



Länsstyrelsen  
Skåne

SemiAquatic  
Life



# Socioeconomic effects in SemiAquatic Life



Title: Socioeconomic effects in SemiAquatic Life

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## Pre-word

his report presents socioeconomic effects provided by the actions conducted within the Life project “SemiAquatic Life - Recreating habitat complexity for semi-aquatic fauna”. The project has been running between 2016-2021 with the aim of restoring and improving the conservation status of amphibians, reptiles, and aquatic insects in Natura 2000 areas in southern Sweden (11 areas), Denmark (15 areas), and northern Germany (9 areas). The aims of the project have been to ensure viable metapopulations of species listed in Annex II-V of the EU Species and Habitats Directive, but also to increase public awareness and understanding of the need for restoration measures for semi-aquatic insects, amphibians, and reptiles.

This report shows that creating and restoring wetlands can deliver important socioeconomic effect. The results show that the project has provided alterations in the long-term management of the involved Natura 2000-areas to e.g., prevent created wetlands from unwanted succession by vegetation. Conducted actions have contributed with work hours and practical experiences among involved staff. Furthermore, the project has given rise to increased interest among the local public through excursions, information meetups and demonstrations for preschools. Created wetlands have contributed to increased nutrient retention and water holding capacity. According to the questionnaires which were completed by visitors in the two case study areas, the visitor’s main purpose with their visit was to enjoy recreation and relaxation. Thus, the actions have significantly improved these two socioeconomic effects.

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## Summary

This report presents socioeconomic effects provided by the actions conducted within the Life project “SemiAquatic Life - Recreating habitat complexity for semi-aquatic fauna”. The project has been running between 2016-2021 with the aim of restoring and improving the conservation status of amphibians, reptiles, and aquatic insects in Natura 2000 areas in southern Sweden (11 areas), Denmark (15 areas), and northern Germany (9 areas). The aims of the project have been to ensure viable metapopulations of species listed in Annex II-V of the EU Species and Habitats Directive, but also to increase public awareness and understanding of the need for restoration measures for semi-aquatic insects, amphibians, and reptiles. Within the project 243 new wetlands have been created corresponding to an area of 24.40 ha and 228 wetlands have been restored corresponding to an area of 40.02 ha. In addition to this, terrestrial habitats for herptiles have been improved by creating 109 hibernation sites and clearance of predominantly invasive bushes corresponding to an area of 376 ha. Furthermore, several information signs about the project and its target species have been placed in the project areas. Other information sources have been Webpage, Facebook page, information leaflets, excursions and an outdoor museum.

In this report the socio-economic effects provided by the project are presented. The results of questionnaires concerning visitors experience of project actions in two case study areas in Scania are also presented. These results are also presented in a similar report written in Swedish and can be provided by the County Administrative Board in Scania.

In Germany socioeconomic effects were investigated when holding frog concerts. It was investigated how far someone might travel to an excursion (how much money they put into the effort to listen to frogs) and also investigation on the reasons for donation of money for nature purposes at the concerts.

In summary, the results show that the project has provided alterations in the long-term management of the involved Natura 2000-areas to e.g., prevent created wetlands from unwanted succession by vegetation. Conducted actions have also contributed with work hours and practical experiences among involved staff. Furthermore, the project has given rise to increased interest among the local public through excursions, information meetups and demonstrations for preschools. Created wetlands have contributed to increased nutrient retention and water holding capacity. According to the questionnaires which were completed by visitors in the two case study areas Löddeåns mynning and Falsterbo skjutfält, the visitors main purpose with their visit was to enjoy recreation and relaxation. Thus, the actions have significantly improved these two socioeconomic effects.

## Background and aim

Within the Life project ”SemiAquatic Life – Recreating habitat complexity for semi-aquatic fauna” several actions have been conducted to improve the conservation status of herptiles and aquatic insects at Nature 2000-areas in Sweden (11 areas in Scania), Denmark (15 areas) and northern Germany (9 areas) (figure 1). The overall aim of the project has been to ensure viable metapopulations of species listed in Annex II-V in the Species and Habitats directive (Council Directive 92/43/EEC of 21 May 1992, on the conservation of natural habitats and of wild fauna and flora). Another goal has been to increase the understanding among stakeholders and the public for the necessary actions urgently needed for these organisms. The project was running between 2016-2021 and partly financed by EU Life Nature (Project LIFE14NAT/SE/000201).

This report summarizes the socioeconomic effects provided by the project. Socioeconomics involves effects on e.g., education and incomes, but in a broader perspective also human well-being in a society.

In this context, this report focuses on socioeconomic effects associated with maintenance of habitats, entrepreneurs, education, gained knowledge and local commitment. Restorations and construction of multiple wetlands within the project has to a large extent contributed society by reduced nutrient inputs to lakes, streams and to the sea, as well as increased water holding capacity. Subsequently, these contributions have been assessed.

Furthermore, the effects of project actions on human activities such as recreation, and the perceived importance of improved local biodiversity has been studied at to project areas in Scania (Löddeåns mynning and Falsterbo Skjutfält) by providing questionnaires to visitors. The results from these questionnaires are summarized in the report and the questionnaire was provided both in Swedish and in English (Appendix 1) for the visitors.

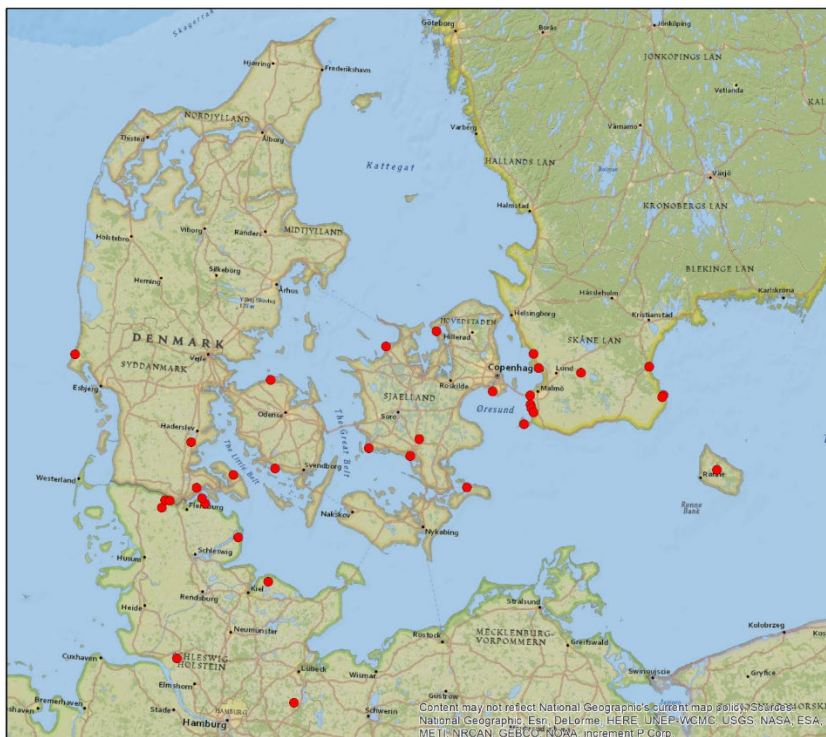


Figure 1. Location of the Nature 2000-sites in the project ”SemiAquatic Life – Recreating habitat complexity for semi-aquatic fauna”.

# Socioeconomic effects in the project

## Maintenance

In the project, several areas have been fenced to allow maintenance through grazing. One area in Sweden (Falsterbohalvön, SE0430095), one in Denmark (Næra Strand og Gyldensteen Enge, DK008x184), and two areas in Germany (Küstenstreifen West- und Nordfehmar, DE1532391 and Pülser Vieh, DE1629320). There are also other examples from Sweden where fences have been removed and maintenance been altered. At Revingefältet (SE0430113), fences have been removed at several restored wetlands to give cattle access to the wetlands and thereby preventing rapid succession. Furthermore, by removing fences this also enables military vehicles to prevent succession by their physical disturbance. At Fågelsjön (SE0430174), the Nature 2000-area has been formally increased and the action plan has been updated to ensure long term effects and subsequently prevent succession of wetlands through manual cutting of vegetation. At Löddeåns mynning (SE0430091), four wetlands were created and two of these were in pasture, but two wetlands were outside pasture and manual cutting of vegetation on a yearly basis has been conducted (wetlands number 3 and 4 in figure 6).

The result of all these actions has led to updated action plans for the Nature 2000-areas in all countries to ensure long term effects of maintenance. This is also necessary to ensure that the areas and the species in focus has fundamental conditions for reaching a good status. In addition to this, these updated action plans also contribute to preserve the wetlands and their fauna and flora and thereby the attractiveness of the areas for visitors. There are also several directives that will be better fulfilled. For example, the Water Framework Directive, the Flood Directive, and the Agenda for a sustainable and competitive European tourism.

## Excavations and clearance of vegetation

Within the project, the creation, and restorations of a vast number of wetlands as well as clearance of vegetation in surrounding terrestrial habitats have had several positive effects. In total, 238 new wetlands have been created, and 252 wetlands have been restored. In addition to this, terrestrial habitats for herptiles have been improved by creating 118 hibernation sites and clearance of predominantly invasive bushes corresponding to an area of 348 ha. All these actions have involved many entrepreneurs and consultants that have gained knowledge in the best practice for creating and restoring habitats for herptiles and insects.

## Local commitment

In line with the goal of increasing public awareness and knowledge about the rationale and importance of habitat restorations and other actions for herptiles and aquatic insects, several excursions and information meetings have been held across all countries. One such example is from Löddeåns mynning (SE0430091). Before the four new wetlands were created, the local public in the nearby village were invited to join an information meeting about the planned actions in the area, followed by an excursion at a nearby site with calling males of the spadefoot toad (figure 2). Löddeåns mynning was a site where spadefoot toad eggs and tadpoles were



released into the new ponds. Through a contact with a preschool, these young children along with the local press were invited to join the project when releasing tadpoles (figure 2). During follow-up monitoring it was noticed several times that the children visited the new wetlands. It can be assumed that these children spread the newly gained knowledge and experiences to their parents and friends.



Figure 2. To the left, pre-schoolers within walking distance were involved in releasing spadefoot toad tadpoles in a newly created wetland at Löddeåns mynning (wetland number 2, figure 6). To the right, nighttime excursion for the public including listening at calling males of spadefoot toad close to Löddeåns mynning.

Excursions for the public have been organised in all countries prior to the pandemic. The purpose of these events was to show, discuss and present actions as well as give the public the opportunity to experience some of the focus species of both herptiles and insects. Before, during, and after actions several meetings on site have been held together with landowners, stakeholders, and site managers in all countries. In the project particular focus has been to discuss and develop best practices for actions targeted at herptiles and aquatic insects on military grounds such as training fields and firing ranges. Therefore, several seminars were held, and two were also open to the public. In 2017 a field excursion open to the public was conducted in connection with a military workshop at Ravlunda skjutfält (SE0420240) in Sweden. In 2019, a similar seminar and field excursion was organized in Germany (Nordoe, DE2123301) (figure 3). Two military workshops were held, one in Denmark in 2018 (Jægerspris Skydeterræn, DK003x297) (figure 3) and one in Sweden 2019.



Figure 3. To the left, during an excursion in Germany (Nordoe, DE2123301). To the right, military workshop in Denmark (Jægerspris Skydeterræn, DK003x297).



At Falsterbo skjutfält (SE0430111) an interactive site has been put next to one of the created wetlands. This site is very close to a large Camping site with many visitors and tourists. This includes information signs about the project, and in particular funny illustrations of the life cycle of the crested newt as well as other species in the area, but also table and benches for relaxation (figure 4).

In line with the aim of increasing public awareness about the targeted species in different nature 2000-areas, an update of a book about the amphibians in Scania was made. The first edition of this book was first released in 2014 and that year was also the international “Frog year”. This book was produced by the County Administrative Board in Scania (in total 6 000 copies) and was for free and available at the two offices in Malmö and Kristianstad, but also at visitor centres at the national parks (and nature 2000-areas) in Scania at Kullaberg and Stenshuvud. The book was a success and all copies have been handed out. Apart from a description about the different amphibian species and their conservation, the book also had a description of several sites suitable for the public to visit. As a part of this project, the book was updated and printed (10 000 copies). In the book, 8 of the 11 projects sites were pointed out and described, and these sites are also often visited by tourists. Furthermore, the book also contains a chapter describing SemiAquatic Life, its sites, project aims and overall results across the countries. To some extent this book compensates for many of the cancelled excursion in Sweden during the pandemic and hopefully the project sites in Sweden will get more visitors in the future not just from Sweden but also from other countries.



Figure 4. The so-called outdoor museum at Falsterbo skjutfält (SE0430111) in Sweden, located just next to a created wetland.

## Nutrient retention and water holding capacity

The project has contributed to increased nutrient retention and water holding capacity in all countries. In Scania a total of 3.83 ha has been created and the corresponding figures for Denmark and Germany is 14.89 ha and 5.68 ha, respectively. Applying the figures from the literature for nutrient retention in south of Sweden, i.e., 200 kg of nitrogen per ha and year and 5 kg of phosphorous per ha and year gives the retention capacity per year as follows. According to the calculations, the project has generated a reduction of nitrogen by about 4 900 kg per year and about 120 kg of phosphorous. The estimated total water holding capacity of all the 238 new wetlands in the project is estimated to be around 98 000 m<sup>3</sup>.

## Case study areas in Sweden

To be able to further assess socioeconomic effects in the project, two sites in Sweden with many visitors both locally and by tourists were selected, Löddeåns mynning (SE SE0430091) and Falsterbo skjutfält (SE0430111). To get more information about public opinions about the restorations, frequency of visits and main purpose of visits at these sites, a questionnaire was provided (figure 5). The questionnaire was available both in Swedish and in English. At Löddeåns mynning it was available for nine weeks in spring/summer of 2018 and at Falsterbo skjutfält for five weeks in late summer of 2019. The questionnaire can be found in appendix 1.

In the first instructions for the application of the project it was stated that socioeconomic effects and ecosystem services provided by the project should be assessed simultaneously. Subsequently, this affected the questions in the questionnaire and the questions were not just targeted to get information for evaluation of socioeconomic effects.



Figure 5. A questionnaire was distributed at Löddeåns mynning (SE SE0430091) and Falsterbo skjutfält (SE0430111) in Sweden in order to get more information from the public about their opinion about the project and e.g., reasons for the visit.

## Description of case study areas

### Löddeåns mynning (SE0430091)

Löddeåns mynning (figure 6) is situated on the west coast of Scania and includes terrestrial habitats as well as marine environments. The terrestrial area is very variable when it comes to habitats. These habitats include sandy shores and pasture areas affected by Öresund, but also areas that are affected by groundwater and areas that are very dry on sandy soils. Some areas are not grazed, and close to Öresund dense reeds has developed and is an important nesting and resting habitat for many bird species. It is an SPA nature 2000-area. In 2017, four new permanent wetlands were created with the main purpose to be suitable for the spadefoot toad (figure 6 and 7).

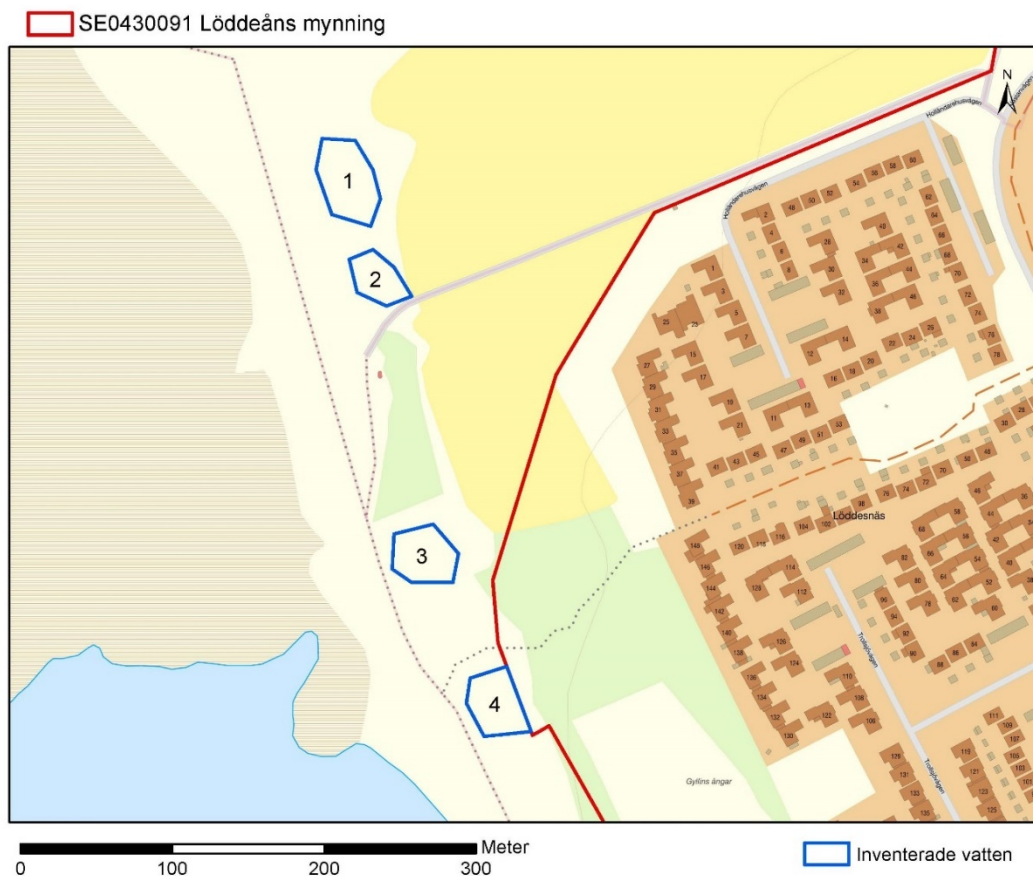


Figure 6. Map showing the four created wetlands within SemiAquatic Life at Lökdeåns mynning. The mailbox and questionnaire were put at the track just close to wetland number 2.



Figure 7. Two newly created wetlands at Lökdeåns mynning. To the left wetland number 2 and wetland number one in the background, and to the right wetland number four (see also map in figure 6).

### Falsterbo skjutfält (SE0430111)

Falsterbo skjutfält is a former military shooting ground located in the southern part of the peninsula Falsterbohalvön at the outermost southwestern part of Scania (figure 1). It includes a part of the Baltic Sea and is characterised by sandy beaches, dunes, heaths and forests (mainly birch and pine trees). Several nature 2000-habitats are present. The entire peninsula is world famous for bird migration in spring and late autumn. At Falsterbo skjutfält the rare tawny pipit (*Anthus campestris*) can be found. Today, Falsterbo skjutfält has many visitors not just during bird migration periods, but all year round. It is also located just next to a large camping site with



many international visitors. At the site there are findings of the natterjack toad, but no wetlands for breeding. The area is also within dispersal distance for the green toad. The crested newt and the yellow-spotted whiteface (*Leucorrhinia pectoralis*) dragonfly can also be found at the peninsula, but there is a lack of permanent breeding ponds at Falsterbo skjutfält.

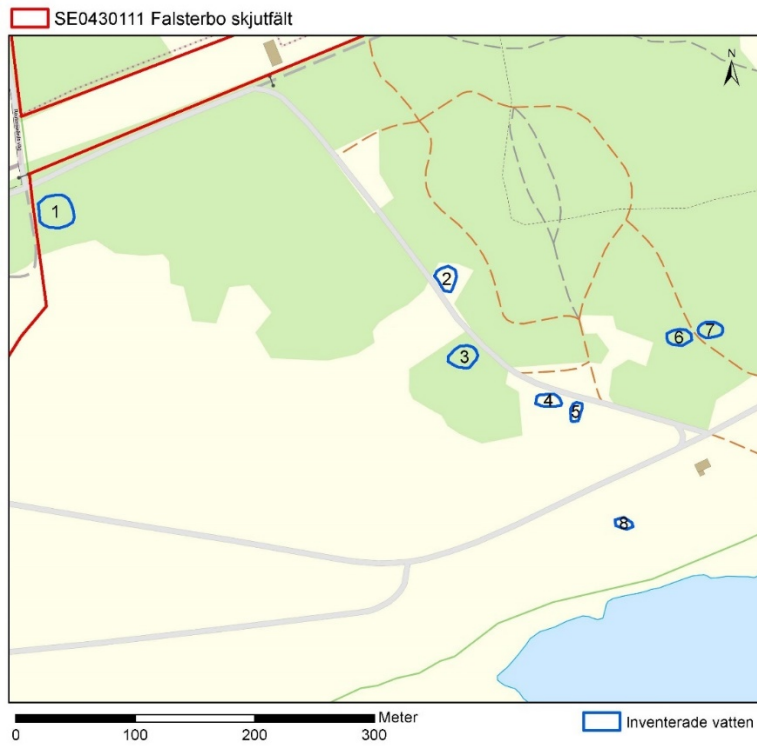


Figure 8. Created wetlands at Falsterbo skjutfält. Numbers 1, 6 and 7 are permanent ponds and the others are temporary ponds. The camping site is just northwest of the nature 2000-area.



Figure 9. The newly created wetland number 3 (see map in figure 8) at Falsterbo skjutfält.

## Results - questionnaires

A total of 154 people answered the questionnaires (104 answers at Löddeåns mynning, and 53 answers at Falsterbo skjutfält), and the average age of those people was 60 years, but the age range was between 16-86 years (figure 10).

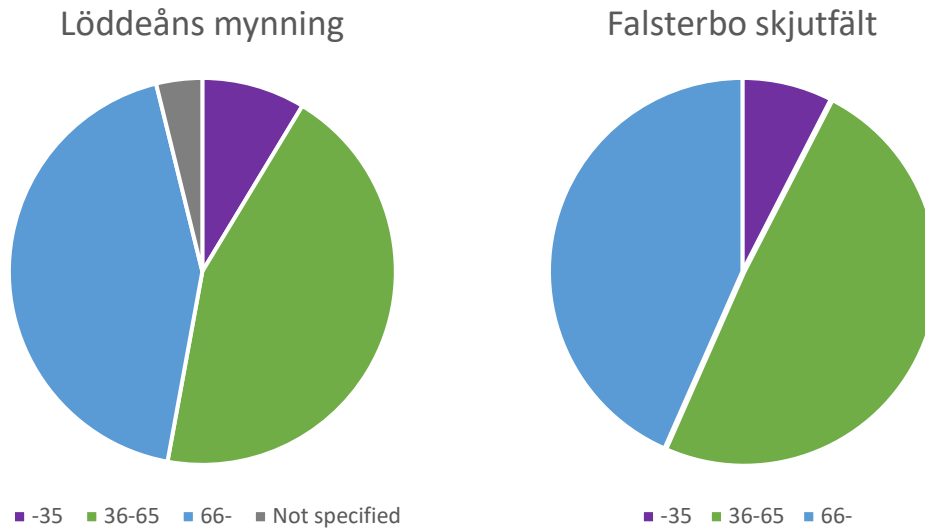


Figure 10. Age distribution of people completing the questionnaires at Löddeåns mynning and Falsterbo skjutfält, respectively.

Of the people answering the questionnaire at Löddeåns mynning, 74% were living in the village of Bjärred that is within walking distance. At Falsterbo skjutfält, 19% of the people giving answers were tourists. In both areas, the majority answered that they visited the sites on a weekly basis (42% at Löddeåns mynning and 57% at Falsterbo skjutfält) (figure 11).

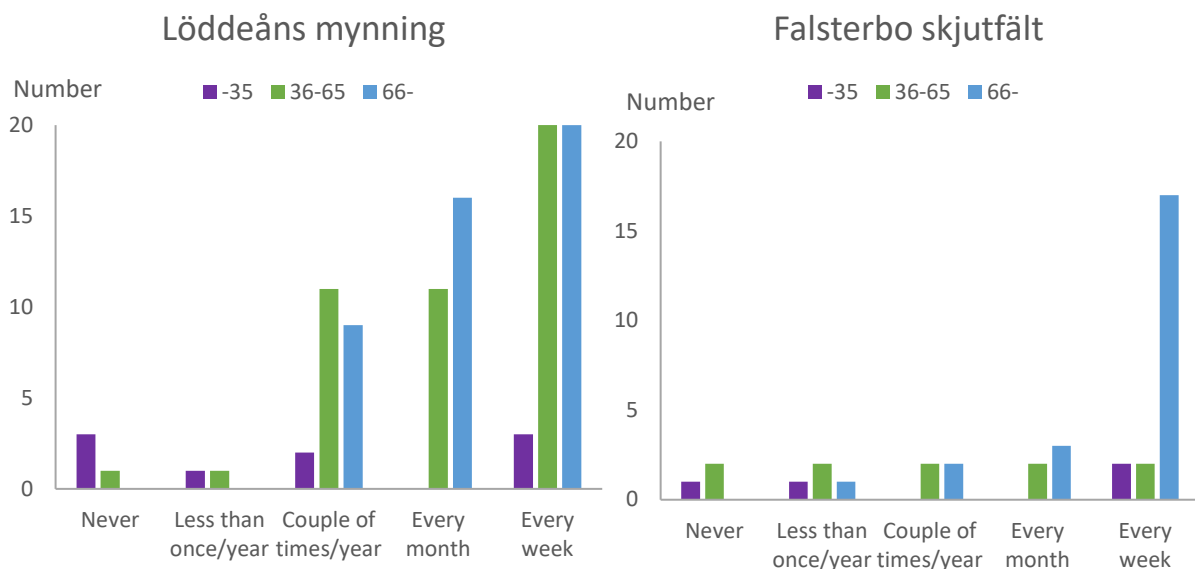


Figure 11. Frequency of visits across different age groups at the two nature 2000-areas as given in the questionnaires.

According to the answers, the main purpose of the visits was experiencing nature, relaxation and going for a walk (figures 12-15). At Löddeåns mynning, these purposes seem consistent across different age groups, but the purpose of social interactions seem to be more frequent in younger age groups (figure 13).

At Falsterbo skjutfält, the purposes for the visits differ between age groups (figure 13), with younger people (-35 years old) more prone to visit the area due to nature experiences and

relaxation than people in the older age groups. In contrast to the answers given at Löddeåns mynning, the youngest age group at Falsterbo skjutfält seem less prone to visit the area for exercise and social interactions.

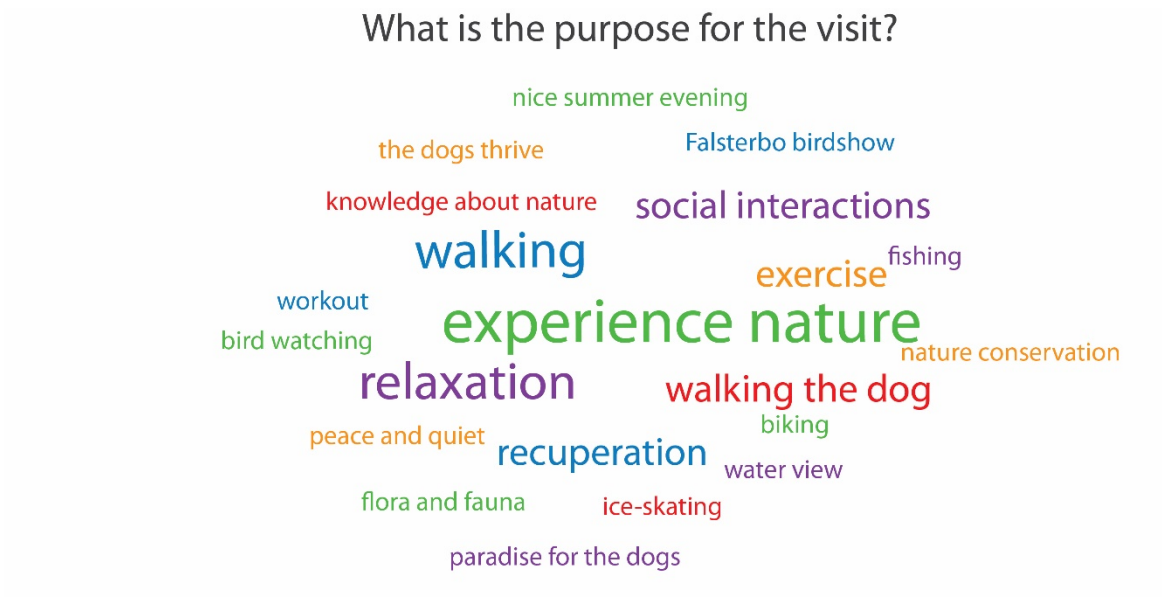


Figure 12. All reported reasons for visiting Löddeåns mynning and Falsterbo skjutfält. Character size is displayed in a manner corresponding to the number of answers given by the visitors.

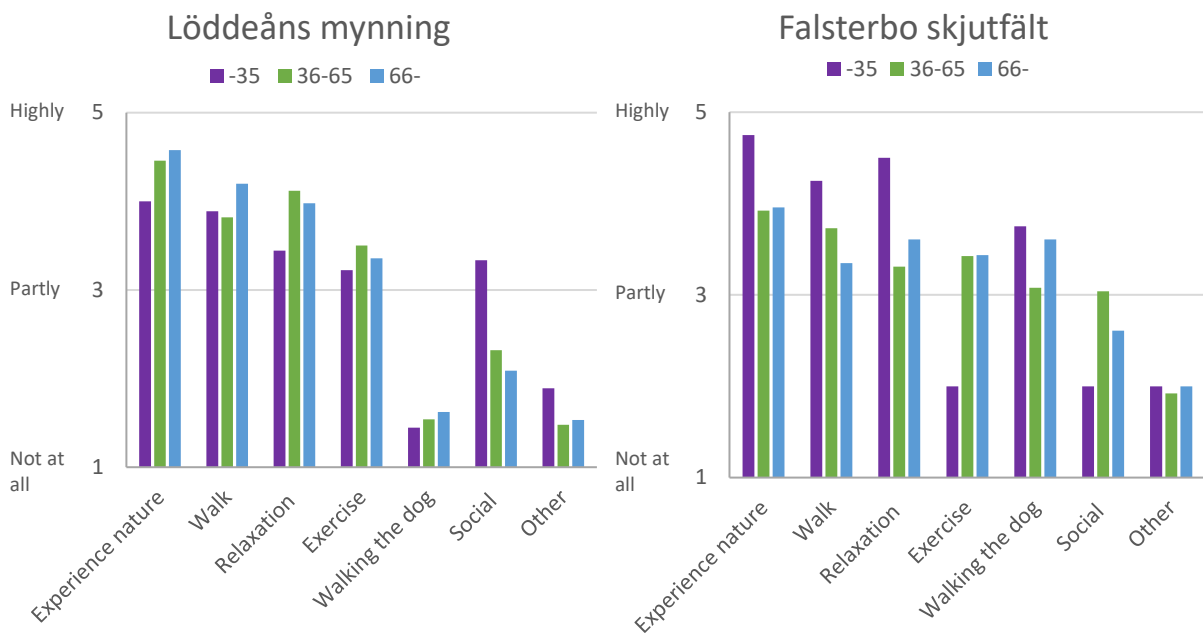


Figure 13. Graded reasons according to the answers given in the questionnaires for visiting Löddeåns mynning and Falsterbo skjutfält across different age groups.



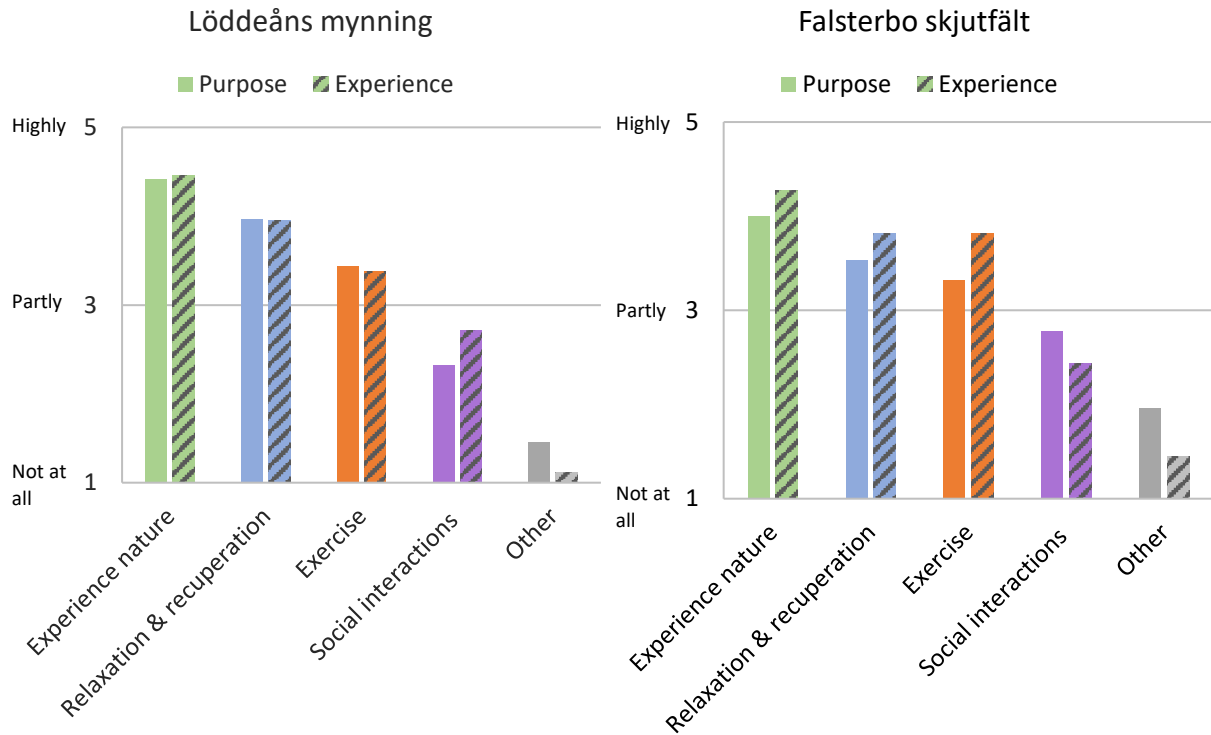


Figure 14. Graded reasons according to the answers given in the questionnaires for visiting and the actual experience of the visit at a) Löddeåns mynning and b) Falsterbo skjutfält.

Most of the visitors at two nature 2000-areas, stress that they got an experience from nature (figure 14 and 15). Furthermore, the visitors also mention that they got a good opportunity to enjoy wildlife and relaxation/recovery at the same time. At Falsterbo skjutfält, the visitors in the age groups above 35 years also state the experience of some exercise (figure 15). Overall, the visitors did not to a large extent experience significantly increased knowledge about nature and its ecosystems.

The visitors were also asked if the actions within the project had contributed to their overall experience of the visit. At both Löddeåns mynning and Falsterbo skjutfält, the majority answered that the created wetlands had improved their experience of the visit (figure 16 and 17). Finally, the visitors were also asked how important it to preserve biodiversity. The answers were consistent across age groups, and preserving biodiversity was important to most people (figure 17).

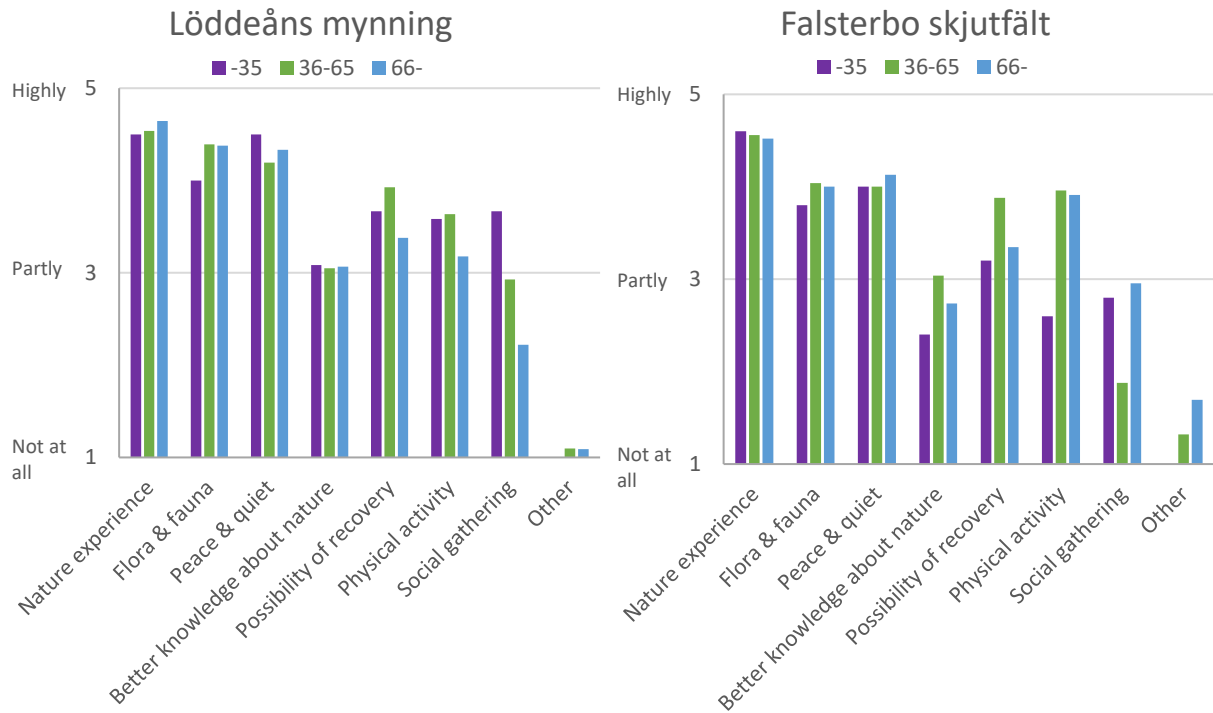


Figure 15. Graded experiences of visits across different age groups according to the answers given in the questionnaires at Löddeåns mynning and Falsterbo skjutfält.

### How has the new wetland contributed to the experience?

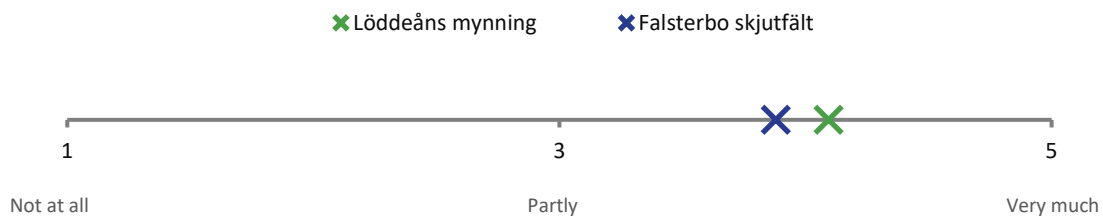


Figure 16. The visitors grading of how much the newly created wetlands have affected their overall perception of their visit at Löddeåns mynning and Falsterbo skjutfält, respectively.

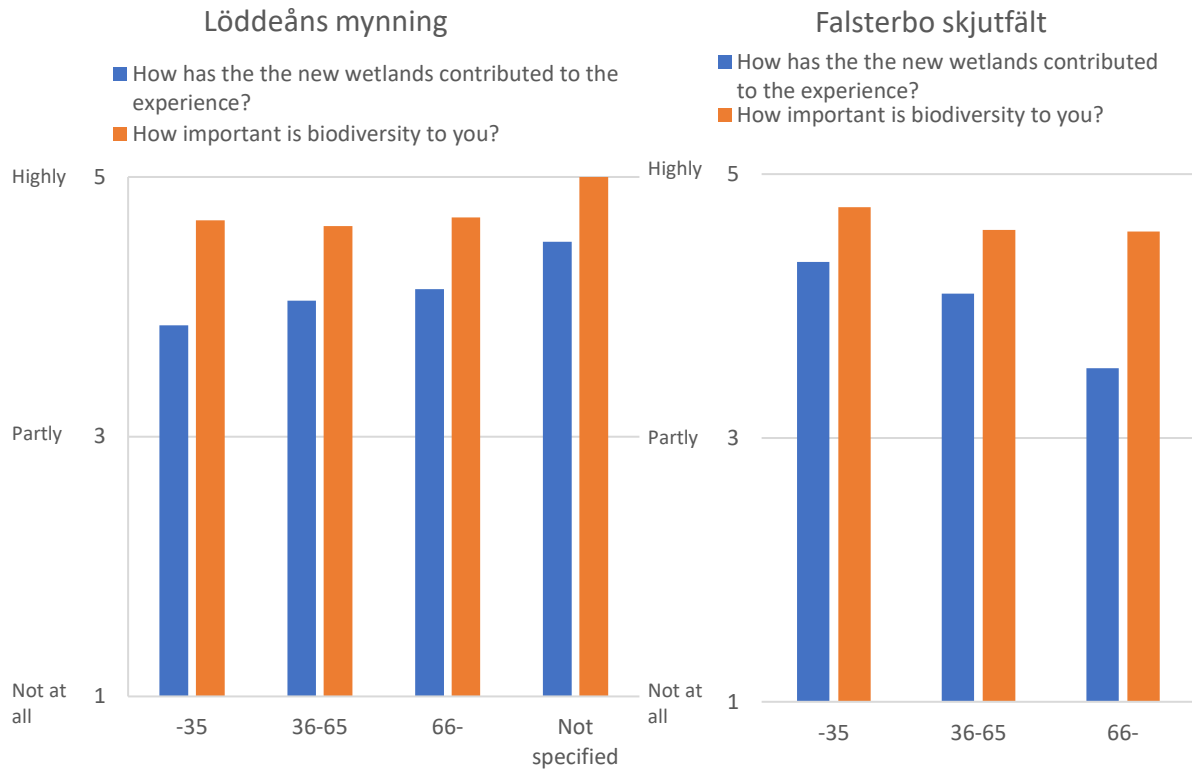


Figure 17. The importance of the actions within the project for the overall experience across different age groups of the visit at Löddeåns mynning and Falsterbo skjutfält. The graph also shows how important biodiversity is to the visitors according to the questionnaire.

## Nutrient retention

The creation of wetlands at Löddeåns mynning and Falsterbo skjutfält has also to some extent contributed to retention of nutrients. Applying the figures from the literature for nutrient retention in south of Sweden, i.e., 200 kg of nitrogen per ha and year, and 5 kg of phosphorous per ha and year gives the retention capacity per year as follows. The total wetland area at Löddeåns mynning is 0.21 ha and the estimated yearly retention is 4 kg of nitrogen and 1 kg of phosphorous. The corresponding estimates for Falsterbo skjutfält (0.1 ha) are 2 kg of nitrogen and 0.5 kg of phosphorous per year (figure 18).

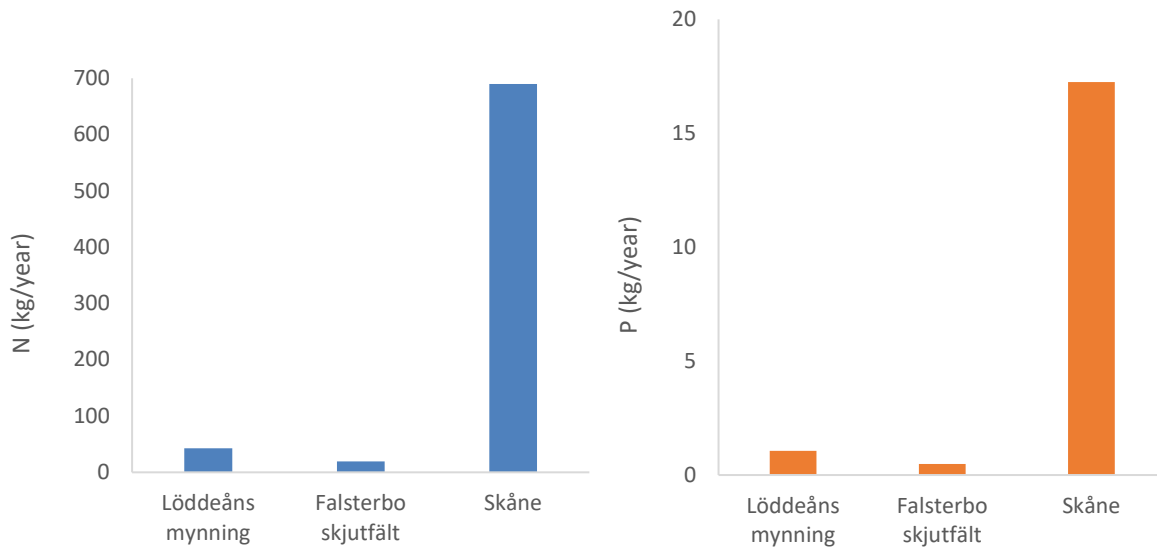


Figure 18. Estimated retention of nitrogen (left) and phosphorous (right) in the created wetlands at Löddeåns mynning, Falsterbo skjutfält and also the total retention estimated by all the wetlands creation in Scania within the project.

# Collecting socio-economic data in Germany

## Method


When the project started no idea was available how to measure socio-economic effects in a project where no permanent station was operating at the project sites. To find a method to collect data a meeting with Prof Quaas, Biodiversity economics of University of Kiel was made. In that meeting different methods were discussed with Prof. Quaas and his team. The result from that was the recommendation to use the travel cost method:

- To evaluate the monetary value of a visit to a nature conservation site or the participation in a guided tour, the travel cost approach can be used. The idea behind: The travel costs are an investment the visitor is doing of time and money.
- Following that recommendation, we developed a questionnaire which we used to interview the visitors of the guided tours called frog concerts and/or the audience was asked to fill in a form.

After the guided tour a collecting box was put up. The collected money is another expression, how valuable the offered service was.

Following questions were asked to answer:

1. Do know the Stiftung Naturschutz?
2. Who you became aware of the frog concert
3. Which age class are you belonging to?
4. In who's company did you participate?
5. How many km do you travelled?
6. Do you like more information about Stiftung Naturschutz?
7. Do you want to join the supporter association? and
8. A field for contact information, if contact is wished



**Kennen Sie die Stiftung Naturschutz Schleswig-Holstein?**

Ja. Sie ist mir schon länger bekannt.

Nein, vor dem Froschkonzert kannte ich die Stiftung nicht.

**Wie sind Sie auf das Froschkonzert aufmerksam geworden?**

Internet/Webseite  Facebook/Twitter

Zeitungsartikel  in \_\_\_\_\_

Ausgelegte Flyer  wo \_\_\_\_\_

Zugesandte Info

Sonstige, z.B. durch Freunde \_\_\_\_\_

**Zu welcher Altersgruppe gehören Sie?**

18-24  40-59  66-79

25-39  60-65  >80



**Mit wem waren Sie dabei?**

Allein  Familie


Partner  Freunde  Anzahl Personen \_\_\_\_\_

**Wie weit sind Sie angereist?** \_\_\_\_\_ Kilometer

Bitte tragen Sie auf der Rückseite Ihre Kontaktdaten ein, wenn Sie an Informationen zur Stiftung Naturschutz S.-H. und an ihren Veranstaltungen interessiert sind.

S. 1



**Möchten Sie zu Veranstaltung der Stiftung Naturschutz eingeladen werden und Informationen zur Stiftungsarbeit bekommen?**

Ja  Nein

**Möchten Sie über den Freundeskreis e. V. der Stiftung Naturschutz Schleswig-Holstein informiert werden?**

Ja  Nein

---

- Ich bin einverstanden per Post kontaktiert zu werden.
- Ich bin einverstanden per Post und E-Mail kontaktiert zu werden.
- Bitte nur per E-Mail kontaktieren.

*Hinweis: Ihre Daten werden bei der Stiftung Naturschutz ausschließlich zur Erfüllung der satzungsgemäßen Aufgaben elektronisch verarbeitet. Wir geben keine Daten an Dritte weiter. Sie können jederzeit Ihrer Zustimmung widersprechen. Senden Sie uns Ihren Widerspruch bitte schriftlich zu mit vollständigem Namen und Adresse.*



Name, Vorname \_\_\_\_\_

Straße + Hausnr. \_\_\_\_\_

PLZ Ort \_\_\_\_\_

E-Mail: \_\_\_\_\_

Unterschrift, Ort, Datum \_\_\_\_\_

S. 2

Figure 19. Feedback form for the audience of a frog concert

## Results

The form was used in the frog concerts from 13.05.2017 onwards until the covid rules did not allow any public meetings in 2019. In the first two concerts were poor feedback from the audience. In the first two concerts only one guide was there, guiding the tour and asking to fill in the form voluntarily. It became better, when es second person joint the frog concerts and just collect to information from the visitors. The form was used for LIFE project sites and for other frog concerts in order to get a broader data basis. In table 1 the LIFE project frog concerts are highlighted in blue.

The number of visitors is fluctuating very much from 3 to over hundred (Tab. 2). In total 316 visitors were counted for the LIFE frog concerts, 611 in all frog concerts. The donations were fluctuating also. Both seems to be influenced by the weather, in rainy or cold evenings less people came and also the frogs were less active especially in cold weather. Then of course the nature experience was not so good and maybe that influenced the amount of donated money. The average donation varies from 0,80 to 2,48 €.



Year	site	LIFE site	date	guided by	Visitor no	Volume of donations	number of feedback sheets	total number per year	average/ concert/ year	average donation/ visitor
2016	Nordoe	yes	29.04.2016	Hauke Drews	3	- €	0	40	10	- €
	Geltinger Birk	yes	29.04.2016	Nils Kobarg	15	- €	0			- €
	Geltinger Birk	yes	13.05.2016	Nils Kobarg	22	- €	0			- €
	Winderratter See	yes	14.05.2017	Gerd Kämmer	0	- €	0			
2017	Nordoe	yes	28.04.2017	Hauke Drews	12	28,00 €	0	81	13,5	2,33 €
	Geltinger Birk	yes	28.04.2017	Nils Kobarg	7	- €	0			- €
	Woltersdorf	no	28.04.2017	due to thunder storm	0	- €	0			
	Geltinger Birk	yes	12.05.2017	Nils Kobarg	35	- €	0			- €
	Winderatter See	yes	13.05.2017	Hauke Drews, Gerd I	15	12,00 €	3			0,80 €
	Nördliche Seeniederung	yes	19.05.2017	Hauke Drews	12	- €	4			- €
2018	Nordoe	yes	04.05.2018	Hauke Drews	40	87,50 €	12	266	38	2,19 €
	Woltersdorf	no	04.05.2018	Moritz Ott	30	74,50 €	10			2,48 €
	Barnitz	no	11.05.2018	Hauke Drews	11	25,50 €	3			2,32 €
	Winderatter See	yes	18.05.2018	Hauke Drews	38	- €	7			- €
	Geltinger Birk	yes	19.05.2017	Nils Kobarg	40	114,00 €	0			2,85 €
	Nördliche Seeniederung	yes	25.05.2018	Hauke Drews	6	- €	2			- €
	Stodthagen	no	01.06.2018	Hauke Drews	101	data lackin	0			
2019	Nordoe	yes	03.05.2019	Hauke Drews	9	- €	3	224	32	- €
	Woltersdorf	no	04.05.2019	Moritz Ott	10	- €	0			- €
	Blomnath	no	10.05.2019	Janis Ahrens	30	data lackin	0			
	Winderatter See	yes	17.05.2019	Hauke Drews	15	10,00 €	5			0,67 €
	Geltinger Birk	yes	18.05.2019	Nils Kobarg	36	- €	0			- €
	Dannau	no	24.05.2019	Hauke Drews	26	33,52 €	0			1,29 €
	Stodthagen	no	01.06.2019	Hauke Drews	98	115,00 €	0			1,17 €

Tab. 2: Overview about frog concerts, visitor numbers and donations, blue highlighted LIFE frog concerts.

In total 76 feedback forms were collected covering the data for 138 visitors. The travel distances vary from 1 km to 140 km. About 57 % of the feedback forms were documenting travel distances below 20 km. 28% document travel distances from 5 km and less (Figure 20).

The question “In who’s company do you participate was answered as followed:

information about company	no	%
alone	12	16
Family	24	32
friend	18	24
partner	9	12
partner and friends	8	11
no information given	5	7
<b>sum</b>	<b>76</b>	<b>100</b>

Table 3: With whom people came to the frog concert

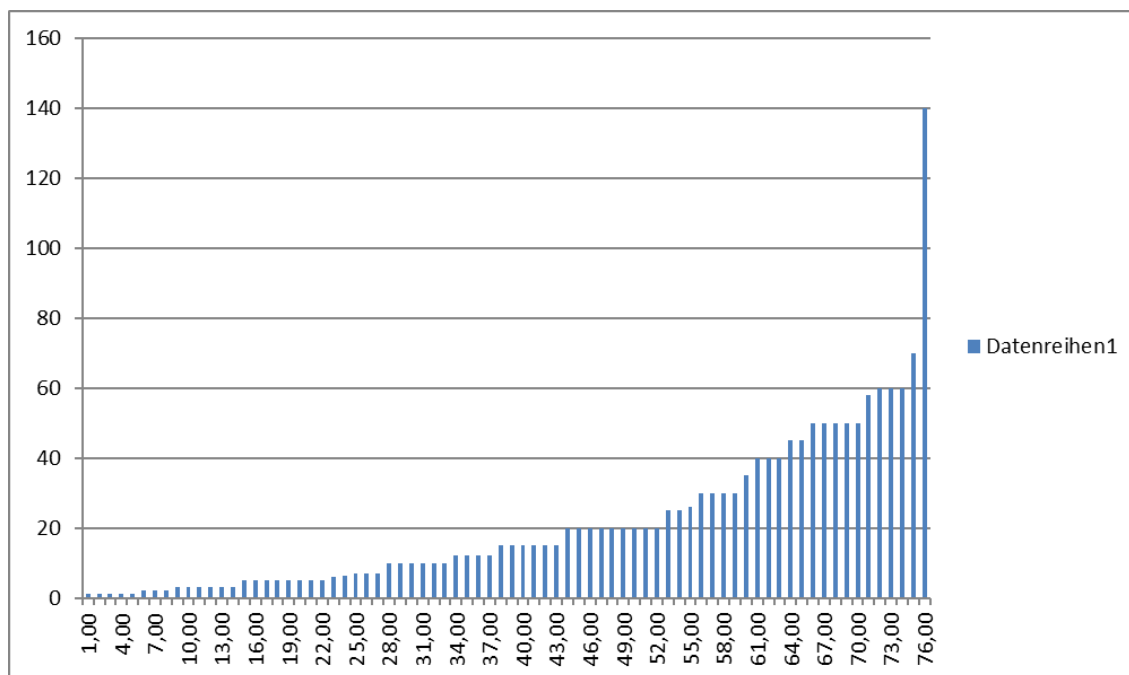


Figure 20: drive km per feedback form

The information about the age group could not be analysed because most of the feedback forms were for groups and several options were marked, but no information available, how many persons belonged to each group. But the impression was that families on one hand and seniors on the other are dominating the frog concert visitors.

## Litterature

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Weisner S., Johannesson, K. & Tonderski K. 2015. Näringsavskiljning i anlagda våtmarker i jordbruket- Analys av mätresultat och effekter av landsbygdsprogrammet 2015. Jordbruksverket Rapport 2015:7

Land, M., Granéli, W., Grimvall, A., Hoffmann, C. C., Mitsch, W. J., Tonderski, K. S. & Verhoeven, J. T. A. 2016. How effective are created or restored freshwater wetlands for nitrogen and phosphorus removal? A systematic review Land et al. Environ Evid (2016) 5:9

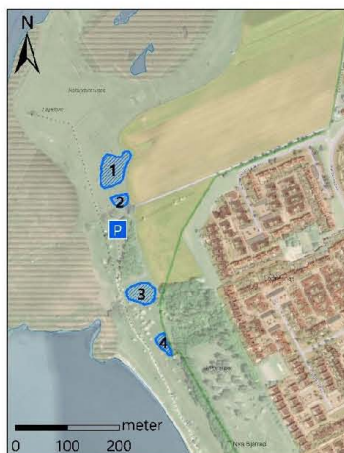
# Appendix 1. Questionnaire Löddeåns mynning



## Survey about the wetlands at Löddeåns mynning

Löddeåns mynning is a part of an EU Life-project that aim to improve the conservation status of herptiles and semi-aquatic insects in Natura 2000-sites in southern Sweden, Denmark, and northern Germany. More information can be found at [www.semiaquaticlife.se](http://www.semiaquaticlife.se).

At Löddeåns mynning we benefit one of Sweden's most threatened and rare herptiles, the nocturnal Spadefoot toad (*Pelobates fuscus*). Through creating new wetlands and reintroduce tadpoles we will hopefully get a viable population of Spadefoot toads in the future. The measures may also benefit the rare dragonfly, the dark whiteface (*Leucorrhinia albifrons*) that can be found just outside Bjärred.



■ New wetland for Spadefoot toad



On behalf of the County administrative board of Scania, Ekoll AB is now conducting a survey concerning how you, as a visitor, would value the area now after the measures. Therefore, your feedback is very valuable.

Please leave you completed questionnaire in the mailbox by the parking lot or email your answer to [ekoll@ekoll.net](mailto:ekoll@ekoll.net). You can also answer the survey online at <http://www.semiaquaticlife.se>. Please spread the word. Thanks in advance!

If you have any questions, please contact: Marika Stenberg (Ekoll AB)  
[marika.stenberg@ekoll.net](mailto:marika.stenberg@ekoll.net), 0704-830 850



1) Date : .....  
(YY/MM/DD)

2) Age: .....

**3) We would like to get to know you!**

Tick the alternatives that matches you

- Living in the vicinity
- Ornithologist
- Member of an outdoor or nature conservation organisation
- Parent of young children
- Senior citizen
- Other: \_\_\_\_\_

**4) How often do you visit Löddeåns mynning?**

Tick the alternatives that matches you

- Never visited Löddeåns mynning
- Less than once a year
- A couple of times per year
- Every month
- Every week

**5) To what extent was your visit to Löddeåns mynning related to...**

1= not at all, 3= partly, 5= to a high extent

	1	2	3	4	5
Nature experience	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Walk	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Relaxation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Exercise	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Walking the dog	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Social gathering	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other: _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**6) To what extent do you feel that you experienced the following when you visited Löddeåns mynning?**

1= not at all, 3= partly, 5= to a high extent

	1	2	3	4	5	Do not know
Nature experience	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wildlife in its natural environment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Peace and quiet	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Better knowledge about nature	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Recuperation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Physical activity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
That it was nice and tidy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Social gathering	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other: _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**7) When you visited Löddeåns mynning what do you think about the access to...**

1= not enough, 3= sufficient, 5= too much

	1	2	3	4	5	Do not know
Benches and tables	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Information boards	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Trash cans	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Toilets	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Parking	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**8) The measures at Löddeåns mynning was aimed for the threatened Spadefoot toad. How important is the conservation of biodiversity to you?**

1= not at all , 3= fairly, 5= very important

	1	2	3	4	5	Do not know
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**9) How do you feel that the wetlands have contributed to the experience of the area?**

1= worsened, 3= unchanged, 5= much better

	1	2	3	4	5	Do not know
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**10) Other comments:**

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