Statement of Outstanding Universal Value

High Coast/Kvarken Archipelago

SWEDEN-FINLAND (Ref. 898 rev)

Brief synthesis

The High Coast in Sweden and the Kvarken Archipelago in Finland are situated on opposite sides of the Gulf of Bothnia in the northern part of the Baltic Sea. This vast area of 346,434 ha (of which about 100,700 ha is terrestrial) is where high meets low: the High Coast's hilly scenery with high islands, steep shores, smooth cliffs, and deep inlets is a complete contrast to the Kvarken Archipelago with its thousands of low-lying islands, shallow bays, moraine ridges and massive boulder fields. This part of the world has experienced several Ice Ages during the last 2-3 million years and has been under the centre of the continental ice sheet a number of times. Present land uplift started when the ice began to melt about 18,000 years ago and the earth's crust was gradually released from the weight of the ice.
The landscape of the High Coast/Kvarken Archipelago today is mainly the result of the last Ice Age and the impact of the sea and the succession of vegetation. After the last glaciation the land has elevated a total of 800 metres, with the highest uplift in the world after the last Ice Age recorded here. For the past 10,500 years the land has been rising at around 0.9m/century, a phenomenon that can be observed in a human lifetime and this is expected to continue. Continual elevation of the land results in the emergence of new islands and distinctive glacial landforms, while inlets become progressively cut off from the sea, transforming them into estuaries and ultimately lakes.

The Baltic Sea has undergone dramatic changes since the last Ice Age, including a series of transitions from marine to freshwater to brackish and a subsequent change in plant and animal life. This serial transnational site serves as an outstanding example of the continuity of this change with dynamic ongoing geological processes forming the land- and seascape, including interesting interactions with biological processes and ecosystem development.

Criterion (viii): The High Coast/Kvarken Archipelago is of exceptional geological value for two main reasons. First, both areas have some of the highest rates of isostatic uplift in the world, meaning that the land has and still continues to rise in elevation following the retreat of the last inland ice sheet, with around 290m of land uplift recorded over the past 10,500 years. The uplift is ongoing and is associated with major changes in the water bodies in post glacial times. This phenomenon was first recognized and studied here, making the property a key area for understanding the processes of crustal response to the melting of the continental ice sheet. Second, the Kvarken Archipelago with its 5,600 islands and surrounding sea possesses a distinctive array of glacial depositional formations, such as De Geer moraines, which add to the variety of glacial land- and seascape features in the region. It is a global exceptional and diverse area for studying moraine archipelagos. The High Coast and the Kvarken Archipelago represent complementary examples of post-glacial uplifting landscapes.

Integrity

The boundaries of this serial property comprise the areas with the most outstanding geological and geomorphological attributes of the site. The boundaries of the High Coast in Sweden encompasses the principal area of national conservation interest, extending inland to include the full zonation of uplifted land and some of the highest shoreline, while excluding areas under large-scale forestry management. Seaward, the boundary incorporates key offshore islands and marine areas that are a logical extension of the topographic continuum of uplifted land surface, thus taking account of ongoing geological processes.

The Kvarken Archipelago in Finland includes two separate areas of land and sea. Only the most superlative geological terrestrial formations and formations lying in the shallow sea are included as well as the majority of the moraine features. While the geological boundaries of the property do not coincide with legal or administrative boundaries, the science behind their selection is justified.

Note that about 71 % of the property is sea. In the High Coast the sea is quite deep (as much as 293 metres), while in the Kvarken Archipelago the sea is very shallow (with mean depth less than 10 metres). Underwater geological formations have not been widely affected by erosion or processes such as colonization by vegetation or human activity. For the terrestrial portion, however, several large-scale development projects have been noted as issues which could affect the integrity of the property. While there is a small resident human population in the property (around 4,500 in the HC and 2,500 in the KA), people are engaged in small-scale traditional farming, forestry and fishing, all of which have negligible impact on geological values.

Protection and management requirements

In both Sweden and Finland World Heritage management issues are dealt with at regional level, by established bodies with representatives from authorities, municipalities and local stakeholders. The relevant regional authorities and municipalities in Sweden and Finland have established a transnational consultative body, mainly to ensure that all three core areas of this serial transnational site have a joint management strategy for the property as a whole.

There is no particular legislation that protects directly the outstanding universal values of the High Coast/Kvarken Archipelago, but the general environmental national legislation gives a satisfactory indirect protection of the entire property. About 37% of the property is either nature reserve or national park, and the site also belongs to the Natura 2000 European network of protected areas. All these different kinds of protected areas have regulations restricting land use, which provide a good level of protection to geological formations, as well as to flora and fauna. The remaining parts, about 63 % of the property, don´t have the same level of protection but the national legislation gives possibilities for safeguarding the integrity of the property. Furthermore, the High Coast is a landscape of national interest, which gives the recreational and nature conservation values of the property additional legal protection and serves as guidance for societal development. In the Kvarken Archipelago a regional land use plan protects its outstanding universal value, as well as recognizes geological values in the zone between the two core areas on the Finnish side.

The effective management of the property needs to further develop an ecosystem approach that integrates the management of the protected areas with other key activities taking place on the property, such as infrastructural development of communities and industries, tourism, fishery and shipping.

Potential threats in the future are major building projects that could destroy some part of outstanding geological features of the property or have a severe impact on the visual integrity. Increasing visitor pressure and an oil or chemical spill in the sea are potential threats to the biological and cultural values. Global warming is not a threat to the land uplift phenomenon itself, as it will not affect the geological process. However, rising sea levels would influence the visible effects of land uplift in the coastal landscape, by reducing the area of new land emerging from the sea each year. Natural catastrophes, such as violent earthquakes or volcanic eruptions, are unlikely in Sweden and Finland.

All threats are addressed by implementing the national legislation, strategic planning measures and actions that aim to improve knowledge and awareness of the property values among authorities, stakeholders and the local population.