

Boliden Rönnskär biodiversity summary 2021



Inachis io (peacock butterfly), photo from Boliden Rönnskär industrial area

Contents

General information	x
Impact of activities, products and services on biodiversity	x
Habitats protected or restored	x
Red list species and national conservation list species with habitats in areas affected	x
Summary and improvements	x

1 GENERAL INFORMATION

Boliden Rönnskär is located on a headland adjacent to the Gulf of Bothnia. The industrial area was originally established in 1928. Through the years the industrial area has been enlarged by creating new land from former sea area. The industrial area is now about 150 ha of which 2/3 is artificial land (man made).

Two protected nature conservation areas are located within a distance of 10 km of the smelter:



Figure 1. Location of Boliden Rönnskär and closest nature conservation areas.

- Innerviksfjärdarna, is located ca 5 km from smelter. It is protected as a nature conservation area with a total size of 1530 ha. It is characterized by wetlands and shallow water areas that has been created by the ongoing post-glacial uplift. The area is an important location for resting migrating birds and also as a bird breeding habitat. A total number of 190 different bird species has been identified of which 80 is breeding within conservation area. Among them are several red listed species.
- Kalkstenstjärn is located 9 km from smelter. It is a small, 6,1 ha, nature conservation and Natura 2000 area. It is characterized by a special flora due to the high pH of the soil. There are red listed species such as the orchid *Calypso bulbosa* and one of extremely few Swedish locations where the rare *Rosa acicularis* (Finnrosen) can be found.



Figure 2. Finnrosen, Rosa acicularis.

As part of environmental permitting processes, the potential impact from Boldiden Rönnskär operation on conservation areas has been assessed and concluded not being significant.

2 IMPACT OF ACTIVITIES, PRODUCTS AND SERVICES ON BIODIVERSITY

Impact of smelter activities are monitored regularly:

Process related:

- Air emissions
- Water discharges
- Waste
- Ground water within industrial area

Regular environmental impact monitoring:

- Ambient air quality, PM 10
- Surface water quality of sea
- Benthic fauna in sea
- Sea sediment quality
- Fish in sea
- Surface water quality of nearby lake
- Wet and dry deposition of a number of elements in forested area. Soil water chemistry and the water chemistry in a creek is monitored as well.
- Deposition of a number of elements measured through collection of moss.

According to studies there is an impact from historical operations to sediment, water and soil in areas close to smelter. This is due to the historical emissions from Rönnskär smelter and other historical industrial and harbor activities that has been located nearby.

3 HABITATS PROTECTED OR RESTORED

There are two conservation areas within a distance of 10 km from smelter, Innerviksfjärdarna and Kalkstenstjärn. Both areas are managed by Västerbotten county administration.

About 2 km north of Rönnskär smelter restoration of former small lakes has been done. These lakes have been dried out because of the ongoing post-glacial uplift. This kind of shallow lakes are important reproduction areas for fish like pike and perch that migrate from the sea to spawn in freshwater lakes. However, they have become rare, mostly because of human activities. The restoration has been done by Skellefteå municipality and the land is owned by Boliden.

Within industrial area planted bushes and trees are maintained while cutting of lawns has been reduced. This has visibly increased the number of insects and butterflies, among them the beautiful *Inachis io* (peacock butterfly), see picture on front page.

4 RED LIST SPECIES AND NATIONAL CONSERVATION LIST SPECIES WITH HABITATS IN AFFECTED AREA

No detailed investigation has been made but several red listed species are found within industrial area or in areas close to industrial site. One example is Curlew (*Numenius arquata*) a bird classified as endangered and also the symbol for the province of Västerbotten where Boliden Rönnskär is situated.



Figure 3. Curlew (*Numenius arquata*)

2022-01-18

5 SUMMARY AND IMPROVEMENTS

Nature conservation areas:

The two nature conservation areas located within 10 km distance of Rönnskär smelter are not considered negatively impacted by industrial activities.

Boliden Rönnskär mainly focus on improvements within industrial site or closest land areas:

- Continue to investigate soil and berries within a nearby area, Näsudden, that has been affected by historical emissions.
- Continue the program for preserving and improving existing green areas within the industrial area.
- Prepare a longtime plan for land use within industrial area and pinpoint areas that can be set aside for the future and used to improve biodiversity.
- Investigate if ponds can be built to help control the flow of stormwater at the same time as improve biodiversity.