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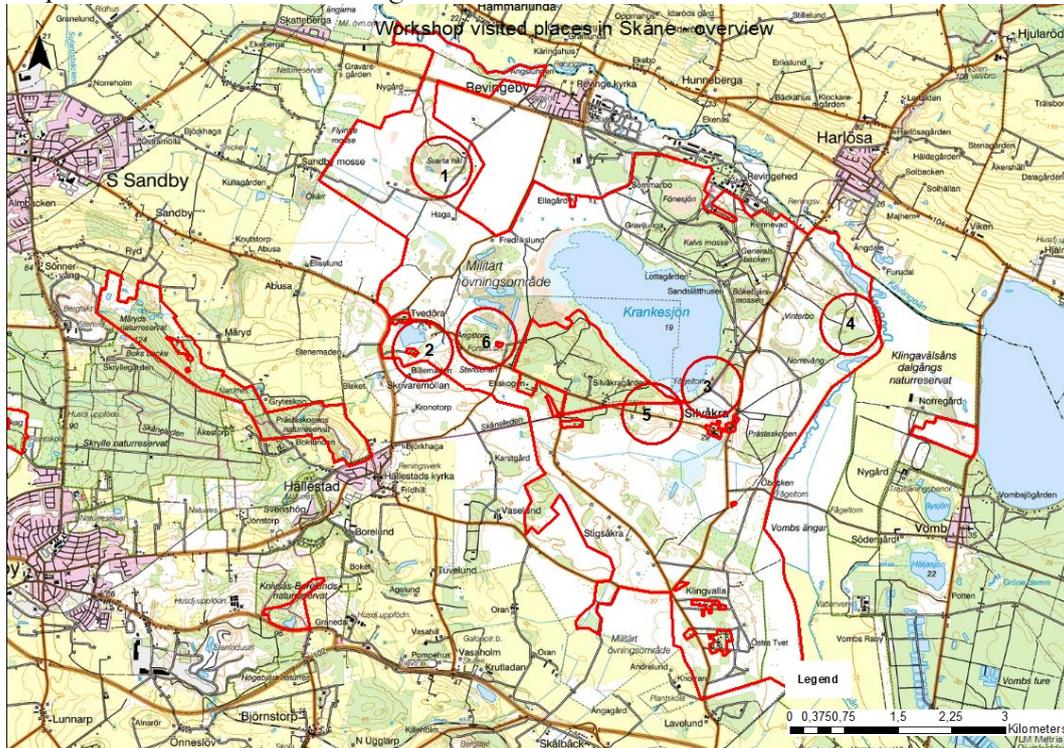
Documentation from workshop in Sweden 12th- 14^h of June 2019 SemiAquaticLife LIFE14/NAT/SE/000201

The workshop took place in Sweden at Revingefältet (1), also visiting other Natura 2000-sites such as Falsterbo skjutfält (2), Falsterbohalvön (2) and Snogeholm (3) see map below.

Map of visited sites during the workshop



Map over visited sites at Revingefältet



Overall topics that were planned to be discussed were during the workshop:

- Military activity, how to contribute to management - conflicts and benefits
- Wetland construction, design, enough of wetlands?
- Land habitat for amphibians, connecting wetlands in the area
- Management of the area e.g. grazing, mowing, burning
- Invasive species

Day one, 12th of June

The first day started with a welcome by the military and a presentation of the military field Revingefältet, history, current management and the military use of Revingefältet. After this, a short presentation was made by the County board of Skåne about Revingefältets nature values, and then we visited some relevant sites at Revingefältet.

The first place to be visited was at Svarta håll at Revingefältet (1 at the map of Revinge). This is a place where Natterjack Toad is occurring but also a place where Spadefoot Toad is probably still present but in low numbers. We were looking at ponds restored for Natterjack Toad and the Spadefoot Toad within SemiAquaticLife. One topic discussed for this place was if the ponds should be fenced to prevent military vehicles from driving through them. Neither Danish or German participants thought that any ponds should be fenced in. Some Natterjack Toad ponds are today



2019-07-12

fenced that has resulted in that they are overgrown with vegetation making them unsuitable for the Natterjack Toad. From the beginning it was planned that the fences were to be opened when the area is grazed, but this has not worked out. The ponds for spadefoot toad are fenced at all time because they are permanent with steep margins, this may be unsecure for military activities. The best management for the Natterjack Toad ponds is military vehicles driving through them. Also, the ponds for Natterjack Toad should be not more than small depressions in the ground. This means that if they are constructed in the right way they should not be a problem for the military vehicles to drive through them without risking any accidents. The pond for Spadefoot is however quite deep with steep edges. It would be best to remove any sharp slopes/edges, making it less deep if the fences are to be removed. Today it will need to be mowed every year to avoid encroachment of vegetation since the cattle don't graze it.

Picture of wetlands at Svarta hål, before and after fenced were removed



The second place that we visited is called Tvedöra (2 at map of Revinge). SemiAquaticLife has created wetlands at Tvedöra to increase the range of the Natterjack Toad at Revingefältet. Eggstrings were translocated this year from Svarta hål to Tvedöra. Toadlets of Natterjack Toads could be seen at the edge of the wetland, originating from this translocation. There were discussions if the land habitat is suited for the Natterjack Toad and it took a second visit in the night to convince that there are sandy habitats at the vicinity.

Picture of the new wetland at Tvedöra for Natterjack Toad and photo of a small Natterjack Toad found at the edge of the wetland





2019-07-12

The third place that was visited the first day in the evening was a place called Vressel. It is situated outside the Natura 2000 site Revingefältet but was visited to discuss management of Natterjack wetlands. Furthermore, the population at Vressel is in contact with the population at Revingefältet. The area is unique in the sense that it consists of freshwater meadows with an irrigation system which floods the meadows every year. The area is also grazed by cattle. This type of habitat is today not populated by Natterjack Toad in Denmark and Germany. It has been in Denmark but not anymore. It was discussed what keeps the ponds in a state that makes them suitable for Natterjack Toads. Grazing, rainfall/flooding together with sandy soils seems to provide ponds suited for Natterjack Toad breeding.

Picture of wetlands meadows with depressions where Natterjack Toads reproduce (second photo showing close-up of toadlets)



Day two, 13th of June

This day's excursion was to visit Falsterbohalvön and Falsterbo skjutfält. The purpose was to show habitats for Natterjack Toad, Green Toad and the Great Crested Newt. Also, the dragonfly *Leucorrhinia pectoralis* is found close by. Naturum Falsterbo was visited together with the bird station at Falsterbo fågelstation. Management was discussed of the sites were discussed.

At Falsterbo skjutfält wetlands were discussed and if they will function in the long term. We also observed actions in the land habitat that have been done in Sand Life that are also beneficial for the Natterjack Toad. Most of the actions had been concentrated of making open sandy patches and clearing of trees and bushes. There are still areas where some trees and bushes need to be removed (action planned in SemiAquaticLife) to create better terrestrial habitats for the Natterjack Toad. New places for more wetlands were also identified. Because of the low ground water levels many of the ponds were dry or had very little of water in them. The area is not grazed by cattle. The area is prepared for burning and bushes are removed every year manually.

2019-07-12

Pictures of Falsterbo skjutfält and Ljungen



Close by at Ljungen (east of Falsterbo skjutfält and a part of Falsterbohalvön) the Natterjack Toad was calling during the day. Ljungen is a large grazed area with very good land habitat for Natterjack Toad. The last years the grazing has been intensified and there are possibilities in the area to restore wetlands for the Natterjack Toad. When visiting Falsterbo Naturum we also visited a wetland that had been constructed here. It was made very close to the white sand dunes and held quite a lot of water compared to other wetlands visited at the same day. At Falsterbo skjutfält the similar location of wetlands would have been desirable but there is still the risk to find unexploded ammunition left in the outer sand dunes which means that no wetlands can be made there.

Picture of wetlands at Flommen and Falsterbo Naturum



At Falsterbohalvön we visited Flommen and the bird Station at Falsterbo fyr. Wetlands have been restored here in SemiAquaticLife (by removal of reeds). The invasive shrub *Rosa rugosa*, has been removed in Sandlife. We got a short presentation at the bird station about their activity and the areas biodiversity. The population of Natterjack Toads and Green Toads at Flommen have really decreased



2019-07-12

in numbers over the last 40 years. Last year there were only on Green Toads observed in the bird stations garden which is an all-time low. The area for actions at Flommen was visited and new places for wetlands were identified. This together with the improvement of the land habitat because of the removal of *R.rugosa* in recent years in Sandlife should make the toads being able to come back again. However, there are still areas where *R.rugosa* occurs and where it should be removed. Also, there are plans of improving the water quality of wetlands located at the golf course that are situated in the area.

The evening excursions went to Snogeholm (Natura 2000 sites designated for Fire-bellied Toad and European stag horn beetle). The fire-bellied toad was calling in high numbers and the remains of the stag beetles could be seen close to very large oaks. Later in the night we went to Svarta håll, that we visited the first day in daylight to listen to Natterjack Toads. Several males were seen and heard in the night fall.

Picture of a small Fire-bellied Toad and leftover from European stag beetle (where the antennas were still moving at the head of the female) that were seen at Snogeholm. The last picture is showing one Natterjack Toad at Svart håll in the night



2019-07-12

Day three, 14th of June

The last day we were back at Revingefältet. We started to visit the locality of a bird tower and a bird hide out at the eastern side of lake Krankesjön (3 at map of Revingefältet). The Municipality has been working together with the military with both nature management and actions for the outdoor life. Focus of the municipality has been to make actions for the threatened amphibians inhabiting the area (the Spadefoot Toad and the Natterjack Toad) and to make the area accessible for the public, especially the eastern side of Krankesjön, one of Sweden's best lakes for bird watching.

At place 4 on the map of Revingefältet we were looking for new places for wetlands. The land habitats are well suited for the Natterjack Toad and to the east of the military field the land is owned by SEPA for nature protection purposes. If new wetlands are created at this site, the connection between the Natterjack toads at Revingefältet with the population at Vressel will improve. There are indications of the toad already using the habitat in the area.

After that we went to have a look at the introduction of the Spadefoot Toad at one of the created wetlands (5 on the map of Revingefältet) an action in SemiAquaticLife.

Picture showing the release of Spadefoot larvae



The last place to visit at Revingefältet were some wetlands that have been created due to extraction of peat (place 6 on the map of Revingefältet). The wetlands are perfect habitat for *Leucorhina pectoralis*, and since the weather was sunny we could observe many individuals flying. Also, we had an expert on the beetles with us from Germany who was able to find *Graphoderus bilineatus*. This is the first time the species is found at this site. This means that since it is an annex 2 species in the habitat

2019-07-12

directive and one of the few findings in the continental zone in Sweden it should be designated to the Natura 2000-site Revingefältet when so is possible. Management of the wetlands was discussed and we all agreed that removal of the tallest trees at the edge of the wetland should be beneficial (mostly birch) since they shadow the habitat and vegetation which both *Graphoderus* and *Leucorhina* are dependent on and benefits from open sunny conditions. Also, the vegetation close to the wetland is an alkaline fen (7230) and it is clearly that there is a hydrological disturbance of the fen. Removal of the birches would also be beneficial for the Alkaline fen but also a hydrological investigation of the site would be of interest. There are indications that the vegetation in the alkaline fen is disturbed by hydrological changes (establishment from trees and bushes and lack of typical brown mosses).

Picture of the *Graphoderus bilineatus* that was found at Revingefältet



The workshop ended with the group picture of the those who were left at the last day of the workshop.

