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ETHICS OF INSTITUTIONAL NATURE PROTECTION: PROPOSAL FOR THE INTEGRATED ASSESSMENT OF THE NATURE PROTECTION ETHICS IN CROATIA

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Abstract

The aim of this article is to propose comprehensive, environmentally and socially relevant framework of nature protection ethics (NPE), which allows reliable quality assessment of nature protection methodology, particularly institutional nature protection system applied in Croatia. For this purpose, systemic series of nature protection ethics (NPE) principles and sub-principles have been developed, followed by general and specific indicators of their practical application. They are grouped within framework of ecological integrity, stability, and continuity; diversity, sustainability, legality, organizational development, social support, local development, and involvement and cooperation with all relevant social sub-systems.

Croatian nature protection system lacks full credibility and effectiveness, although it is legislatively and institutionally well supported. Uneven work quality of competent public institutions brings examples of neglecting fundamental nature conservation objectives, only basic cooperation with local communities, and mere formal public involvement.

Keywords: *nature protection ethics (NPE), NPE principles, NPE indicators, ecological integrity/ stability, sustainable resource management*

1. INTRODUCTION

Nature Protection Ethics (hereinafter referred as NPE) springs out from the broader context of Environmental Ethics, the original philosophical discipline dealing with the moral attitude of humans towards their environment, considering valid system of values, and status which nature and environment take in life of man and society (Stanford Encyclopedia of Philosophy). When compared to Environmental Ethics, NPE narrows its focus towards specific relationship that humans/human society develop with nature. In this context, nature is considered as areas of natural environment or wilderness characterized by the original environmental conditions and ecological relations, unchanged or only slightly modified by human presence and activity. More specifically, NPE focuses particularly on capacity for sustainable management of these areas, while monitoring

and studying social skills to preserve integrity and stability of nature. NPE is especially interested realistically to estimate capacity for appropriate management of nature areas, ecological units and natural resources, striving to develop these capacities in order to achieve long-term sustainability and stability of life on Earth in terms of consistent affirmation of social justice. In this paper we focus on this narrower, NPE context, in which we will be able more clearly to point out and argument deficiencies of institutionalized nature protection and biodiversity conservation ethics, as well as considering the quality and efficiency of efforts invested in sustainable development of protected areas.

Today, people institutionally protect nature and impose rules of behavior in nature, while trying to preserve biodiversity and promote sustainability. But the problem is that modern society actually cancels ethos, by replacing it with forms of institutional/instrumental responsibility (Cifrić, 2000). This does not indicate higher level of ethics, but rather only broader social experience in dealing with consequences of mistreating nature and the environment, and larger discomfort in front of uncertainty that future is bringing to us. Gloomy predictions of our ecological future certainly make all our re-considerations legitimate for the quality of existing moral system, as well as the quality and efficiency of existing nature conservation system. In the meantime, we have to keep in mind that our ecological footprint permanently increases, we certainly live beyond boundaries of sustainability, and we spend more than we have (Motik and Šimleša, 2007).

Institutional forms of nature conservation, especially national parks and nature parks, are usually perceived as flagships of knowledge and skills in conserving areas of original, by humans unspoiled, ecologically fully functional nature. But they actually represent much more than this, although they can also become much less than that. While trying to retain the existing state of nature on certain level of environmental quality, park management system should reflect not only ecological, but also complex social dynamics of protected area preservation and sustainable use. Permanently keeping in focus the whole spectrum of fundamental goals of nature resource preservation, public institutions having authority in nature protection achieve more when they perform their duties in a manner that takes into account growing social needs, especially needs to preserve biodiversity, and in a manner that affirms long-term sustainability of life, and appropriately engage and involve public, starting from the level of local community and then spreading to the international community. In contrast, they achieve less when their efforts are merely reduced on meeting statutory minimum, while they are exclusively spending the available public money.

Nature protection is a prerequisite of sustainability of human society and as such enjoys relevance and priority at all social levels. The consequent nature protection institutionalization certainly had developed the form, but the content gradually began to lose its importance. As a result, it is possible to have almost perfectly organized public institution authorized to deal with nature protection, which is managing areas where environmental quality permanently declines. The Republic of Croatia received a warning issued by UNESCO that Plitvice Lakes National park could be excluded from the list of protected world heritage sites, because of the excessive number of tourists and inappropriate construction activities in the protected area. The objections are undoubtedly related to serious protected area man-

agement system's shortcomings, but also to the corresponding public consciousness which systematically tolerate the applied bad management practices.¹ In cases like this, the original focus of nature protection efforts gradually became blurred then slowly ignored, system of priorities changed, and finally business success becomes measured by the criteria of number of visitors and total income, instead by the criteria of biodiversity conservation indicators, full ecological stability, and/or local community development.

Therefore, we recognize the need to re-affirm the original nature protection system objectives. For this reason, we thoroughly investigated relevant legislative and institutional framework, by strongly taking into account contemporary ecological circumstances and social trends, needs, and interests. As a result, we developed a proposal for the comprehensive institutional nature protection ethics. In doing this, we were relying on strategic documents related to nature protection and biodiversity conservation issues: World Conservation Strategy, 1980; Convention on Biological Diversity, 1992; EU Biodiversity Strategy, 2011; Strategy and Action Plan for the Protection of Biological and Landscape Diversity of the Republic of Croatia, 2008; as well as the results of Analysis of the State of Nature in the Republic of Croatia for the period 2008-2012, prepared by The State Institute for Nature Protection. Official documents as Second Audit on Nature Conservation, Protection of Biodiversity and Management of Protected Areas, prepared by the State Audit Office and submitted to the Croatian Parliament in 2014, and The Third Report on the State of the Environment in the Republic of Croatia from 2014, prepared by the Environmental Protection Agency, were also extremely useful. As a result, we created systemic set of NPE principles and related sub-principles, associated to general and specific indicators of their immediate application with the purpose to facilitate implementation of comprehensive assessment system evaluating quality, justification, appropriateness, and effectiveness of nature protection and protected areas management system applied in Croatia.

Certainly, the goal of the NPE assessment is the development and improvement of the existing nature protection system, in accordance with ethical principles whose implementation undoubtedly affirms presumptions of sustainable development and social justice/fairness, as well as contribute more firmly to the process of shaping social mentality which adequately evaluates national wealth and is ready and capable to care for it, when supported by appropriate motives and arguments.

2. METHODOLOGY

Relying on strategic documents of nature and biodiversity conservation, we have designed a systemic set of basic NPE principles, supported by related sub-principles, and complemented by corresponding general and specific indicators of their immediate application. In doing so, we took into account wider context of sustainable development, while not losing from our sight the legal and institutional framework of nature protec-

¹ Press release issued by the Croatian Minister of Environmental and Nature Protection, URL: <http://www.mzoip.hr/hr/ministarstvo/vijesti/devastacija-plitvickih-jezera-je-odraz-stanja-svijesti-drustva-u-kolem-zivimo.html>

tion in Croatia, which is entirely reliant on international and European guidelines. Also, we have not overlooked Aichi strategic objectives of biological diversity conservation that need to be fulfilled by 2020.² We contextualized everything within the Croatian institutional nature protection framework.

We have identified eight basic NPE principles: 1. Ecological Integrity, Stability, AND Continuity - Maintaining Ecological Processes and Systems in Accordance with the Highest Possible Environmental Standards; 2. Diversity – Conserving Biological, Genetic, and Landscape Diversity, Fostering Cultural, and Social Heritage; 3. Sustainability - Planning, Management, and Sustainable Use of Available Resources; 4. Legality of Overall Work and Particular Activities; 5. Organizational Development; 6. Building social support to nature protection – Involving Public; 7. Local Development - Promoting Rural Development Compliant with Nature Protection Principles; 8. Involvement and cooperation - Participating in Development of Nature Protection Legislative and Institutional Framework at all levels, from local to regional, from national to international. Each of the basic NPE principles was further developed in problematic sub-principles, and further elaborated with corresponding general and specific indicators of their immediate application. General indicators represent NPE elements that need to be consistently applied in each protected and valuable natural area, while application of specific indicators would depend on spatial and problem-specific features of particular protected area.³ Each indicator is a subject to assessment of its practical application in particular protected area. We propose four assessment categories to be used: + indicating consistent application of the selected indicator, +/- indicating partial yet somewhat consistent implementation of the selected indicator, -/+ indicating inconsistent application of selected indicators, and - indicating complete absence of application of the selected indicator. Based on assessment of all NPE indicators, average value of quality of implementation of individual NPE principles and sub-principles should be calculated, and afterwards serve as basis for a comprehensive NPE analysis.

The system of ethics assessment formulated in this way stems from its immediate social and historical context, and the system is conditioned by existing legal and institutional framework. This logical set of principles and related subprinciples, associated with indicators of their practical application, presents the logical framework according to which nature protection ethics could be fully assessed and evaluated. Implementation and use of this system provides the possibility of comprehensive assessment of practical compliance, completeness, and effectiveness of the nature protection and management system applied in protected areas.

² More about Aichi strategic targets of the Convention on Biological Diversity, URL: <https://www.cbd.int/sp/targets/>

³ A careful reader will notice that the same indicators appear in the context of various principles and sub-principles. In that case, they are considered in a different context, therefore it is not a mere repetition.

3. SOCIAL AND HISTORICAL CONTEXT OF NPE

In the very foundation of ethics and moral conduct stands a continuing fair and open communication, fostering culture of dialogue, responsible democratization of decision-making process, and participation of all relevant actors of concerned public in the process of creating development plans and programs. But NPE must also consider the other group of arguments raising from knowledge and understanding of biological and ecological principles and corresponding legal framework, from complexity of natural processes as well as from responsible management practice applied in protected areas. Joint actions and initiatives of the international community focused on nature protection and promotion of sustainable development concept reflect common political will of countries of the world, and generally speaking, high awareness of seriousness, complexity, and urgency of ecological problems in modern world, but unfortunately they do not necessarily assume consistent and thorough transformation of dominant social mentality which continues to treat nature conservation issues as a subject matter of secondary importance. However, the need for interdisciplinary approach and cross-sector cooperation is obvious, cooperation which consistently takes into account all relevant arguments of economics and law, biology and ecology, politics and public administration, culture and cultural history, spatial planning and environmental management, economic and social development, etc. Recent researches in the field of biodiversity, environmental health and ecosystems, causes and drivers of poverty, application of principles of equitable nature resource management, principles of sustainability and responsible management of valuable natural areas, necessitate the use of all forms of social, scientific, and technical synergies.

Environmental and nature protection ethics singled out as a separate problem framework, especially in the 1970s, as a result of general public attitude that the world is facing serious environmental crisis and the public interest to define and understand actual causes of the ecological crisis. We can start our chronological overview of development of the environmental and nature protection ethics with 1962 and publication of the book *Silent Spring* (publisher Houghton Mifflin) where author Rachel Carson openly speaks about harmful environmental effects of pesticides, and accuses chemical industry and civil servants of cheating the public and cooperating with industry against the public health interests.⁴ In 1967, historian, Lynn White Jr., published an essay on historical causes of ecological crisis, stating that one of the main reasons of crisis lays within anthropocentric attitude of medieval European Christian mentality that have shaped sensibility of the modern Western world, encouraging and justifying merciless exploitation of natural resources. In 1968, biologist and physician, Paul Ehrlich, published *The Population Bomb* (Sierra Club/Ballantine Books), warning public that human population growth seriously threatens survival of the life on Earth. The ecological

⁴ Later her work initiated a ban on the use of DDT in agriculture, and encouraged the establishment of the US Environmental Protection Agency.

crisis gets special public attention in 1970, when the Scientific American magazine published NASA's photos of Earth viewed from space. The scenery of a lively glittering ball, joint ownership of all people, traveling calmly in space, having limited ecological capacity and remembering each case of pollution and abuse, strongly raised public awareness and made people sensitive for problems of nature and environment preservation. Shortly afterwards in 1972, a group of scientists from MIT (Massachusetts Institute of Technology) led by Donella and Dennis Meadows, published the study *Limits to Growth*.⁵ In this report to the Club of Rome,⁶ computer simulation of exponential economic and population growth in conditions of limited natural resources has been given and interpreted, clearly pointing toward possibility of reaching the limits of population growth before final catastrophe on Earth. These unambiguous calls for change in social paradigm and dominant system of values led to development of a new discipline, which has simultaneously developed especially in three countries: United States, Australia, and Norway. In the USA, John Muir, the founder of the Sierra Club,⁷ often considered as being father of American nature conservation movement, and Aldo Leopold, a forester of extra fine ecological sensibility, both stimulated growth of public interest in preservation of everything that is natural, wild, and free. They were promoting application of high ethical and aesthetic principles in nature conservation, opposing harsh economically based system of valuing nature. Leopold's book, *A Sand County Almanac* (1st edition in 1949), strongly influenced public with the concept of "land ethics". Contemporary American philosopher, J. B. Callicott, a leading proponent and successor of Leopold's land ethic, in his works *In Defense of the Land Ethic* (1989) and *Beyond the Land Ethic* (1999) further systematically develop and affirm Leopold's methodology and thought. During the late 1970s, Australian philosopher Richard Routley (Sylvan) formed several terms such as "dominant Western mentality" or "Western super ethics" in order to emphasize existence of dominant anthropocentric attitude, called by Routley, human chauvinism. Routley argued that in the background of destruction and depletion of natural resources, stands only another form of chauvinism, actually mimicking slavery to prejudices and discrediting everything that does not belong to privileged class of humans (Routley, 1973, 1980).

5 This group report of scientists from MIT serving as Club of Rome's draft on the dilemmas of humanity, is also available in Croatian language edition of Stvarnost Sarajevo. The new 2004 edition is brought out by Chelsea Green Publishing Company and Earthscan, entitled "*Limits to Growth: The 30-Year Update*".

6 Club of Rome was founded in 1968 in Rome, Italy as "an informal group of citizens of the world thinking together about the future of humanity". Even today, the Club brings leading politicians, diplomats, scientists, economists and business people of the world together, for the purpose of identification and analysis of key world problems, and finding possibilities of their solutions. Since 2008, the Club has its headquarters in Winterthur, Switzerland, URL: <http://www.clubofrome.org/>

7 Sierra Club is an American environmental organization, founded in 1892 in San Francisco, one of the first major environmental organizations in the world. Today gathers hundreds of thousands of members in the United States, aiming to design green policies, to affirm the use of so-called green energy, and to prevent climate changes.

Leopold's reflection on integrity of the Earth and moral obligation of people to the planet as a whole prompted series of ideas about integrity of other entities, such as biological species, ecological communities, and ecosystems. The philosopher in the field of environment, Holmes Rolston, argued in 1975 that preservation of individual species is moral obligation of people and society. He argued that biological species have intrinsic value since the loss of species means actual loss of genetic possibilities and potentials as well as destruction of species means actual destruction of biological processes and stability of nature, a complex process happening consistently over prolonged period of time (Rolston, 1975). Meanwhile, public statements presented by American lawyer, Christopher Stone, became the subject of wider public discussions. Stone suggested that natural objects such as individual trees should enjoy same legal status and protection, as for example, business corporations having ability to claim their rights, presented in court by legal entities such as the Sierra Club. Such legal entities could claim compensation for damage caused by results of human activity (Stone, 1972).

During the 1970s, animals liberation movement erupted. It was primarily a political movement of reconsidering and re-determining moral and legal status of animals, but eventually the idea was widened on trees, forests, and all other objects found in nature. During the 1980s, the green movement strengthens also in Europe. In the very beginning, the movement split in two main currents of realists and fundamentalists. Realists advocate for an idea of preserving nature and environment in cooperation with governments and businesses, with an aim to reduce pollution and resource depletion, especially when it comes to issues of preserving sensitive ecosystems and endangered biological species. Fundamentalists in turn advocate the need for radical social change, for creation of a new system of priorities, even for demolition of capitalism and liberal individualism as fundamental reasons of anthropogenic environmental degradation. This particular social confrontation took on the names of Shallow Ecology and Deep Ecology as environmental movements. During the 1970s, Deep Ecology was strongly defended by Norwegian philosopher and mountaineer, Arne Næss. He claimed that Shallow Ecology fight against environmental pollution and depletion of natural resources only in order to maintain health and wealth of people in developed countries, while in contrast, Deep Ecology advocates the idea of biosphere egalitarianism, by which all living beings have equal value, and that value cannot be evaluated according to their practical usefulness. Therefore, deep ecologists anticipate and respect intrinsic value of every natural being and object, trying not to harm living world. They care about the environment in the same way they care of themselves, recognizing they are inextricably linked with the world they live in (Næss, 1973).⁸

⁸ However, they were criticized for elitism and preserving the original nature only for those who can afford trips to the wilderness and the sort of cultural imperialism. Indian writer Ramachandra Guha (recent Indian writer, publicist and historian whose interests are in the field of environmentalism and social ecology, in particular protection of indigenous people rights, co-author of the book entitled *Ecological History of India*) called them modern "green missionaries" who use and alienate natural resources from poor and indigenous people.

Ecological Feminism was emphasizing that the dominant patriarchal worldview was the one not only humiliating women, but also the one leading to racism and contempt directed against animals and nature in general. Psychiatrist, Sheila Collins, claimed that patriarchy and the dualistic worldview of social hierarchical system of privileges and dominance encourage sexism, racism, class exploitation, destruction of nature and environment, as well as all forms of chauvinism with anthropocentrism being emphasized in this context (Collins, 1974). Ecofeminists generally argued that anthropocentric epistemological worldview is completely unreliable, due to the lack of any rationality. Their special merit was in linking social problems and human psychology closely together with pressing environmental problems. Furthermore, within the process of development of environmental awareness, the influence of critical theorists neo-Marxists of the Frankfurt School is often unfairly overlooked. While classical Marxism understood nature as a resource transformed into something useful only through the human work, Max Horkheimer and Theodore Adorno recognized the problem of "alienation of man" in the midst of all of the "positivistic optimism". In that context, natural processes and human activities are seen as predictable and as such subjected to manipulation while reality is completely opposite. Namely, the nature is mysterious, uncontrolled, and terrifying, although reduced to an object, which according to the modern human, is being ruled by clear natural laws that can be used for benefit of human society. New Animists admired indigenous people and their close communication with animals, plants, and inanimate objects. They resented modern world for lack of any respect for natural order, any reverence for holiness, love, and unity. Australian philosopher, Freya Mathews, was claiming that managing nature and environment should be directed toward naturally existing synergies, rather than toward simple replacement and/or destruction. It is worthwhile and meaningful to maintain natural ecological flow, rather than try to restore an ideal environment in all complexity and completeness (Mathews, 2003). Views of new animists greatly influenced process of designing a modern environmental management principles and ideas of sustainability.

Murray Bookchin's,⁹ Social Ecology, was also radical, subversive, and directed against dominant social culture. He suggested we can and need to put ourselves in service of natural evolution, to help in maintaining natural complexity and diversity, to participate in reducing suffering and pollution as well as to use our social skills and skills of communication and intelligence for our benefit rather than turn them against ourselves. Lewis Mumford, the American pioneer of Social Ecology, adopted regionalist perspective on development of ecological thought. According to his view, regional cultural centers should become carriers of active and safety-based life in the local community (Mumford, 1934). Both authors actualized the problem of taking regional perspective into account in seeking solutions of nature and environment protection. They both pave the way to

⁹ Murray Bookchin (1921 - 2006) was an American anarchist, anti-capitalist, social liberal, renowned historian, public speaker and writer, one of the pioneers of the environmental movement.

bioregionalism, the viewpoint that natural properties of particular environment should determine conditions on how local community live and develop. Bioregionalists assumed that only those who know well their living place have ability to achieve safe and comfortable life within boundaries of ecological limits of the area they live in.¹⁰

Furthermore, key activities and initiatives of the international community aiming to create modern internationally relevant framework legislation for nature protection and promotion of sustainable development concept were: The Convention on Wetlands of International Importance especially as Waterfowl Habitat-wading, adopted in Ramsar in 1971 (URL: <http://www.ramsar.org/>); UNESCO conference in Paris in 1972, when Convention on the Protection of the World Cultural and Natural Heritage was adopted (URL: <http://whc.unesco.org/en/conventiontext/>); The Convention on International Trade in Endangered Species of Wild Fauna and Flora - CITES, adopted in Washington in 1973 (URL: <https://www.cites.org/>); The Convention on the Conservation of European Wildlife and Natural Habitats, adopted in Bern in 1979 (URL: <http://www.coe.int/en/web/bern-convention>); The Convention on the Conservation of Migratory Species of Wild Animals - CMS, adopted in Bonn in 1979 (URL: <http://www.cms.int/>); Earth Summit in Rio de Janeiro in 1992, when three key conventions - on biological diversity (URL: <https://www.cbd.int/>), on climate change (URL: <http://unfccc.int/2860.php>) and on desertification (URL: <http://www.unccd.int/en/Pages/default.aspx>) were adopted with the common hope to harmoniously contribute implementation of sustainable development objectives formulated in the Agenda 21¹¹ document; Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters, adopted in Aarhus in 1998 (URL: <http://ec.europa.eu/environment/aarhus/>); and the Summit on Sustainable Development held in Johannesburg in 2002. At the EU level it is worth to point out development of principles and methodology of the Natura 2000, based on implementation of the EU Birds Directive (1992) and the Habitats Directive (1979).

In the NPE context, particular value and legitimacy is given to social communities living in direct contact with nature and its resources, regardless whether they are indigenous, traditional, or immigrant. Because of their practical closeness with ruling environmental principles and values, they become owners of copyrights on knowledge and experience essential to establish and maintain balance, development, and sustainable future of the natural area they inhabit. High valuation of such communities in the context of survival and sustainability of human society has an equal rooting and justifica-

¹⁰ Their critics were raising questions on what kind of laws should rule in such communities, and how they would be implemented, and in what ways would such communities integrate into larger political and economic communities. Also, it was questionable whether this concept could be applicable on already overpopulated planet.

¹¹ Agenda 21 is an action plan for sustainable development adopted on 1992 Summit in Rio, document signed by parties voluntarily committing themselves to immediate application of sustainable development principles at global and regional, at national and local level.

tion as evaluating the survival of certain biological species in the context of biodiversity conservation (Cultural and Spiritual Value of Biodiversity, 1999).

4. HOW IS THE NATURE PROTECTION SYSTEM ORGANIZED IN THE REPUBLIC OF CROATIA?

Nature and environment protection legislation is developed through a broad series of thematic frameworks and documents, but all of them still apply unique fundamental principles fully colliding with principles of NPE. Some of them are: 1. Sustainable development; 2. Equity; 3. Cross-border responsibility; 4. Public participation and transparency in decision-making on natural resources and nature/environment management; 5. Application of precautionary principle; 6. Application of prevention principle; 7. Application of polluter-pays principle (Beder, 2006).

The governing body responsible for the implementation of nature and environment protection strategies, plans, and activities, in accordance with the policy of sustainable development, is Croatian Ministry of Environment and Nature Protection supervising The State Institute for Nature Protection in charge for technical work in nature conservation, as well as other public institutions as county institutes, national parks, and nature parks, responsible for immediate protected area management. On the basis of internationally binding legislation forming respective legal framework, nature protection in the Republic of Croatia is carried out according to the Nature Protection Act (Official Gazette 80/2013) and the Strategy and Action Plan for Biological and Landscape Diversity (Official Gazette 143/08). The EU methodology Nature Impact Assessment of plans, programs and projects in nature is also applied, presenting the most important mechanism for protection of ecological network Natura 2000. Laws and regulation related to establishment of individual protected areas and respective public institutions responsible for their management are also important, as well as corresponding spatial plans for special features areas, management plans and corresponding annual action plans. Of equal importance are regulations pertaining protection of individual species and habitats, and protection and management of areas included in ecological network Natura 2000. Immediate nature protection is carried out by public institutions with authority in nature protection, acting at the level of counties, cities, municipalities, national parks, and nature parks.

5. RESULTS: NPE PRINCIPLES AND RELATED SUBPRINCIPLES ASSOCIATED TO GENERAL AND SPECIFIC INDICATORS OF THEIR PRACTICAL APPLICATION

NPE principles and related subprinciples, associated with general and specific indicators of their practical implementation represent the backbone of proposal for integrated assessment of nature protection ethics. The extent of its application needs to be monitored in a wider time frame, if conclusions of higher level of relevance want to be

derived. About the specific order of priorities that are practically tangent in selected protected area, should be judged based on following estimates: 1. Level of importance of particular issues in relation to previously identified strategic management objectives; 2. Urgency of action in regard with the type of problem threatening to jeopardize particular protected area; 3. Level of irreversibility of the status of nature that is potentially or actually deteriorated (World Conservation Strategy, 1980; Guidelines on Wilderness and Natura 2000, 2013).

NPE assessment is a complex and responsible process in which performance, quality, appropriateness, feasibility, and effectiveness of selected management system and its implementation is closely examined in complete, logically structured and consistent manner. NPE assessment affirms full implementation of fundamental objectives of nature protection, appropriately taking into account related social context. Since dealing with qualitative assessment which is expressed in simple quantitative terms, application of this methodology assumes kind of revision of the status and definition of the problem. But it also assumes initiative to design solutions based on specific comparative advantages of selected management system. The assessment should be carried out in an engaged responsible consultative process that brings together representatives of all relevant social groups, and follows proposed set of principles/sub-principles and associated indicators, within immediate context of particular protected area management. Here follows the proposed NPE assessment framework:

NPE Principle 1. *ECOLOGICAL INTEGRITY, STABILITY, CONTINUITY – Maintaining Ecological Processes and Systems in Accordance with the Highest Possible Environmental Standards*

NPE Subprinciple 1.1. Maintaining Integrity and Stability of Ecosystems

General indicators	<ul style="list-style-type: none"> • Full functionality of all environmental services • Monitoring carrying capacity of the space and direct application of related findings in managing visitors and presenting natural phenomena • Functional system of regular space monitoring and environmental stability assessment • Ensuring conditions of undisturbed circulation of nutrients within ecosystems • Assessment and ensuring full viability of selected populations of flora and fauna • Stimulating and monitoring natural process of plant fertilization and insemination • Ensuring continual expert support • Applying interdisciplinary approach • Preventing entry and spread of invasive species, followed by continual monitoring • Consistent implementation of the highest environmental standards
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Special indicators	<ul style="list-style-type: none"> • Sustainable management of valuable habitats and SACs (Special Area Reserve) • Maintaining forest ecosystems • Water protection and stable water regime maintenance • Sustainable management of natural water retentions • Preservation of geological heritage • Protection and maintenance of stable populations of quality species of native and/or domesticated animals and plants • Establishing functional and efficient system of fire control and fire fighting • Traffic and transportation functionally adjusted according to applied nature protection regime
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NPE Subprinciple 1.2. Caring for the Soil

General indicators	<ul style="list-style-type: none"> • Systematic fighting against erosion • Improving productivity of selected types of soils • Promoting long-term soil sustainability • Monitoring availability and disbursement of financial resources available for projects of soil protection and soil productivity improvement
Special indicators	<ul style="list-style-type: none"> • Control and prevention of sedimentation in rivers and creeks • Implementing in situ soil protection projects • Prevention of soil pollution and contamination

NPE Subprinciple 1.3. Controlling Emissions of Pollutants and Contaminants in the Environment

General indicators	<ul style="list-style-type: none"> • Risk evaluation and monitoring environmental pollution/contamination • Availability and transparency of environmental monitoring documentation • Promoting use of ozone and environment friendly substances • Raising public awareness • Promoting public involvement and education
Special indicators	<ul style="list-style-type: none"> • Implementation of short-term and long-term prevention pollution programs • Comparative analysis of relevant good practice examples • Implementation, monitoring and evaluation of remedial measures

NPE Subprinciple 1.4. Dealing with the Climate Change (CC) Consequences

General indicators	<ul style="list-style-type: none"> • Joining relevant CC programs on international/regional/national level • Implementing activities of education and raising public awareness on CC problems • Joining and implementing thematic and problem-solving public campaigns, supporting civil environmental initiatives and projects
Special indicators	<ul style="list-style-type: none"> • Implementing in-situ projects of mitigating consequences of CC • Projects and activities encouraging renewable energy resources use • Halting forest destruction/reduction by activities of reforestation and/or planting protective belts of lawns and trees as a protection from wind/evaporation/erosion

	<ul style="list-style-type: none"> • Encouraging sustainable agriculture • Strategically combating forest fires • Preventing unsustainable use of fresh water reserves • Preventing various forms of fertile soil degradation and loss
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NPE Subprinciple 1.5. Rational Planning and High Quality Management

General indicators	<ul style="list-style-type: none"> • Monitoring, evaluation and improvement of management plans and its implementation • Cooperation and constructive critical analysis • Harmonization of management activities • Regular consistent reporting • Transparent efficiency assessment • Accuracy and timeliness in implementation of individual phases of management plans • Involving all relevant stakeholders and integrating their concerns in management plans • Knowledge of broader political context and continual lobbying for nature protection system development • Gathering data and implementing practical expertise and good practices • Research planning and efficient integration/use of scientific results • Applying precautionary principle and consistent law enforcement, including punishing law violations
Special indicators	<ul style="list-style-type: none"> • Knowing and monitoring carrying capacity of the protected area • Knowing ecological footprint

NPE Principle 2. DIVERSITY – Conserving Biological, Genetic, and Landscape Diversity, Fostering Cultural and Social Heritage

NPE Subprinciple 2.1. Preserving Wildlife and Habitats: In-situ and Ex-situ Conservation

General indicators	<ul style="list-style-type: none"> • Functional protection system of selected natural area • Clear practical guidelines available for long-term conservation and protection of the area • Promoting biodiversity conservation and sustainable development • Integrating issues of degraded ecosystems and populations of endangered species restoration within sectoral and national development plans • Prevention and control of releasing genetically modified organisms into the environment • Enabling conditions of permanent biodiversity preservation and sustainable use of its components • Needs assessment for certain species, habitats, habitat types, and ecosystems sustenance • Inventorying and providing detailed updated descriptions of species and habitats status
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	<ul style="list-style-type: none"> • Designing strategy for future management of species and habitats
Special indicators	<ul style="list-style-type: none"> • Implementing special measures for protecting various biodiversity components • Planning recovery and implementation of appropriate conservation measures

NPE Subprinciple 2.2. Preservation of Landscape Diversity

General indicators	<ul style="list-style-type: none"> • Detailed landscape national inventory available • Existing system of landscape classification • Landscapes assessment and monitoring • Inter-sectoral cooperation • Clear system of jurisdiction
Special indicators	<ul style="list-style-type: none"> • Strengthening human capacities • Strengthening financial capacities

NPE Subprinciple 2.3. Preservation of Historical, Cultural, and Social Heritage within Context of Nature Protection

General indicators	<ul style="list-style-type: none"> • Knowing, valuing and practical use of traditional knowledge on how to manage natural resources • Collecting, organizing, storing, presenting, and interpreting artifacts and documents about traditional activities of natural resources management • Tuning presentation and interpretation of historical artifacts and documents in accordance to contemporary context which prioritize consistent application of sustainability principles • Exchange of know-hows and technical cooperation in preservation, protection, and presentation of cultural and historical heritage • Nurturing originality, authenticity, and constructive criticism • Involving local communities and general public
Special indicators	<ul style="list-style-type: none"> • Developing specific programs of preserving diversity of domesticated species, native plant varieties, and breeds • Creating collections of knowledge, artifacts, and documents about traditional activities in forestry, hunting and fishing, mineral resources use, construction, water and wind use, preserving soil quality, producing healthy crops and livestock, local community organizing, etc. • Consistent planning and implementation of diverse conservation activities • Organizing conservation workshops • Promoting traditional crafts and skills

NPE Subprinciple 2.4. Managing Areas Traditionally Used for Sustainable / Organic Farming and Animal Husbandry

General indicators	<ul style="list-style-type: none"> • Making local traditional values and traditional ways of life publicly attractive and popular • Diversifying sustainable economic activities in agriculture and animal husbandry • Environment pollution control and preventing spreading of invasive species and monocultures • Encouraging and nurturing mentality of cooperation and exchange • Engaging experts and organizations, developing joint programs and projects • Involvement in respective national and international education programs and trainings • Designing programs to involve local space users and visitors in traditional local activities • Fundraising and investing various resources in activities of local population
Special indicators	<ul style="list-style-type: none"> • Encouraging and restoring traditional forms of livestock cultivation and use • Intensive public interpretation of diverse benefits arising from sustainable management of grasslands and wetlands • Promoting sustainable ways of managing diverse forest resources • Encouraging appropriate projects of traditional building activities with the use of traditional construction materials and methods • Promoting sustainable use of meadow plants • Creating botanical, entomological, and other kinds of thematic collections and exhibitions

NPE Subprinciple 2.5. Collection, Storage, and Long-Term Protection of Genetic Material

General indicators	<ul style="list-style-type: none"> • Preventing further loss of genetic resources and genetic diversity • Strategic planning in preserving genetic diversity, especially valuable cultivated plant species, cultivated and domesticated species of animals and their wild originals, and other socio-economically and culturally important species of plants and animals • Cooperation and exchange with professionals and scientific institutions • Cooperation with civil initiatives • Public involvement • Regional, cross-border and international legitimacy, relevance, and support
Special indicators	<ul style="list-style-type: none"> • Organizing museums and other kinds of exhibition areas • Installing nurseries, collections of seeds, experimental breeding plots, ex situ collections of plant and animal material • Implementing conservation, restoration, and reforestation activities in situ and ex situ • Preservation of as many as possible varieties of crops, useful plants and tree species, domestic and wild animals, microorganisms, etc. • Collecting, organizing and presenting traditional and contemporary knowledge on efficient long-term management of certain species, habitats, and ecosystems

NPE Principle 3. SUSTAINABILITY - Planning, Management, and Sustainable Use of Available Resources

NPE Subprinciple 3.1. PROTECTION vs. USE - Sustainable Resource Management

General indicators	<ul style="list-style-type: none"> • Transparent process of planning and management • Functional cooperation between all relevant stakeholders • Partnership and involvement of public and environmental organizations • Harmonious cooperation with sectors of agriculture, forestry, water management, and tourism • Stimulating environmentally positive social processes • Estimating capacities for full functionality and productivity of individual species, habitats, natural resources and ecosystems, and permanent efforts undertaken not to exceed these capacities • Ensuring overall ecological stability of natural areas, ecosystems, species, and habitats • Controlling access of visitors and other space users, controlling activities which can jeopardize ecological stability and full function of environmental services • Quality spatial zoning • Local community capacity building for nature protection and sustainable use of natural resources • Designing viable alternatives of using all commercially valuable natural resources and environmental services • Balanced implementation of prevention and protection measures
Special indicators	<ul style="list-style-type: none"> • Creating inventories • Education and training programs available for local people • Strict control of trade and economic activities related to valuable natural resources • Applying “green” accounting

NPE Subprinciple 3.2. Spatial and Other Planning of Valuable Natural Areas

General indicators	<ul style="list-style-type: none"> • Adopting and implementing spatial plan for the area of special purpose • Monitoring status of selected nature components • Permanent cooperation and exchange of views and arguments among experts, professionals, representatives of local communities, and other stakeholders • Consistent monitoring of relevant economic, political, and social tendencies • Involving public • Horizontal and vertical integration of planned activities • Functional networking of stakeholders
Special indicators	<ul style="list-style-type: none"> • Spatial and other management plans elaborated in details • Long-term sustainability of expected results • Flexibility in implementation and adaptability according to direct circumstances • Availability of alternative possibilities and solutions

NPE Subprinciple 3.3. Sustainable Use of Space and Resources

General indicators	<ul style="list-style-type: none"> • Knowing the carrying capacity of selected areas • Routing visitors in order not to exceed carrying capacity of natural area • Existing system of permanent environmental monitoring and reversing damage • Educating, awareness raising, and tracking space users • Cooperation and involvement of local communities • Reshaping unsustainable practices into practically applicable forms of long-term environmental sustainability • Sustainable conservation and utilization of forest, grassland, and other natural resources • Developing visitor's system
Special indicators	<ul style="list-style-type: none"> • Monitoring status of sustainability and viability of endangered, vulnerable, typical, endemic and indicator species, populations of plants, animals and habitats • Integrating traditional life determinants in protected area within framework of nature protection system • Applying system of compensations for estimated realistic damage - tax breaks, transportation benefits, ability to perform certain income generating activities, easier access to education and employment, speeding up the process of obtaining building permits, increased market competitiveness, etc. • Prevention and control of poaching, illicit fishing, intensive collecting of plant material, intentional degradation of geological resources, and environmental quality, illicit trade of natural products, etc. • Maintaining and improving infrastructure for visitors

NPE Subprinciple 3.4. Promoting Principles of Organic Agriculture, Health and Long-Term Environmental Sustainability

General indicators	<ul style="list-style-type: none"> • Promoting principles of organic cultivation of agricultural plants and livestock • Public presentation of good practices which raise standard, conditions, and quality of local life • Local population capacity building • Evaluating health and personal satisfaction of local people, evaluating standards, quality and perspectives of their life style
Special indicators	<ul style="list-style-type: none"> • Finding reasonable ways to perform appropriate income generating activities • Organizing fairs, exhibitions and similar thematic gatherings, meetings, and platforms to exchange knowledge and experiences • Developing thematic workshops for visitors • Evaluating, presenting, and interpreting different aspects of local life i.e. traditional construction and housing, practicing hygiene and sanitation, sexuality, motherhood and parenthood, marriage and child rearing, feeding and maintenance of good health and physical strength, organizing social life, caring for elderly and infirm, practicing various social roles, art and spirituality, waste management, basic economic principles, enrichment and impoverishment, personal and social progression or regression, etc.

NPE Subprinciple 3.5. Sustainable Management of Financial and Other Material Resources

General indicators	<ul style="list-style-type: none"> • Consistent implementation of activities strategically planned • Consistent monitoring and reporting • Accuracy and timelines • Applying principles of healthy economy, rationality, and responsibility • Financial sustainability and diversification of funding
Special indicators	<ul style="list-style-type: none"> • Fundraising • Project(s) planning and implementation • Close monitoring and evaluating project(s) implementation

NPE Principle 4. Legality of Overall Work and Particular Activities

General indicators	<ul style="list-style-type: none"> • Consistent implementation of strategic and action planning documents • Taking in to account the wider legal framework and harmonizing with other sectoral policies • Functional high level quality and efficiency of inter-sectoral cooperation • Consistent involvement of all relevant stakeholders • Broad and firm social relevance • Constructive (self) criticism and active involvement in process of resolving various legal shortcomings • Monitoring the process of adjustment and improvement of relevant legislation and law enforcement
Special indicators	<ul style="list-style-type: none"> • Consistent implementation of strategic and action planning documents • Taking in to account wider legal framework and harmonizing with other sectoral policies • Functional high level quality and efficiency of inter-sectoral cooperation • Consistent involvement of all relevant stakeholders • Broad and firm social relevance • Constructive (self) criticism and active involvement in process of resolving various legal shortcomings • Monitoring the process of adjustment and improvement of relevant legislation and law enforcement

NP Principle 5. ORGANIZATIONAL DEVELOPMENT

NPE Subprinciple 5.1. Raising Organizational Capacities

General indicators	<ul style="list-style-type: none"> • Encouraging employees to be actively involved in processes of strategic thinking, planning, conducting research, teaching, and providing trainings • Encouraging and fostering open and fair communication • Applying appropriate level of individualistic independence • Promoting universal human values and rights • Continuous improvement of working conditions • Nurturing relationships among colleagues and creating stimulating business surrounding • Integrating employees in processes of decision-making, evaluation, and rewarding • Encouraging innovations and creativity
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	<ul style="list-style-type: none"> Promoting cooperation and personal responsibility
Special indicators	<ul style="list-style-type: none"> Employing people Strengthening free information flow system Open, constructive and pro-active dealing with problems Offering help and support to individuals and their families in crisis

NPE Subprinciple 5.2. Corporate Social Responsibility

General indicators	<ul style="list-style-type: none"> Cooperation and partnership with local stakeholders Providing high quality service Respecting fundamental human rights of employees and stakeholders Fighting against corruption and promoting public attitude confronting corruption and crime, especially in cases of ecological crime Transparency of work and ways of doing business Affirming social problems related to climate change Implementing various “greening” programs and activities
Special indicators	<ul style="list-style-type: none"> Provisioning employees with lifelong learning and professional improvement opportunities Trying to harmonize private and professional lives of employees Promoting professional career progress of women Employing people with special needs Improving health and safety conditions of employees Use of appropriate labor standards and labor rights Organizing and performing humanitarian actions Sponsoring local sport clubs and homeland clubs Promoting energy saving and emission reduction in business premises Utilizing renewable energy sources Waste separation and recycling Rational use of working time

NPE Subprinciple 5.3. Education and Training of Employees, Customers and Local Communities

General indicators	<ul style="list-style-type: none"> Assessment of needs and a training plan Encouraging professional advancement such as sharing knowledge and experiences Being aware of contemporary management, finance, bookkeeping, and accounting trends Programs of raising public awareness and social sensitivity on selected problems of protecting and preserving natural and cultural heritage Encouraging active public involvement in finding solutions of sustainable nature protection and management Designing and implementation of thematic educational programs tailored according to specific needs of different social, age, and interest groups Cooperating with non-governmental organizations, indigenous people, and local civil initiatives
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Special indicators	<ul style="list-style-type: none"> • Studying foreign languages and improving language skills • Raising computer literacy among employees • Improving communication skills, marketing, and public presentations skills • Using surveys and questionnaires specifically structured to collect opinions, comments, and suggestions related to various problems of nature protection. • Encouraging development of small family farms and local cooperatives • Creating additional income generating and training opportunities for local people • Engaging individual representatives of local people in performing various activities directly related to protected area sustainable management
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NPE Subprinciple 5.4. Research, Professionalism, Cooperation, and Exchange

General indicators	<ul style="list-style-type: none"> • Promoting and encouraging scientific research and professional development • Engaging and involving experts of various profiles • Studying social traditions colliding with nature protection and sustainable use of nature resources • Making inventories and organizing collections of data, documents, and artifacts • Collecting, organizing, and presenting values of natural and cultural heritage
Special indicators	<ul style="list-style-type: none"> • Designing and implementing projects focused on reconstruction of degraded environmental units and disturbed ecological relationships • Applying projects of reintroducing endangered and extinct species • Organizing study tours and exchange programs

NPE Principle 6. BUILDING SOCIAL SUPPORT TO NATURE PROTECTION – Involving Public

NPE Subprinciple 6.1. Engaging Public in Nature Conservation

General indicators	<ul style="list-style-type: none"> • Transparency of doing business of nature protection, sustainable management, and resource use • Continuous constructive public discussion ongoing followed by the process of finding sustainable solutions • Open and fair communication and cooperation between all relevant social stakeholders • Nurturing social justice
Special indicators	<ul style="list-style-type: none"> • Making public sensitive about various environmental problems and nature management issues • Organizing/conducting responsible, professional, and time sensitive researches of public opinion • Providing education and training programs for public • Detecting cases of manipulating with public • Finding solutions together with other social actors such as taking into account interests of all relevant social groups

NPE Principle 7. LOCAL DEVELOPMENT – Promoting Rural Development Compliant with Nature Protection Principles

NPE Subprinciple 7.1. Valuing Nature and Sustainability of Nature's Resources

<p>General indicators</p>	<ul style="list-style-type: none"> • Being involved in development processes based on applying sustainability principles • Consistent integration of nature protection within local and wider area development processes • Encouraging sustainable ways of using all available natural and social resources • Encouraging dynamic economic development and grow consistently taking into account local conditions and characteristics • Improving life conditions for local people • Branding natural phenomenon as a fundamental aspect of local community identity • Valuing and encouraging innovation, adaptability, market competitiveness, and sustainability of life in local community • Making local specificities attractive, appealing, and popular among the public • Market branding for local products and services • Proper presentation and interpretation of meaning and importance of local (traditional) values • Encouraging diversification of income generating activities
<p>Special indicators</p>	<ul style="list-style-type: none"> • Applying system of compensations for local residents in forms (i.e. lower leasing prices for agricultural land, higher selling prices for agricultural products, etc.) • Cooperative protection of local producers rights • Cooperative provision of cheaper communal services to small family farms and small production facilities • Intensified joint activities of public promotion and marketing • Participating regional and international exhibitions and competitions as well as presenting awards and recognitions.

NPE Subprinciple 7.2. Valuing Traditional Knowledge and Skills

<p>General indicators</p>	<ul style="list-style-type: none"> • Practical activities of traditional cultural heritage preservation • Collecting, organizing, evaluating, and presenting traditional knowledge and skills
<p>Special indicators</p>	<ul style="list-style-type: none"> • Encouraging work of local museums and native societies • Reviving old traditional arts and crafts • Studying traditional agricultural activities, maintaining forest and livestock, construction, transportation, energy production and use, waste management, education, community organizing, etc.

NPE Subprinciple 7.3. Sustainable Social Development, Diversification of Economic and Income Generating Activities

General indicators	<ul style="list-style-type: none"> • Encouraging and diversifying income generating and economic activities not threatening biological/geological/landscape diversity and not causing irreversible environmental degradation • Finding new forms such as methods and ways of performing traditional activities • Enriching and modernizing services provided by local community • Use of best practices applied in region or in wider international context • Raising quality of public communication • Encouraging and nurturing culture of hospitality and respecting diversity • Promoting needs and rights of indigenous peoples
Special indicators	<ul style="list-style-type: none"> • Enriching the market of local souvenirs with modern visual identity, new materials and production methods • Enriching services of guidance, education, and presentation with new communication and visual content properly evoking local characteristics of space and people • Accommodation and food services reflecting authentic local folk tradition and history • Local community permanently investing in education and training of local people

NPE Principle 8. INVOLVEMENT AND COOPERATION - Participating in Development of Nature Protection Legislative and Institutional Framework

NPE Subprinciple 8.1. Supporting Work of International Environment and Nature Protection Conventions and EU Directives

General indicators	<ul style="list-style-type: none"> • Actively participating in process of development and improvement of legislative and institutional framework of nature conservation at regional, European, and international level
Special indicators	<ul style="list-style-type: none"> • Monitoring work of NPE relevant international conventions and involving in various thematic initiatives tackling practical problems occurring in protected area(s) • Monitoring environmental crime issues in European and national context and involving in processes of finding practical solutions for various problems in accordance to interests and responsibilities • Active membership in various international organizations and associations • Implementation of project activities gathering several partners working together • Visibility and functional integration of results arising from cooperation and use of allocated financial resources

NPE Subprinciple 8.2. Supporting National, Regional and International Programs Focused on Nature Protection and Biodiversity Conservation

General indicators	<ul style="list-style-type: none"> • Monitoring relevant working programs and initiatives • Cooperating and networking within framework of preserving biodiversity, natural and cultural heritage • Continuous improvement of knowledge and information use • Collecting and sharing experiences about opportunities to mobilize general public • Involving in programs and projects of cooperation and supporting development of nature protection legislative and institutional framework
Special indicators	<ul style="list-style-type: none"> • Active membership in national, regional and international organizations, and associations • Results of cooperation and availability of financial resources functionally integrated and visible

6. DISCUSSION

NPE is a system of principles and arguments, which supported by the appropriate indicators, reflect the level of quality and completeness of the nature protection system applied. If systematic assessment display serious lack of ethics, applied nature protection system loses its legitimacy, and it becomes necessary to take an extra effort to further reconsider it, develop it, modify it, adapt it, and improve it. It is important to emphasize here that the ethics of respective legislative/institutional framework does not necessarily imply. It should be also subjected to thorough ethical assessment.

NPE assessment system of institutional nature protection framework applied in Croatia indicates that the nature protection system is relatively well organized and supported by the appropriate legislation and institutional structure that combines and integrates the guidelines of relevant international agreements and initiatives. But routine and vagueness in practical application of NPE principles often leads to a situation of plain fulfillment of the statutory minimum resulting in uneven quality of work in public institutions, and in some cases even fundamental objectives of protected area management become neglected. We can witness examples of inappropriate development of touristic and economic activities in protected areas, only basic cooperation with the local community and mere formal public involvement. Facts that clearly point to inadequacy of the NPE applied in Croatian nature conservation are the following: Croatia does not have the system of landscape types, nor an appropriate landscape base; habitat classification system is flawed and a more detailed complete map of the habitat is needed. Also, it is necessary to have a solid assessment of possible risks and consistent monitoring followed by implementation of conservation and reconstruction measures in situ. Also, overview map of ecosystems and their services is lacking the assessment of an existing status, overview of ecosystem services quality level, and a realistic calculation of respective economic values. Complete lists and classification of vulnerability of certain

wild and domesticated species/varieties and breeds yet need to be made, as well as corresponding management plans. Beside inventory of species and habitats, it is necessary to make an inventory, evaluation and monitoring of geological diversity, and to create as well as amend relevant database (Analysis of the State of Nature in the Republic of Croatia for the period 2008-2012).

The system of institutional nature protection is therefore still under-developed and under-effective, and the system should be further perfected at all levels, including the level of ethics. The system is well based and placed but insufficiently effective, especially because of the lack of staff, adequate equipment, and infrastructure (Martinić, 2010). Cooperation between institutions having authority in nature protection is insufficient, local communities are insufficiently interested and/or involved, public insufficiently involved/educated/sensitized. Generally speaking, more intensive activities are needed, greater involvement of experts/politicians/citizens, with a consistent affirmation and nurturing of ecological social mentality. More immediate field work is needed and more proactive involvement of park staff in professional field in the work. It is necessary to set specific targets and respective timelines for their implementation more clearly. Cross-sectoral cooperation is insufficient, which particularly affirms problems arising due to inadequate cooperation between agricultural and rural development, water management, spatial planning, and energy sectors. Responsibilities of relevant institutions are not clearly defined and divided, protection of certain ecosystems is not sufficiently ensured, and management plans often do not include specific objectives and related performance indicators of implementation of particular activities. In some parks, nature protection and biodiversity conservation is carried out only with partial success and efficiency. Adequate monitoring system for monitoring state of nature is often missing, data is not updated, number of law violations is still high, it is not invested enough in educational programs and interpretation paths, there is no uniform system to collect entrance fees, etc. (Report to the Croatian Parliament on the Audit of Nature Conservation, Biodiversity Protection and the National Park Management System, 2014). The revision of the Croatian nature protection system indicates that protected areas are not managed actively enough, only small part of necessary activities are being performed, trends of situation in area are not regularly monitored, system of strategic planning and adaptive management has been developed insufficiently, cooperation with the local community has been neglected, and public involvement omitted.

The situation is not without closely related causes: unresolved property-legal relations, non-compliance between regulatory and implementation documentation, vague system of competence distribution, problematic protected areas boundaries, insufficient fire protection system, inadequate waste disposal and waste water system, etc. At the same time, we cannot ignore numerous fishing violations of the law, various cases of poaching, succession of vegetation due to land abandonment, emergence and spread of invasive species, deterioration of culturally and historically valuable sites and objects, loss of species, and habitats degradation. In many cases system of visitation is inadequate and underdeveloped. There is a clear need further strengthen human, material, and financial

resources; to develop growing social relevance of nature protection issues, permanently to raise public awareness, and to strengthen cooperation with local communities. Even in NPE context, there is a clear need comprehensively to integrate Aichi biodiversity conservation targets.

Development of institutional nature protection ethics does not imply only quality improvement of the system efficiency, but also recognition of its interdisciplinary argumentation and respective social relevance. Therefore, NPE analysis involves assessment of the nature protection system form and the content, coupled by appropriate affirmation of respective social context. In order to be sure that protected nature parks have appropriate purpose and meaning, institutional nature protection system should be able to justify its existence and activities, despite the global acceptance of the concept of protected nature surrounded by boundaries. But what happens if nature protection system is permanently inefficient? Is it ethically justified in that case to terminate and/or seriously to modify actual regime of protection? Or, it is appropriate only to retain favorable statistical image of the national territory share under some kind of protection regime? Mere existence and application of the park concept clearly warns about existing threats imposed toward integrity, stability, and diversity of particular area, together with all respective natural/social components, but also points toward solid capacity to preserve these valuable resources.

When convenience of the popular paths and vistas take precedence over the need of wildlife individual/population to approach water and food, something is seriously wrong. Then all triumphant figures of visitations cannot serve as management or strategic-planning argument. Selected comprehensive management strategy proves to be justified only in wider time frame, by consistent implementation of carefully planned activities which are clearly based on NPE principles. We do not claim that the park concept is the only efficient way to preserve nature, but the fact of successful preservation of relatively unspoiled functional units of nature is a serious indicator of social success and a high level of applied ethics.

7. CONCLUSION

From the original American enthusiasm of the late 19th century to the present days, we are witnessing a gradual numbing of ethical blade of institutional nature protection concept. Since protection of nature became property of governmental sector, since man lost his interest and respect for original wilderness and replaced it with inclination toward banality of mass and/or so-called elite tourism, when representatives of non-governmental sector crawled into comfort of formal multi-stakeholder cooperation, NPE is "drowning in debts".

Teams of experts monitoring situation in natural environmentally sensitive areas, performing inventory and mapping of species and habitats, determining carrying capacity of the space, strategically planning responsible use of space and resources, creating spatial plans and management plans for areas of special features, implementing rehabilita-

tion and reconstruction measures in degraded environment, designing educational and interpretative programs and paths to sensitize public, ensuring consistent application of sustainable development principles, and in the same time are regularly financed from the state budget, represent only small part of a fully functional institutional nature protection system. The system has evolved to the point where concrete problems of ambiguities, inconsistency, and incompleteness of the legislative and institutional framework clearly ringing alarm bells. It enters next stage of development, phase of dealing with urgent process of seeking and finding concrete answers to questions related to consistent application of sustainable development principles, active involvement of all relevant stakeholders in planning, decision making, management, and sufficient provision of adequate commitment in the field.

Consistent and harmonized application of all NPE principles is imposed in this context as a fundamental modality of action. It is not justified to ignore any of proposed NPE principles, but it is obvious, especially in Croatia, that more attention should be given to promotion and application of traditionally "less important" principles, covered within our proposal under bullets 6 - 8. Financial sustainability, high level of visitation, consistent research of environmental carrying capacity, continual development of visitation system, field research of species and habitats, permanent monitoring of situation in protected area, investments in park infrastructure maintenance and improvement, archaeological research and conservation work, consistent effort to educate and include local community and general public, appreciation of the role of public and permanent expression of interest for cooperation, presents only some of activities that make particular protected area not only a valuable natural, cultural, touristic, and social resource, but also a valuable ethical resource.

By re-affirming practical ethics in nature conservation, we are filling cavities caused by erosion of original ecological enthusiasm with a high-quality material.

REFERENCES

- Analysis of the State of Nature in the Republic of Croatia for the Period 2008-2012 (2014). Zagreb: The State Institute for Nature Protection.
- Beder, S. (2006). *Environmental Principles and Policies – An Interdisciplinary Approach*. Sidney: UNSW Press.
- Cifrić, I. (2000). Bios i ethos u bioetičkoj paradigmi [Bios and Ethos in the Bioethical Paradigm]. In: Čović, A. (ur.), *Izazovi bioetike [The Challenges of Bioethics]*. Zagreb: Pergamena, Hrvatsko filozofsko društvo. pp. 169-181.
- Collins, S. (1974). *A Different Heaven and Earth*. Valley Forge: Judson Press.
- Cultural and Spiritual Value of Biodiversity* (1999). United Nations Environment Programme, Intermediate Technology Publications 103/105. Southampton Row, London.
- Guidelines on Wilderness in Natura 2000 – Management of Terrestrial Wilderness and Wild Areas within the Natura 2000 Network* (2013). European Union.

- Kangrga, M. (2004). *Etika – Osnovni problemi i pravci* [Ethics – The Main Problems and Directions]. Zagreb: Golden marketing – Tehnička knjiga.
- Martinić, I. (2010). *Upravljanje zaštićenim područjima prirode - Planiranje, razvoj i održivost* [The Management of Protected Areas - Planning, Development and Sustainability]. Zagreb: Šumarski fakultet.
- Mathews, F. (2003). *For Love of Matter*. Albany: State University of New York Press.
- Motik, B. and Šimleša D. (2007). *Zeleni alati za zelenu revoluciju* [Green Tools for a Green Revolution]. Zagreb: Što čitaš? and ZMAG.
- Mumford, L. (1934). *Technics and Civilization*. London: Secker and Warburg.
- Næss, A. (1973). *The Shallow and the Deep, Long-Range Ecology Movement*. Sessions 1995:151-155.
- Report on the State of the Environment in the Republic of Croatia (2014). Zagreb: Croatian Environmental Protection Agency.
- Report to the Croatian Parliament on the Audit of Nature Conservation, Biodiversity Protection and the National Park Management System (2014). Zagreb: Državni ured za reviziju RH.
- Rolston, H. (1975). *Is There an Ecological Ethic?* *Ethics*, 85:93-109.
- Routley, R. (1973). *Is There a Need for a New, an Environmental Ethic?* *Proceedings of the 15th World congress of Philosophy*, 1:205-210.
- Routley, R. and Routley, V. (1980). *Human Chauvinism and Environmental Ethics*. In: Mannison, D., McRobbie, M. A. and Routley, R. (eds.), *Environmental Philosophy*. Canberra: Australian National University, Research School of Social Sciences. pp. 96-189.
- Stanford Encyclopedia of Philosophy: *Environmental Ethics*. URL: <http://plato.stanford.edu/entries/ethics-environmental/> (October 2016)
- Stone, C. D. (1972). *Should Trees Have Standing?* *Southern California Law Review*, 45:450-501.
- World Conservation Strategy: Living Resource Conservation for Sustainable Development* (1980). IUCN-UNEP-WWF, FAO and UNESCO.

ETIKA INSTITUCIONALNE ZAŠTITE PRIRODE: PRIJEDLOG CJELOVITE PROCJENE ETIČNOSTI SUSTAVA ZAŠTIĆENIH PODRUČJA U HRVATSKOJ

Dalia Matijević

Sažetak

Cilj je ovog rada oblikovati cjeloviti, društveno relevantan sustav etike zaštite prirode (EZP) koji omogućuje vjerodostojnu procjenu kakvoće sustava i metodologije zaštite prirode, posebice institucionalnog sustava zaštite prirode u Hrvatskoj. U tu svrhu razvili smo sustavan niz načela i podnačela etike zaštite prirode (EZP) s pripadajućim općim i posebnim pokazateljima njihove praktične primjene. Grupirani su u problemske okvire očuvanja ekološke cjelovitosti, stabilnosti i kontinuiteta, raznolikosti, održivosti, zakonitosti, organizacijskog razvoja, gradnje društvene podrške, lokalnog razvoja, te uključenosti javnosti i suradnje s relevantnim društvenim podsustavima.

Zaštita prirode u Hrvatskoj dobro je pravno i institucionalno uređena, no ipak nedovoljno vjerodostojna i učinkovita. Rad javnih ustanova neujednačene je kakvoće, uz primjere zanemarivanja temeljnih ciljeva upravljanja zaštićenim dijelovima prirode te samo načelnu suradnju s lokalnim zajednicama i uključivanje javnosti.

Ključne riječi: *etika zaštite prirode (EZP), EZP načela, EZP pokazatelji, ekološka cjelovitost, ekološka stabilnost, održivo upravljanje prirodnim resursima*

DIE ETHIK DES INSTITUTIONALEN NATURSCHUTZES: EIN VORSCHLAG DER GANZHEITLICHEN BEURTEILUNG DER ETHISCHEN ASPEKT DES SYSTEMS VON NATURSCHUTZBEREICHEN IN KROATIEN

Dalia Matijević

Zusammenfassung

Das Ziel der vorliegenden Arbeit ist, ein ganzheitliches gesellschaftlich relevantes System der Ethik des Naturschutzes zu erstellen, das eine glaubwürdige Beurteilung der Qualität des Systems und der Methodologie des Naturschutzes ermöglicht, insbesondere des institutionalen Systems des Naturschutzes in Kroatien. Zu diesem Zweck haben wir eine systematische Reihe von Prinzipien und Subprinzipien der Ethik des Naturschutzes mit dazugehörigen allgemeinen und besonderen Indikatoren und deren praktischen Anwendung entwickelt. Sie wurden in Problemrahmen der Bewahrung der ökologischen Ganzheitlichkeit, der Stabilität und Kontinuität, der Diversität, der Nachhaltigkeit, der Gesetzmäßigkeit, der Organisationsentwicklung, der Erstellung der gesellschaftlichen Unterstützung, der lokalen Entwicklung, sowie der Einschluss der Öffentlichkeit und der Zusammenarbeit mit relevanten gesellschaftlichen Subsystemen gruppiert.

Der Naturschutz ist in Kroatien rechtlich und institutional gut geregelt, aber doch unzureichend glaubwürdig und effizient. Die Arbeit der öffentlichen Dienste ist in ihrer Qualität ungleichmäßig, es gibt Beispiele von Vernachlässigung der Grundziele des Umgangs mit der geschützten Natur, die Zusammenarbeit mit den lokalen Gemeinschaften und der Einschluss der Öffentlichkeit sind manchmal nur deklarativ.

Schlüsselwörter: *Ethik des Naturschutzes, Prinzipien der Ethik des Naturschutzes, Indikatoren der Ethik des Naturschutzes, ökologische Ganzheitlichkeit, ökologische Stabilität, nachhaltiger Umgang mit Naturressourcen*