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SOCIO-ECONOMIC BENEFIT ASSESSMENT STUDY OF THE NATURA 2000 NETWORK

SUMMARY OF THE FINAL REPORT



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PURPOSE AND OBJECT OF THE EVALUATION

Natura 2000 is an integrated European ecological network of special **areas** of conservation designed to enable the conservation and, where necessary, restoration to a favorable conservation status of natural habitat types and habitats of various species in their natural range.¹ In the areas of this network, it must be guaranteed that the ecological value that led to their inclusion in the Natura 2000 network will not be impaired.

The total area of Natura 2000 sites identified in Lithuania currently covers about 9,650 km² or about 13% of the country's territory (excluding maritime areas)². The Natura 2000 network in Lithuania is undergoing further expansion.

In order to ensure adequate protection of Natura 2000 sites, these sites are subject to certain restrictions on economic activities. Furthermore, the owners of farm and forest lands in Natura 2000 sites have an obligation to actively contribute to maintaining their conservation status. Therefore, in some cases, **the prevailing public opinion is that the socio-economic impact of Natura 2000 sites is negative**. However, the results of various foreign studies show that **the Natura 2000 ecological network generates a variety of direct and indirect socio-economic benefits for both local people and businesses, as well as for society at large**. It has been observed that these benefits in many cases outweigh and surpass the losses caused by certain restrictions on economic activity in Natura 2000 sites.

Therefore, **in order to assess the balance of costs and benefits of Natura 2000 network areas in Lithuania, it was decided to conduct this "Socio-Economic Benefit Assessment Study of the Natura 2000 Network" (the Study)**. The aim of the Study was to develop a methodology for assessing the benefits and costs of maintaining Natura 2000 sites adapted to the Lithuanian context, defining indicators relevant to the Lithuanian context, reflecting the benefits and costs of Natura 2000 sites, their data sources and assessment methods that could be used in the future, in order to re-evaluate the benefits created by Lithuanian Natura 2000 sites and the costs necessary for their maintenance. Using the developed methodology, the net annual benefits currently generated by Lithuanian Natura 2000 sites (after eliminating the costs required for the maintenance of Natura 2000 sites) were also assessed during the preparation of the Study.

During the preparation of the Study, **the territories of the Natura 2000 network located in the territory of the Republic of Lithuania (except for the Baltic Sea and the Curonian Lagoon) were analyzed**. The socio-economic benefits and costs generated by the Study in Natura 2000 sites were analyzed **in comparison with the counterfactual situation where natural areas do not exist at all in the Natura 2000 sites (i.e. with a "no policy" scenario)**.

METHODOLOGY

The Study was based on the **theoretical approach of ecosystem services**, combining it with the **model of total economic value**. While combining these theoretical concepts, it was stated that existing Natura 2000 sites in Lithuania create certain ecosystem services, but these ecosystem services create socio-economic value for society only when they are directly (consumable value) or indirectly (non-consumable value) consumed by the society. The costs of maintaining and adapting ecosystem services to the needs of public consumption were considered to reflect the costs of maintaining Natura 2000 sites.

¹ <http://www.natura2000info.lt/lt/apie-natura-2000/natura2000-tinklas.html>

² Natura 2000 Priority Action Programs (BAPs) for implementation in Lithuania under Article 8 of Council Directive 92/43 / EEC on the conservation of natural habitats and of wild fauna and flora (Habitats Directive) 2021–2027. Project for the period of the multiannual financial framework, 21 February 2019

Based on the aforementioned theoretical approaches, firstly, the ecosystem services that are relevant in the Lithuanian context were singled out, this list was reviewed by assessing which of these singled out ecosystem services are relevant in Lithuanian Natura 2000 sites and actually used by the society, thus preparing a list of benefit-reflective indicators of Natura 2000 sites assessed in the Study. The aforementioned list has been further updated to **eliminate indicators invoking a potential risk of double-counting**. In addition to these indicators, which reflect the benefits of Natura 2000 sites, **indicators reflecting the costs required for the maintenance of these areas were singled out**. Finally, the Study analyzed the following list of indicators:

INDICATORS REFLECTING THE BENEFITS OF LITHUANIAN NATURA 2000 SITES

- Consumption value of products and services provided in Natura 2000 sites;
- Use value of mushrooms and berries collected in Natura 2000 areas;
- Consumption value of amateur fishermen and hunters;
- Consumption value of drinking water quality;
- Visitor value;
- Indirect consumption value of soil erosion control;
- Indirect consumption value of carbon sequestration;
- Indirect value in use for regulating the water cycle and maintaining the stability of the hydrological regime;
- The inherent non-usable value of preserving natural objects for future generations and preserving natural objects.

INDICATORS REPRESENTING THE COSTS REQUIRED FOR THE MAINTENANCE OF LITHUANIAN NATURA 2000 SITES

- Costs of State Service for Protected Areas and the directorates of protected areas for protection / monitoring / management / maintenance of Natura 2000 sites;
- Loss of income of forest and agricultural land owners due to restrictions in Natura 2000 areas.

Based on these indicators, the net benefits of Natura 2000 sites have been assessed following a **methodological approach to cost-benefit analysis**. Pursuant to this approach, the value of each of the above indicators was monetized to determine the annual estimate of the indicator, expressed in euros, collecting data primarily through a **representative survey of the Lithuanian population, survey of selected visitors to protected areas, surveys of protected area directorates, analysis of various primary and secondary sources and interviews**. Subsequently, based on the principles of the cost-benefit analysis method, the values of these individual indicators were summarized in an overall assessment of the benefits and costs of Natura 2000 sites. Also, the values obtained for both the estimates of the overall socio-economic benefits and costs and the estimates of the individual indicators were standardized, converted to values per 1 ha.

MAIN RESULTS OF THE EVALUATION

The obtained results of the study show that the **total socio-economic benefits of Natura 2000 sites (before cost elimination) are equal to EUR 193,702,708 and 2.18 times exceed the socio-economic costs for maintaining the Natura 2000 network (annual value - EUR 88,671,741)**. The **net benefit generated by Natura 2000 sites (excluding total costs from the total benefits) is equal to EUR 105,010,967**.

It has also been found that the **most annual benefits of Natura 2000 sites are generated by the non-consumable value of Natura 2000 sites**. More detailed data on the total values and standardized values per 1 ha for the individual indicators is provided in the tables in Annexes 1, 2 and 3.

ANNEX 1. COMMON AND STANDARDIZED ANNUAL ESTIMATES OF INDICATORS OF SOCIO-ECONOMIC BENEFITS OF NATURA 2000 SITES

TABLE 1. SOCIO-ECONOMIC BENEFIT COMPONENTS AND TOTAL SOCIO-ECONOMIC BENEFIT VALUE (BEFORE ELIMINATION OF COSTS)

Indicator name	Total annual value determined, EUR	Standardized value per 1 ha, EUR	Area covered by a standardized value per 1 ha, EUR
Consumption value of products and services provided in Natura 2000 sites	6,251,337	6.48	The whole Natura 2000 area
Use value of mushrooms and berries collected in Natura 2000 sites	7,619,038	14.94	Forests in the Natura 2000 area
Consumption value of amateur fishermen	804,161	11.77	Water bodies in the Natura 2000 area
Consumption value of amateur hunters	1,020,936	1.58	Natura 2000 area with hunting area units
Consumption value of drinking water quality	34,024,262	279.84	Municipalities with wells in a Natura 2000 area in proportion to their service area
Visitor value	30,344,808	31.45	The whole Natura 2000 area
Indirect consumption value of soil erosion control	16,447,607	31.34	Forests in the area of Natura 2000
		27.88	Meadows in the area of Natura 2000
		13.15	Peatlands in the area of Natura 2000
Indirect consumption value of carbon sequestration	26,209,619	87.85	Mineral soil forests in Natura 2000 area
		-69.72	Peatlands in Natura 2000 area
Indirect use value for water cycle regulation and maintenance of hydrological regime stability	2,059,000	159.14	Forests in the Natura 2000 area falling within 0.1% and a higher risk area for snowmelt and torrential flooding
		196.92	Peatlands with a forest cover in the Natura 2000 area, falling into the 0.1 per cent. and a higher risk area for snowmelt and torrential flooding
The inherent non-usable value of preserving natural objects for future generations and preserving natural objects	68,921,940	71.43	The whole Natura 2000 area
Total annual value of socio-economic benefits (before cost elimination)	193,702,708	200.75	The whole Natura 2000 area

Source: Compiled by BGI Consulting

ANNEX 2. COMMON AND STANDARDIZED ANNUAL ESTIMATES OF INDICATORS OF SOCIO-ECONOMIC COSTS OF NATURA 2000 SITES

TABLE 2. SOCIO-ECONOMIC COST COMPONENTS AND TOTAL SOCIO-ECONOMIC COST VALUE

Indicator name	Total annual value determined, EUR	Standardized value per 1 ha, EUR	Area covered by a standardized value per 1 ha, EUR
Costs of State Service for Protected Areas and the directorates of protected areas for protection / monitoring / management / maintenance of Natura 2000 sites	10,106,237	10.47	The whole Natura 2000 area
Loss of income of forest and agricultural land owners due to restrictions in Natura 2000 areas	78,585,504	70.92	Arable land in Natura 2000 sites
		91.93	Natural and semi-natural meadows in Natura 2000 areas
		484.62	Forest in Natura 2000 sites where restriction I applies
		231.86	Forest in Natura 2000 sites where restriction II applies
		10.46	Forest in Natura 2000 sites where restriction III applies
		53.44	Forest in Natura 2000 sites where restriction IV applies
Total annual value of socio-economic costs	88,691,741	91.92	The whole Natura 2000 area

Source: Compiled by BGI Consulting

ANNEX 3. TOTAL ANNUAL SOCIO-ECONOMIC BENEFITS, COSTS AND NET BENEFITS OF NATURA 2000 SITES (AFTER ELIMINATION OF COSTS)

TABLE 3. TOTAL ANNUAL VALUE OF SOCIO-ECONOMIC BENEFITS (AFTER ELIMINATION OF COSTS)

Component	Total annual value determined, EUR
Total annual value of socio-economic benefits (before cost elimination)	193,702,708
Total annual value of socio-economic costs	88,691,741
Total annual value of socio-economic benefits (after elimination of costs)	105,010,967

Source: Compiled by BGI Consulting