
WORLD HERITAGE NOMINATION – IUCN TECHNICAL EVALUATION

CURONIAN SPIT (LITHUANIA / RUSSIAN FEDERATION)

1. DOCUMENTATION

- (i) **WCMC Data sheet:** (3 references)
- (ii) **Additional literature consulted:** **Inscription of Curonian Spit National Park on the World Heritage List**, International Conference, Lithuania, May 1998. **Draft Global Overview of Geologically Significant Protected Areas on the World Heritage List**, IUCN, Dingwall, P. and Marsh, J. 1999. **Global Overview of Wetland and Marine Protected Areas on the World Heritage List**. IUCN, Thorsell, J., Levy R. F. and Sigaty, T. 1997. **Mires Process, Exploitation, and Conservation**, Wiley & Sons, Heathwaite, A.L., 1995. **Aeolian Sand and Sand Dunes**, Unwin Hyman, Pye, K. and Tsour, H., 1990. **Coastal Dynamics and Landforms**, Clarendon Press, Trenhaile, A.S., 1997. **Coastal Lagoons**, Cambridge Press, Barnes, R.S.K. **Coastal Dunes**, African Wildlife, Rickard, C. **Important Bird Areas in Europe**, Cambridge Press, Heath, M.F., Evans, M. I. Eds., 2000. **Important Wetlands in Lithuania**, Ompo Vilnius, Svazas, S. et al., 1999. **Bird Migration Ecology at University of Lund, Sweden**, Website, Dept of Animal Ecology, University of Lund, Sweden, 2000. **Bird Migration – Environment Lithuania**, Website, 2000. **Midcontinental Shorebird Migration**, Website, U.S. Geological Survey, 2000.
- (iii) **Consultations:** 12 external reviewers. Relevant officials from Russian Federation and Lithuanian parks agencies and local municipalities. Local interest groups.
- (iv) **Field Visit:** Peter Shadie, Henry Cleere (ICOMOS), May 2000.

2. SUMMARY OF NATURAL VALUES

The Curonian Spit is a narrow sandy peninsula, which separates the eastern shore of the Baltic Sea from the Curonian Lagoon, and stretches in a narrow (0.4 to 3.8 km in width), slightly concave arc for 98 kms. The nominated site spans the borders of two countries: Lithuania and the Russian Federation and has been jointly submitted. It has been submitted on the basis of both cultural and natural criteria and has been the subject of a joint inspection by IUCN and ICOMOS.

The nominated site comprises two protected areas: to the south Kurshskaja Kosa National Park in Russia, established 1987; to the north Kursiu Nerija National Park in Lithuania, established 1991. These two reserves total an area of 33,021 ha comprising a terrestrial area of 16,321 and aquatic areas covering part of the Curonian Lagoon: (4,200 ha) and the Baltic Sea (12,500).

The Curonian Spit displays Quaternary geomorphological features representing different stages in the formation of the Baltic Sea and is one of the largest accumulative forms of the Baltic relief. It remains an area of active and on-going coastal geomorphological processes and is dominated by linear dune formations derived from aeolian and coastal processes which are up to 60 metres in height and extend for more than 70 kms.

The Spit contains a mosaic of coastal, lagoon and dune environments including lagoon and shallow margins habitat, Baltic Sea coastal dune front, mobile parabolic dune systems, freshwater inland lakes, and a variety of vegetation communities (pine and spruce forest; alder, birch and oak woods; mires; meadowlands; reeds, bulrush, sedges and water lilies). Forests cover over 70% of the site and 74% of these are dominated by introduced *Pinus spp.* subject to active forest management. 5% of the area contains pre 18th century virgin forest. There are 700 species of flowering plants and ferns; 20 species of lichens; 40 species of mosses; and 300 mushroom species.

The site contains a number of plant and animal species listed as rare on the Red Data Books of Lithuania and Russia, a small number of which are also listed as globally threatened. A small number of endemic plants are

noted. The vertebrate fauna consists of 338 species including 251 species of birds and 35 mammal species including elk, European roe deer, wildboar, fox, wood marten, stoat, badger, beaver, and lynx.

One of the significant aspects of the Spit is its geographical position and orientation (north-east to south-west) which creates a directing line for bird migrations between north-eastern Russia, Finland and eastern Baltic countries and central southern European overwintering destinations. The Spit is part of the East Atlantic Flyway and an estimated 10 – 20 million birds fly over the site and lagoon in spring and fall. Most of the annual bird migration is made up of passerines although 6-7% of the total Western Palearctic population of Velvet Scoter and 3% of the total north-western European population of Goosanders overwinter in the area around the Curonian Spit.

3. COMPARISON WITH OTHER AREAS

Although there are no sites on the World Heritage Convention listed specifically for their coastal geomorphology there are many sites listed which include significant coastal features. 26 World Heritage sites are noted as having significant coastal features of either primary or secondary nature. These include sites such as Fraser Island in Australia, Olympic National Park in the USA, Greater St Lucia Wetland Park in South Africa, Banc d'Arguin National Park in Mauritania, El Viscaïno Whale Sanctuary in Mexico, Danube Delta in Romania and Donana National Park in Spain. Several other important protected areas have been established on sand spits including Naikoon Provincial Park in BC, Canada and Farewell Spit Nature Reserve in New Zealand

The Curonian Spit is a classic sand-spit lagoonal complex. Spit or barrier and lagoon systems are common around the world being found from polar regions in wide-ranging climates and tidal ranges, and extending along some 13% of the world's total coastline. They are particularly well developed along the east coast of the USA (extending 4,500km in length) and the Gulf of Mexico (1,000km), in many inland seas of low tidal range such as the Baltic Sea, Mediterranean Sea, Black Sea and Caspian Sea and along the coasts of Africa, India, Australia and the eastern coast of South America.

The Curonian Spit is noted as being the fifth longest sand spit formation in the world. The Spit is certainly the largest accumulative coastal relief form in the Baltic Sea along side other smaller spits in the Baltic including Visla, Merzuezha Helska and Leba Spits. Although the scale of the Curonian is impressive there are a number of longer sand spit systems within the world. Along the American coastline are individual sand spit systems more than 400kms in length, while the south coast of Iceland has a spit more than 200km long and on the southern coast of Australia the state of Victoria has a spit 150km long. In some respects the Curonian Spit may be most closely compared with the 860,000 ha Fraser Island World Heritage Area in Australia. Fraser Island is the world's largest sand island at 122kms in length and 5 – 25 kms wide. The Island was listed due to its complex array of dynamic coastal dune formations and freshwater lakes which are considered exceptional in number, diversity, age and developmental stages. Fraser Island is also listed for its unique natural vegetation associated with the dune mass.

The Curonian Spit has great importance as a landbridge (directing line) for migrating birds on the East Atlantic Flyway. Whilst the East Atlantic Flyway is one of the most important bird migration routes in the world it is not the only significant international flyway. Significant bird migration routes exist in other parts of Europe and Africa, East Asia and North America. The Curonian acts as a bottleneck for large numbers of birds (mostly passerines), however, other areas of the Baltic also experience high numbers of migrating birds, for example Falsterbo and Ottenby on the island of Oland in southern Sweden. Other areas which see large numbers of annual bird migrations include Gibraltar, Bosphorus, Kopa Peninsula and the Bering Strait. Of the 3,619 Important Bird Areas (IBAs) which cover 7% of Europe 6 are listed in the area of the Curonian Spit and Lagoon and of these, Nemunas Delta on the eastern side of the Curonian Lagoon, is noted as the most important bird area in Lithuania. Nemunas Delta is accordingly one of only 5 Ramsar sites in Lithuania. No IBAs are listed for the Curonian Spit area within the Russian Federation.

The nominated area is an important site for the overwintering of 4 species of internationally important waterbirds. However, areas in the immediate vicinity including the lagoon and delta are noted as more important overwintering sites (Kursiu Marios Lagoon – 12 species and Nemunas Delta Regional Park 14 species).

An additional comparison may be made with the 10,000 sq. km Wadden Sea situated between Germany, Denmark, and the Netherlands and regarded as one of the most important wetlands in western and central

Europe. The Wadden Sea contains 450 kms of tidal mudflats, sandbars, saltmarshes, and tidal channels including the barrier islands and is the largest sedimentary coastal area in Europe. It has been estimated that the area acts as a breeding ground for 4,000 of the North Sea's 7,000 species of plants and animals and is of vital importance to huge numbers of birds (9 million).

4. INTEGRITY

Both the geophysical landscape and the vegetated communities of the Curonian Spit are the result of natural processes and human intervention. Most of the forested landscape and the "avant" or fore dune itself are man-made and many other coastal features are the result of human intervention. In this sense the current landscape of the Spit is only 150 years old. In 1605, 75% of the Spit was forested, however, clearing and overexploitation reduced this to just 10% forest cover by 1700. Active reforestation and dune stabilisation has restored the forest cover to 71% today. The nomination notes that the Curonian Spit has been a "proving ground for introduction of species where over 60 species of woody plants stand the test for survival and stability for more than 100 years".

There are 9 small settlements found throughout the site with a total resident population of 4,200. This number swells in the summer months as the Curonian Spit attracts up to 1.8 million locals and tourists annually. Potential conflicts between municipal and tourism development needs and the needs of the National Park need to be acknowledged and managed.

Boundaries for the site appear adequate although the marine extensions seem to be in place simply as buffer zones rather than for reasons relating to marine and aquatic natural values. Both countries have afforded the highest standard of legal protection for the area. Management plans are in place with consistent zoning provided for. Transfrontier co-operation could be improved to ensure consistent management objectives and standards operate across national borders. Adequate levels of resourcing are being applied to the management of the reserves although there exist integrity concerns regarding declining budgets and the mix of expertise within the Russian sector of the Spit. Integrated interpretations and educational facilities and services are being developed within both sectors of the Spit.

In general IUCN believes that the integrity issues within the Operational Guidelines are adequately addressed. Nevertheless there are a number of issues which could be improved:

- Need for improved transfrontier co-operation and sharing of skills. A formal management committee mechanism (perhaps similar to the Pyrénées - Mont Perdu model between Spain and France) needs to be established to cement co-operation and sharing of expertise between parks agencies, municipal authorities, bird researchers and local communities. In addition a memorandum of understanding and single integrated management plan should be developed between the two countries.
- Need to secure stable resourcing for national park management particularly in the Russian sector of the Spit which seems dependent on income from forestry products.
- Need to broaden skills of park staff. This is particularly the case within the Russian sector which needs to access expertise beyond forestry only.
- Need to research biodiversity values of marine extension zones and implement appropriate management policies.
- Need to anticipate increasing levels of tourism and plan for this. The area has enormous potential for nature based, cultural and ecotourism development. Ferry only access to the site from Klaipeda is an important control mechanism for limiting visitation. The impacts on the Spit of building of a bridge to replace the ferry should be carefully considered.
- Need to review existing zoning system to better protect virgin forests and manage ornithological scientific activities.

5. ADDITIONAL COMMENTS

Whilst the issue of the site's listing as a cultural landscape is primarily one for ICOMOS, IUCN would offer the following comments:

IUCN believes the Curonian Spit is a cultural landscape which demonstrates interaction between humans and the environment. Ethnographic evidence of 13th Century Curonian people; changes in occupation over time;

archaeological evidence of inundated fishing villages (13 villages buried in wind blown sand after deforestation); continuing traditional fishing activity; historic built structures; and contemporary development (tourism and recreation) attest to this on-going interrelationship. The site's current geomorphology and natural values are a result of the combination of natural processes and human intervention over the past 150 years.

The tragic consequences of 17th and 18th Century forest clearing and resultant action to revegetate the dunes provide an early example of humankind beginning to understand and appreciate their dependence on the natural environment.

The establishment of the world's first ornithological station, Rossitten Ornithological Station in 1901, is also a significant demonstration of early scientific inquiry into the natural world and the science of ornithology.

IUCN would therefore support the listing of the Curonian Spit as a cultural landscape. The site clearly has very important natural values which are integral to maintaining the values of the site as a product of the combined works of nature and man.

6. APPLICATION OF WORLD HERITAGE NATURAL CRITERIA

The Curonian Spit has been nominated under all four natural criteria.

Criterion (i): Earth's history and geological features

The nomination establishes a case for the regional significance of the Spit as a geomorphic feature and example of on-going geomorphic processes. The Curonian Spit is clearly the most impressive spit in the Baltic region. At the global level similar spits are found elsewhere and 13% of the world's coastline consists of this type of landform feature. The size of the Curonian Spit as the 5th longest in the world does not, in itself, argue outstanding universal value. The Curonian Spit is a modified landscape, strongly influenced by human intervention and so cannot be considered to represent natural unhindered coastal accumulative processes.

IUCN considers that the Curonian Spit nomination does not meet this criterion.

Criterion (ii): Ecological processes

The Curonian Spit contains a relatively diverse assemblage of fauna and flora which result from the mosaic of communities and environments established through human intervention. 74% of the forested landscape is artificial plantation and only 5% pre 18th Century virgin forest remains. The nomination acknowledges the role of the Spit as a testing ground for introductions of plant species. As a result of the low degree of naturalness the site does not demonstrate outstanding universal value under this criterion.

IUCN considers that the Curonian Spit nomination does not meet this criterion.

Criterion (iii): Superlative natural phenomena or natural beauty and aesthetic importance

There is no doubt that the Curonian Spit is an area of great beauty and impressive dimensions. The area possesses a scenically attractive mix of sea, land and lagoon landscapes and seascapes interspersed with settlements and cultural features. Such environments are not, however, unique within the world given the area of coastline where such features occur. Again the current landscape results from a relatively recent combination natural processes and human intervention and the Spit cannot be considered to be a product of nature alone.

IUCN considers that the Curonian Spit nomination does not meet this criterion.

Criterion (iv): Biodiversity and threatened species

The Curonian Spit provides habitat for a number of threatened or rare species. Some of these species have a northern and some of them an eastern or southern distribution, however, in general they do not represent endemics with a distribution limited to the nominated area. Many of these species are threatened regionally or nationally but few are threatened at the global level. There are no key species or ecosystems that depend solely

on the Curonian for their survival.

The Spit is shown to be a very important part of the annual migration route of many birds and one of the important areas connecting north-western parts of Russia, Finland, Estonia, Latvia and Lithuania with central and southern Europe. The Spit and Lagoon are also an important coastal wintering site for birds. There is also a long history of ornithological research on the Spit. The site operates as a transit site for birds although many do use it as a stopover. A number of other areas within this general area of the Baltic have similar or possibly higher value for biodiversity conservation than the Curonian Spit. The Curonian Lagoon is the largest and most typical of the Baltic and, with its shallow depths, high nutrient levels and reed-bed margins, has high conservation in its entirety. Similarly the Nemunas Delta is a Ramsar site noted as the most important bird area in Lithuania due to its diversity of habitats and value to birdlife.

IUCN considers that the Curonian Spit nomination does not meet this criterion.

7. RECOMMENDATION

IUCN informed the Bureau that the Curonian Spit is an important site at the European scale and very significant within the Baltic Region as a whole. However, it was not considered to meet the criteria for inscription onto the World Heritage List as a natural property. The Bureau decided not to recommend inscription under natural criteria.

Concerning the site as a possible cultural landscape, IUCN informed the Bureau that the integrity of the site's natural values needs to be addressed, particularly in the areas of improved transfrontier co-operation, as well as better planning for increased tourism and securing sustainable resources.

The Bureau commended the State Parties for the co-operation they have achieved to date in improving the conservation of the site.