappropriate management. Again, lack of Natura 2000 reinforcement is to be blamed for this damage.

The court's judgment (Regional Court Pilsen, 2013) effectively legitimized these non-violent acts of civil disobedience for the sake of public interest and the Ministry of Environment has promised to improve the situation. An improved NP management plan was adopted in May 2014, but the Šumava NP and its Natura 2000 sites and species are still threatened by poor zonation and a new Bill (see Section 3.1.3), which has the support of some politicians.

3.1.3. Park zonation and management

During the course of the last couple of years, pressure from politicians to establish a new Bill, which would determine the zonation and management of the ŠNP, has escalated and the Ministry of Environment has spent more time preparing a draft Bill. During this process, the view of scientists was completely and repeatedly ignored by the politicians. Following a change of Minister, Senate (upper chamber of Parliament) took over and proposed a new Bill, in which only the wishes of developers and political priorities shaped the text submitted to Parliament (see http://www.senat.cz/xqw/xervlet/pssenat/htmlhled?action=doc&value=71640). The draft Bill gave no priority to nature protection and did not regulate building activities within most of the NP and the size of core zone was drastically reduced, compared to that recommended by scientists and published by Křenová and Hruška (2012), Bláha et al. (2013) and Dickie et al. (2014). The reduction in the size of the core zone is not supported by any assessment of its effect on the biodiversity of the area, as required by Art. 6.3 of the Habitats Directive. The "Senate" draft Bill was rejected by the lower chamber of the Parliament, but attempts to revive it or jeopardize the previous one, which is more protective of nature, is currently very actively and intensively being pursued by government. The "governmental" bill (dealing with all NPs, not only with Šumava) will be submitted shortly. Whether or not Parliament will then consider Natura 2000 seriously, or when voting on the "governmental" Bill, just try to pretend to consider it, as is usual in Central and Eastern Europe (see also Section 3.2), is uncertain. To a great extent the view of Parliament it will depend on whether the EU policy of Natura 2000 is reinforced.

3.1.4. Ski lift in the core zone

As a part of the Bill mentioned in 3.1.3, a corridor for a ski lift and ski slope in the capercaillie habitat in the core zone of the NP was proposed, even though an official transboundary EIA (Czech Republic – Austria) had evaluated that this project would significantly negatively affect Nature 2000 habitats (Bejček, 2011). According to the Czech Act No 100/2001 Coll., EIA, the Ministry of Environment is both the official administrator of this EIA process, and the state authority ultimately responsible for the good management of the NP. However, people involved in the ski lift project use media and other methods to push the project, e.g., recently an updated version of the regional development plan including the corridor for the ski lift and ski slope in the same location was proposed under the guise that the ski lift and ski slope are projects of public interest, because they will improve public health, and accord with Habitat Directive Article 6.4. Therefore, the future of Natura 2000 habitats in this area is still uncertain. Will Natura 2000 directives and their reinforcement be strong enough to prevent local politicians from destroying this area?

3.1.5. Tourist trails in capercaillie core zones

A network of marked trails in the capercaillie core zone is proposed (Fig. 3), even though experts clearly state that this will negatively affect capercaillie (Thiel et al., 2008). However, there is a consistent tendency of local inhabitants and certain interest

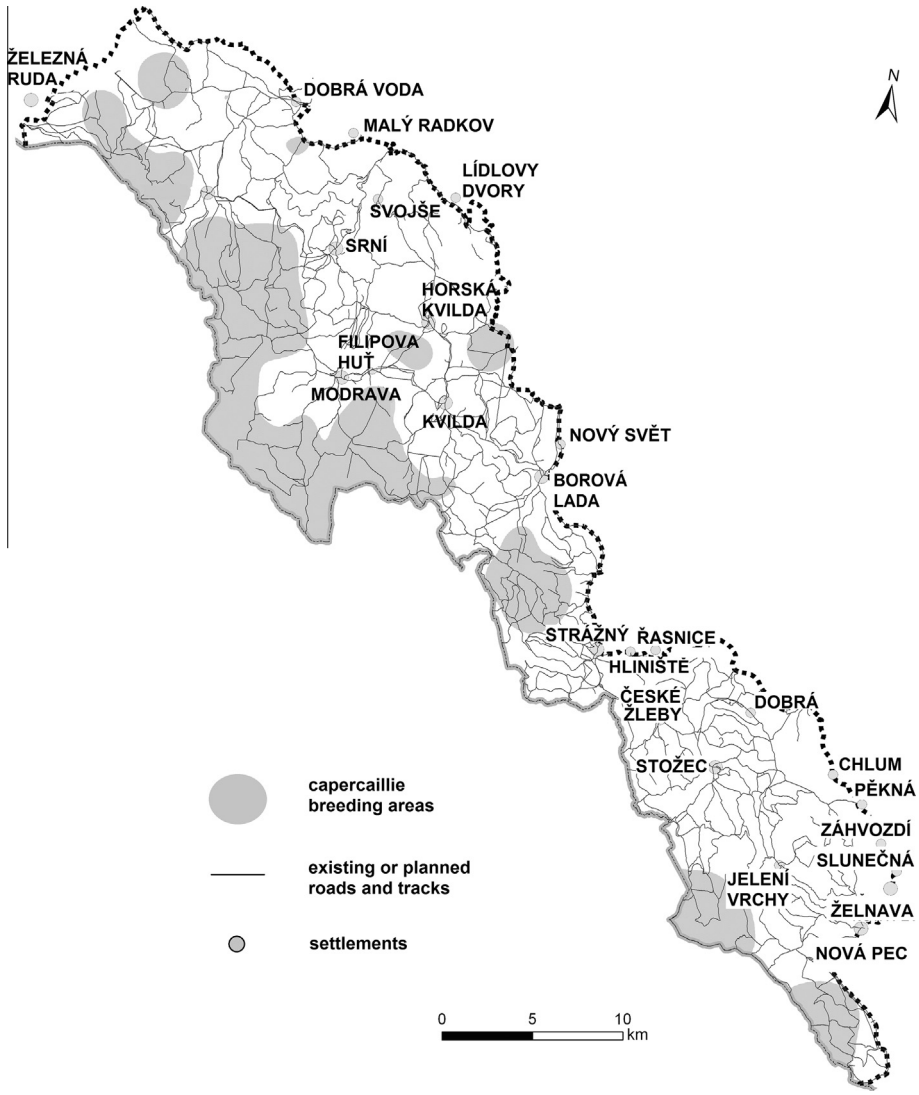

Fig. 3. Map showing important breeding areas of the capercaillie (*Tetrao urogallus*, shadow spots) in the Šumava NP and already existing or newly planned forestry roads and marked trails.

organizations like the Czech Tourist Club to see Natura 2000 as restricting their freedom in terms of an unlimited access to all part parts of the Šumava NP, including the capercaillie core zone and other sensitive areas. This is supported by the logo "open nature for people", which is publicized by the media. Again, it is questionable, whether or not Natura 2000 directives will be strong enough to prevent serious damage to the capercaillie population caused by tourists, if this plan is realized.

3.1.6. Lessons learned from Šumava

Although several Natura 2000 evaluations have clearly shown that all cases described in Section 3.1 have or would have had (in case of planned activities) significant negative effects on Natura 2000 habitats and species, these situations continue to arise again and again. This is probably common everywhere in the world. However, the unstable political conditions together with the weak position of the state representatives in the Czech Republic, a situation common in most other Central and Eastern European countries, result in a situation in which the last remnants of justice together with newly implemented EU directives easily disappear.

3.2. Implementing Natura 2000 in Central and Eastern vs. Western Europe

3.2.1. Problems of implementing Natura 2000 in other post-communist countries

Similar problems to those described above have been encountered at other places in Eastern Europe, e.g. in KRNAP (Czech Republic), where a common ski tourism concept was adopted several years ago, developers continue to lobby for building further ski slopes and ski lifts (see, e.g., http://www.koalicepronaturu.cz/lokality/krkonose).

In Slovakia, after the big windstorm in November 2004, which seriously damaged forests in the High Tatras NP, there were heated discussions about the appropriate management of the windblown area mainly in the Tichá and Koprová Valley Nature Reserves. These sites were proposed by the Slovak government for inclusion in the EU's Natura 2000 network as SPAs and defined as "non-intervention" areas in the management plan of the High Tatras NP. However, based on the government-financed study by Mika et al. (2007), the authorities, including the Slovak Ministry of Environment, allowed the harvesting of trees felled by the 2004

storm in order to avoid a bark beetle outbreak. Mika et al. (2007) claimed that this is required by EU conservation legislation. Subsequently, the WWF-appointed commission reported that the Mika et al. (2007) study is strongly biased, ignores well established ecological principles, in particular the dynamics of ecosystems and is methodologically flawed (Křenová and Polák, 2007). In addition, the lack of request for a prior Natura 2000 assessment, required by Articles 6.3 and 6.4 of the EU's Habitats Directive in Mika et al. (2007) was strongly criticized (Křenová and Polák, 2007). The crisis escalated and resulted in the civil blockade in 2007. The state authority finally adopted a "non-intervention" management in both valleys. Recently, the bark beetle outbreak there came to an end and currently there is a rich natural regeneration of mountain forests there, exactly as scientists and NGOs predicted, but many state representatives including the High Tatras NP and the State Forest Company still refer to it as "an irresponsible experiment" (http://www.forestportal.sk). To summarize: in Slovakia, adequate cross-sectoral coordination is lacking and the formulation of the Natura 2000 network in Slovakia suffered from not being able to resolve conflicts between the requirements of nature protection and forestry (Sarvašová et al., 2013).

Romanian Carpathians are another example. Knorn et al. (2012a) highlight that intact old-growth forest landscapes continue to disappear in the temperate zone and this decline is largely due to logging, which is, at least in part, related to institutional reforms, insufficient protection and ownership changes since the collapse of communism in 1989 (Nijnik et al., 2009; Griffiths et al., 2012; Knorn et al., 2012a,b). Knorn et al. (2012a) conclude that without improvements in governance, the future of Romania's old-growth forests and the important ecosystem services they provide remains uncertain. Although the establishment of the Natura 2000 areas was seen as an opportunity to direct biodiversity governance towards more inclusive policy-making (Knorn et al., 2012a), serious capacity problems undermined this idea (Börzel and Buzogány, 2010). To date, owing to inappropriate administration, the effective enforcement and implementation of conservation goals in Natura 2000 areas remains unachieved (Ioja et al., 2010). Knorn et al. (2012a) therefore recommend that old-growth forests be incorporated into core protected areas (for example IUCN category Ia), given that aims and principles of protected areas are rated more highly than the guidelines and regulations of forest management plans.

In the special study on the Apuseni Natural Park, Romania, Feurdean and Willis (2008) stress that the current management practices that allow timber production and fast tree regeneration, usually involving the plantation of *P. abies* in parts of the Apuseni NP are not in keeping with the NATURA 2000 objectives of ensuring the persistence of the most vulnerable species and habitats.

In the Bialowieza National Park, Poland, the long-term conflict between the two main groups of stakeholders, local people on the one hand (foresters, municipality representatives and local people) and NGOs and scientists on the other, over the future status and management of the Bialowieza Forest escalated as a result of a discussion about the appropriate management of Natura 2000 sites and a renewed proposal for expanding the Bialowieza NP. Pabian and Jaroszewicz (2009) describe this conflict and assume that most citizens still associate the Natura 2000 network with bans, limitations and barriers on economic development (compare this with the situation in Šumava NP described in Section 3.1.5). Public as well as local politicians and municipality representatives are not convinced that Natura 2000 has any socio-economic benefits and therefore oppose its implementation.

Therefore we conclude that the problems encountered in the Czech Republic are currently encountered in many other post-communist countries, unlike in Western Europe. Namely, in the latter, other problems, rather than direct implementation of NATURA 2000, are important: cost-effectiveness of managing Natura 2000 sites (Wätzold et al., 2010), potential loss of genetic variability despite well established networks of reserves, as in the case of the Iberian endemic lizard *Lacerta schreiberi* (Rodder and Schulte, 2010) etc.

3.2.2. Is there anything about post-communist countries that prevents full implementation of Natura 2000 directives?

The question now arises, whether the repeated ignoring of European law, in particular Art. 6.3 of the Habitats Directive, as cited above is just a coincidence, or a consequence of some systematic problem with Natura 2000 itself, at least in terms of its implementation in post-communist countries. Is there anything about these countries that prevents full implementation of Natura 2000 directives, unlike in the original member states?

The answer may be in the past history of these countries and their present economic situation. Post-communist countries were much less well developed compared with Western Europe before 1989. As a result, the vision of economic progress, inconsiderate of other aspects, among them nature protection (to "catch up with the developed world whatever the cost"), became the credo of many people in these countries, including politicians and decision makers. In the context of this paper, forestry in countries that are going through the transition from communism to market-economics is often characterized by weak institutions and profit seeking (Nijnik, 2004; Nijnik et al., 2009).

Implementation of the EU's Natura 2000 network in Hungary, Poland and Romania further reinforced endogenously driven professionalization and institutionalization of civil society groups (Börzel and Buzogány, 2010). While EU accession benefited from the expertise of professional NGOs, the logic of the accession process together with the weakness of both state actors and civil society has not led to the development of sustainable cooperative state–society relations in Central and Eastern Europe (Börzel and Buzogány, 2010).

The level of education on the maintenance of biodiversity is very low in these countries (Kati et al., 2014, supported by our own experience). Therefore, most of the people, including political and society leaders, are much more interested in profit, survival and improvement of their living standard than in nature protection (Biris and Veen, 2005). Ideas that promise wealth without the necessity of working hard and/or easy incomes are therefore much more attractive than they are for people who have experienced decades of democracy and a free market economy (Biris and Veen, 2005). In such a situation, visions of becoming wealthy by exploiting undisturbed and therefore still available nature are very attractive options. Thus capacity–building and social learning (Schneider and Ingram, 1990) would be extremely valuable, including the raising of public awareness (Biris and Veen, 2005) with respect to the exceptional biodiversity and value of the ecosystem goods and services that the old-growth forests provide.

Another and possibly the most important aspect is the way these people had to operate in order to survive in communist regimes. The "evolutionarily stable strategy" was to pretend to obey the (communist) law, but to continue a business. Bending the law, half-lies, pretending to do things, persuading others that "in a sense, this is correct" were an inevitable part of the game in those regimes. This may account for the people in charge of the Czech Ministry of Environment and the Šumava NP Authority pretending they were obeying the laws (e.g. Art. 6.3 of the Habitats Directive), while benefiting from enabling local businessmen to make an easy profit, as described in the examples in Section 3.1.

In Central and Eastern European countries, environmental governance still faces substantial challenges in consolidating an

inclusive and integrated approach to environmental governance and conservation (Stringer and Paavola, 2013). Lack of historical involvement of communities in Central and Eastern Europe in decision making, together with very low interest of the governments in discussing environmental challenges and scarcity of non-governmental organizations focusing on environmental conservation, have resulted in slow progress towards more inclusive environmental governance (Stringer and Paavola, 2013). This shows that there is a need to reshape EU policy and Natura 2000 to take these views into consideration.

3.3. Ways out

Our experience with the Šumava NP shows that EU directives are not able to fully substitute for national legislation and the national park has to be primarily protected by the latter. It is the state that is primarily responsible for the protection of Natura 2000 sites and all other protected areas designated in the country. National Parks are the most strictly protected areas in the Czech Republic, as well as in many other European countries, and state authorities should be fully aware of their responsibilities and obligations. The EU can only support the states in their efforts or warn them against violation of internationally agreed rules.

Natura 2000 was designed by and for people who have experienced decades of democracy, not for people starting from a low living standard, whose main goal is to become wealthy as quickly as possible by any means. EU is supporting these countries financially, but this support should be much more conditional on full implementation of EU laws, including, as in this case, the Habitat and Bird Directives. That is, the Natura 2000 regulations should be modified. Environmental subsidies should be conditional on fulfilment of the country's obligations to EU nature protection. Proper use of EU money should be directly controlled by central EU authorities, not left entirely to the recipients, the member states.

In addition to this, we agree with Kati et al. (2014) that providing environmental education is an important tool for increasing public awareness of Natura 2000 and nature conservation in general. Much more attention should be paid to promoting environmental education in post-communist countries (not surprisingly, the budget for education of the Czech Ministry of Environment was drastically reduced after the political changes in 2011). Only education can assure that the next generation in these countries will be sufficiently knowledgeable about nature protection and will not need further guidance and control in this respect. If this can be achieved, EU money will be much more effectively spent.

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