

Site 21 - Eichholzniederung

21.1 Change of the site by project activities:

The site was selected as one of the reintroduction site for both toad species. Before that could start depression in the upper salt meadows were re-activated by closings drains and ditches and also new ponds were dug above the flood level of the Baltic Sea.

The drains from neighbouring arable fields were blocked in the meadow and taken to the surface as far as possible away from the lagoon and the salt meadows. So the drainage water is percolating over the surface of the meadows towards the lagoon or through small ponds. Nitrate is taken up by plants and de-nitrification is reducing the N-content in the water also.

One of the new freshwater ponds was selected for the introduction of *Apium repens*. In the experimental set-up at the site the Creeping Marshwort was planted in a fenced-off area of the pond and within the grazed area around the pond. In the first years *A. repens* within the fence was developing much better especially in dry spring when cattle were trampling heavily outside the fence. The establishment of *A. repens* was directly under the fence, where grazing kept the grass swart short without trampling, was best. The plant is flowering and producing seeds regularly. In rainy periods the plants became flooded due to high water levels in the pond. Then floating stems with small plants are growing at the surface. These stems can be torn away by cattle, were floating to a new place at the embankment and started to grow there. By this process also new areas around the pond were colonised in 2010. In 2011 the population increased further in the release pond. 8 sods (10x10 cm) of *Apium repens* were planted to the "calamita depression" in spring in order to establish a second location at that site. The plants were found again in autumn 2011.

The re-introduction of both toad species took place in the same way as at the other site (Tivoli at site 19). But in this case it seems as it failed completely for both species. In night counts only single individuals were found and no calling male was monitored. The reasons for this are not understandable.

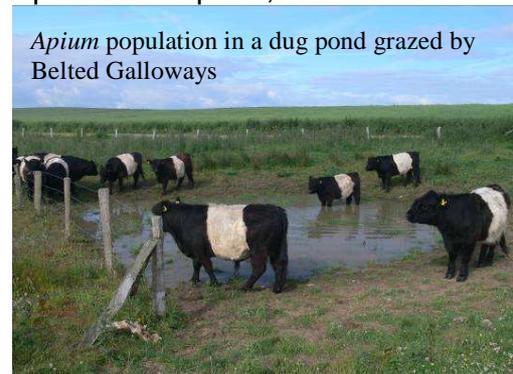
BC-21 Eichholzniederung



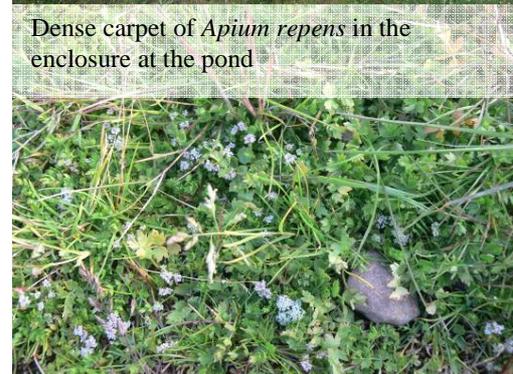
Possible reasons, which were discussed with the group of toad experts, are:

- The beaches are all stony and there are only very few areas with open sand allows easy digging into the ground for both toads. So it might be that individuals were migrating along the beach until they found better conditions at the coast. This could be e.g. east of the site where are dunes and salt meadows also in the Nature reserve "Grasswarder". But in this area are now freshwater ponds as calling and breeding ponds available, due to the regularly flooding. Higher part as upper salt meadows and dune slacks have been transformed to tourist infrastructure of Heiligenhafen long time ago.
- The beach wall and open sand and small dunes for *B. calamita* hibernation is flooded in winter 1 to 3 times in average. So the *B. calamita* might be negatively affected by that.
- Neighbouring arable fields might have attracted the *B. viridis* after release for foraging. These individuals might be killed when the fields are ploughed or fertilised. These measures had been proven meantime as very harmful and especially by ploughing all amphibians in a field are killed. Especially *B. viridis* like to forage in fields and random dispersal after release makes it very likely, that many of the released individuals of *B. viridis* were lost arable land use near the site.
- In a distance of 10 km east of the release site populations of *B. calamita* and *B. viridis* were found in 2009. These populations were not known due to lack of monitoring and found by the mitigation planning of the "Großer Belt Querung" project. It might be that released individuals migrated along the coast through perfect habitats and started to call in that grazed meadow near the bridge to Fehmarn in a flooding.

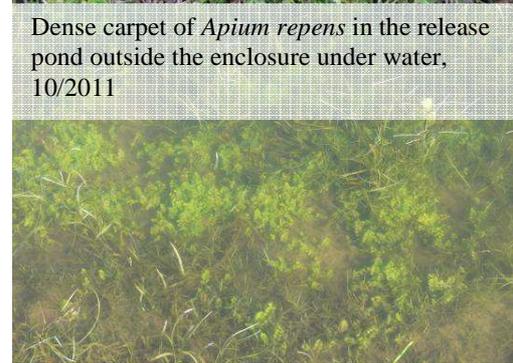
The grazing against reed was successful in some



Apium population in a dug pond grazed by Belted Galloways



Dense carpet of *Apium repens* in the enclosure at the pond



Dense carpet of *Apium repens* in the release pond outside the enclosure under water, 10/2011



Toad experts Lars Briggs, Riinu Rannap and Arne Drews inspecting "calamita depression" in 8/2007

areas already and the meadow bird community has reacted positive by an increase of breeding Redshank and Lapwing. The mowing of reed on the island increased the attractiveness for gulls and waders. Also sky lark is indicating more open meadows:

	2006	2008	2010
Lapwing	2	4	7
Redshank	1	6	8
Common gull	0	15	8
Hering gull	0	1	1
Sky lark	4	7	10
Meadow pipit	5	6	9

The snail expertise could not exactly point out the area where the rare snail *Pupilla muscorum* occurs, which even might be an own undetected species because the coastal populations seems to have a quite different ecology compared to those inland populations. The snail is known to be sensible for intensive grazing. The snail needs salt meadows, which are not too heavily grazed and can also be found in reeds on former salt meadows. It was agreed with the snail experts to graze the reeds but not aiming on a fast transformation to salt meadows. Within a slower transformation we hope to allow the survival of that rare specie within the salt meadows.

21.2 Remaining challenges and actions:

The grazing was intensified during 2010 and will increase to reduce the reed cover futher. One of the remaining aims of the project is the integration of the municipality owned areas around the Eichholz in the Northeast of the project site. To get this an offer to lease or purchase the land (with add. Funds) was given in 2010 to the municipality. Up to now there was no decision about this offer.

21.3 Public perception:

The project has been repeatedly been presented to the political boards of the municipality of Heiligenhafen. But the municipality's political parties are at odds with each other. So the political situation is very complicate and to get a political support for nature conservation from a majority is not possible at all on one hand. On the other hand the municipality own tourist information branch is supporting the nature conservation idea and is advertising nature values in the own brochures. Also nature guided tours are arranged and brochures of the LIFE-Baltcoast project and also for the former LIFE-Dry grassland project are offered by the tourist information. At the site the official management plan implementation process started with an interested public in 2011.