



EUROPEAN CLIMATE, INFRASTRUCTURE AND ENVIRONMENT EXECUTIVE AGENCY (CINEA)

CINEA.D – Natural resources, climate, sustainable blue economy and clean energy
D.2 – LIFE Environment (Nature & Circular Economy)

GRANT AGREEMENT

Project 101113605 — LIFE22-NAT-NL-LIFE CrossBorderBog

PREAMBLE

This **Agreement** ('the Agreement') is **between** the following parties:

on the one part,

the **European Climate, Infrastructure and Environment Executive Agency (CINEA)** ('EU executive agency' or 'granting authority'), under the powers delegated by the European Commission ('European Commission'),

and

on the other part,

1. 'the coordinator':

OVERIJSEL (PO), PIC 924194467, established in LUTTENBERGSTRAAT 2, ZWOLLE 8000 GB, Netherlands,

and the following other beneficiaries, if they sign their 'accession form' (see Annex 3 and Article 40):

2. **BIOLOGISCHE STATION ZWILLBROCK EV (BSZ)**, PIC 889942603, established in ZWILLBROCK 10, VREDEN 48691, Germany,

3. **STIFTUNG NATUR UND LANDSCHAFT WESTMUNSTERLAND (Stiftung NLW)**, PIC 889377675, established in ZWILLBROCK 10, VREDEN 48691, Germany,

4. **STICHTING LANDSCHAP OVERIJSEL (LO)**, PIC 889118782, established in POPPENALLEE 39, DALFSEN 7722 KW, Netherlands,

5. **Ministerium für Umwelt, Landwirtschaft, Natur- und Verbraucherschutz des Landes Nordrhein-Westfalen (MUNV NRW)**, PIC 994567870, established in Schwannstr. 3, Düsseldorf 40476, Germany,

Unless otherwise specified, references to 'beneficiary' or 'beneficiaries' include the coordinator and affiliated entities (if any).

If only one beneficiary signs the grant agreement ('mono-beneficiary grant'), all provisions referring to the 'coordinator' or the 'beneficiaries' will be considered — mutatis mutandis — as referring to the beneficiary.

The parties referred to above have agreed to enter into the Agreement.

By signing the Agreement and the accession forms, the beneficiaries accept the grant and agree to implement the action under their own responsibility and in accordance with the Agreement, with all the obligations and terms and conditions it sets out.

The Agreement is composed of:

Preamble

Terms and Conditions (including Data Sheet)

Annex 1 Description of the action¹

Annex 2 Estimated budget for the action

Annex 2a Additional information on unit costs and contributions (if applicable)

Annex 3 Accession forms (if applicable)²

Annex 3a Declaration on joint and several liability of affiliated entities (if applicable)³

Annex 4 Model for the financial statements

Annex 5 Specific rules (if applicable)

¹ Template published on [Portal Reference Documents](#).

² Template published on [Portal Reference Documents](#).

³ Template published on [Portal Reference Documents](#).

TERMS AND CONDITIONS

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DATA SHEET

1. General data

Project summary:

Project summary
<p>The LIFE CrossBorderBog project works on raised bog restoration in the cross-border bog Aamsveen-Hündfelder Moor. This Dutch-German bog has a significant amount of H7120, and a small segment of H7110*. The bog has great potential for restoration: it has maintained a lot of peat despite former peat excavation, it has an intact lagg zone on the Aamsveen side, and it is relatively isolated from external influences such as agriculture. The raised bog suffers from desiccation, and faces four main threats: 1) water loss, 2) nutrient pollution, 3) succession, 4) GHG emission. All these threats can be countered or reduced in effects by taking hydrological measures to retain water in the bog and stop desiccation. A fully functional raised bog will retain water, limit the effects of nutrient pollution, stop succession, and reduce GHG emissions. Our long-term objectives therefore are to: 1) Re-create H7110* and H91D0* to create a total of 99 ha active raised bog and 21 ha bog woodland; 2) Preserve and restore typical bog habitats H3160, H7120, H7140, H7150, and typical bog species such as the northern emerald and the bluethroat; 3) Reduce GHG emissions and start sequestering CO2. These are long-term objectives, which will take decades to be achieved due to the time it takes for active raised bogs to regenerate. However, the prerequisite for all objectives is to stop desiccation and rewet the bog. This leads to three short-term (within project) objectives: 1) Re-unite the bog as cross-border hydrological system; 2) Raise water levels within the bog to near-surface level; 3) Increase the resilience of the bog against the consequences of climate change by creating still waters as water supplies for the system. These objectives are translated to a set of hydrological measures for both the Aamsveen and the Hündfelder Moor. We expect to create an active raised bog that will fulfil an important stepstone function for raised bog habitats in the entire Atlantic biogeograph follows</p>

Keywords:

- RAISED BOGS AND MIRES AND FENS
- Raised bog restoration

Project number: 101113605

Project name: Cross-border restoration and reunion of the raised bogs Aamsveen and Hündfelder Moor

Project acronym: LIFE22-NAT-NL-LIFE CrossBorderBog

Call: LIFE-2022-SAP-NAT

Topic: LIFE-2022-SAP-NAT-NATURE

Type of action: LIFE Project Grants

Granting authority: European Climate, Infrastructure and Environment Executive Agency

Grant managed through EU Funding & Tenders Portal: Yes (eGrants)

Project starting date: first day of the month following the entry into force date

Project end date: starting date + months of duration

Project duration: 72 months

Consortium agreement: Yes

2. Participants

List of participants:

N°	Role	Short name	Legal name	Ctry	PIC	Total eligible costs (BEN and AE)	Max grant amount
1	COO	PO	OVERIJSEL	NL	924194467	3 624 158.48	2 428 186.18
2	BEN	BSZ	BIOLOGISCHE STATION ZWILLBROCK EV	DE	889942603	8 915 222.88	5 973 199.33
3	BEN	Stiftung NLW	STIFTUNG NATUR UND LANDSCHAFT WESTMUNSTERLAND	DE	889377675	17 189.55	11 517.00

N°	Role	Short name	Legal name	Ctry	PIC	Total eligible costs (BEN and AE)	Max grant amount
4	BEN	LO	STICHTING LANDSCHAP OVERIJSEL	NL	889118782	334 473.44	224 097.20
5	BEN	MUNV NRW	Ministerium für Umwelt, Landwirtschaft, Natur- und Verbraucherschutz des Landes Nordrhein-Westfalen	DE	994567870	104 692.00	70 143.64
Total						12 995 736.35	8 707 143.35

Coordinator:

- OVERIJSEL (PO)

3. Grant**Maximum grant amount, total estimated eligible costs and contributions and funding rate:**

Total eligible costs (BEN and AE)	Funding rate (%)	Maximum grant amount (Annex 2)	Maximum grant amount (award decision)
12 995 736.35	67	8 707 143.35	8 707 143.35

Grant form: Budget-based**Grant mode:** Action grant**Budget categories/activity types:**

- A. Personnel costs
 - A.1 Employees, A.2 Natural persons under direct contract, A.3 Seconded persons
 - A.4 SME owners and natural person beneficiaries
 - A.5 Volunteers
- B. Subcontracting costs
- C. Purchase costs
 - C.1 Travel and subsistence
 - C.2 Equipment
 - C.3 Other goods, works and services
- D. Other cost categories
 - D.1 Financial support to third parties
 - D.2 Land purchase
- E. Indirect costs

Cost eligibility options:

- Standard supplementary payments
- Travel and subsistence:
 - Travel: Actual costs
 - Accommodation: Actual costs
 - Subsistence: Actual costs
- Equipment: full costs and depreciation for listed equipment
- Costs for providing financial support to third parties (actual cost; max amount for each recipient: EUR 20 000.00)

- Indirect cost flat-rate: 7% of the eligible direct costs (categories A-D, except volunteers costs and exempted specific cost categories, if any)
- VAT: Yes
- Other ineligible costs

Budget flexibility: Yes (no flexibility cap)

4. Reporting, payments and recoveries

4.1 Continuous reporting (art 21)

Deliverables: see Funding & Tenders Portal Continuous Reporting tool

4.2 Periodic reporting and payments

Reporting and payment schedule (art 21, 22):

Reporting					Payments	
Reporting periods			Type	Deadline	Type	Deadline (time to pay)
RP No	Month from	Month to				
					Initial prefinancing	30 days from entry into force/ financial guarantee (if required) – whichever is the latest
1	1	34	Additional prefinancing report	60 days after end of reporting period	Additional prefinancing	60 days from receiving additional prefinancing report/ financial guarantee (if required) – whichever is the latest
2	35	72	Periodic report	60 days after end of reporting period	Final payment	90 days from receiving periodic report

Prefinancing payments and guarantees:

Prefinancing payment		Prefinancing guarantee		
Type	Amount	Guarantee amount	Division per participant	
Prefinancing 1 (initial)	2 612 143.01	n/a	1 - PO	n/a
			2 - BSZ	n/a
			3 - Stiftung NLW	n/a
			4 - LO	n/a
			5 - MUNV NRW	n/a
Prefinancing 2 (additional)	4 353 571.68	n/a	1 - PO	n/a
			2 - BSZ	n/a
			3 - Stiftung NLW	n/a
			4 - LO	n/a
			5 - MUNV NRW	n/a

Reporting and payment modalities (art 21, 22):

Mutual Insurance Mechanism (MIM): No

Restrictions on distribution of initial prefinancing: The prefinancing may be distributed only if the minimum number of beneficiaries set out in the call conditions (if any) have acceded to the Agreement and only to beneficiaries that have acceded.

Interim payment ceiling (if any): 90% of the maximum grant amount

No-profit rule: No

Late payment interest: ECB + 3.5%

Bank account for payments:

NL45RABO0397341121

Conversion into euros: Double conversion

Reporting language: Language of the Agreement

4.3 Certificates (art 24):

Certificates on the financial statements (CFS):

Conditions:

Schedule: interim/final payment, if threshold is reached

Standard threshold (beneficiary-level):

- financial statement: requested EU contribution to costs \geq EUR 500 000.00

4.4 Recoveries (art 22)

First-line liability for recoveries:

Beneficiary termination: Beneficiary concerned

Final payment: Coordinator

After final payment: Beneficiary concerned

Joint and several liability for enforced recoveries (in case of non-payment):

Limited joint and several liability of other beneficiaries — up to the maximum grant amount of the beneficiary

Joint and several liability of affiliated entities — n/a

5. Consequences of non-compliance, applicable law & dispute settlement forum

Applicable law (art 43):

Standard applicable law regime: EU law + law of Belgium

Dispute settlement forum (art 43):

Standard dispute settlement forum:

EU beneficiaries: EU General Court + EU Court of Justice (on appeal)

Non-EU beneficiaries: Courts of Brussels, Belgium (unless an international agreement provides for the enforceability of EU court judgements)

6. Other

Specific rules (Annex 5): Yes

Standard time-limits after project end:

Confidentiality (for X years after final payment): 5

Record-keeping (for X years after final payment): 5 (or 3 for grants of not more than EUR 60 000)

Reviews (up to X years after final payment): 5 (or 3 for grants of not more than EUR 60 000)

Audits (up to X years after final payment): 5 (or 3 for grants of not more than EUR 60 000)

Extension of findings from other grants to this grant (no later than X years after final payment): 5 (or 3 for grants of not more than EUR 60 000)

Impact evaluation (up to X years after final payment): 5 (or 3 for grants of not more than EUR 60 000)

CHAPTER 1 GENERAL

ARTICLE 1 — SUBJECT OF THE AGREEMENT

This Agreement sets out the rights and obligations and terms and conditions applicable to the grant awarded for the implementation of the action set out in Chapter 2.

ARTICLE 2 — DEFINITIONS

For the purpose of this Agreement, the following definitions apply:

Actions — The project which is being funded in the context of this Agreement.

Grant — The grant awarded in the context of this Agreement.

EU grants — Grants awarded by EU institutions, bodies, offices or agencies (including EU executive agencies, EU regulatory agencies, EDA, joint undertakings, etc.).

Participants — Entities participating in the action as beneficiaries, affiliated entities, associated partners, third parties giving in-kind contributions, subcontractors or recipients of financial support to third parties.

Beneficiaries (BEN) — The signatories of this Agreement (either directly or through an accession form).

Affiliated entities (AE) — Entities affiliated to a beneficiary within the meaning of Article 187 of EU Financial Regulation 2018/1046⁴ which participate in the action with similar rights and obligations as the beneficiaries (obligation to implement action tasks and right to charge costs and claim contributions).

Associated partners (AP) — Entities which participate in the action, but without the right to charge costs or claim contributions.

Purchases — Contracts for goods, works or services needed to carry out the action (e.g. equipment, consumables and supplies) but which are not part of the action tasks (see Annex 1).

Subcontracting — Contracts for goods, works or services that are part of the action tasks (see Annex 1).

In-kind contributions — In-kind contributions within the meaning of Article 2(36) of EU Financial

⁴ For the definition, see Article 187 Regulation (EU, Euratom) 2018/1046 of the European Parliament and of the Council of 18 July 2018 on the financial rules applicable to the general budget of the Union, amending Regulations (EU) No 1296/2013, (EU) No 1301/2013, (EU) No 1303/2013, (EU) No 1304/2013, (EU) No 1309/2013, (EU) No 1316/2013, (EU) No 223/2014, (EU) No 283/2014, and Decision No 541/2014/EU and repealing Regulation (EU, Euratom) No 966/2012 ('EU Financial Regulation') (OJ L 193, 30.7.2018, p. 1): "**affiliated entities** [are]:

- (a) entities that form a sole beneficiary [(i.e. where an entity is formed of several entities that satisfy the criteria for being awarded a grant, including where the entity is specifically established for the purpose of implementing an action to be financed by a grant)];
- (b) entities that satisfy the eligibility criteria and that do not fall within one of the situations referred to in Article 136(1) and 141(1) and that have a link with the beneficiary, in particular a legal or capital link, which is neither limited to the action nor established for the sole purpose of its implementation".

Regulation 2018/1046, i.e. non-financial resources made available free of charge by third parties.

Fraud — Fraud within the meaning of Article 3 of EU Directive 2017/1371⁵ and Article 1 of the Convention on the protection of the European Communities' financial interests, drawn up by the Council Act of 26 July 1995⁶, as well as any other wrongful or criminal deception intended to result in financial or personal gain.

Irregularities — Any type of breach (regulatory or contractual) which could impact the EU financial interests, including irregularities within the meaning of Article 1(2) of EU Regulation 2988/95⁷.

Grave professional misconduct — Any type of unacceptable or improper behaviour in exercising one's profession, especially by employees, including grave professional misconduct within the meaning of Article 136(1)(c) of EU Financial Regulation 2018/1046.

Applicable EU, international and national law — Any legal acts or other (binding or non-binding) rules and guidance in the area concerned.

Portal — EU Funding & Tenders Portal; electronic portal and exchange system managed by the European Commission and used by itself and other EU institutions, bodies, offices or agencies for the management of their funding programmes (grants, procurements, prizes, etc.).

CHAPTER 2 ACTION

ARTICLE 3 — ACTION

The grant is awarded for the action **101113605 — LIFE22-NAT-NL-LIFE CrossBorderBog** ('action'), as described in Annex 1.

ARTICLE 4 — DURATION AND STARTING DATE

The duration and the starting date of the action are set out in the Data Sheet (see Point 1).

CHAPTER 3 GRANT

ARTICLE 5 — GRANT

5.1 Form of grant

⁵ Directive (EU) 2017/1371 of the European Parliament and of the Council of 5 July 2017 on the fight against fraud to the Union's financial interests by means of criminal law (OJ L 198, 28.7.2017, p. 29).

⁶ OJ C 316, 27.11.1995, p. 48.

⁷ Council Regulation (EC, Euratom) No 2988/95 of 18 December 1995 on the protection of the European Communities financial interests (OJ L 312, 23.12.1995, p. 1).

The grant is an action grant⁸ which takes the form of a budget-based mixed actual cost grant (i.e. a grant based on actual costs incurred, but which may also include other forms of funding, such as unit costs or contributions, flat-rate costs or contributions, lump sum costs or contributions or financing not linked to costs).

5.2 Maximum grant amount

The maximum grant amount is set out in the Data Sheet (see Point 3) and in the estimated budget (Annex 2).

5.3 Funding rate

The funding rate for costs is 67% of the action's eligible costs.

Contributions are not subject to any funding rate.

5.4 Estimated budget, budget categories and forms of funding

The estimated budget for the action is set out in Annex 2.

It contains the estimated eligible costs and contributions for the action, broken down by participant and budget category.

Annex 2 also shows the types of costs and contributions (forms of funding)⁹ to be used for each budget category.

If unit costs or contributions are used, the details on the calculation will be explained in Annex 2a.

5.5 Budget flexibility

The budget breakdown may be adjusted — without an amendment (see Article 39) — by transfers (between participants and budget categories), as long as this does not imply any substantive or important change to the description of the action in Annex 1.

However:

- changes to the budget category for volunteers (if used) always require an amendment
- changes to budget categories with lump sums costs or contributions (if used; including financing not linked to costs) always require an amendment
- changes to budget categories with higher funding rates or budget ceilings (if used) always require an amendment
- addition of amounts for subcontracts not provided for in Annex 1 either require an amendment or simplified approval in accordance with Article 6.2

⁸ For the definition, see Article 180(2)(a) EU Financial Regulation 2018/1046: ‘**action grant**’ means an EU grant to finance “an action intended to help achieve a Union policy objective”.

⁹ See Article 125 EU Financial Regulation 2018/1046.

- other changes require an amendment or simplified approval, if specifically provided for in Article 6.2
- flexibility caps: not applicable.

ARTICLE 6 — ELIGIBLE AND INELIGIBLE COSTS AND CONTRIBUTIONS

In order to be eligible, costs and contributions must meet the **eligibility** conditions set out in this Article.

6.1 General eligibility conditions

The **general eligibility conditions** are the following:

(a) for actual costs:

- (i) they must be actually incurred by the beneficiary
- (ii) they must be incurred in the period set out in Article 4 (with the exception of costs relating to the submission of the final periodic report, which may be incurred afterwards; see Article 21)
- (iii) they must be declared under one of the budget categories set out in Article 6.2 and Annex 2
- (iv) they must be incurred in connection with the action as described in Annex 1 and necessary for its implementation
- (v) they must be identifiable and verifiable, in particular recorded in the beneficiary's accounts in accordance with the accounting standards applicable in the country where the beneficiary is established and with the beneficiary's usual cost accounting practices
- (vi) they must comply with the applicable national law on taxes, labour and social security and
- (vii) they must be reasonable, justified and must comply with the principle of sound financial management, in particular regarding economy and efficiency

(b) for unit costs or contributions (if any):

- (i) they must be declared under one of the budget categories set out in Article 6.2 and Annex 2
- (ii) the units must:
 - be actually used or produced by the beneficiary in the period set out in Article 4 (with the exception of units relating to the submission of the final periodic report, which may be used or produced afterwards; see Article 21)
 - be necessary for the implementation of the action and
- (iii) the number of units must be identifiable and verifiable, in particular supported by records and documentation (see Article 20)

- (c) for flat-rate costs or contributions (if any):
- (i) they must be declared under one of the budget categories set out in Article 6.2 and Annex 2
 - (ii) the costs or contributions to which the flat-rate is applied must:
 - be eligible
 - relate to the period set out in Article 4 (with the exception of costs or contributions relating to the submission of the final periodic report, which may be incurred afterwards; see Article 21)
- (d) for lump sum costs or contributions (if any):
- (i) they must be declared under one of the budget categories set out in Article 6.2 and Annex 2
 - (ii) the work must be properly implemented by the beneficiary in accordance with Annex 1
 - (iii) the deliverables/outputs must be achieved in the period set out in Article 4 (with the exception of deliverables/outputs relating to the submission of the final periodic report, which may be achieved afterwards; see Article 21)
- (e) for unit, flat-rate or lump sum costs or contributions according to usual cost accounting practices (if any):
- (i) they must fulfil the general eligibility conditions for the type of cost concerned
 - (ii) the cost accounting practices must be applied in a consistent manner, based on objective criteria, regardless of the source of funding
- (f) for financing not linked to costs (if any): the results must be achieved or the conditions must be fulfilled as described in Annex 1.

In addition, for direct cost categories (e.g. personnel, travel & subsistence, subcontracting and other direct costs) only costs that are directly linked to the action implementation and can therefore be attributed to it directly are eligible. They must not include any indirect costs (i.e. costs that are only indirectly linked to the action, e.g. via cost drivers).

6.2 Specific eligibility conditions for each budget category

For each budget category, the **specific eligibility conditions** are as follows:

Direct costs

A. Personnel costs

A.1 Costs for employees (or equivalent) are eligible as personnel costs if they fulfil the general eligibility conditions and are related to personnel working for the beneficiary under an employment contract (or equivalent appointing act) and assigned to the action.

They must be limited to salaries, social security contributions, taxes and other costs linked to the

remuneration, if they arise from national law or the employment contract (or equivalent appointing act) and be calculated on the basis of the costs actually incurred, in accordance with the following method:

{daily rate for the person
multiplied by
number of day-equivalents worked on the action (rounded up or down to the nearest half-day)}.

The daily rate must be calculated as:

{annual personnel costs for the person
divided by
215}.

The number of day-equivalents declared for a person must be identifiable and verifiable (see Article 20).

The total number of day-equivalents declared in EU grants, for a person for a year, cannot be higher than 215.

The personnel costs may also include supplementary payments for personnel assigned to the action (including payments on the basis of supplementary contracts regardless of their nature), if:

- it is part of the beneficiary's usual remuneration practices and is paid in a consistent manner whenever the same kind of work or expertise is required
- the criteria used to calculate the supplementary payments are objective and generally applied by the beneficiary, regardless of the source of funding used.

A.2 and A.3 Costs for natural persons working under a direct contract other than an employment contract and costs for **seconded persons by a third party against payment** are also eligible as personnel costs, if they are assigned to the action, fulfil the general eligibility conditions and:

- (a) work under conditions similar to those of an employee (in particular regarding the way the work is organised, the tasks that are performed and the premises where they are performed) and
- (b) the result of the work belongs to the beneficiary (unless agreed otherwise).

They must be calculated on the basis of a rate which corresponds to the costs actually incurred for the direct contract or secondment and must not be significantly different from those for personnel performing similar tasks under an employment contract with the beneficiary.

A.4 The work of SME owners for the action (i.e. owners of beneficiaries that are small and medium-sized enterprises¹⁰ not receiving a salary) or **natural person beneficiaries** (i.e. beneficiaries that are

¹⁰ For the definition, see Commission Recommendation 2003/361/EC: micro, small or medium-sized enterprise (SME) are enterprises

- engaged in an economic activity, irrespective of their legal form (including, in particular, self-employed persons and family businesses engaged in craft or other activities, and partnerships or associations regularly engaged in an economic activity) and

natural persons not receiving a salary) may be declared as personnel costs, if they fulfil the general eligibility conditions and are calculated as unit costs in accordance with the method set out in Annex 2a.

A.5 The work of **volunteers** for the action (i.e. persons who freely work for an organisation, on a non-compulsory basis and without being paid) may be declared as personnel costs, if and as declared eligible in the call conditions, if they fulfil the general eligibility conditions and are calculated as unit costs in accordance with the method set out in Annex 2a.

They:

- may not exceed the maximum amount for volunteers for the action (which corresponds to 50% of the total (ineligible and eligible) project costs and contributions estimated in the proposal)
- may not exceed the maximum amount for volunteers for each beneficiary set out in Annex 2
- may not make the maximum EU contribution to costs higher than the total eligible costs without volunteers.

If also indirect costs for volunteers are declared eligible in the call conditions, the amount of indirect costs may be added to the volunteers costs category in Annex 2, at the flat-rate set out in Point E.

B. Subcontracting costs

Subcontracting costs for the action (including related duties, taxes and charges, such as non-deductible or non-refundable value added tax (VAT)) are eligible, if they are calculated on the basis of the costs actually incurred, fulfil the general eligibility conditions and are awarded using the beneficiary's usual purchasing practices — provided these ensure subcontracts with best value for money (or if appropriate the lowest price) and that there is no conflict of interests (see Article 12).

Beneficiaries that are 'contracting authorities/entities' within the meaning of the EU Directives on public procurement must also comply with the applicable national law on public procurement.

The tasks to be subcontracted and the estimated cost for each subcontract must be set out in Annex 1 and the total estimated costs of subcontracting per beneficiary must be set out in Annex 2 (or may be approved ex post in the periodic report, if the use of subcontracting does not entail changes to the Agreement which would call into question the decision awarding the grant or breach the principle of equal treatment of applicants; 'simplified approval procedure').

C. Purchase costs

Purchase costs for the action (including related duties, taxes and charges, such as non-deductible or non-refundable value added tax (VAT)) are eligible if they fulfil the general eligibility conditions and are bought using the beneficiary's usual purchasing practices — provided these ensure purchases with best value for money (or if appropriate the lowest price) and that there is no conflict of interests (see Article 12).

-
- employing fewer than 250 persons (expressed in 'annual working units' as defined in Article 5 of the Recommendation) and which have an annual turnover not exceeding EUR 50 million, and/or an annual balance sheet total not exceeding EUR 43 million.

Beneficiaries that are ‘contracting authorities/entities’ within the meaning of the EU Directives on public procurement must also comply with the applicable national law on public procurement.

C.1 Travel and subsistence

Purchases for **travel, accommodation and subsistence** must be calculated as follows:

- travel: on the basis of the costs actually incurred and in line with the beneficiary’s usual practices on travel
- accommodation: on the basis of the costs actually incurred and in line with the beneficiary’s usual practices on travel
- subsistence: on the basis of the costs actually incurred and in line with the beneficiary’s usual practices on travel .

C.2 Equipment

Purchases of **equipment, infrastructure or other assets** specifically for the action (or developed as part of the action tasks) may be declared as full capitalised costs if they fulfil the eligibility conditions applicable to their respective cost categories.

‘Capitalised costs’ means:

- costs incurred in the purchase or for the development of the equipment, infrastructure or other assets and,
- which are recorded under a fixed asset account of the beneficiary in compliance with international accounting standards and the beneficiary’s usual cost accounting practices.

If such equipment, infrastructure or other assets are rented or leased, full costs for **renting or leasing** are eligible, if they do not exceed the depreciation costs of similar equipment, infrastructure or assets and do not include any financing fees.

C.3 Other goods, works and services

Purchases of **other goods, works and services** must be calculated on the basis of the costs actually incurred.

Such goods, works and services include, for instance, consumables and supplies, promotion, dissemination, protection of results, translations, publications, certificates and financial guarantees, if required under the Agreement.

D. Other cost categories

D.1 Financial support to third parties

Costs for providing financial support to third parties (in the form of **grants, prizes** or similar forms of support; if any) are eligible, if and as declared eligible in the call conditions, if they fulfil the general eligibility conditions, are calculated on the basis of the costs actually incurred and the support is implemented in accordance with the conditions set out in Annex 1.

These conditions must ensure objective and transparent selection procedures and include at least the following:

- (a) for grants (or similar):
 - (i) the maximum amount of financial support for each third party ('recipient'); this amount may not exceed the amount set out in the Data Sheet (see Point 3) or otherwise agreed with the granting authority
 - (ii) the criteria for calculating the exact amount of the financial support
 - (iii) the different types of activity that qualify for financial support, on the basis of a closed list
 - (iv) the persons or categories of persons that will be supported and
 - (v) the criteria and procedures for giving financial support
- (b) for prizes (or similar):
 - (i) the eligibility and award criteria
 - (ii) the amount of the prize and
 - (iii) the payment arrangements.

D.2 Land purchase

Costs for land purchase from private entities (or long-term lease of land or one-off compensations for land use rights) are eligible, if and as declared eligible in the call conditions, if they fulfil the general eligibility conditions, are calculated on the basis of the costs actually incurred and:

- (a) the purchase will contribute to improving, maintaining and restoring the integrity of the Natura 2000 network set up pursuant to Article 3 of Directive 92/43/EEC, including through improving connectivity by the creation of corridors, stepping stones, or other elements of green infrastructure
- (b) land purchase is the only or most cost-effective way of achieving the desired conservation outcome
- (c) the land purchased is reserved in the long term for uses consistent with the specific objectives of the LIFE Programme
- (d) the Member State concerned ensures, by way of transfer or otherwise, the long-term assignment of such land to nature conservation purposes and the beneficiary documents this by ensuring that:
 - (i) the entry into the land register includes a condition that the land will be assigned definitively to nature conservation
 - (ii) or, if there is no land register or such a condition is not possible under national law, that such a condition is either included in the land sale contract or guaranteed by equivalent means

- (e) for land purchases by private entity beneficiaries: the beneficiaries ensure the long-term conservation by ensuring that:
 - (i) the entry into the land register includes a condition that, in case of their dissolution or incapacity to manage the land according to nature conservation requirements, the property will be transferred to an entity primarily active in the field of nature protection
 - (ii) or, if there is no land register or such a condition is not possible under national law, that such a condition is either included in the land sale contract or guaranteed by equivalent means
- (f) for purchases of partial rights: the entry into the land register duly reflects the long-term nature conservation objectives and the requirements set out in this Article
- (g) for land purchased to be exchanged at a later date for another parcel on which the action will be undertaken: the exchange is carried out before the end of the action and the land exchanged complies with the requirements set out in this Article
- (h) for long-term leases: the lease is of at least 20 years and includes provisions and commitments that ensure the achievement of its objectives in terms of habitat and species protection.

This cost will not be taken into account for the indirect cost flat-rate.

Indirect costs

E. Indirect costs

Indirect costs will be reimbursed at the flat-rate of 7% of the eligible direct costs (categories A-D, except volunteers costs and exempted specific cost categories, if any).

Contributions

Not applicable

6.3 Ineligible costs and contributions

The following costs or contributions are **ineligible**:

- (a) costs or contributions that do not comply with the conditions set out above (Article 6.1 and 6.2), in particular:
 - (i) costs related to return on capital and dividends paid by a beneficiary
 - (ii) debt and debt service charges
 - (iii) provisions for future losses or debts
 - (iv) interest owed
 - (v) currency exchange losses
 - (vi) bank costs charged by the beneficiary's bank for transfers from the granting authority

- (vii) excessive or reckless expenditure
 - (viii) deductible or refundable VAT (including VAT paid by public bodies acting as public authority)
 - (ix) costs incurred or contributions for activities implemented during grant agreement suspension (see Article 31)
 - (x) in-kind contributions by third parties
- (b) costs or contributions declared under other EU grants (or grants awarded by an EU Member State, non-EU country or other body implementing the EU budget), except for the following cases:
- (i) Synergy actions: not applicable
 - (ii) if the action grant is combined with an operating grant¹¹ running during the same period and the beneficiary can demonstrate that the operating grant does not cover any (direct or indirect) costs of the action grant
- (c) costs or contributions for staff of a national (or regional/local) administration, for activities that are part of the administration's normal activities (i.e. not undertaken only because of the grant)
- (d) costs or contributions (especially travel and subsistence) for staff or representatives of EU institutions, bodies or agencies
- (e) other :
- (i) country restrictions for eligible costs: not applicable
 - (ii) costs or contributions declared specifically ineligible in the call conditions.

6.4 Consequences of non-compliance

If a beneficiary declares costs or contributions that are ineligible, they will be rejected (see Article 27).

This may also lead to other measures described in Chapter 5.

CHAPTER 4 GRANT IMPLEMENTATION

SECTION 1 CONSORTIUM: BENEFICIARIES, AFFILIATED ENTITIES AND OTHER PARTICIPANTS

ARTICLE 7 — BENEFICIARIES

¹¹ For the definition, see Article 180(2)(b) of EU Financial Regulation 2018/1046: ‘**operating grant**’ means an EU grant to finance “the functioning of a body which has an objective forming part of and supporting an EU policy”.

The beneficiaries, as signatories of the Agreement, are fully responsible towards the granting authority for implementing it and for complying with all its obligations.

They must implement the Agreement to their best abilities, in good faith and in accordance with all the obligations and terms and conditions it sets out.

They must have the appropriate resources to implement the action and implement the action under their own responsibility and in accordance with Article 11. If they rely on affiliated entities or other participants (see Articles 8 and 9), they retain sole responsibility towards the granting authority and the other beneficiaries.

They are jointly responsible for the *technical* implementation of the action. If one of the beneficiaries fails to implement their part of the action, the other beneficiaries must ensure that this part is implemented by someone else (without being entitled to an increase of the maximum grant amount and subject to an amendment; see Article 39). The *financial* responsibility of each beneficiary in case of recoveries is governed by Article 22.

The beneficiaries (and their action) must remain eligible under the EU programme funding the grant for the entire duration of the action. Costs and contributions will be eligible only as long as the beneficiary and the action are eligible.

The **internal roles and responsibilities** of the beneficiaries are divided as follows:

(a) Each beneficiary must:

- (i) keep information stored in the Portal Participant Register up to date (see Article 19)
- (ii) inform the granting authority (and the other beneficiaries) immediately of any events or circumstances likely to affect significantly or delay the implementation of the action (see Article 19)
- (iii) submit to the coordinator in good time:
 - the prefinancing guarantees (if required; see Article 23)
 - the financial statements and certificates on the financial statements (CFS) (if required; see Articles 21 and 24.2 and Data Sheet, Point 4.3)
 - the contribution to the deliverables and technical reports (see Article 21)
 - any other documents or information required by the granting authority under the Agreement
- (iv) submit via the Portal data and information related to the participation of their affiliated entities.

(b) The coordinator must:

- (i) monitor that the action is implemented properly (see Article 11)
- (ii) act as the intermediary for all communications between the consortium and the granting authority, unless the Agreement or granting authority specifies otherwise, and in particular:

- submit the prefinancing guarantees to the granting authority (if any)
 - request and review any documents or information required and verify their quality and completeness before passing them on to the granting authority
 - submit the deliverables and reports to the granting authority
 - inform the granting authority about the payments made to the other beneficiaries (report on the distribution of payments; if required, see Articles 22 and 32)
- (iii) distribute the payments received from the granting authority to the other beneficiaries without unjustified delay (see Article 22).

The coordinator may not delegate or subcontract the above-mentioned tasks to any other beneficiary or third party (including affiliated entities).

However, coordinators which are public bodies may delegate the tasks set out in Point (b)(ii) last indent and (iii) above to entities with ‘authorisation to administer’ which they have created or which are controlled by or affiliated to them. In this case, the coordinator retains sole responsibility for the payments and for compliance with the obligations under the Agreement.

Moreover, coordinators which are ‘sole beneficiaries’¹² (or similar, such as European research infrastructure consortia (ERICs)) may delegate the tasks set out in Point (b)(i) to (iii) above to one of their members. The coordinator retains sole responsibility for compliance with the obligations under the Agreement.

The beneficiaries must have **internal arrangements** regarding their operation and co-ordination, to ensure that the action is implemented properly.

If required by the granting authority (see Data Sheet, Point 1), these arrangements must be set out in a written **consortium agreement** between the beneficiaries, covering for instance:

- the internal organisation of the consortium
- the management of access to the Portal
- different distribution keys for the payments and financial responsibilities in case of recoveries (if any)
- additional rules on rights and obligations related to background and results (see Article 16)
- settlement of internal disputes
- liability, indemnification and confidentiality arrangements between the beneficiaries.

The internal arrangements must not contain any provision contrary to this Agreement.

ARTICLE 8 — AFFILIATED ENTITIES

¹² For the definition, see Article 187(2) EU Financial Regulation 2018/1046: “Where several entities satisfy the criteria for being awarded a grant and together form one entity, that entity may be treated as the **sole beneficiary**, including where it is specifically established for the purpose of implementing the action financed by the grant.”

Not applicable

ARTICLE 9 — OTHER PARTICIPANTS INVOLVED IN THE ACTION

9.1 Associated partners

Not applicable

9.2 Third parties giving in-kind contributions to the action

Other third parties may give in-kind contributions to the action (i.e. personnel, equipment, other goods, works and services, etc. which are free-of-charge), if necessary for the implementation.

Third parties giving in-kind contributions do not implement any action tasks. They may not charge costs or contributions to the action and the costs for the in-kind contributions are not eligible.

The third parties and their in-kind contributions should be set out in Annex 1.

9.3 Subcontractors

Subcontractors may participate in the action, if necessary for the implementation.

Subcontractors must implement their action tasks in accordance with Article 11. The costs for the subcontracted tasks (invoiced price from the subcontractor) are eligible and may be charged by the beneficiaries, under the conditions set out in Article 6. The costs will be included in Annex 2 as part of the beneficiaries' costs.

The beneficiaries must ensure that their contractual obligations under Articles 11 (proper implementation), 12 (conflict of interest), 13 (confidentiality and security), 14 (ethics), 17.2 (visibility), 18 (specific rules for carrying out action), 19 (information) and 20 (record-keeping) also apply to the subcontractors.

The beneficiaries must ensure that the bodies mentioned in Article 25 (e.g. granting authority, OLAF, Court of Auditors (ECA), etc.) can exercise their rights also towards the subcontractors.

9.4 Recipients of financial support to third parties

If the action includes providing financial support to third parties (e.g. grants, prizes or similar forms of support), the beneficiaries must ensure that their contractual obligations under Articles 12 (conflict of interest), 13 (confidentiality and security), 14 (ethics), 17.2 (visibility), 18 (specific rules for carrying out action), 19 (information) and 20 (record-keeping) also apply to the third parties receiving the support (recipients).

The beneficiaries must also ensure that the bodies mentioned in Article 25 (e.g. granting authority, OLAF, Court of Auditors (ECA), etc.) can exercise their rights also towards the recipients.

ARTICLE 10 — PARTICIPANTS WITH SPECIAL STATUS

10.1 Non-EU participants

Participants which are established in a non-EU country (if any) undertake to comply with their obligations under the Agreement and:

- to respect general principles (including fundamental rights, values and ethical principles, environmental and labour standards, rules on classified information, intellectual property rights, visibility of funding and protection of personal data)
- for the submission of certificates under Article 24: to use qualified external auditors which are independent and comply with comparable standards as those set out in EU Directive 2006/43/EC¹³
- for the controls under Article 25: to allow for checks, reviews, audits and investigations (including on-the-spot checks, visits and inspections) by the bodies mentioned in that Article (e.g. granting authority, OLAF, Court of Auditors (ECA), etc.).

Special rules on dispute settlement apply (see Data Sheet, Point 5).

10.2 Participants which are international organisations

Participants which are international organisations (IOs; if any) undertake to comply with their obligations under the Agreement and:

- to respect general principles (including fundamental rights, values and ethical principles, environmental and labour standards, rules on classified information, intellectual property rights, visibility of funding and protection of personal data)
- for the submission of certificates under Article 24: to use either independent public officers or external auditors which comply with comparable standards as those set out in EU Directive 2006/43/EC
- for the controls under Article 25: to allow for the checks, reviews, audits and investigations by the bodies mentioned in that Article, taking into account the specific agreements concluded by them and the EU (if any).

For such participants, nothing in the Agreement will be interpreted as a waiver of their privileges or immunities, as accorded by their constituent documents or international law.

Special rules on applicable law and dispute settlement apply (see Article 43 and Data Sheet, Point 5).

10.3 Pillar-assessed participants

Pillar-assessed participants (if any) may rely on their own systems, rules and procedures, in so far as they have been positively assessed and do not call into question the decision awarding the grant or breach the principle of equal treatment of applicants or beneficiaries.

‘Pillar-assessment’ means a review by the European Commission on the systems, rules and procedures which participants use for managing EU grants (in particular internal control system, accounting system, external audits, financing of third parties, rules on recovery and exclusion, information on recipients and protection of personal data; see Article 154 EU Financial Regulation 2018/1046).

¹³ Directive 2006/43/EC of the European Parliament and of the Council of 17 May 2006 on statutory audits of annual accounts and consolidated accounts or similar national regulations (OJ L 157, 9.6.2006, p. 87).

Participants with a positive pillar assessment may rely on their own systems, rules and procedures, in particular for:

- record-keeping (Article 20): may be done in accordance with internal standards, rules and procedures
- currency conversion for financial statements (Article 21): may be done in accordance with usual accounting practices
- guarantees (Article 23): for public law bodies, prefinancing guarantees are not needed
- certificates (Article 24):
 - certificates on the financial statements (CFS): may be provided by their regular internal or external auditors and in accordance with their internal financial regulations and procedures
 - certificates on usual accounting practices (CoMUC): are not needed if those practices are covered by an ex-ante assessment

and use the following specific rules, for:

- recoveries (Article 22): in case of financial support to third parties, there will be no recovery if the participant has done everything possible to retrieve the undue amounts from the third party receiving the support (including legal proceedings) and non-recovery is not due to an error or negligence on its part
- checks, reviews, audits and investigations by the EU (Article 25): will be conducted taking into account the rules and procedures specifically agreed between them and the framework agreement (if any)
- impact evaluation (Article 26): will be conducted in accordance with the participant's internal rules and procedures and the framework agreement (if any)
- grant agreement suspension (Article 31): certain costs incurred during grant suspension are eligible (notably, minimum costs necessary for a possible resumption of the action and costs relating to contracts which were entered into before the pre-information letter was received and which could not reasonably be suspended, reallocated or terminated on legal grounds)
- grant agreement termination (Article 32): the final grant amount and final payment will be calculated taking into account also costs relating to contracts due for execution only after termination takes effect, if the contract was entered into before the pre-information letter was received and could not reasonably be terminated on legal grounds
- liability for damages (Article 33.2): the granting authority must be compensated for damage it sustains as a result of the implementation of the action or because the action was not implemented in full compliance with the Agreement only if the damage is due to an infringement of the participant's internal rules and procedures or due to a violation of third parties' rights by the participant or one of its employees or individual for whom the employees are responsible.

Participants whose pillar assessment covers procurement and granting procedures may also do

purchases, subcontracting and financial support to third parties (Article 6.2) in accordance with their internal rules and procedures for purchases, subcontracting and financial support.

Participants whose pillar assessment covers data protection rules may rely on their internal standards, rules and procedures for data protection (Article 15).

The participants may however not rely on provisions which would breach the principle of equal treatment of applicants or beneficiaries or call into question the decision awarding the grant, such as in particular:

- eligibility (Article 6)
- consortium roles and set-up (Articles 7-9)
- security and ethics (Articles 13, 14)
- IPR (including background and results, access rights and rights of use), communication, dissemination and visibility (Articles 16 and 17)
- information obligation (Article 19)
- payment, reporting and amendments (Articles 21, 22 and 39)
- rejections, reductions, suspensions and terminations (Articles 27, 28, 29-32)

If the pillar assessment was subject to remedial measures, reliance on the internal systems, rules and procedures is subject to compliance with those remedial measures.

Participants whose assessment has not yet been updated to cover (the new rules on) data protection may rely on their internal systems, rules and procedures, provided that they ensure that personal data is:

- processed lawfully, fairly and in a transparent manner in relation to the data subject
- collected for specified, explicit and legitimate purposes and not further processed in a manner that is incompatible with those purposes
- adequate, relevant and limited to what is necessary in relation to the purposes for which they are processed
- accurate and, where necessary, kept up to date
- kept in a form which permits identification of data subjects for no longer than is necessary for the purposes for which the data is processed and
- processed in a manner that ensures appropriate security of the personal data.

Participants must inform the coordinator without delay of any changes to the systems, rules and procedures that were part of the pillar assessment. The coordinator must immediately inform the granting authority.

Pillar-assessed participants that have also concluded a framework agreement with the EU, may moreover — under the same conditions as those above (i.e. not call into question the decision awarding

the grant or breach the principle of equal treatment of applicants or beneficiaries) — rely on the provisions set out in that framework agreement.

SECTION 2 RULES FOR CARRYING OUT THE ACTION

ARTICLE 11 — PROPER IMPLEMENTATION OF THE ACTION

11.1 Obligation to properly implement the action

The beneficiaries must implement the action as described in Annex 1 and in compliance with the provisions of the Agreement, the call conditions and all legal obligations under applicable EU, international and national law.

11.2 Consequences of non-compliance

If a beneficiary breaches any of its obligations under this Article, the grant may be reduced (see Article 28).

Such breaches may also lead to other measures described in Chapter 5.

ARTICLE 12 — CONFLICT OF INTERESTS

12.1 Conflict of interests

The beneficiaries must take all measures to prevent any situation where the impartial and objective implementation of the Agreement could be compromised for reasons involving family, emotional life, political or national affinity, economic interest or any other direct or indirect interest ('conflict of interests').

They must formally notify the granting authority without delay of any situation constituting or likely to lead to a conflict of interests and immediately take all the necessary steps to rectify this situation.

The granting authority may verify that the measures taken are appropriate and may require additional measures to be taken by a specified deadline.

12.2 Consequences of non-compliance

If a beneficiary breaches any of its obligations under this Article, the grant may be reduced (see Article 28) and the grant or the beneficiary may be terminated (see Article 32).

Such breaches may also lead to other measures described in Chapter 5.

ARTICLE 13 — CONFIDENTIALITY AND SECURITY

13.1 Sensitive information

The parties must keep confidential any data, documents or other material (in any form) that is identified as sensitive in writing ('sensitive information') — during the implementation of the action and for at least until the time-limit set out in the Data Sheet (see Point 6).

If a beneficiary requests, the granting authority may agree to keep such information confidential for a longer period.

Unless otherwise agreed between the parties, they may use sensitive information only to implement the Agreement.

The beneficiaries may disclose sensitive information to their personnel or other participants involved in the action only if they:

- (a) need to know it in order to implement the Agreement and
- (b) are bound by an obligation of confidentiality.

The granting authority may disclose sensitive information to its staff and to other EU institutions and bodies.

It may moreover disclose sensitive information to third parties, if:

- (a) this is necessary to implement the Agreement or safeguard the EU financial interests and
- (b) the recipients of the information are bound by an obligation of confidentiality.

The confidentiality obligations no longer apply if:

- (a) the disclosing party agrees to release the other party
- (b) the information becomes publicly available, without breaching any confidentiality obligation
- (c) the disclosure of the sensitive information is required by EU, international or national law.

Specific confidentiality rules (if any) are set out in Annex 5.

13.2 Classified information

The parties must handle classified information in accordance with the applicable EU, international or national law on classified information (in particular, Decision 2015/444¹⁴ and its implementing rules).

Deliverables which contain classified information must be submitted according to special procedures agreed with the granting authority.

Action tasks involving classified information may be subcontracted only after explicit approval (in writing) from the granting authority.

Classified information may not be disclosed to any third party (including participants involved in the action implementation) without prior explicit written approval from the granting authority.

Specific security rules (if any) are set out in Annex 5.

13.3 Consequences of non-compliance

¹⁴ Commission Decision 2015/444/EC, Euratom of 13 March 2015 on the security rules for protecting EU classified information (OJ L 72, 17.3.2015, p. 53).

If a beneficiary breaches any of its obligations under this Article, the grant may be reduced (see Article 28).

Such breaches may also lead to other measures described in Chapter 5.

ARTICLE 14 — ETHICS AND VALUES

14.1 Ethics

The action must be carried out in line with the highest ethical standards and the applicable EU, international and national law on ethical principles.

Specific ethics rules (if any) are set out in Annex 5.

14.2 Values

The beneficiaries must commit to and ensure the respect of basic EU values (such as respect for human dignity, freedom, democracy, equality, the rule of law and human rights, including the rights of minorities).

Specific rules on values (if any) are set out in Annex 5.

14.3 Consequences of non-compliance

If a beneficiary breaches any of its obligations under this Article, the grant may be reduced (see Article 28).

Such breaches may also lead to other measures described in Chapter 5.

ARTICLE 15 — DATA PROTECTION

15.1 Data processing by the granting authority

Any personal data under the Agreement will be processed under the responsibility of the data controller of the granting authority in accordance with and for the purposes set out in the Portal Privacy Statement.

For grants where the granting authority is the European Commission, an EU regulatory or executive agency, joint undertaking or other EU body, the processing will be subject to Regulation 2018/1725¹⁵.

15.2 Data processing by the beneficiaries

The beneficiaries must process personal data under the Agreement in compliance with the applicable EU, international and national law on data protection (in particular, Regulation 2016/679¹⁶).

¹⁵ Regulation (EU) 2018/1725 of the European Parliament and of the Council of 23 October 2018 on the protection of natural persons with regard to the processing of personal data by the Union institutions, bodies, offices and agencies and on the free movement of such data, and repealing Regulation (EC) No 45/2001 and Decision No 1247/2002/EC (OJ L 295, 21.11.2018, p. 39).

¹⁶ Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC ('GDPR') (OJ L 119, 4.5.2016, p. 1).

They must ensure that personal data is:

- processed lawfully, fairly and in a transparent manner in relation to the data subjects
- collected for specified, explicit and legitimate purposes and not further processed in a manner that is incompatible with those purposes
- adequate, relevant and limited to what is necessary in relation to the purposes for which they are processed
- accurate and, where necessary, kept up to date
- kept in a form which permits identification of data subjects for no longer than is necessary for the purposes for which the data is processed and
- processed in a manner that ensures appropriate security of the data.

The beneficiaries may grant their personnel access to personal data only if it is strictly necessary for implementing, managing and monitoring the Agreement. The beneficiaries must ensure that the personnel is under a confidentiality obligation.

The beneficiaries must inform the persons whose data are transferred to the granting authority and provide them with the Portal Privacy Statement.

15.3 Consequences of non-compliance

If a beneficiary breaches any of its obligations under this Article, the grant may be reduced (see Article 28).

Such breaches may also lead to other measures described in Chapter 5.

ARTICLE 16 — INTELLECTUAL PROPERTY RIGHTS (IPR) — BACKGROUND AND RESULTS — ACCESS RIGHTS AND RIGHTS OF USE

16.1 Background and access rights to background

The beneficiaries must give each other and the other participants access to the background identified as needed for implementing the action, subject to any specific rules in Annex 5.

‘Background’ means any data, know-how or information — whatever its form or nature (tangible or intangible), including any rights such as intellectual property rights — that is:

- (a) held by the beneficiaries before they acceded to the Agreement and
- (b) needed to implement the action or exploit the results.

If background is subject to rights of a third party, the beneficiary concerned must ensure that it is able to comply with its obligations under the Agreement.

16.2 Ownership of results

The granting authority does not obtain ownership of the results produced under the action.

‘Results’ means any tangible or intangible effect of the action, such as data, know-how or information, whatever its form or nature, whether or not it can be protected, as well as any rights attached to it, including intellectual property rights.

16.3 Rights of use of the granting authority on materials, documents and information received for policy, information, communication, dissemination and publicity purposes

The granting authority has the right to use non-sensitive information relating to the action and materials and documents received from the beneficiaries (notably summaries for publication, deliverables, as well as any other material, such as pictures or audio-visual material, in paper or electronic form) for policy, information, communication, dissemination and publicity purposes — during the action or afterwards.

The right to use the beneficiaries’ materials, documents and information is granted in the form of a royalty-free, non-exclusive and irrevocable licence, which includes the following rights:

- (a) **use for its own purposes** (in particular, making them available to persons working for the granting authority or any other EU service (including institutions, bodies, offices, agencies, etc.) or EU Member State institution or body; copying or reproducing them in whole or in part, in unlimited numbers; and communication through press information services)
- (b) **distribution to the public** (in particular, publication as hard copies and in electronic or digital format, publication on the internet, as a downloadable or non-downloadable file, broadcasting by any channel, public display or presentation, communicating through press information services, or inclusion in widely accessible databases or indexes)
- (c) **editing or redrafting** (including shortening, summarising, inserting other elements (e.g. meta-data, legends, other graphic, visual, audio or text elements), extracting parts (e.g. audio or video files), dividing into parts, use in a compilation)
- (d) **translation**
- (e) **storage** in paper, electronic or other form
- (f) **archiving**, in line with applicable document-management rules
- (g) the right to authorise **third parties** to act on its behalf or sub-license to third parties the modes of use set out in Points (b), (c), (d) and (f), if needed for the information, communication and publicity activity of the granting authority
- (h) **processing**, analysing, aggregating the materials, documents and information received and **producing derivative works**.

The rights of use are granted for the whole duration of the industrial or intellectual property rights concerned.

If materials or documents are subject to moral rights or third party rights (including intellectual property rights or rights of natural persons on their image and voice), the beneficiaries must ensure that they comply with their obligations under this Agreement (in particular, by obtaining the necessary licences and authorisations from the rights holders concerned).

Where applicable, the granting authority will insert the following information:

“© – [year] – [name of the copyright owner]. All rights reserved. Licensed to the [name of granting authority] under conditions.”

16.4 Specific rules on IPR, results and background

Specific rules regarding intellectual property rights, results and background (if any) are set out in Annex 5.

16.5 Consequences of non-compliance

If a beneficiary breaches any of its obligations under this Article, the grant may be reduced (see Article 28).

Such a breach may also lead to other measures described in Chapter 5.

ARTICLE 17 — COMMUNICATION, DISSEMINATION AND VISIBILITY

17.1 Communication — Dissemination — Promoting the action

Unless otherwise agreed with the granting authority, the beneficiaries must promote the action and its results by providing targeted information to multiple audiences (including the media and the public), in accordance with Annex 1 and in a strategic, coherent and effective manner.

Before engaging in a communication or dissemination activity expected to have a major media impact, the beneficiaries must inform the granting authority.

17.2 Visibility — European flag and funding statement

Unless otherwise agreed with the granting authority, communication activities of the beneficiaries related to the action (including media relations, conferences, seminars, information material, such as brochures, leaflets, posters, presentations, etc., in electronic form, via traditional or social media, etc.), dissemination activities and any infrastructure, equipment, vehicles, supplies or major result funded by the grant must acknowledge EU support and display the European flag (emblem) and funding statement (translated into local languages, where appropriate):



Funded by the
European Union



Co-funded by the
European Union



Funded by the
European Union



Co-funded by the
European Union

The emblem must remain distinct and separate and cannot be modified by adding other visual marks, brands or text.

Apart from the emblem, no other visual identity or logo may be used to highlight the EU support.

When displayed in association with other logos (e.g. of beneficiaries or sponsors), the emblem must be displayed at least as prominently and visibly as the other logos.

For the purposes of their obligations under this Article, the beneficiaries may use the emblem without first obtaining approval from the granting authority. This does not, however, give them the right to exclusive use. Moreover, they may not appropriate the emblem or any similar trademark or logo, either by registration or by any other means.

17.3 Quality of information — Disclaimer

Any communication or dissemination activity related to the action must use factually accurate information.

Moreover, it must indicate the following disclaimer (translated into local languages where appropriate):

“Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or [name of the granting authority]. Neither the European Union nor the granting authority can be held responsible for them.”

17.4 Specific communication, dissemination and visibility rules

Specific communication, dissemination and visibility rules (if any) are set out in Annex 5.

17.5 Consequences of non-compliance

If a beneficiary breaches any of its obligations under this Article, the grant may be reduced (see Article 28).

Such breaches may also lead to other measures described in Chapter 5.

ARTICLE 18 — SPECIFIC RULES FOR CARRYING OUT THE ACTION

18.1 Specific rules for carrying out the action

Specific rules for implementing the action (if any) are set out in Annex 5.

18.2 Consequences of non-compliance

If a beneficiary breaches any of its obligations under this Article, the grant may be reduced (see Article 28).

Such a breach may also lead to other measures described in Chapter 5.

SECTION 3 GRANT ADMINISTRATION

ARTICLE 19 — GENERAL INFORMATION OBLIGATIONS

19.1 Information requests

The beneficiaries must provide — during the action or afterwards and in accordance with Article 7 — any information requested in order to verify eligibility of the costs or contributions declared, proper implementation of the action and compliance with the other obligations under the Agreement.

The information provided must be accurate, precise and complete and in the format requested, including electronic format.

19.2 Participant Register data updates

The beneficiaries must keep — at all times, during the action or afterwards — their information stored in the Portal Participant Register up to date, in particular, their name, address, legal representatives, legal form and organisation type.

19.3 Information about events and circumstances which impact the action

The beneficiaries must immediately inform the granting authority (and the other beneficiaries) of any of the following:

- (a) **events** which are likely to affect or delay the implementation of the action or affect the EU's financial interests, in particular:
 - (i) changes in their legal, financial, technical, organisational or ownership situation (including changes linked to one of the exclusion grounds listed in the declaration of honour signed before grant signature)
 - (ii) linked action information: not applicable
- (b) **circumstances** affecting:
 - (i) the decision to award the grant or
 - (ii) compliance with requirements under the Agreement.

19.4 Consequences of non-compliance

If a beneficiary breaches any of its obligations under this Article, the grant may be reduced (see Article 28).

Such breaches may also lead to other measures described in Chapter 5.

ARTICLE 20 — RECORD-KEEPING

20.1 Keeping records and supporting documents

The beneficiaries must — at least until the time-limit set out in the Data Sheet (see Point 6) — keep records and other supporting documents to prove the proper implementation of the action in line with the accepted standards in the respective field (if any).

In addition, the beneficiaries must — for the same period — keep the following to justify the amounts declared:

- (a) for actual costs: adequate records and supporting documents to prove the costs declared (such as contracts, subcontracts, invoices and accounting records); in addition, the beneficiaries' usual accounting and internal control procedures must enable direct reconciliation between the amounts declared, the amounts recorded in their accounts and the amounts stated in the supporting documents
- (b) for flat-rate costs and contributions (if any): adequate records and supporting documents to prove the eligibility of the costs or contributions to which the flat-rate is applied
- (c) for the following simplified costs and contributions: the beneficiaries do not need to keep specific records on the actual costs incurred, but must keep:
 - (i) for unit costs and contributions (if any): adequate records and supporting documents to prove the number of units declared
 - (ii) for lump sum costs and contributions (if any): adequate records and supporting documents to prove proper implementation of the work as described in Annex 1
 - (iii) for financing not linked to costs (if any): adequate records and supporting documents to prove the achievement of the results or the fulfilment of the conditions as described in Annex 1
- (d) for unit, flat-rate and lump sum costs and contributions according to usual cost accounting practices (if any): the beneficiaries must keep any adequate records and supporting documents to prove that their cost accounting practices have been applied in a consistent manner, based on objective criteria, regardless of the source of funding, and that they comply with the eligibility conditions set out in Articles 6.1 and 6.2.

Moreover, the following is needed for specific budget categories:

- (e) for personnel costs: time worked for the beneficiary under the action must be supported by declarations signed monthly by the person and their supervisor, unless another reliable time-record system is in place; the granting authority may accept alternative evidence supporting the time worked for the action declared, if it considers that it offers an adequate level of assurance
- (f) additional record-keeping rules: not applicable

The records and supporting documents must be made available upon request (see Article 19) or in the context of checks, reviews, audits or investigations (see Article 25).

If there are on-going checks, reviews, audits, investigations, litigation or other pursuits of claims under the Agreement (including the extension of findings; see Article 25), the beneficiaries must keep these records and other supporting documentation until the end of these procedures.

The beneficiaries must keep the original documents. Digital and digitalised documents are considered originals if they are authorised by the applicable national law. The granting authority may accept non-original documents if they offer a comparable level of assurance.

20.2 Consequences of non-compliance

If a beneficiary breaches any of its obligations under this Article, costs or contributions insufficiently substantiated will be ineligible (see Article 6) and will be rejected (see Article 27), and the grant may be reduced (see Article 28).

Such breaches may also lead to other measures described in Chapter 5.

ARTICLE 21 — REPORTING

21.1 Continuous reporting

The beneficiaries must continuously report on the progress of the action (e.g. **deliverables, milestones, outputs/outcomes, critical risks, indicators**, etc; if any), in the Portal Continuous Reporting tool and in accordance with the timing and conditions it sets out (as agreed with the granting authority).

Standardised deliverables (e.g. progress reports not linked to payments, reports on cumulative expenditure, special reports, etc; if any) must be submitted using the templates published on the Portal.

21.2 Periodic reporting: Technical reports and financial statements

In addition, the beneficiaries must provide reports to request payments, in accordance with the schedule and modalities set out in the Data Sheet (see Point 4.2):

- for additional prefinancings (if any): an **additional prefinancing report**
- for interim payments (if any) and the final payment: a **periodic report**.

The prefinancing and periodic reports include a technical and financial part.

The technical part includes an overview of the action implementation. It must be prepared using the template available in the Portal Periodic Reporting tool.

The financial part of the additional prefinancing report includes a statement on the use of the previous prefinancing payment.

The financial part of the periodic report includes:

- the financial statements (individual and consolidated; for all beneficiaries/affiliated entities)
- the explanation on the use of resources (or detailed cost reporting table, if required)

- the certificates on the financial statements (CFS) (if required; see Article 24.2 and Data Sheet, Point 4.3).

The **financial statements** must detail the eligible costs and contributions for each budget category and, for the final payment, also the revenues for the action (see Articles 6 and 22).

All eligible costs and contributions incurred should be declared, even if they exceed the amounts indicated in the estimated budget (see Annex 2). Amounts that are not declared in the individual financial statements will not be taken into account by the granting authority.

By signing the financial statements (directly in the Portal Periodic Reporting tool), the beneficiaries confirm that:

- the information provided is complete, reliable and true
- the costs and contributions declared are eligible (see Article 6)
- the costs and contributions can be substantiated by adequate records and supporting documents (see Article 20) that will be produced upon request (see Article 19) or in the context of checks, reviews, audits and investigations (see Article 25)
- for the final periodic report: all the revenues have been declared (if required; see Article 22).

Beneficiaries will have to submit also the financial statements of their affiliated entities (if any). In case of recoveries (see Article 22), beneficiaries will be held responsible also for the financial statements of their affiliated entities.

21.3 Currency for financial statements and conversion into euros

The financial statements must be drafted in euro.

Beneficiaries with general accounts established in a currency other than the euro must convert the costs recorded in their accounts into euro, at the average of the daily exchange rates published in the C series of the *Official Journal of the European Union* (ECB website), calculated over the corresponding reporting period.

If no daily euro exchange rate is published in the *Official Journal* for the currency in question, they must be converted at the average of the monthly accounting exchange rates published on the European Commission website (InforEuro), calculated over the corresponding reporting period.

Beneficiaries with general accounts in euro must convert costs incurred in another currency into euro according to their usual accounting practices.

21.4 Reporting language

The reporting must be in the language of the Agreement, unless otherwise agreed with the granting authority (see Data Sheet, Point 4.2).

21.5 Consequences of non-compliance

If a report submitted does not comply with this Article, the granting authority may suspend the payment deadline (see Article 29) and apply other measures described in Chapter 5.

If the coordinator breaches its reporting obligations, the granting authority may terminate the grant or the coordinator's participation (see Article 32) or apply other measures described in Chapter 5.

ARTICLE 22 — PAYMENTS AND RECOVERIES — CALCULATION OF AMOUNTS DUE

22.1 Payments and payment arrangements

Payments will be made in accordance with the schedule and modalities set out in the Data Sheet (see Point 4.2).

They will be made in euro to the bank account indicated by the coordinator (see Data Sheet, Point 4.2) and must be distributed without unjustified delay (restrictions may apply to distribution of the initial prefinancing payment; see Data Sheet, Point 4.2).

Payments to this bank account will discharge the granting authority from its payment obligation.

The cost of payment transfers will be borne as follows:

- the granting authority bears the cost of transfers charged by its bank
- the beneficiary bears the cost of transfers charged by its bank
- the party causing a repetition of a transfer bears all costs of the repeated transfer.

Payments by the granting authority will be considered to have been carried out on the date when they are debited to its account.

22.2 Recoveries

Recoveries will be made, if — at beneficiary termination, final payment or afterwards — it turns out that the granting authority has paid too much and needs to recover the amounts undue.

The general liability regime for recoveries (first-line liability) is as follows: At final payment, the coordinator will be fully liable for recoveries, even if it has not been the final recipient of the undue amounts. At beneficiary termination or after final payment, recoveries will be made directly against the beneficiaries concerned.

Beneficiaries will be fully liable for repaying the debts of their affiliated entities.

In case of enforced recoveries (see Article 22.4):

- the beneficiaries will be jointly and severally liable for repaying debts of another beneficiary under the Agreement (including late-payment interest), if required by the granting authority (see Data Sheet, Point 4.4)
- affiliated entities will be held liable for repaying debts of their beneficiaries under the Agreement (including late-payment interest), if required by the granting authority (see Data Sheet, Point 4.4).

22.3 Amounts due

22.3.1 Prefinancing payments

The aim of the prefinancing is to provide the beneficiaries with a float.

It remains the property of the EU until the final payment.

For **initial prefinancings** (if any), the amount due, schedule and modalities are set out in the Data Sheet (see Point 4.2).

For **additional prefinancings** (if any), the amount due, schedule and modalities are also set out in the Data Sheet (see Point 4.2). However, if the statement on the use of the previous prefinancing payment shows that less than 70% was used, the amount set out in the Data Sheet will be reduced by the difference between the 70% threshold and the amount used.

Prefinancing payments (or parts of them) may be offset (without the beneficiaries' consent) against amounts owed by a beneficiary to the granting authority — up to the amount due to that beneficiary.

For grants where the granting authority is the European Commission or an EU executive agency, offsetting may also be done against amounts owed to other Commission services or executive agencies.

Payments will not be made if the payment deadline or payments are suspended (see Articles 29 and 30).

22.3.2 Amount due at beneficiary termination — Recovery

In case of beneficiary termination, the granting authority will determine the provisional amount due for the beneficiary concerned. Payments (if any) will be made with the next interim or final payment.

The **amount due** will be calculated in the following step:

Step 1 — Calculation of the total accepted EU contribution

Step 1 — Calculation of the total accepted EU contribution

The granting authority will first calculate the 'accepted EU contribution' for the beneficiary for all reporting periods, by calculating the 'maximum EU contribution to costs' (applying the funding rate to the accepted costs of the beneficiary), taking into account requests for a lower contribution to costs and CFS threshold cappings (if any; see Article 24.5) and adding the contributions (accepted unit, flat-rate or lump sum contributions and financing not linked to costs, if any).

After that, the granting authority will take into account grant reductions (if any). The resulting amount is the 'total accepted EU contribution' for the beneficiary.

The **balance** is then calculated by deducting the payments received (if any; see report on the distribution of payments in Article 32), from the total accepted EU contribution:

$$\left. \begin{array}{l} \{\text{total accepted EU contribution for the beneficiary} \\ \text{minus} \\ \{\text{prefinancing and interim payments received (if any)}\} \end{array} \right\}$$

If the balance is **positive**, the amount will be included in the next interim or final payment to the consortium.

If the balance is **negative**, it will be **recovered** in accordance with the following procedure:

The granting authority will send a **pre-information letter** to the beneficiary concerned:

- formally notifying the intention to recover, the amount due, the amount to be recovered and the reasons why and
- requesting observations within 30 days of receiving notification.

If no observations are submitted (or the granting authority decides to pursue recovery despite the observations it has received), it will confirm the amount to be recovered and ask this amount to be paid to the coordinator (**confirmation letter**).

The amounts will later on also be taken into account for the next interim or final payment.

22.3.3 Interim payments

Interim payments reimburse the eligible costs and contributions claimed for the implementation of the action during the reporting periods (if any).

Interim payments (if any) will be made in accordance with the schedule and modalities set out the Data Sheet (see Point 4.2).

Payment is subject to the approval of the periodic report. Its approval does not imply recognition of compliance, authenticity, completeness or correctness of its content.

The **interim payment** will be calculated by the granting authority in the following steps:

Step 1 — Calculation of the total accepted EU contribution

Step 2 — Limit to the interim payment ceiling

Step 1 — Calculation of the total accepted EU contribution

The granting authority will calculate the ‘accepted EU contribution’ for the action for the reporting period, by first calculating the ‘maximum EU contribution to costs’ (applying the funding rate to the accepted costs of each beneficiary), taking into account requests for a lower contribution to costs, and CFS threshold cappings (if any; see Article 24.5) and adding the contributions (accepted unit, flat-rate or lump sum contributions and financing not linked to costs, if any).

After that, the granting authority will take into account grant reductions from beneficiary termination (if any). The resulting amount is the ‘total accepted EU contribution’.

Step 2 — Limit to the interim payment ceiling

The resulting amount is then capped to ensure that the total amount of prefinancing and interim payments (if any) does not exceed the interim payment ceiling set out in the Data Sheet (see Point 4.2).

Interim payments (or parts of them) may be offset (without the beneficiaries’ consent) against amounts owed by a beneficiary to the granting authority — up to the amount due to that beneficiary.

For grants where the granting authority is the European Commission or an EU executive agency, offsetting may also be done against amounts owed to other Commission services or executive agencies.

Payments will not be made if the payment deadline or payments are suspended (see Articles 29 and 30).

22.3.4 Final payment — Final grant amount — Revenues and Profit — Recovery

The final payment (payment of the balance) reimburses the remaining part of the eligible costs and contributions claimed for the implementation of the action (if any).

The final payment will be made in accordance with the schedule and modalities set out in the Data Sheet (see Point 4.2).

Payment is subject to the approval of the final periodic report. Its approval does not imply recognition of compliance, authenticity, completeness or correctness of its content.

The **final grant amount for the action** will be calculated in the following steps:

Step 1 — Calculation of the total accepted EU contribution

Step 2 — Limit to the maximum grant amount

Step 3 — Reduction due to the no-profit rule

Step 1 — Calculation of the total accepted EU contribution

The granting authority will first calculate the ‘accepted EU contribution’ for the action for all reporting periods, by calculating the ‘maximum EU contribution to costs’ (applying the funding rate to the total accepted costs of each beneficiary), taking into account requests for a lower contribution to costs, CFS threshold cappings (if any; see Article 24.5) and adding the contributions (accepted unit, flat-rate or lump sum contributions and financing not linked to costs, if any).

After that, the granting authority will take into account grant reductions (if any). The resulting amount is the ‘total accepted EU contribution’.

Step 2 — Limit to the maximum grant amount

If the resulting amount is higher than the maximum grant amount set out in Article 5.2, it will be limited to the latter.

Step 3 — Reduction due to the no-profit rule

If the no-profit rule is provided for in the Data Sheet (see Point 4.2), the grant must not produce a profit (i.e. surplus of the amount obtained following Step 2 plus the action’s revenues, over the eligible costs and contributions approved by the granting authority).

‘Revenue’ is all income generated by the action, during its duration (see Article 4), for beneficiaries that are profit legal entities.

If there is a profit, it will be deducted in proportion to the final rate of reimbursement of the eligible

costs approved by the granting authority (as compared to the amount calculated following Steps 1 and 2 minus the contributions).

The **balance** (final payment) is then calculated by deducting the total amount of prefinancing and interim payments already made (if any), from the final grant amount:

$$\left\{ \begin{array}{l} \text{final grant amount} \\ \text{minus} \\ \text{prefinancing and interim payments made (if any)} \end{array} \right\}.$$

If the balance is **positive**, it will be **paid** to the coordinator.

The final payment (or part of it) may be offset (without the beneficiaries' consent) against amounts owed by a beneficiary to the granting authority — up to the amount due to that beneficiary.

For grants where the granting authority is the European Commission or an EU executive agency, offsetting may also be done against amounts owed to other Commission services or executive agencies.

Payments will not be made if the payment deadline or payments are suspended (see Articles 29 and 30).

If the balance is **negative**, it will be **recovered** in accordance with the following procedure:

The granting authority will send a **pre-information letter** to the coordinator:

- formally notifying the intention to recover, the final grant amount, the amount to be recovered and the reasons why
- requesting observations within 30 days of receiving notification.

If no observations are submitted (or the granting authority decides to pursue recovery despite the observations it has received), it will confirm the amount to be recovered (**confirmation letter**), together with a **debit note** with the terms and date for payment.

If payment is not made by the date specified in the debit note, the granting authority will **enforce recovery** in accordance with Article 22.4.

22.3.5 Audit implementation after final payment — Revised final grant amount — Recovery

If — after the final payment (in particular, after checks, reviews, audits or investigations; see Article 25) — the granting authority rejects costs or contributions (see Article 27) or reduces the grant (see Article 28), it will calculate the **revised final grant amount** for the beneficiary concerned.

The **beneficiary revised final grant amount** will be calculated in the following step:

Step 1 — Calculation of the revised total accepted EU contribution

Step 1 — Calculation of the revised total accepted EU contribution

The granting authority will first calculate the 'revised accepted EU contribution' for the beneficiary, by calculating the 'revised accepted costs' and 'revised accepted contributions'.

After that, it will take into account grant reductions (if any). The resulting ‘revised total accepted EU contribution’ is the beneficiary revised final grant amount.

If the revised final grant amount is lower than the beneficiary’s final grant amount (i.e. its share in the final grant amount for the action), it will be **recovered** in accordance with the following procedure:

The **beneficiary final grant amount** (i.e. share in the final grant amount for the action) is calculated as follows:

$$\left\{ \begin{array}{l} \text{\{total accepted EU contribution for the beneficiary} \\ \text{divided by} \\ \text{total accepted EU contribution for the action\}} \\ \text{multiplied by} \\ \text{final grant amount for the action\}}. \end{array} \right.$$

The granting authority will send a **pre-information letter** to the beneficiary concerned:

- formally notifying the intention to recover, the amount to be recovered and the reasons why and
- requesting observations within 30 days of receiving notification.

If no observations are submitted (or the granting authority decides to pursue recovery despite the observations it has received), it will confirm the amount to be recovered (**confirmation letter**), together with a **debit note** with the terms and the date for payment.

Recoveries against affiliated entities (if any) will be handled through their beneficiaries.

If payment is not made by the date specified in the debit note, the granting authority will **enforce recovery** in accordance with Article 22.4.

22.4 Enforced recovery

If payment is not made by the date specified in the debit note, the amount due will be recovered:

- (a) by offsetting the amount — without the coordinator or beneficiary’s consent — against any amounts owed to the coordinator or beneficiary by the granting authority.

In exceptional circumstances, to safeguard the EU financial interests, the amount may be offset before the payment date specified in the debit note.

For grants where the granting authority is the European Commission or an EU executive agency, debts may also be offset against amounts owed by other Commission services or executive agencies.

- (b) by drawing on the financial guarantee(s) (if any)
- (c) by holding other beneficiaries jointly and severally liable (if any; see Data Sheet, Point 4.4)
- (d) by holding affiliated entities jointly and severally liable (if any, see Data Sheet, Point 4.4)
- (e) by taking legal action (see Article 43) or, provided that the granting authority is the European

Commission or an EU executive agency, by adopting an enforceable decision under Article 299 of the Treaty on the Functioning of the EU (TFEU) and Article 100(2) of EU Financial Regulation 2018/1046.

The amount to be recovered will be increased by **late-payment interest** at the rate set out in Article 22.5, from the day following the payment date in the debit note, up to and including the date the full payment is received.

Partial payments will be first credited against expenses, charges and late-payment interest and then against the principal.

Bank charges incurred in the recovery process will be borne by the beneficiary, unless Directive 2015/2366¹⁷ applies.

For grants where the granting authority is an EU executive agency, enforced recovery by offsetting or enforceable decision will be done by the services of the European Commission (see also Article 43).

22.5 Consequences of non-compliance

22.5.1 If the granting authority does not pay within the payment deadlines (see above), the beneficiaries are entitled to **late-payment interest** at the rate applied by the European Central Bank (ECB) for its main refinancing operations in euros ('reference rate'), plus the rate specified in the Data Sheet (Point 4.2). The reference rate is the rate in force on the first day of the month in which the payment deadline expires, as published in the C series of the *Official Journal of the European Union*.

If the late-payment interest is lower than or equal to EUR 200, it will be paid to the coordinator only on request submitted within two months of receiving the late payment.

Late-payment interest is not due if all beneficiaries are EU Member States (including regional and local government authorities or other public bodies acting on behalf of a Member State for the purpose of this Agreement).

If payments or the payment deadline are suspended (see Articles 29 and 30), payment will not be considered as late.

Late-payment interest covers the period running from the day following the due date for payment (see above), up to and including the date of payment.

Late-payment interest is not considered for the purposes of calculating the final grant amount.

22.5.2 If the coordinator breaches any of its obligations under this Article, the grant may be reduced (see Article 28) and the grant or the coordinator may be terminated (see Article 32).

Such breaches may also lead to other measures described in Chapter 5.

ARTICLE 23 — GUARANTEES

23.1 Prefinancing guarantee

¹⁷ Directive (EU) 2015/2366 of the European Parliament and of the Council of 25 November 2015 on payment services in the internal market, amending Directives 2002/65/EC, 2009/110/EC and 2013/36/EU and Regulation (EU) No 1093/2010, and repealing Directive 2007/64/EC (OJ L 337, 23.12.2015, p. 35).

If required by the granting authority (see Data Sheet, Point 4.2), the beneficiaries must provide (one or more) prefinancing guarantee(s) in accordance with the timing and the amounts set out in the Data Sheet.

The coordinator must submit them to the granting authority in due time before the prefinancing they are linked to.

The guarantees must be drawn up using the template published on the Portal and fulfil the following conditions:

- (a) be provided by a bank or approved financial institution established in the EU or — if requested by the coordinator and accepted by the granting authority — by a third party or a bank or financial institution established outside the EU offering equivalent security
- (b) the guarantor stands as first-call guarantor and does not require the granting authority to first have recourse against the principal debtor (i.e. the beneficiary concerned) and
- (c) remain explicitly in force until the final payment and, if the final payment takes the form of a recovery, until five months after the debit note is notified to a beneficiary.

They will be released within the following month.

23.2 Consequences of non-compliance

If the beneficiaries breach their obligation to provide the prefinancing guarantee, the prefinancing will not be paid.

Such breaches may also lead to other measures described in Chapter 5.

ARTICLE 24 — CERTIFICATES

24.1 Operational verification report (OVR)

Not applicable

24.2 Certificate on the financial statements (CFS)

If required by the granting authority (see Data Sheet, Point 4.3), the beneficiaries must provide certificates on their financial statements (CFS), in accordance with the schedule, threshold and conditions set out in the Data Sheet.

The coordinator must submit them as part of the periodic report (see Article 21).

The certificates must be drawn up using the template published on the Portal, cover the costs declared on the basis of actual costs and costs according to usual cost accounting practices (if any), and fulfil the following conditions:

- (a) be provided by a qualified approved external auditor which is independent and complies with Directive 2006/43/EC¹⁸ (or for public bodies: by a competent independent public officer)

¹⁸ Directive 2006/43/EC of the European Parliament and of the Council of 17 May 2006 on statutory audits of annual accounts and consolidated accounts or similar national regulations (OJ L 157, 9.6.2006, p. 87).

- (b) the verification must be carried out according to the highest professional standards to ensure that the financial statements comply with the provisions under the Agreement and that the costs declared are eligible.

The certificates will not affect the granting authority's right to carry out its own checks, reviews or audits, nor preclude the European Court of Auditors (ECA), the European Public Prosecutor's Office (EPPO) or the European Anti-Fraud Office (OLAF) from using their prerogatives for audits and investigations under the Agreement (see Article 25).

If the costs (or a part of them) were already audited by the granting authority, these costs do not need to be covered by the certificate and will not be counted for calculating the threshold (if any).

24.3 Certificate on the compliance of usual cost accounting practices (CoMUC)

Not applicable

24.4 Systems and process audit (SPA)

Not applicable

24.5 Consequences of non-compliance

If a beneficiary does not submit a certificate on the financial statements (CFS) or the certificate is rejected, the accepted EU contribution to costs will be capped to reflect the CFS threshold.

If a beneficiary breaches any of its other obligations under this Article, the granting authority may apply the measures described in Chapter 5.

ARTICLE 25 — CHECKS, REVIEWS, AUDITS AND INVESTIGATIONS — EXTENSION OF FINDINGS

25.1 Granting authority checks, reviews and audits

25.1.1 Internal checks

The granting authority may — during the action or afterwards — check the proper implementation of the action and compliance with the obligations under the Agreement, including assessing costs and contributions, deliverables and reports.

25.1.2 Project reviews

The granting authority may carry out reviews on the proper implementation of the action and compliance with the obligations under the Agreement (general project reviews or specific issues reviews).

Such project reviews may be started during the implementation of the action and until the time-limit set out in the Data Sheet (see Point 6). They will be formally notified to the coordinator or beneficiary concerned and will be considered to start on the date of the notification.

If needed, the granting authority may be assisted by independent, outside experts. If it uses outside experts, the coordinator or beneficiary concerned will be informed and have the right to object on grounds of commercial confidentiality or conflict of interest.

The coordinator or beneficiary concerned must cooperate diligently and provide — within the deadline requested — any information and data in addition to deliverables and reports already submitted (including information on the use of resources). The granting authority may request beneficiaries to provide such information to it directly. Sensitive information and documents will be treated in accordance with Article 13.

The coordinator or beneficiary concerned may be requested to participate in meetings, including with the outside experts.

For **on-the-spot visits**, the beneficiary concerned must allow access to sites and premises (including to the outside experts) and must ensure that information requested is readily available.

Information provided must be accurate, precise and complete and in the format requested, including electronic format.

On the basis of the review findings, a **project review report** will be drawn up.

The granting authority will formally notify the project review report to the coordinator or beneficiary concerned, which has 30 days from receiving notification to make observations.

Project reviews (including project review reports) will be in the language of the Agreement.

25.1.3 Audits

The granting authority may carry out audits on the proper implementation of the action and compliance with the obligations under the Agreement.

Such audits may be started during the implementation of the action and until the time-limit set out in the Data Sheet (see Point 6). They will be formally notified to the beneficiary concerned and will be considered to start on the date of the notification.

The granting authority may use its own audit service, delegate audits to a centralised service or use external audit firms. If it uses an external firm, the beneficiary concerned will be informed and have the right to object on grounds of commercial confidentiality or conflict of interest.

The beneficiary concerned must cooperate diligently and provide — within the deadline requested — any information (including complete accounts, individual salary statements or other personal data) to verify compliance with the Agreement. Sensitive information and documents will be treated in accordance with Article 13.

For **on-the-spot** visits, the beneficiary concerned must allow access to sites and premises (including for the external audit firm) and must ensure that information requested is readily available.

Information provided must be accurate, precise and complete and in the format requested, including electronic format.

On the basis of the audit findings, a **draft audit report** will be drawn up.

The auditors will formally notify the draft audit report to the beneficiary concerned, which has 30 days from receiving notification to make observations (contradictory audit procedure).

The **final audit report** will take into account observations by the beneficiary concerned and will be formally notified to them.

Audits (including audit reports) will be in the language of the Agreement.

25.2 European Commission checks, reviews and audits in grants of other granting authorities

Where the granting authority is not the European Commission, the latter has the same rights of checks, reviews and audits as the granting authority.

25.3 Access to records for assessing simplified forms of funding

The beneficiaries must give the European Commission access to their statutory records for the periodic assessment of simplified forms of funding which are used in EU programmes.

25.4 OLAF, EPPO and ECA audits and investigations

The following bodies may also carry out checks, reviews, audits and investigations — during the action or afterwards:

- the European Anti-Fraud Office (OLAF) under Regulations No 883/2013¹⁹ and No 2185/96²⁰
- the European Public Prosecutor's Office (EPPO) under Regulation 2017/1939
- the European Court of Auditors (ECA) under Article 287 of the Treaty on the Functioning of the EU (TFEU) and Article 257 of EU Financial Regulation 2018/1046.

If requested by these bodies, the beneficiary concerned must provide full, accurate and complete information in the format requested (including complete accounts, individual salary statements or other personal data, including in electronic format) and allow access to sites and premises for on-the-spot visits or inspections — as provided for under these Regulations.

To this end, the beneficiary concerned must keep all relevant information relating to the action, at least until the time-limit set out in the Data Sheet (Point 6) and, in any case, until any ongoing checks, reviews, audits, investigations, litigation or other pursuits of claims have been concluded.

25.5 Consequences of checks, reviews, audits and investigations — Extension of results of reviews, audits or investigations

25.5.1 Consequences of checks, reviews, audits and investigations in this grant

Findings in checks, reviews, audits or investigations carried out in the context of this grant may lead to rejections (see Article 27), grant reduction (see Article 28) or other measures described in Chapter 5.

Rejections or grant reductions after the final payment will lead to a revised final grant amount (see Article 22).

¹⁹ Regulation (EU, Euratom) No 883/2013 of the European Parliament and of the Council of 11 September 2013 concerning investigations conducted by the European Anti-Fraud Office (OLAF) and repealing Regulation (EC) No 1073/1999 of the European Parliament and of the Council and Council Regulation (Euratom) No 1074/1999 (OJ L 248, 18/09/2013, p. 1).

²⁰ Council Regulation (Euratom, EC) No 2185/96 of 11 November 1996 concerning on-the-spot checks and inspections carried out by the Commission in order to protect the European Communities' financial interests against fraud and other irregularities (OJ L 292, 15/11/1996, p. 2).

Findings in checks, reviews, audits or investigations during the action implementation may lead to a request for amendment (see Article 39), to change the description of the action set out in Annex 1.

Checks, reviews, audits or investigations that find systemic or recurrent errors, irregularities, fraud or breach of obligations in any EU grant may also lead to consequences in other EU grants awarded under similar conditions ('extension to other grants').

Moreover, findings arising from an OLAF or EPPO investigation may lead to criminal prosecution under national law.

25.5.2 Extension from other grants

Results of checks, reviews, audits or investigations in other grants may be extended to this grant, if:

- (a) the beneficiary concerned is found, in other EU grants awarded under similar conditions, to have committed systemic or recurrent errors, irregularities, fraud or breach of obligations that have a material impact on this grant and
- (b) those findings are formally notified to the beneficiary concerned — together with the list of grants affected by the findings — within the time-limit for audits set out in the Data Sheet (see Point 6).

The granting authority will formally notify the beneficiary concerned of the intention to extend the findings and the list of grants affected.

If the extension concerns **rejections of costs or contributions**: the notification will include:

- (a) an invitation to submit observations on the list of grants affected by the findings
- (b) the request to submit revised financial statements for all grants affected
- (c) the correction rate for extrapolation, established on the basis of the systemic or recurrent errors, to calculate the amounts to be rejected, if the beneficiary concerned:
 - (i) considers that the submission of revised financial statements is not possible or practicable or
 - (ii) does not submit revised financial statements.

If the extension concerns **grant reductions**: the notification will include:

- (a) an invitation to submit observations on the list of grants affected by the findings and
- (b) the **correction rate for extrapolation**, established on the basis of the systemic or recurrent errors and the principle of proportionality.

The beneficiary concerned has **60 days** from receiving notification to submit observations, revised financial statements or to propose a duly substantiated **alternative correction method/rate**.

On the basis of this, the granting authority will analyse the impact and decide on the implementation (i.e. start rejection or grant reduction procedures, either on the basis of the revised financial statements or the announced/alternative method/rate or a mix of those; see Articles 27 and 28).

25.6 Consequences of non-compliance

If a beneficiary breaches any of its obligations under this Article, costs or contributions insufficiently substantiated will be ineligible (see Article 6) and will be rejected (see Article 27), and the grant may be reduced (see Article 28).

Such breaches may also lead to other measures described in Chapter 5.

ARTICLE 26 — IMPACT EVALUATIONS

26.1 Impact evaluation

The granting authority may carry out impact evaluations of the action, measured against the objectives and indicators of the EU programme funding the grant.

Such evaluations may be started during implementation of the action and until the time-limit set out in the Data Sheet (see Point 6). They will be formally notified to the coordinator or beneficiaries and will be considered to start on the date of the notification.

If needed, the granting authority may be assisted by independent outside experts.

The coordinator or beneficiaries must provide any information relevant to evaluate the impact of the action, including information in electronic format.

26.2 Consequences of non-compliance

If a beneficiary breaches any of its obligations under this Article, the granting authority may apply the measures described in Chapter 5.

CHAPTER 5 CONSEQUENCES OF NON-COMPLIANCE

SECTION 1 REJECTIONS AND GRANT REDUCTION

ARTICLE 27 — REJECTION OF COSTS AND CONTRIBUTIONS

27.1 Conditions

The granting authority will — at beneficiary termination, interim payment, final payment or afterwards — reject any costs or contributions which are ineligible (see Article 6), in particular following checks, reviews, audits or investigations (see Article 25).

The rejection may also be based on the extension of findings from other grants to this grant (see Article 25).

Ineligible costs or contributions will be rejected.

27.2 Procedure

If the rejection does not lead to a recovery, the granting authority will formally notify the coordinator or beneficiary concerned of the rejection, the amounts and the reasons why. The coordinator or

beneficiary concerned may — within 30 days of receiving notification — submit observations if it disagrees with the rejection (payment review procedure).

If the rejection leads to a recovery, the granting authority will follow the contradictory procedure with pre-information letter set out in Article 22.

27.3 Effects

If the granting authority rejects costs or contributions, it will deduct them from the costs or contributions declared and then calculate the amount due (and, if needed, make a recovery; see Article 22).

ARTICLE 28 — GRANT REDUCTION

28.1 Conditions

The granting authority may — at beneficiary termination, final payment or afterwards — reduce the grant for a beneficiary, if:

- (a) the beneficiary (or a person having powers of representation, decision-making or control, or person essential for the award/implementation of the grant) has committed:
 - (i) substantial errors, irregularities or fraud or
 - (ii) serious breach of obligations under this Agreement or during its award (including improper implementation of the action, non-compliance with the call conditions, submission of false information, failure to provide required information, breach of ethics or security rules (if applicable), etc.), or
- (b) the beneficiary (or a person having powers of representation, decision-making or control, or person essential for the award/implementation of the grant) has committed — in other EU grants awarded to it under similar conditions — systemic or recurrent errors, irregularities, fraud or serious breach of obligations that have a material impact on this grant (see Article 25).

The amount of the reduction will be calculated for each beneficiary concerned and proportionate to the seriousness and the duration of the errors, irregularities or fraud or breach of obligations, by applying an individual reduction rate to their accepted EU contribution.

28.2 Procedure

If the grant reduction does not lead to a recovery, the granting authority will formally notify the coordinator or beneficiary concerned of the reduction, the amount to be reduced and the reasons why. The coordinator or beneficiary concerned may — within 30 days of receiving notification — submit observations if it disagrees with the reduction (payment review procedure).

If the grant reduction leads to a recovery, the granting authority will follow the contradictory procedure with pre-information letter set out in Article 22.

28.3 Effects

If the granting authority reduces the grant, it will deduct the reduction and then calculate the amount due (and, if needed, make a recovery; see Article 22).

SECTION 2 SUSPENSION AND TERMINATION

ARTICLE 29 — PAYMENT DEADLINE SUSPENSION

29.1 Conditions

The granting authority may — at any moment — suspend the payment deadline if a payment cannot be processed because:

- (a) the required report (see Article 21) has not been submitted or is not complete or additional information is needed
- (b) there are doubts about the amount to be paid (e.g. ongoing audit extension procedure, queries about eligibility, need for a grant reduction, etc.) and additional checks, reviews, audits or investigations are necessary, or
- (c) there are other issues affecting the EU financial interests.

29.2 Procedure

The granting authority will formally notify the coordinator of the suspension and the reasons why.

The suspension will **take effect** the day the notification is sent.

If the conditions for suspending the payment deadline are no longer met, the suspension will be **lifted** — and the remaining time to pay (see Data Sheet, Point 4.2) will resume.

If the suspension exceeds two months, the coordinator may request the granting authority to confirm if the suspension will continue.

If the payment deadline has been suspended due to the non-compliance of the report and the revised report is not submitted (or was submitted but is also rejected), the granting authority may also terminate the grant or the participation of the coordinator (see Article 32).

ARTICLE 30 — PAYMENT SUSPENSION

30.1 Conditions

The granting authority may — at any moment — suspend payments, in whole or in part for one or more beneficiaries, if:

- (a) a beneficiary (or a person having powers of representation, decision-making or control, or person essential for the award/implementation of the grant) has committed or is suspected of having committed:
 - (i) substantial errors, irregularities or fraud or
 - (ii) serious breach of obligations under this Agreement or during its award (including

improper implementation of the action, non-compliance with the call conditions, submission of false information, failure to provide required information, breach of ethics or security rules (if applicable), etc.), or

- (b) a beneficiary (or a person having powers of representation, decision-making or control, or person essential for the award/implementation of the grant) has committed — in other EU grants awarded to it under similar conditions — systemic or recurrent errors, irregularities, fraud or serious breach of obligations that have a material impact on this grant.

If payments are suspended for one or more beneficiaries, the granting authority will make partial payment(s) for the part(s) not suspended. If suspension concerns the final payment, the payment (or recovery) of the remaining amount after suspension is lifted will be considered to be the payment that closes the action.

30.2 Procedure

Before suspending payments, the granting authority will send a **pre-information letter** to the beneficiary concerned:

- formally notifying the intention to suspend payments and the reasons why and
- requesting observations within 30 days of receiving notification.

If the granting authority does not receive observations or decides to pursue the procedure despite the observations it has received, it will confirm the suspension (**confirmation letter**). Otherwise, it will formally notify that the procedure is discontinued.

At the end of the suspension procedure, the granting authority will also inform the coordinator.

The suspension will **take effect** the day after the confirmation notification is sent.

If the conditions for resuming payments are met, the suspension will be **lifted**. The granting authority will formally notify the beneficiary concerned (and the coordinator) and set the suspension end date.

During the suspension, no prefinancing will be paid to the beneficiaries concerned. For interim payments, the periodic reports for all reporting periods except the last one (see Article 21) must not contain any financial statements from the beneficiary concerned (or its affiliated entities). The coordinator must include them in the next periodic report after the suspension is lifted or — if suspension is not lifted before the end of the action — in the last periodic report.

ARTICLE 31 — GRANT AGREEMENT SUSPENSION

31.1 Consortium-requested GA suspension

31.1.1 Conditions and procedure

The beneficiaries may request the suspension of the grant or any part of it, if exceptional circumstances — in particular *force majeure* (see Article 35) — make implementation impossible or excessively difficult.

The coordinator must submit a request for **amendment** (see Article 39), with:

- the reasons why
- the date the suspension takes effect; this date may be before the date of the submission of the amendment request and
- the expected date of resumption.

The suspension will **take effect** on the day specified in the amendment.

Once circumstances allow for implementation to resume, the coordinator must immediately request another **amendment** of the Agreement to set the suspension end date, the resumption date (one day after suspension end date), extend the duration and make other changes necessary to adapt the action to the new situation (see Article 39) — unless the grant has been terminated (see Article 32). The suspension will be **lifted** with effect from the suspension end date set out in the amendment. This date may be before the date of the submission of the amendment request.

During the suspension, no prefinancing will be paid. Costs incurred or contributions for activities implemented during grant suspension are not eligible (see Article 6.3).

31.2 EU-initiated GA suspension

31.2.1 Conditions

The granting authority may suspend the grant or any part of it, if:

- (a) a beneficiary (or a person having powers of representation, decision-making or control, or person essential for the award/implementation of the grant) has committed or is suspected of having committed:
 - (i) substantial errors, irregularities or fraud or
 - (ii) serious breach of obligations under this Agreement or during its award (including improper implementation of the action, non-compliance with the call conditions, submission of false information, failure to provide required information, breach of ethics or security rules (if applicable), etc.), or
- (b) a beneficiary (or a person having powers of representation, decision-making or control, or person essential for the award/implementation of the grant) has committed — in other EU grants awarded to it under similar conditions — systemic or recurrent errors, irregularities, fraud or serious breach of obligations that have a material impact on this grant
- (c) other:
 - (i) linked action issues: not applicable
 - (ii) additional GA suspension grounds: not applicable.

31.2.2 Procedure

Before suspending the grant, the granting authority will send a **pre-information letter** to the coordinator:

- formally notifying the intention to suspend the grant and the reasons why and

- requesting observations within 30 days of receiving notification.

If the granting authority does not receive observations or decides to pursue the procedure despite the observations it has received, it will confirm the suspension (**confirmation letter**). Otherwise, it will formally notify that the procedure is discontinued.

The suspension will **take effect** the day after the confirmation notification is sent (or on a later date specified in the notification).

Once the conditions for resuming implementation of the action are met, the granting authority will formally notify the coordinator a **lifting of suspension letter**, in which it will set the suspension end date and invite the coordinator to request an amendment of the Agreement to set the resumption date (one day after suspension end date), extend the duration and make other changes necessary to adapt the action to the new situation (see Article 39) — unless the grant has been terminated (see Article 32). The suspension will be **lifted** with effect from the suspension end date set out in the lifting of suspension letter. This date may be before the date on which the letter is sent.

During the suspension, no prefinancing will be paid. Costs incurred or contributions for activities implemented during suspension are not eligible (see Article 6.3).

The beneficiaries may not claim damages due to suspension by the granting authority (see Article 33).

Grant suspension does not affect the granting authority's right to terminate the grant or a beneficiary (see Article 32) or reduce the grant (see Article 28).

ARTICLE 32 — GRANT AGREEMENT OR BENEFICIARY TERMINATION

32.1 Consortium-requested GA termination

32.1.1 Conditions and procedure

The beneficiaries may request the termination of the grant.

The coordinator must submit a request for **amendment** (see Article 39), with:

- the reasons why
- the date the consortium ends work on the action ('end of work date') and
- the date the termination takes effect ('termination date'); this date must be after the date of the submission of the amendment request.

The termination will **take effect** on the termination date specified in the amendment.

If no reasons are given or if the granting authority considers the reasons do not justify termination, it may consider the grant terminated improperly.

32.1.2 Effects

The coordinator must — within 60 days from when termination takes effect — submit a **periodic report** (for the open reporting period until termination).

The granting authority will calculate the final grant amount and final payment on the basis of the report

submitted and taking into account the costs incurred and contributions for activities implemented before the end of work date (see Article 22). Costs relating to contracts due for execution only after the end of work are not eligible.

If the granting authority does not receive the report within the deadline, only costs and contributions which are included in an approved periodic report will be taken into account (no costs/contributions if no periodic report was ever approved).

Improper termination may lead to a grant reduction (see Article 28).

After termination, the beneficiaries' obligations (in particular Articles 13 (confidentiality and security), 16 (IPR), 17 (communication, dissemination and visibility), 21 (reporting), 25 (checks, reviews, audits and investigations), 26 (impact evaluation), 27 (rejections), 28 (grant reduction) and 42 (assignment of claims)) continue to apply.

32.2 Consortium-requested beneficiary termination

32.2.1 Conditions and procedure

The coordinator may request the termination of the participation of one or more beneficiaries, on request of the beneficiary concerned or on behalf of the other beneficiaries.

The coordinator must submit a request for **amendment** (see Article 39), with:

- the reasons why
- the opinion of the beneficiary concerned (or proof that this opinion has been requested in writing)
- the date the beneficiary ends work on the action ('end of work date')
- the date the termination takes effect ('termination date'); this date must be after the date of the submission of the amendment request.

If the termination concerns the coordinator and is done without its agreement, the amendment request must be submitted by another beneficiary (acting on behalf of the consortium).

The termination will **take effect** on the termination date specified in the amendment.

If no information is given or if the granting authority considers that the reasons do not justify termination, it may consider the beneficiary to have been terminated improperly.

32.2.2 Effects

The coordinator must — within 60 days from when termination takes effect — submit:

- (i) a **report on the distribution of payments** to the beneficiary concerned
- (ii) a **termination report** from the beneficiary concerned, for the open reporting period until termination, containing an overview of the progress of the work, the financial statement, the explanation on the use of resources, and, if applicable, the certificate on the financial statement (CFS; see Articles 21 and 24.2 and Data Sheet, Point 4.3)

- (iii) a second **request for amendment** (see Article 39) with other amendments needed (e.g. reallocation of the tasks and the estimated budget of the terminated beneficiary; addition of a new beneficiary to replace the terminated beneficiary; change of coordinator, etc.).

The granting authority will calculate the amount due to the beneficiary on the basis of the report submitted and taking into account the costs incurred and contributions for activities implemented before the end of work date (see Article 22). Costs relating to contracts due for execution only after the end of work are not eligible.

The information in the termination report must also be included in the periodic report for the next reporting period (see Article 21).

If the granting authority does not receive the termination report within the deadline, only costs and contributions which are included in an approved periodic report will be taken into account (no costs/contributions if no periodic report was ever approved).

If the granting authority does not receive the report on the distribution of payments within the deadline, it will consider that:

- the coordinator did not distribute any payment to the beneficiary concerned and that
- the beneficiary concerned must not repay any amount to the coordinator.

If the second request for amendment is accepted by the granting authority, the Agreement is **amended** to introduce the necessary changes (see Article 39).

If the second request for amendment is rejected by the granting authority (because it calls into question the decision awarding the grant or breaches the principle of equal treatment of applicants), the grant may be terminated (see Article 32).

Improper termination may lead to a reduction of the grant (see Article 31) or grant termination (see Article 32).

After termination, the concerned beneficiary's obligations (in particular Articles 13 (confidentiality and security), 16 (IPR), 17 (communication, dissemination and visibility), 21 (reporting), 25 (checks, reviews, audits and investigations), 26 (impact evaluation), 27 (rejections), 28 (grant reduction) and 42 (assignment of claims)) continue to apply.

32.3 EU-initiated GA or beneficiary termination

32.3.1 Conditions

The granting authority may terminate the grant or the participation of one or more beneficiaries, if:

- (a) one or more beneficiaries do not accede to the Agreement (see Article 40)
- (b) a change to the action or the legal, financial, technical, organisational or ownership situation of a beneficiary is likely to substantially affect the implementation of the action or calls into question the decision to award the grant (including changes linked to one of the exclusion grounds listed in the declaration of honour)
- (c) following termination of one or more beneficiaries, the necessary changes to the Agreement

(and their impact on the action) would call into question the decision awarding the grant or breach the principle of equal treatment of applicants

- (d) implementation of the action has become impossible or the changes necessary for its continuation would call into question the decision awarding the grant or breach the principle of equal treatment of applicants
- (e) a beneficiary (or person with unlimited liability for its debts) is subject to bankruptcy proceedings or similar (including insolvency, winding-up, administration by a liquidator or court, arrangement with creditors, suspension of business activities, etc.)
- (f) a beneficiary (or person with unlimited liability for its debts) is in breach of social security or tax obligations
- (g) a beneficiary (or person having powers of representation, decision-making or control, or person essential for the award/implementation of the grant) has been found guilty of grave professional misconduct
- (h) a beneficiary (or person having powers of representation, decision-making or control, or person essential for the award/implementation of the grant) has committed fraud, corruption, or is involved in a criminal organisation, money laundering, terrorism-related crimes (including terrorism financing), child labour or human trafficking
- (i) a beneficiary (or person having powers of representation, decision-making or control, or person essential for the award/implementation of the grant) was created under a different jurisdiction with the intent to circumvent fiscal, social or other legal obligations in the country of origin (or created another entity with this purpose)
- (j) a beneficiary (or person having powers of representation, decision-making or control, or person essential for the award/implementation of the grant) has committed:
 - (i) substantial errors, irregularities or fraud or
 - (ii) serious breach of obligations under this Agreement or during its award (including improper implementation of the action, non-compliance with the call conditions, submission of false information, failure to provide required information, breach of ethics or security rules (if applicable), etc.)
- (k) a beneficiary (or person having powers of representation, decision-making or control, or person essential for the award/implementation of the grant) has committed — in other EU grants awarded to it under similar conditions — systemic or recurrent errors, irregularities, fraud or serious breach of obligations that have a material impact on this grant (extension of findings from other grants to this grant; see Article 25)
- (l) despite a specific request by the granting authority, a beneficiary does not request — through the coordinator — an amendment to the Agreement to end the participation of one of its affiliated entities or associated partners that is in one of the situations under points (d), (f), (e), (g), (h), (i) or (j) and to reallocate its tasks, or
- (m) other:
 - (i) linked action issues: not applicable

- (ii) additional GA termination grounds: not applicable.

32.3.2 Procedure

Before terminating the grant or participation of one or more beneficiaries, the granting authority will send a **pre-information letter** to the coordinator or beneficiary concerned:

- formally notifying the intention to terminate and the reasons why and
- requesting observations within 30 days of receiving notification.

If the granting authority does not receive observations or decides to pursue the procedure despite the observations it has received, it will confirm the termination and the date it will take effect (**confirmation letter**). Otherwise, it will formally notify that the procedure is discontinued.

For beneficiary terminations, the granting authority will — at the end of the procedure — also inform the coordinator.

The termination will **take effect** the day after the confirmation notification is sent (or on a later date specified in the notification; ‘termination date’).

32.3.3 Effects

- (a) for **GA termination**:

The coordinator must — within 60 days from when termination takes effect — submit a **periodic report** (for the last open reporting period until termination).

The granting authority will calculate the final grant amount and final payment on the basis of the report submitted and taking into account the costs incurred and contributions for activities implemented before termination takes effect (see Article 22). Costs relating to contracts due for execution only after termination are not eligible.

If the grant is terminated for breach of the obligation to submit reports, the coordinator may not submit any report after termination.

If the granting authority does not receive the report within the deadline, only costs and contributions which are included in an approved periodic report will be taken into account (no costs/contributions if no periodic report was ever approved).

Termination does not affect the granting authority’s right to reduce the grant (see Article 28) or to impose administrative sanctions (see Article 34).

The beneficiaries may not claim damages due to termination by the granting authority (see Article 33).

After termination, the beneficiaries’ obligations (in particular Articles 13 (confidentiality and security), 16 (IPR), 17 (communication, dissemination and visibility), 21 (reporting), 25 (checks, reviews, audits and investigations), 26 (impact evaluation), 27 (rejections), 28 (grant reduction) and 42 (assignment of claims)) continue to apply.

- (b) for **beneficiary termination**:

The coordinator must — within 60 days from when termination takes effect — submit:

- (i) a **report on the distribution of payments** to the beneficiary concerned
- (ii) a **termination report** from the beneficiary concerned, for the open reporting period until termination, containing an overview of the progress of the work, the financial statement, the explanation on the use of resources, and, if applicable, the certificate on the financial statement (CFS; see Articles 21 and 24.2 and Data Sheet, Point 4.3)
- (iii) a **request for amendment** (see Article 39) with any amendments needed (e.g. reallocation of the tasks and the estimated budget of the terminated beneficiary; addition of a new beneficiary to replace the terminated beneficiary; change of coordinator, etc.).

The granting authority will calculate the amount due to the beneficiary on the basis of the report submitted and taking into account the costs incurred and contributions for activities implemented before termination takes effect (see Article 22). Costs relating to contracts due for execution only after termination are not eligible.

The information in the termination report must also be included in the periodic report for the next reporting period (see Article 21).

If the granting authority does not receive the termination report within the deadline, only costs and contributions included in an approved periodic report will be taken into account (no costs/contributions if no periodic report was ever approved).

If the granting authority does not receive the report on the distribution of payments within the deadline, it will consider that:

- the coordinator did not distribute any payment to the beneficiary concerned and that
- the beneficiary concerned must not repay any amount to the coordinator.

If the request for amendment is accepted by the granting authority, the Agreement is **amended** to introduce the necessary changes (see Article 39).

If the request for amendment is rejected by the granting authority (because it calls into question the decision awarding the grant or breaches the principle of equal treatment of applicants), the grant may be terminated (see Article 32).

After termination, the concerned beneficiary's obligations (in particular Articles 13 (confidentiality and security), 16 (IPR), 17 (communication, dissemination and visibility), 21 (reporting), 25 (checks, reviews, audits and investigations), 26 (impact evaluation), 27 (rejections), 28 (grant reduction) and 42 (assignment of claims)) continue to apply.

SECTION 3 OTHER CONSEQUENCES: DAMAGES AND ADMINISTRATIVE SANCTIONS

ARTICLE 33 — DAMAGES

33.1 Liability of the granting authority

The granting authority cannot be held liable for any damage caused to the beneficiaries or to third parties as a consequence of the implementation of the Agreement, including for gross negligence.

The granting authority cannot be held liable for any damage caused by any of the beneficiaries or other participants involved in the action, as a consequence of the implementation of the Agreement.

33.2 Liability of the beneficiaries

The beneficiaries must compensate the granting authority for any damage it sustains as a result of the implementation of the action or because the action was not implemented in full compliance with the Agreement, provided that it was caused by gross negligence or wilful act.

The liability does not extend to indirect or consequential losses or similar damage (such as loss of profit, loss of revenue or loss of contracts), provided such damage was not caused by wilful act or by a breach of confidentiality.

ARTICLE 34 — ADMINISTRATIVE SANCTIONS AND OTHER MEASURES

Nothing in this Agreement may be construed as preventing the adoption of administrative sanctions (i.e. exclusion from EU award procedures and/or financial penalties) or other public law measures, in addition or as an alternative to the contractual measures provided under this Agreement (see, for instance, Articles 135 to 145 EU Financial Regulation 2018/1046 and Articles 4 and 7 of Regulation 2988/95²¹).

SECTION 4 FORCE MAJEURE

ARTICLE 35 — FORCE MAJEURE

A party prevented by force majeure from fulfilling its obligations under the Agreement cannot be considered in breach of them.

‘Force majeure’ means any situation or event that:

- prevents either party from fulfilling their obligations under the Agreement,
- was unforeseeable, exceptional situation and beyond the parties’ control,
- was not due to error or negligence on their part (or on the part of other participants involved in the action), and
- proves to be inevitable in spite of exercising all due diligence.

Any situation constituting force majeure must be formally notified to the other party without delay, stating the nature, likely duration and foreseeable effects.

²¹ Council Regulation (EC, Euratom) No 2988/95 of 18 December 1995 on the protection of the European Communities financial interests (OJ L 312, 23.12.1995, p. 1).

The parties must immediately take all the necessary steps to limit any damage due to force majeure and do their best to resume implementation of the action as soon as possible.

CHAPTER 6 FINAL PROVISIONS

ARTICLE 36 — COMMUNICATION BETWEEN THE PARTIES

36.1 Forms and means of communication — Electronic management

EU grants are managed fully electronically through the EU Funding & Tenders Portal ('Portal').

All communications must be made electronically through the Portal, in accordance with the Portal Terms and Conditions and using the forms and templates provided there (except if explicitly instructed otherwise by the granting authority).

Communications must be made in writing and clearly identify the grant agreement (project number and acronym).

Communications must be made by persons authorised according to the Portal Terms and Conditions. For naming the authorised persons, each beneficiary must have designated — before the signature of this Agreement — a 'legal entity appointed representative (LEAR)'. The role and tasks of the LEAR are stipulated in their appointment letter (see Portal Terms and Conditions).

If the electronic exchange system is temporarily unavailable, instructions will be given on the Portal.

36.2 Date of communication

The sending date for communications made through the Portal will be the date and time of sending, as indicated by the time logs.

The receiving date for communications made through the Portal will be the date and time the communication is accessed, as indicated by the time logs. Formal notifications that have not been accessed within 10 days after sending, will be considered to have been accessed (see Portal Terms and Conditions).

If a communication is exceptionally made on paper (by e-mail or postal service), general principles apply (i.e. date of sending/receipt). Formal notifications by registered post with proof of delivery will be considered to have been received either on the delivery date registered by the postal service or the deadline for collection at the post office.

If the electronic exchange system is temporarily unavailable, the sending party cannot be considered in breach of its obligation to send a communication within a specified deadline.

36.3 Addresses for communication

The Portal can be accessed via the Europa website.

The address for paper communications to the granting authority (if exceptionally allowed) is the official mailing address indicated on its website.

For beneficiaries, it is the legal address specified in the Portal Participant Register.

ARTICLE 37 — INTERPRETATION OF THE AGREEMENT

The provisions in the Data Sheet take precedence over the rest of the Terms and Conditions of the Agreement.

Annex 5 takes precedence over the Terms and Conditions; the Terms and Conditions take precedence over the Annexes other than Annex 5.

Annex 2 takes precedence over Annex 1.

ARTICLE 38 — CALCULATION OF PERIODS AND DEADLINES

In accordance with Regulation No 1182/71²², periods expressed in days, months or years are calculated from the moment the triggering event occurs.

The day during which that event occurs is not considered as falling within the period.

‘Days’ means calendar days, not working days.

ARTICLE 39 — AMENDMENTS

39.1 Conditions

The Agreement may be amended, unless the amendment entails changes to the Agreement which would call into question the decision awarding the grant or breach the principle of equal treatment of applicants.

Amendments may be requested by any of the parties.

39.2 Procedure

The party requesting an amendment must submit a request for amendment signed directly in the Portal Amendment tool.

The coordinator submits and receives requests for amendment on behalf of the beneficiaries (see Annex 3). If a change of coordinator is requested without its agreement, the submission must be done by another beneficiary (acting on behalf of the other beneficiaries).

The request for amendment must include:

- the reasons why
- the appropriate supporting documents and
- for a change of coordinator without its agreement: the opinion of the coordinator (or proof that this opinion has been requested in writing).

The granting authority may request additional information.

²² Regulation (EEC, Euratom) No 1182/71 of the Council of 3 June 1971 determining the rules applicable to periods, dates and time-limits (OJ L 124, 8/6/1971, p. 1).

If the party receiving the request agrees, it must sign the amendment in the tool within 45 days of receiving notification (or any additional information the granting authority has requested). If it does not agree, it must formally notify its disagreement within the same deadline. The deadline may be extended, if necessary for the assessment of the request. If no notification is received within the deadline, the request is considered to have been rejected.

An amendment **enters into force** on the day of the signature of the receiving party.

An amendment **takes effect** on the date of entry into force or other date specified in the amendment.

ARTICLE 40 — ACCESSION AND ADDITION OF NEW BENEFICIARIES

40.1 Accession of the beneficiaries mentioned in the Preamble

The beneficiaries which are not coordinator must accede to the grant by signing the accession form (see Annex 3) directly in the Portal Grant Preparation tool, within 30 days after the entry into force of the Agreement (see Article 44).

They will assume the rights and obligations under the Agreement with effect from the date of its entry into force (see Article 44).

If a beneficiary does not accede to the grant within the above deadline, the coordinator must — within 30 days — request an amendment (see Article 39) to terminate the beneficiary and make any changes necessary to ensure proper implementation of the action. This does not affect the granting authority's right to terminate the grant (see Article 32).

40.2 Addition of new beneficiaries

In justified cases, the beneficiaries may request the addition of a new beneficiary.

For this purpose, the coordinator must submit a request for amendment in accordance with Article 39. It must include an accession form (see Annex 3) signed by the new beneficiary directly in the Portal Amendment tool.

New beneficiaries will assume the rights and obligations under the Agreement with effect from the date of their accession specified in the accession form (see Annex 3).

Additions are also possible in mono-beneficiary grants.

ARTICLE 41 — TRANSFER OF THE AGREEMENT

In justified cases, the beneficiary of a mono-beneficiary grant may request the transfer of the grant to a new beneficiary, provided that this would not call into question the decision awarding the grant or breach the principle of equal treatment of applicants.

The beneficiary must submit a request for **amendment** (see Article 39), with

- the reasons why
- the accession form (see Annex 3) signed by the new beneficiary directly in the Portal Amendment tool and

- additional supporting documents (if required by the granting authority).

The new beneficiary will assume the rights and obligations under the Agreement with effect from the date of accession specified in the accession form (see Annex 3).

ARTICLE 42 — ASSIGNMENTS OF CLAIMS FOR PAYMENT AGAINST THE GRANTING AUTHORITY

The beneficiaries may not assign any of their claims for payment against the granting authority to any third party, except if expressly approved in writing by the granting authority on the basis of a reasoned, written request by the coordinator (on behalf of the beneficiary concerned).

If the granting authority has not accepted the assignment or if the terms of it are not observed, the assignment will have no effect on it.

In no circumstances will an assignment release the beneficiaries from their obligations towards the granting authority.

ARTICLE 43 — APPLICABLE LAW AND SETTLEMENT OF DISPUTES

43.1 Applicable law

The Agreement is governed by the applicable EU law, supplemented if necessary by the law of Belgium.

Special rules may apply for beneficiaries which are international organisations (if any; see Data Sheet, Point 5).

43.2 Dispute settlement

If a dispute concerns the interpretation, application or validity of the Agreement, the parties must bring action before the EU General Court — or, on appeal, the EU Court of Justice — under Article 272 of the Treaty on the Functioning of the EU (TFEU).

For non-EU beneficiaries (if any), such disputes must be brought before the courts of Brussels, Belgium — unless an international agreement provides for the enforceability of EU court judgements.

For beneficiaries with arbitration as special dispute settlement forum (if any; see Data Sheet, Point 5), the dispute will — in the absence of an amicable settlement — be settled in accordance with the Rules for Arbitration published on the Portal.

If a dispute concerns administrative sanctions, offsetting or an enforceable decision under Article 299 TFEU (see Articles 22 and 34), the beneficiaries must bring action before the General Court — or, on appeal, the Court of Justice — under Article 263 TFEU.

For grants where the granting authority is an EU executive agency (see Preamble), actions against offsetting and enforceable decisions must be brought against the European Commission (not against the granting authority; see also Article 22).

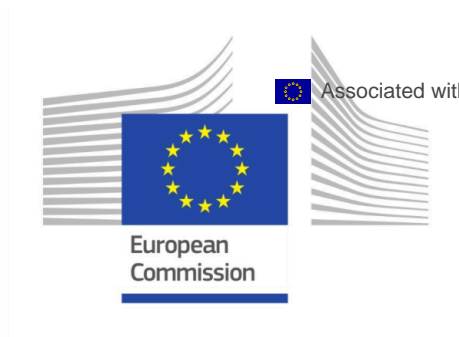
ARTICLE 44 — ENTRY INTO FORCE

The Agreement will enter into force on the day of signature by the granting authority or the coordinator, depending on which is later.

SIGNATURES

For the coordinator

For the granting authority



ANNEX 1



Programme for the Environment and Climate Action (LIFE)

Description of the action (DoA)

Part A

Part B

DESCRIPTION OF THE ACTION (PART A)

COVER PAGE

Part A of the Description of the Action (DoA) must be completed directly on the Portal Grant Preparation screens.

PROJECT	
<i>Grant Preparation (General Information screen) — Enter the info.</i>	
Project number:	101113605
Project name:	Cross-border restoration and reunion of the raised bogs Aamsveen and Hündfelder Moor
Project acronym:	LIFE22-NAT-NL-LIFE CrossBorderBog
Call:	LIFE-2022-SAP-NAT
Topic:	LIFE-2022-SAP-NAT-NATURE
Type of action:	LIFE-PJG
Service:	CINEA/D/02
Project starting date:	first day of the month following the entry into force date
Project duration:	72 months

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List of work packages	4
Staff effort	23
List of deliverables	24
List of milestones (outputs/outcomes)	34
List of critical risks	35

PROJECT SUMMARY

Project summary

Grant Preparation (General Information screen) — Provide an overall description of your project (including context and overall objectives, planned activities and main achievements, and expected results and impacts (on target groups, change procedures, capacities, innovation etc)). This summary should give readers a clear idea of what your project is about.

Use the project summary from your proposal.

The LIFE CrossBorderBog project works on raised bog restoration in the cross-border bog Aamsveen-Hündfelder Moor. This Dutch-German bog has a significant amount of H7120, and a small segment of H7110*. The bog has great potential for restoration: it has maintained a lot of peat despite former peat excavation, it has an intact lagg zone on the Aamsveen side, and it is relatively isolated from external influences such as agriculture.

The raised bog suffers from desiccation, and faces four main threats: 1) water loss, 2) nutrient pollution, 3) succession, 4) GHG emission. All these threats can be countered or reduced in effects by taking hydrological measures to retain water in the bog and stop desiccation. A fully functional raised bog will retain water, limit the effects of nutrient pollution, stop succession, and reduce GHG emissions.

Our long-term objectives therefore are to: 1) Re-create H7110* and H91D0* to create a total of 99 ha active raised bog and 21 ha bog woodland; 2) Preserve and restore typical bog habitats H3160, H7120, H7140, H7150, and typical bog species such as the northern emerald and the bluethroat; 3) Reduce GHG emissions and start sequestering CO₂. These are long-term objectives, which will take decades to be achieved due to the time it takes for active raised bogs to regenerate. However, the prerequisite for all objectives is to stop desiccation and rewet the bog.

This leads to three short-term (within project) objectives: 1) Re-unite the bog as cross-border hydrological system; 2) Raise water levels within the bog to near-surface level; 3) Increase the resilience of the bog against the consequences of climate change by creating still waters as water supplies for the system.

These objectives are translated to a set of hydrological measures for both the Aamsveen and the Hündfelder Moor. We expect to create an active raised bog that will fulfil an important stepstone function for raised bog habitats in the entire Atlantic biogeographfollows

LIST OF PARTICIPANTS

PARTICIPANTS

Grant Preparation (Beneficiaries screen) — Enter the info.

Number	Role	Short name	Legal name	Country	PIC
1	COO	PO	OVERIJSEL	NL	924194467
2	BEN	BSZ	BIOLOGISCHE STATION ZWILLBROCK EV	DE	889942603
3	BEN	Stiftung NLW	STIFTUNG NATUR UND LANDSCHAFT WESTMUNSTERLAND	DE	889377675
4	BEN	LO	STICHTING LANDSCHAP OVERIJSEL	NL	889118782
5	BEN	MUNV NRW	Ministerium für Umwelt, Landwirtschaft, Natur- und Verbraucherschutz des Landes Nordrhein-Westfalen	DE	994567870

LIST OF WORK PACKAGES

Work packages						
<i>Grant Preparation (Work Packages screen) — Enter the info.</i>						
Work Package No	Work Package name	Lead Beneficiary	Effort (Person-Months)	Start Month	End Month	Deliverables
WP1	Project management and coordination	1 - PO	30.00	1	72	D1.1 – KPI Tool – 9mnth update D1.2 – KPI Tool – end update D1.3 – Audit Report D1.4 – Uploading the yearly reports on cumulative expenditure - 1 D1.5 – Uploading the yearly reports on cumulative expenditure - 2 D1.6 – Uploading the yearly reports on cumulative expenditure - 3 D1.7 – Uploading the yearly reports on cumulative expenditure - 4 D1.8 – Uploading the yearly reports on cumulative expenditure - 5 D1.9 – Uploading the yearly reports on cumulative expenditure - 6 D1.10 – Progress report 1 D1.11 – Progress report 2
WP2	Work preparation Aamsveen	4 - LO	8.00	1	15	D2.1 – Granted permits Aamsveen D2.2 – Final plan
WP3	Preparation works Hündfelder Moor (HM)	2 - BSZ	28.00	1	63	D3.1 – Land purchase certificates D3.2 – Granted permits HM D3.3 – Nature conservation plannings D3.4 – Visitor management planning
WP4	Restoration Aamsveen	4 - LO	8.00	16	69	D4.1 – Report on restoration works Aamsveen

Work packages						
<i>Grant Preparation (Work Packages screen) — Enter the info.</i>						
Work Package No	Work Package name	Lead Beneficiary	Effort (Person-Months)	Start Month	End Month	Deliverables
WP5	Restoration works Hündfelder Moor (HM)	2 - BSZ	35.00	1	72	D5.1 – Report on the restoration works HM
WP6	Monitoring and Evaluation	4 - LO	9.00	1	72	D6.1 – Baseline monitoring and evaluation report on hydrology, habitat types, dragonflies, amphibians, ghg emissions. D6.2 – Final monitoring and evaluation report on hydrology, dragonflies, amphibians, ghg emissions.
WP7	Sustainability, replication and exploitation of project results	1 - PO	36.00	1	72	D7.1 – Website D7.2 – Best Practice Manual (update) D7.3 – Layman’s Report D7.4 – Report on cross-border restoration working D7.5 – AfterLIFE Plan

Work package WP1 – Project management and coordination

Work Package Number	WP1	Lead Beneficiary	1. PO
Work Package Name	Project management and coordination		
Start Month	1	End Month	72

Objectives
Solid and professional management of LIFE CrossBorderBog

Description
<p>T.1.1 Overall project management (COO POv, all BEN contribute): Q1-Q24 Task T1.1 concerns the organization of bi-monthly core team meetings to discuss progress, visit Brussels for LIFE welcome meeting, half-yearly consortium meetings, bilateral check-ins with partners where applicable, and the complete internal management of the project (quarterly progress checks, synchronization two N2000 sites, risk assessment and updates, task division updates, problem solving, etc).</p> <p>T.1.2 Project management subsite Aamsveen (BEN LO): Q1-Q24 Task T1.2 concerns the daily project management of subsite Aamsveen, conducted by site manager Landschap Overijssel. This concerns all daily management activities, such as supervision of the works, connecting the Aamsveen subsite to the Hündfelder Moor works, and the larger LIFE CrossBorderBog project, etcetera.</p> <p>T.1.3 Project management subsite Hündfelder Moor (BEN BSZ): Q1-Q24 Daily project management of subsite Hündfelder Moor, conducted by site manager Biologische Station Zwillbrock. This concerns all daily management activities such as the organization of works and project personnel (2h per day, 10 apm), the coordination with the colleagues of subsite Aamsveen and the general project management (6 meetings per year of 1 day each, 2 apm, 36 driving trips à 100km à 0,35 € = 1.260 €) incl. making progress reports (contribution to T.1.4, 1 apm). The administrative support for the project (wages, invoices, etc.) is also calculated here (1 hour per day, 10 apm). The personnel costs were calculated based on salary group EG 12 for project manager and scientific employee; the work takes place in close coordination and mutual representation, so that no graded salary is provided. For the administrative tasks, salary group EG 9b was taken as a basis.</p> <p>T.1.4 LIFE Reporting (COO POv, all BEN contribute): Q1-Q24 Task T.1.4 concerns all formal reporting for the LIFE Programme, i.e.</p> <ul style="list-style-type: none"> • Mid-Term Report, • Final Report and Audit, • Progress reporting on KPI's, • Other reports (as required by LIFE). <p>We will start with a growth document with all project developments from Q1 onwards to allow for easy reporting later on, for this reason we have set the start Q for this Task at Q1 as well. Please note that the AfterLIFE plan is included in WP7 (T.7.1).</p>

Work package WP2 – Work preparation Aamsveen

Work Package Number	WP2	Lead Beneficiary	4. LO
Work Package Name	Work preparation Aamsveen		
Start Month	1	End Month	15

Objectives
<p>Please note we have done and will do much more preparatory actions for the Aamsveen, such as engineering and final design, but that these are not budgeted in LIFE, in order to allow for a swift process and a reduction of costs for LIFE.</p> <p>Overall Objectives:</p> <ul style="list-style-type: none"> • Solid preparation of restoration works at subsite Aamsveen

Expected Results

- Final planning of peatland regeneration (mostly done outside LIFE)
- Technical implementation planning (mostly done outside LIFE)
- Permits
- Tendering for works completed

Description**T.2.1 Permit procedures (BEN LO, external contractor), Q1 – Q4:**

Before the implementation of the measures, it is necessary to obtain the appropriate permits. Gemeente Enschede, waterschap Vechtstromen and provincie Overijssel have to grant the permits for making the dams and making changes in the water system. Also FFH impact assessment, special species protection assessment, and an environmental impact assessment are to be done. Costs for this task are merged with task T2.3.

T.2.2 Installation of monitoring infrastructure (BEN LO, subcontracted external companies), Q1-Q4

To document the changes made in the groundwater levels, measuring devices are provided that are installed before the work is carried out. There should be at least 1 measuring device per compartment, which means 8-10 points will be newly created. Water levels outside the area are already been measured by the province of Overijssel. The groundwater measuring levels are equipped with data loggers. Total cost for T2.2 are €2000 ex. VAT.

T.2.3 Tendering (COO POv, BEN LO), Q5:

For the tendering of the contractor we will tender in accordance with the European Directive for Public Procurement (2014/24). We will apply the purchasing policy of the Province of Overijssel as well as the Green Procurement toolbox of the EU. In the contract we will prescribe that any products that need to be purchased have to fall under the EU Ecolabel when they are part of categories where this is available. For more information regarding our green procurement strategies we refer to §4.3. Tendering will be done by COO POv, with input and assistance from BEN LO.

Across WP2 there will be staff effort, which we have budgeted as follows:

Role Days (amount) Daily rate

Project manager (ext.) 12 €960

Technical manager (ext.) 7 €880

Project secretary (ext.) 5 €800

Contract manager (int.) 24 €480

Environment manager (ext.) 17 €760

Work package WP3 – Preparation works Hündfelder Moor (HM)

Work Package Number	WP3	Lead Beneficiary	2. BSZ
Work Package Name	Preparation works Hündfelder Moor (HM)		
Start Month	1	End Month	63

Objectives

Work required to prepare for the restoration work at subsite HM is summarized in this WP.

Objective: Creation of all necessary technical and administrative bases for restoration at subsite HM.

Expected results:

- The private areas in the area of the planned renaturation measures is bought for Land Nordrhein-Westfalen (10.47 ha),
- Tenders for orders to external contractor have been carried out,
- The nature conservation plans required for the permission process is drawn up,
- The planning for future visitor guidance is complete,
- The permission process which already has been started at 2022 is successfully completed.

Description**T.3.1 Land purchase (BEN BSZ, Dezernat 33, Bezirksregierung Münster), Q1 – Q5:**

At subsite HM (240 ha), there is a total of 16.71 ha privately owned land, by various owners, including an area of 2.764 ha owned by the Salzgewinnungsgesellschaft Westfalen (SGW). Numerous plots are owned by the municipalities of

Ahaus and Gronau (14.08 ha), among others, the path plots in the moor. The municipally owned plots of land are made available by the municipalities for the implementation of the project. The SGW has also declared its willingness to make its parcels available for the project. Private areas – not owned by the aforementioned parties - affected by the planned measures will be purchased for Land Nordrhein-Westfalen (partner MUNV) (10.47 ha). The land purchase is carried out by the responsible land consolidation authority, Dezernat 33, Bezirksregierung Münster.

Based on a per hectare prize of €10,000 we got from Dezernat 33, Bezirksregierung Münster, we calculate total costs of €104,692.00. There are no additional costs or expenses beyond the purchase costs.

T.3.2 Tendering (BEN BSZ, external contractor), Q1 – Q21:

The planned restoration measures (WP 5) are carried out almost entirely by external companies. The orders required for this must be prepared, tendered and awarded in accordance with the applicable national rules. The main works (T.5.3, T.5.5, T.5.6, T.5.7, T.5.9, T.5.10, T.5.11, T.5.12, T.5.13) are awarded in a single large contract over several years and will be performed by an external contractor (€29,750). All further orders (T.5.2, T.5.4, T.5.8, T.5.14, T.6.1, T.6.3, T.6.4) are assigned by the project staff; A total of 15 individual orders is planned, 7 apm are calculated for the implementation.

T.3.3 Permit procedures (BEN BSZ, external contractor), Q1 – Q5:

The foreseen restoration measures must be approved before the implementation of these measures can start, which has to be done by the responsible Kreis Borken as part of a planning permission process called Planfeststellung. Among other things, the procedure provides for extensive public participation and therefore requires some time to be carried out. The implementation of the scoping appointment has already started in 2022, but the permission process as a whole will not be able to be completed before the start of the project period. The preparatory renaturation plans and, based on this, the implementation plans are currently being carried out out of budget; the actual nature conservation plans (T.3.4) can only be drawn up when these plans are available and are therefore are part of the project, as is the completion of the permission process. The necessary permits include: water law approval, nature conservation law approval, FFH impact assessment, special species protection assessment, environmental impact assessment, landscape conservation planning. The outcome of this task includes all required permits including connected obligations like hydrological monitoring (T.6.1) and maintenance obligations that will be included within the AfterLife plan (T.7.1), they will mandatory even beyond the time period of the project.

The approval process itself is free of charge; it will be performed by Kreis Borken staff together with our project staff. We calculate several meeting appointments for 2 people each and 2 additional on-site inspections for 2 people, in total €252 travel costs and 1 apm for our staff.

T.3.4 Nature Conservation Planning (BEN BSZ), Q1 – Q4:

The nature conservation planning required as part of the permission process (T.3.3) is implemented by the project staff: environmental impact assessment (5 apm), accompanying landscape conservation planning (6 apm), FFH impact assessment (2 apm), special species protection assessment (4 apm).

T.3.5 Visitor management (BEN BSZ), Q1 – Q3:

The planned measures will destroy the paths through which the protected area can currently be experienced by visitors. A new network of paths is to be designed on the basis of the newly created dams, which will open up the area for visitors, but at the same time need to minimize the disturbance caused by them. In addition to marking new paths, effective visitor management measures such as fences, gates and signage will therefore be needed. Finally, the existing observation hut is to be rebuilt, it will offer attractive opportunities to observe the bird life in the area without disturbance. The visitor guidance concept is created by the project staff, a total of 1 apm is estimated.

Work package WP4 – Restoration Aamsveen

Work Package Number	WP4	Lead Beneficiary	4. LO
Work Package Name	Restoration Aamsveen		
Start Month	16	End Month	69

Objectives

Overall Objectives:

To restore the hydrology of the subsite Aamsveen (in interaction with adjacent subsite Hündfelder Moor) to a level typical for raised bogs

To increase the resilience against climate change of the precipitation dependent raised bog including its habitat types and species

Expected Results

Groundwater level class 1: between 15cm above and 15cm below surface on 27ha: mandatory precondition to create H7110*, H91D0*, H7140 and H7150;

Groundwater level class 2: 15-30cm above surface or 15-30cm below surface, on 5,5ha: mandatory precondition to create and preserve H7120 and H7150;

Groundwater level class 3: More than 30cm above surface, on 1,5 ha: mandatory precondition to create and preserve H3160.

Groundwater level class 4: More than 30cm below surface, on 0,16 ha: mosaic of structures more than 0,3m higher above groundwater level as relevant habitat requisites for typical bog species such as *Vipera berus* and *Rana arvalis* that need drier ground for wintering.

Description

General remarks before discussing tasks:

For the subsite Aamsveen, the final restoration planning will be performed within this project. Therefore all results of the following task are preliminary, minor changes are to be expected. As most of the soils within the project subsite Aamsveen consist of peat, some tasks require the use of special equipment with an extra wide chassis to ensure the appropriate low pressure to the ground. This leads to relatively high prizes, especially the transportation works. Please see Map 6 for the planned restoration works at the Aamsveen.

T.4.1 Support (BEN LO, subcontracted external companies), Q6-Q23

The work is expected to be tendered in one package (see T2.3), including transport and deliveries of materials. LO will hold supervision over the activities. During the entire construction period.

The cost estimate is based on experiences in similar projects, and assumes the following costs (all ex. VAT):

Role Days (amount) Daily rate

Supervisor (ext.) 160 €760

Director of works (ext.) 64 €880

Project manager (ext.) 36 €960

Technical manager (ext.) 135 €880

Project secretary (ext.) 36.5 €800

Contract manager (int.) 120 €480

Environmental manager (ext.) 51 €760

Several advisors LO (int.) 75 €833 (average rate)

T.4.2 Digging off peat ridges (BEN LO, subcontracted external company), Q6-Q16

On places that are too high above groundwater level (ca. 8 ha), the peat needs to be dug off to achieve the targeted groundwater level in relation to the ground. The peat will be cut by an excavator on extra-wide boggy chains, transported and afterwards be used to build dams and their sealings (task 4.5) and to fill depressions (task 4.4). The work is synchronized with the construction of the dams (T4.5). Some of the present humidified peat will be nature technically excavated, because of this and the hilly terrain we have calculated an overall production of approx. 450 m³ per day. A total of 61,000 m³ will be excavated. Total costs are calculated at €122,000 ex. VAT.

T.4.3 Digging off enriched areas (BEN LO, subcontracted external company), Q6-Q16

Digging off enriched soil with moor grass (*Molinia caerulea*) vegetation in higher situated parts of some compartments. Moor grass will be nature technically excavated with an average depth of 0.2m. Due to this depth and the nature technical excavation of hilly terrain we have assumed a production of 450 m³ per day. In total 15,500 m² (i.e. 3,100 m³) material will be excavated and transported, for which total cost is calculated at €19,375 ex. VAT.

T.4.4 Transport of soils and filling of depressions (BEN LO, subcontracted external company), Q6-Q16

In total, approx. 100,000 m³ of peat, sand and loam have to be transported and then processed within the Aamsveen on other locations to fill depressions. Since raised bog peat can only withstand low loads, small transport vehicles with wide chains and low ground pressure are mainly used for this purpose. Wherever a lot of material has to be transported, the transport route is temporarily secured with steel plates. The transport takes place at the same time as all construction work in which the soil or wood to be removed has to be moved.

This task concerns the transport and processing of humidified peat (see T4.2) and white peat (see T4.5). We have assumed an average transport distance of max. 500m. We will transport 61,000 m³ of humidified peat (and process 36,000m³ of this humidified peat). We will transport and process 40,000 m³ of white peat. We will use driving plates for transport of materials through the site. The costs for the transport depend on reachability, terrain conditions and the measures per

location. We want to prevent rutting. Costs calculated include driving plates, dragline plates and adapted materials for the conditions. Furthermore we will work with a prescribed set of protected transport routes in the final design. Cost calculation has the following assumptions: driving plates of 5000x1250x16mm size; application in width; length plate lane of 1000m; rental period of 16 weeks; replacing lane 10 times.

Total cost for this task is set at €232,000 ex VAT.

T.4.5 Construction of dams within the bog area (BEN LO, subcontracted external company), Q6 - Q16

The bog body is divided into 8 hydrologically independent compartments with a uniform groundwater level through approx. 6 km of dams with an integrated seal down to the sealing bog base. The dams are built from loam in the core and peat. To create the dams, the topsoil is removed and stored on the side. Along the route, a 2m wide trench is dug up to the sealing layer of the moor and filled in layers with loam. Above this, a 2m wide dam core made of loam will be built up to the planned water level. On both sides of the core the dam is covered again with the removed topsoil with embankments of 1: 4 to the dam body.

Of course this is a major task in the WP4. We have therefore split the cost calculation in several sub tasks and cost assumptions.

- 4.5.1 – Excavating white peat for dam construction: Production of 450 m³ per day, total volume of 40,000 m³ white peat excavated.
- 4.5.2 – Supplying loamy sand for dam construction: Loamy sand cannot be derived from the excavation and therefore has to be purchased. We have assumed the nearest sand supplier and a total volume of 25,000 m³ loamy sand (€13 per m³ excl VAT).
- 4.5.3 – Transporting loamy sand from depot to dams (incl loading): Assumed an average transport distance of max. 750m per single journey. Total volume of 25,000 m³ loamy sand is transported.
- 4.5.4 – Constructing loamy sand and humidified peat dam: Processing, profiling and refilling of loam in dug trench and covering with humidified peat. Assumed production of 300 m³ per day. A total of 50,000 m³ material will be processed.
- 4.5.5 – Supplying loamy sand for sand dams: This loamy sand cannot be derived from the excavation and has to be purchased. Price assumed is verified at nearest sand supplier. A total of 4750 m³ loamy sand will be supplied (€13 per m³ excl VAT).
- 4.5.6 – Transporting loamy sand from depot to sand dams (incl loading): Assumed an average transport distance of max. 750m single trip. A total of 4750 m³ loamy sand will be transported.
- 4.5.7 – Sand processing and refilling in sand dams: Processing, profiling and refilling of loamy sand in sand dams. Average production of 350 m³ per day, for total volume of 4750 m³ loamy sand.
- 4.5.8 – Supplying sand for sand dams with loam wall: This sand also has to be purchased, price has been verified at nearby sand supplier. A total of 7250 m³ sand will be purchased (€13 per m³ excl VAT).
- 4.5.9 – Supplying loam for sand dams with loam wall: This loam also has to be purchased, price also verified at sand supplier. A total of 3600 m³ loam will be purchased (€13 per m³ excl VAT).
- 4.5.10 – Transporting sand and loam from depot to sand dams (incl loading): Assumed average transport distance of max. 750m single trip. A total of 10,850 m³ material will be transported.
- 4.5.11 – Sand and loam processing in sand dams with loam wall: Processing, profiling, and refilling of loam and sand in dams. Assumed production of 350 m³ per day, with a total volume of 10,850 m³.
- 4.5.12 – Closing culvert: Removing 2 concrete culverts with a length of 10m / diameter of approx. 500mm.
- 4.5.13 – Placing weirs: Supplying and installing aluminum sheet pile weirs with an adjustment range of 0.5m and an overflow width of 0.5m. Weirs will be placed in a wooden dam wall of 3m width (board length 2.5m) between the compartments.
- 4.5.12 – Installing culvert: Supplying and installing PVC culvert of 10m length / diameter 315mm.

Total costs for this task is calculated at €434,550 (see also detailed budget table, we have a cost estimate available in case LIFE requires further detailing).

T.4.6 Cutting of trees in peat area (BEN LO, subcontracted external company), Q8 – Q23:

Removing trees (mainly birches) growing within the peat areas (ca. 45 ha) will be removed. Trees will be cut and afterwards moved in piles outside of the working area. We have estimated the total cost at €1050 ex VAT per hectare, based on experience. Total cost for this task is set at €45,000 ex VAT.

T.4.7 Restoration of visitor control infrastructure (BEN LO, subcontracted external company), Q16-Q18

Infrastructure to guide visitors that was destroyed by the work will be rebuilt. This includes new routing on selected dam stretches, the erection of a small observation hut, the securing of blocked dam stretches with barriers and fences, as well as signposting of a new hiking trail. The costs have been kept very limited, at €155,000 euros. By guiding visitors in this direction, we can ensure the protection of the most vulnerable sections of the raised bog. The work will take place after all previous civil engineering work has been completed. We will adapt 1000m hiking route and partially reprofile paths. 360m wooden desk path of approx. 1.5m wide will be purchased and installed. Prices have been based on recent tenders for similar works. Furthermore, existing signage and info panels will be adapted, for which the costs are based on experience from LO. Total cost for this task is estimated at €155,000 ex VAT.

General remark regarding cost calculation:

We calculate costs with the 'SSK cost estimate', a very customary standard cost estimate method in the Netherlands. Cost calculations with SSK include fixed percentage of undetailed construction costs (5%), singular costs (2%), indirect construction costs (i.e. general costs contractor) (17%), fees and duties (1.5%), insurances (0.5%) and costs for cables and piping (1%). These percentages are not included in the task costs above, but are part of the cost estimate in the detailed budget table. The total cost of these fixed percentages is €486,358 ex VAT.

Work package WP5 – Restoration works Hündfelder Moor (HM)

Work Package Number	WP5	Lead Beneficiary	2. BSZ
Work Package Name	Restoration works Hündfelder Moor (HM)		
Start Month	1	End Month	72

Objectives

Overall Objectives:

- To restore the hydrology of the subsite Hündfelder Moor (in interaction with adjacent subsite Aamsveen) to a level typical for raised bogs
- To increase the resilience against climate change of the precipitation dependent raised bog including its habitat types and species

Expected Results (please see Map 4)

- Groundwater level class 1: between 15cm above and 15cm below surface on 94 ha: mandatory precondition to create H7110*, H91D0*, H7140 and H7150;
- Groundwater level class 2: 15-30cm above surface or 15-30cm below surface, on 27ha: mandatory precondition to create and preserve H7120 and H7150;
- Groundwater level class 3: More than 30cm above surface, on 7 ha: mandatory precondition to create and preserve H3160.
- Groundwater level class 4: More than 30cm below surface: on 12,4 ha: mosaic of structures more than 0,3m higher above groundwater level as relevant habitat requisites for typical bog species such as Black Adder and Moor Frog that need drier ground for wintering.
- Water supply for groundwater of the subsite by creating 31 ha new still water bodies.

Description

General remarks:

Please see Map 7 for the planned restoration works at the subsite HM.

The measures will be implemented in 3 temporal and spatial construction phases. They start with the construction of temporary transport routes and the rewetting of the inner moor areas, so that the areas that have not yet been rewetted remain accessible for the necessary measures. The work takes place in terrain that is difficult to access and can be severely affected by wet, rainy weather. A total of 5 years of construction including a reserve year are planned. 6 months of construction work are planned per year (30 months total construction time). The budget is based on current market prices (as of autumn 2022), which were requested for the various services from companies that are also well versed in the special situation in the bog. Costs are all incl. VAT, as BSZ cannot compensate VAT.

T.5.1 Support (BEN BSZ, subcontracted external companies), Q1 - Q24:

All supporting activities that are required to carry out measures in the area are summarized here.

A flat rate of €23,800 is set for setting up the construction sites, including the creation of access roads, signage and securing in accordance with accident prevention regulations, street cleaning, demolition, etc. In order to improve the accessibility of the spatially constantly changing construction sites by the project staff, an all-terrain vehicle is purchased (quad); For project meetings and as the necessary infrastructure for the construction site, a construction container will be set up for the total construction period of 5 years.

Technical and legal support of orders:

- The clearing work and the backfilling of the trenches in sections are supervised, monitored and approved by the BSZ project staff, as is the work to close the border trench and the construction of the visitor guidance systems (Tasks T.5.2, T.5.4, T.5.8, T.5.14). Are calculated for the total of 7 orders with tw. multi-year term, 2 meetings per week, 2 hours each.
- The extensive civil engineering works (Tasks T.5.3, T.5.5, T.5.6, T.5.7, T.5.9, T.5.10, T.5.11, T.5.12, T.5.13) are carried

out as a large order by an external service provider supervised. The tender for all work is budgeted under T.3.2 and not included here.

Ecological construction supervision:

The ecological construction supervision of all work ensures that avoidable impairments of the area are avoided by the work; it is mandatory in Germany and is carried out by the BSZ project staff for all work in this WP.

Due to the distance between the Biological Station Zwillbrock and subsite HM (at least 25 km plus local road access wall), the technical and ecological construction supervision results in considerable travel expenses. By bundling the responsibility for technical construction supervision as well as ecological construction supervision, supervision on site can be bundled while work is taking place at the same time, so that time expenditure, travel costs and also CO2 emissions are minimized.

Construction office (Container) Investment 20,230 €

All-terrain vehicle (Quad) Investment 13,090 €

Construction site equipment External costs 23,800 €

Travel costs (more than 1,100 journeys between the office and the construction site are required for the technical construction supervision and ecological construction supervision during the 60 months of construction), 60 km per return journey are set at €0.35 Travel costs 19,845 €

Technical construction supervision and legal supervision, acceptance of the order for the tasks T.5.3, T.5.5, T.5.6, T.5.7, T.5.9, T.5.10, T.5.11, T.5.12, T.5.13 External manager 238,000 €

Legal monitoring, acceptance of orders and external order management Project staff 7 apm

Technical construction supervision for tasks T.5.2, T.5.4, T.5.8, T.5.14 Project staff 12 apm

Ecological construction supervision of all orders (5 years construction time incl. reserve year, 6 months construction activity per year, 10 days ecological construction supervision per month) Project staff 16 apm

T.5.2 Cutting of trees and shrubs (BEN BSZ, subcontracted external companies), Q1 – Q5:

Before starting the civil engineering work, the existing growth of trees and bushes in the construction area must be removed. This takes place within the first construction phase. A total of approx 55 ha of trees and bushes to be removed. Trees and shrubs are cut off by hand along linear structures close to the ground. For cost reasons, the material remains on site and is piled up outside the construction site; in our experience it will have completely decomposed within about 15 years. On areas where the peat has to be excavated, it is not possible to leave the plaited wood on the area; here the trees are removed by machine if necessary and the material is shredded. The shredded material is transported away (T.5.7) and used to backfill a large eutrophic peat pit (T.5.3).

Clear out future stretches of embankment and roads, etc., gather prunings into piles (11.5 km 80% overgrown) 28 ha 53,312 €

Clearing out the border ditch, gathering prunings into piles (80% overgrown) 2 ha 2,856 €

Unweave excavated surfaces 25 ha 59,500 €

Shred material (7 €/ m3 netto) 43,000 m3 358,190 €

T.5.3 Backfilling a large peat cut depression (BEN BSZ, subcontracted external companies), Q1-Q22:

A large peat cut that was clearly eutrophicated by resting geese must be filled in so that the nutrients located there do not spread into the surrounding area due to the planned rise in the moor water level. For this, wood chips are used, which come from the decoupage (T.5.2). The material that accumulates there is dumped into the large peat cut and installed. Before that, the water level is lowered to a minimum by the existing weir. Finally, the area is covered with 30 cm of peat, making it significantly more difficult for the nutrients to be distributed to the environment. A total of around 43,000 m³ of shredded material is required. The work is synchronized with the workflow of the other tasks of WP 5; the final covering with peat can also only take place towards the end of the project. Installing the shredded material and covering it with peat results in costs of €126,336.80 for installing the shredded material and €26,138.64 for covering it with peat. The required transport of shredded material and peat is calculated in T.5.7.

T.5.4 Filling of ditches (BEN BSZ, subcontracted external companies), Q1-Q18:

The Hündfelder Moor is criss-crossed by many ditches that ensured the drainage of the moor more than 40 years ago during peat cutting. On the one hand, they continue to contribute to the accelerated surface drainage of the moor to this day. On the other hand, they are the starting point of the natural regeneration of the moor that has already begun, so that early moor regeneration communities are already present here. These should at least partially be preserved so that later the resettlement can start on a large area. Therefore, the trenches are completely filled in sections over a length of 10 meters each, effectively preventing the runoff above ground.

For this purpose, peat is first dug up with an excavator on bog chains at a suitable place on site and stored temporarily. The selection of the areas used for this is carried out in close coordination with the ecological construction supervision (T.5.1) in order to minimize the impairment of existing bog communities and species to keep. The vegetation in the trench is picked up and built into the previously created excavation site. Only then is the cleaned ditch flush-filled with

the peat obtained. A total of 270 backfills with 2700m³ of soil are required. The work is coordinated in terms of time with the other waterlogging measures in the 3 planned construction phases of WP 5; Total costs of €49,158.90 are budgeted.

T. 5.5 Digging off peat ridges (BEN BSZ, subcontracted external companies), Q6-Q21:

High-lying moor areas that cannot be sufficiently reached by the planned dams must be dug up. As a result, the desired near-surface water level is achieved in these areas, so that moorland regeneration can also start here in the future. On the other hand, the heavily decomposed black peat obtained here is required as a seal in the dams to be built and also in the vertical seal of the peat body below the dams (T.5.9, T.5.11). The peat is also used to fill in deeper areas (T.5.10) and to close the border ditch (T.5.8). Finally, the peat is also required for the construction of the dam body in the bog (T.5.9). The vegetation layer is pulled off with an excavator on bog chains, the peat underneath is removed to the desired depth and the vegetation is then put back again. Existing tree stumps are sorted out and placed on the area as habitat structures and wintering habitats for adders and moor frogs.

Loading, transport and installation of the peat are calculated in Tasks T.5.7, T.5.8, T.5.9, T.5.10 and T.5.11. The work is coordinated in terms of time with the other waterlogging measures in the 3 construction phases of WP 5. A total of approx. 151,000 m³ will be excavated on approx. 40 ha, total costs of €1,982,319.58 are calculated.

T.5.6 Creation of temporary transport routes (BEN BSZ, subcontracted external companies), Q6-Q9:

To facilitate the necessary transportation, a roadway will be created that will allow use by conventional vehicles for transporting soil and shredded material. This runs on existing paths that were preserved when the peat was removed. In addition, the routes of the outer dams to be built later will also be expanded as temporary driveways. A total of approx. 8 km of driveway will be created by bringing it to the appropriate height with sand and covering it with topsoil (in the moor area with peat). For this purpose, the excavation is used, which arises from the construction of the planned standing water bodies in the east of the Hündfelder Moor (T.5.12).

The work will take place in the first construction phase so that the upgraded track is available for the other necessary transports. All roads run along planned later embankments; After the end of their use as a roadway, the roadways will be expanded as a dam (cf. Tasks T.5.9, T.5.11 and T.5.13). This also ensures that any damage to the dams caused by transport is automatically repaired. However, a central driveway through the Hündfelder Moor will be retained so that the area can also be calculated for later measures and for the fire brigade. The roadway crosses the bodies of water at 5 points, through which the surface runoff of the moor is discharged. Large-volume pipe culverts that can be driven over are installed here, including installation € 29,750.00 are planned for them.

Transport and extraction of sand, topsoil and peat are covered under Tasks T.5.5, T.5.7 and T.5.12. A total of about 53,700 m³ of sand, 17,300 m³ of topsoil and 23,500 m³ of peat are installed; total costs of €494,724.99 are budgeted for this.

T. 5.7 Transport (BEN BSZ, subcontracted external companies), Q1-Q21:

In total, approx. 278,000 m³ of peat, sand, loam, granules and topsoil have to be transported. A large part of the transport routes is located within the former raised bog. As raised bog peat can only withstand low loads, small transport vehicles with wide chains and low ground pressure are mainly used for this purpose. The vehicles only have a small loading volume of less than 10m³ and can only drive slowly in rough terrain. A network of temporary transport routes will be built at the beginning (T.5.6), on which transport can then also take place using normal transport vehicles.

Thus, despite the difficult terrain, around 46% of the transport volume can be carried out with conventional vehicles, but 54% must be carried out with vehicles adapted to raised bogs. Overall, an average transport distance of 300 m is calculated. For Transport with conventional vehicles costs of 630,010.29 € are calculated, for transport with special vehicles 1,222,573.64 €.

The transport takes place at the same time as all construction work in which the soil or wood to be removed has to be moved.

T.5.8 Segmentation of the border ditch (BEN BSZ, subcontracted external companies), Q6-Q9:

The cased ditch running along the state border is currently making a particular contribution to the loss of water from the moor and must be interrupted. For this purpose, a piece of pipe is removed at 6 points where the ditch is crossed by dams to be created here and the sand bed underneath is removed in a width of 10 m down to the natural soil (2,160 m³) and the sand is thinly distributed over the area. Instead of the sand, heavily decomposed black peat is installed as a seal. Finally, the route of the ditch is filled with peat up to the level of the surrounding peat areas (13,450 m³).

Costs of €12,852 are calculated for the interruption of the ditch, €6,426 for the installation of the black peat seals and €40,013.75 for filling the route up to the dam target. Transport and detangling are budgeted under T.5.7 and T.5.2.

The work will be carried out in the course of the 1st construction phase.

T.5.9 Construction of dams within the bog area (BEN BSZ, subcontracted external companies), Q6-Q18:

The bog body will be divided into 14 hydrologically independent compartments with a uniform groundwater level through approx. 8 km of dams with an integrated seal down to the sealing bog base. The dams are built from peat (110,000 m³) and are between 1.3 m and a maximum of 2.6 m high. They will get a crest width of 3 m, in the case of embankments

that can be driven on later, 5 m, and slope angles of 1:2. With these dimensions, the dams are deliberately wider than necessary. As safety against possible subsidence from salt mining and against heavy precipitation, the dams are designed with a cant of 0.6 m and a freeboard of 0.3 m. This ensures that they will last for a long time despite the decomposition processes that unavoidably occur in peat dams.

The dams are sealed inside and below with strongly decomposed black peat; sufficient peat of the required quality is available in the area. For security reasons, at least 2 adjustable overflows are built into the dams per compartment (38 overflows). They consist of a large, angled plastic tube, the angle of which can be adjusted and fixed. As a result, the water level in the compartments can be lowered or increased within the margins provided by the dams.

The peat required is extracted where it is unreachable by the targeted groundwater level (T.5.5) and transported to the dam route (T.5.7) (preferred as this will reduce minimize adverse effects on the bogs vegetation) or extracted directly on site in pits nearby the dams.

To create the dams, the topsoil is removed and stored on the side. Along the route, a 1 m wide trench is dug down to the sealing layer of the bog and filled with strongly decomposed black peat, compacted in layers. Above this, a 2 m wide dam core made of black peat will be built up to the targeted height and built up with embankments to the dam body. Finally, the dam is covered again with the removed topsoil.

A total of around 8 km of moor dams will be built, for which an amount of 687,682.45 € has been calculated. A total of 90,440 € is estimated for the installation of 38 overflows. The work will be carried out in 2 construction phases within 2-3 years of construction; beginning with the dams near the border from northwest to southeast.

T.5.10 Filling up peat depressions (BEN BSZ, subcontracted external companies), Q6-Q21:

Areas that are too deep within the compartments (ca. 6.5 ha) are filled with peat (ca. 26,000 m³) up to the target level of the respective compartment. A total of €76,558.95 is calculated for backfilling the peat cuttings. The transport of the peat is calculated under T.5.7. The work is being carried out at the same time as the construction of the dams (T.5.9, T.5.11), which will be carried out in 3 separate construction phases from Q6 onwards.

T.5.11 Construction of dams between bog and adjacent water bodies that are to be created (BEN BSZ, subcontracted external companies), Q12-Q21:

The dams on the edge of the still existing peat body run mainly along former paths and are therefore are mostly integrated in the creation of the temporary transport route (T.5.6). Depending on availability, they will be built of peat or sand, their seal (if necessary) is made of peat or loam. They have the same construction principles and overflows as the dams in the bog (T.5.9). The majority of the dams have previously been developed as a track for the transport of soil (T.5.6). Finally, this has to be brought to the right shape and height, provided with a seal and a top layer as required; the associated work is budgeted here. The dams are created after the dams in the moor are in operation and in advance to the creation of the external dams of the still waters (T.5.13).

A total of approx. 2.6 km of dams will be built (€139,467.74), in which 8 overflows will be installed (€19,040).

T.5.12 Excavation of still waters (BEN BSZ, subcontracted external companies), Q6-Q9:

In order to provide a water supply even in periods of drought, a total of 31ha of still waters is created in the runoff of the groundwater underneath the bog at the eastern edge of the subsite HM, 4 independent bodies of water with their own target water level are planned. In order to separate the water that collects here from the adjacent nutrient-poor bog, the target water level of the still waters will be 10cm below the storage target of the adjacent bog compartments. First, the humic topsoil is removed and then later installed in the cover of the adjacent dams. The sand extracted here is transported (T.5.7) and installed in the dam bodies of the central temporary transport route (T.5.6). In order to improve the habitat suitability of water-bound bird species of the VSG, deep zones are also created. There is no deepening in partial areas where there are currently trees or bushes.

A total of approx. 54,000 m³ of sand to be dredged is calculated (€223,946.62). The work is coordinated in terms of time with the construction of the temporary transport routes (T.5.6).

T.5.13 Construction of dams surrounding the water bodies (BEN BSZ, subcontracted external companies), Q14-Q21:

The external dams of the still waters (ca. 2,300 m) are built by sand derived from the excavation of the adjacent still waters (T.5.12). They are part of the temporary transport routes (T.5.6) and will be used for transportation of sand and topsoil (T.5.7) from its origin to the destinations (T.5.11) during the first construction phases. When transportation is finished, the temporary transport routes will be converted to a dam with its ultimate shape (dam body with a crest width of 5 m and slope angles of 1:2, appr. 1,5 m height). Finally, the dams are completed by a seal out of loam reaching down to the groundwater sealing layer (1.5 to 3.5 m depth). The loam will be obtained on a parcel owned by the SGW (see LOI) without charge and transported and installed laterally in the dam. The transport of the loam is calculated in T.5.7. The loam seal ensures that the groundwater is dammed up to above the current ground level, so that the loss of water from the moor to the groundwater body is largely prevented. At the same time, however, the groundwater must be fed back into the ground behind the sealing wall in the vicinity of the bog. For this reason, 10 m wide infiltration basins are created along the dam, into which the groundwater flowing off above ground is discharged for seepage.

The dams are provided with 10 adjustable overflows into the infiltration basins. To provide safety against extraordinary rainfalls, 8 emergency overflows are added. They are constructed in an erosion-proof manner; Gravel incorporation into their drains prevents soil erosion. For the outflow from the seepage troughs into the other discharging waters, 7 adjustable overflow structures are installed with sills. The measure will be implemented towards the end of the 3rd construction phase.

Dig off loam 15,000 m³ 71,400.00 €

Installation of the loam seal (digging a ditch: €80,920, dewatering: €34,962.20, installing and compacting loam in layers: €60,690, temporary fastening of a transport route with slabs: 500 m for 12 weeks €9,698.50) 2,020 m 186,270.70 €

Conversion of the temporary driveway into the final dam 2,300 m 148,998.03 €

Installation of infiltration basins 2,020 m 49,037.52 €

Installation of adjustable overflows 10 23,800.00 €

Installation of emergency overflows 8 47,600.00 €

Overflows into the draining waters 7 41,650.00 €

T.5.14 Restoration of visitor control infrastructure (BEN BSZ, subcontracted external companies), Q20-Q24:

Infrastructure to guide visitors that was destroyed by the rewetting of subsite HM will be rebuilt. This includes new routing on selected dam stretches, the re-erection of a small observation hut (13,090 €), the securing of blocked dam stretches with barriers and fences, as well as signposting of the new hiking trail (26,180 €). In addition, fences of the adjacent grassland to the newly created water bodies that were destroyed are rebuilt (2,000 m, 16,660 €). By guiding visitors, we can protect the most vulnerable sections of the raised bog from disturbance by people. The work will take place after all previous work has been completed.

Work package WP6 – Monitoring and Evaluation

Work Package Number	WP6	Lead Beneficiary	4. LO
Work Package Name	Monitoring and Evaluation		
Start Month	1	End Month	72

Objectives

Raising the water levels up to typical raised bog conditions is the central aim of the planned measures. Rising water levels in the compartments can be expected just a short time after the measures have been carried out, i.e. already before the end of the LIFE-project. This means that the water levels are the central subject of monitoring, and we will be able to report on their effectiveness in our final monitoring and evaluation report. Hydrological monitoring is also part of the permit requirements at subsite HM, it is ongoing since 2021 and will be extended in 2023 in advance of LIFE CrossBorderBog in connection with the permission process. At subsite Av there is some hydrological monitoring already as part of the ongoing Natura 2000 monitoring.

The reaction of the target species and target habitat types, on the other hand, takes significantly longer. The regeneration of the target habitat types can hardly be expected within the project period - the monitoring here therefore only includes the baseline documentation. Dragonflies and birds as well as amphibians react much faster to changes. The monitoring here therefore not only includes the baseline documentation, but also an initial documentation of the development after the implementation of the measures (short-term reaction).

Birds are, besides being among the target species of the project, target species of the overlying bird sanctuary at subsite HM, which also benefit from the measures or which must be taken into account as far as possible when carrying out the project measures. To document the consequences of the measures on the objectives of the overlying bird sanctuary, birds are therefore integrated into the monitoring.

The reduction in CO₂ emissions associated with the measures and the long-term storage of CO₂ are welcome synergies between nature and climate protection. We will monitor it based on calculations and (science-based) assumptions in close cooperation with the University of Münster (ILÖK), see T6.4 and section §3.4.

Baseline monitoring of raised bog-typical species and habitat types (T.6.2) as well as mid-term and long-term monitoring of (task T 6.5) will be performed in advance of the project period as part of the ongoing area management by BSZ and LO. No costs are therefore budgeted for this tasks.

Overall Objectives:

- Documentation of the initial state and the development of the water levels and their fluctuations in the created compartments after the implementation of the measures

- Documentation of the initial state of the target habitat types as well as target species and bird species as a basis for mid-term to long-term monitoring
- Evaluation of the development of selected target species and bird species after implementation of the measures (short-term)
- Calculation of CO₂ emissions and CO₂ sequestration potential
- Assessment of project success regarding the targeted water level classes

Expected Results:

- Baseline documentation of the water levels and fluctuations, target habitat types and species groups (breeding birds, dragonflies, amphibians)
- Evaluation of developments after implementation of the measures:
 - o The desired target water levels in the compartments are achieved taking into account the seasonal fluctuations (short-term)
 - o Target species and target habitat types continue to occur and increase in the population (mid-term to long-term, only selected species within the project period)
- Calculated insight into CO₂ emission and sequestration to contribute to scientific and on-the-ground knowledge base on role of raised bogs in climate change

Description

T.6.1 Hydrological monitoring within the whole project area AvHM (BEN LO, BEN BSZ, subcontracted external companies), Q1 – Q24:

Organization, construction, operation and maintenance of the hydrological measuring network for the entire area. The monitoring in the subsite AV uses the already existing extensive network of measuring points and will add a few more to be able to do proper monitoring. In the subsite HM it uses already existing groundwater measuring points and Thomson measuring weirs of the main surface drains we need to fulfil the obligations of the permission process (T.3.5); their installation will be completed in advance of LIFE CrossBorderBog and thus is out of budget.

Installation of 6 additional measuring points for groundwater (subsite Av) by subcontractors: estimated at approx. €6000. Operation and maintenance of the hydrological measuring network will be performed by our project staff continuously for the whole time period; it thus includes both baseline monitoring as well as short term reaction monitoring.

As we expect more than 25 measuring points at subsite HM and 6 at subsite Av, for data reading, readjusting and function control at subsite HM we expect 2 days field work every 3 months and 1 day for data harmonizing and fill in into the common database structures, in total 3 apm.

On the basis of the collected data, annual evaluations and reports are created. At project end, a final evaluation will be made to evaluate effectiveness of our hydrological measures and to assess if we reached our main objectives. This is done by external contractors (59,500 €).

On the basis of the annual reports, the water level in the individual compartments can be readjusted as required. Results of the hydrological monitoring and evaluation feed the KPI reporting in T1.4 as well.

T.6.2 Biological baseline monitoring: (BEN S-NLW, BEN LO, BEN BSZ, subcontracted external companies), Q1 – Q8: Biological monitoring includes habitat types and selected groups of species. It builds on ongoing monitoring as part of the area management of the individual subsites Aamsveen and Hündfelder Moor and is carried out by the area supervisors LO and BSZ. Baseline data that can be used in the project are already available for Vegetation (Av/HM), Habitat types (Av/HM), breeding birds (Av/HM), and Amphibians (Av) or will be gained in 2023 in advance of LIFE CrossBorderBog (Dragonflies (Av/HM) and Amphibians (Av/HM)). As they are sufficient for baseline monitoring, there will not be any additional expense for baseline monitoring to be calculated.

Biological monitoring is performed using the following methods:

Monitoring of dragonflies:

Typical dragonfly species of the bog habitats are recorded: *Leucorrhinia pectoralis*, *Leucorrhinia rubicunda*, *Leucorrhinia dubia*, *Somatochlora arctica*, *Coenagrion lunulatum*, *Aeshna subarctica* and *Aeshna juncea*. Relevant bodies of water are searched for mapping. The animals are identified as imagines by sight observations or by trapping. The population size is determined for the entire project area. Exuviae are not collected. Due to the different flight times of the species (e.g. *C. lunulatum* in May, *L. dubia* in June and *A. subarctica* in June) a corresponding number of inspections are necessary. We assume 2 times 2 days per month (May, June, September) and one day evaluation.

Monitoring of Moor Frog (*Rana arvalis*):

Inspection trips in February/March are necessary to determine the beginning of the mating season of the moor frogs. During the short courtship period (approx. one week), a maximum number of callers are identified and mapped through interrogations. We calculate 3 days of control drives and 9 days of field inspections and one day of evaluation.

Monitoring of Pool Frog (*Rana lessonae*):

When recording this species, males of *R. lessonae* that look or sound/call similar as *R. esculenta* must be distinguished. The population size of all green frogs in the project area is estimated by interrogating caller communities. At three locations (two in HM, one in Av) a maximum number of green frogs are caught in 2 to 4 reference water bodies. By measuring certain foot parameters, both species can be biometrically distinguished from each other and the proportion of small water frog to pond frog can be determined. After a numerical assessment of all calling green frogs in the project area, the proportion of *R. lessonae* can be calculated using this correction factor. We calculate 10 days for recording the calling green frogs in the field, 10 days for catching and measuring green frogs and 1 day for evaluation.

Monitoring of vegetation:

20 permanent plots in representative vegetation areas, one-time recording, additional annual photo documentation of the development

T.6.3 Biological monitoring: Evaluation of short-term reaction (BEN S-NLW, BEN LO, BEN BSZ, subcontracted external companies), Q21 – Q23:

The evaluation of short-term reaction follows the same principles as stated at T.6.2 and will be performed once after the measures of WP4 and WP5 have been finished.

- Breeding birds (Av/HM):

The monitoring takes place within the scope of the regular site management of both subsites. The data can be used for LIFE CrossBorderBog without additional expense outside of the project budget. It will continue even after the project has ended.

- Dragonflies (Av/HM):

Monitoring is carried out for the entire Av/HM project area by external contractors.

- Amphibians (Av/HM):

Monitoring is carried out for the entire Av/HM project area by external contractors

- Vegetation (Av/HM):

Vegetation monitoring will be performed at subsite Av by LO out of budget, at subsite HM by the project staff. In total, we calculate 1 apm for vegetation survey, travel costs of €336 for BEN BSZ. For fauna monitoring we calculate an expense of 380 hours fieldwork (dragonflies and *Rana arvalis*: 105 h, *Rana lessonae* 170 h) that will be performed by external species specialists and a total of €32,130.

Results of the biological monitoring and evaluation of results will feed the KPI reporting in T.1.4 as well.

T.6.4 Greenhouse gas emission monitoring (COO POv, BEN LO, BEN BSZ, subcontracted external company), Q1-Q24

This monitoring task is twofold: The first part consists of a calculation to form a baseline and a future value after the measures have been carried out, and 193.15 hectares will be rewetted. These calculations will be carried out by POv, probably through a subcontracted external company, with input from LO and BSZ. The second part is the result of an ongoing research collaboration of BSZ with University of Münster (ILÖK) on GHG emissions at subsite HM. It consists of a direct and continuous measuring of greenhouse gas fluxes at the site 12 months prior to and 12 months after restoration. This will be done by ILÖK using the scientific eddy covariance technique. The results will be compared and evaluated (119,000.00 €).

The intended collaboration can be evidenced, however, with the included Letter of Support from University of Münster. It is signed by the Head of institute, prof. dr. Knorr, who specializes in a.o. peatland carbon dynamics). The final monitoring report will include an evaluation of the estimated effects on CO₂ emissions and CO₂ sequestration. Results on T.6.4 will feed the KPI reporting of the project.

ADDITIONAL - T.6.5 Biological monitoring: Evaluation of mid-term to long-term reaction (BEN's BSZ and LO):

After the end of the project, monitoring will continue as part of the regular site management. It includes the following regularly examined groups:

- Ground water level, outflow (Av/ HM)
- Breeding birds (Av/HM)
- Habitat types (Av/HM)
- Amphibians (Av)
- Vegetation (Av)
- Dragonflies (Av/HM)

Because this is beyond the project end, task T6.5 is not part of the timetable just ahead in this proposal, nor is it budgeted as part of this LIFE application.

Work package WP7 – Sustainability, replication and exploitation of project results

Work Package Number	WP7	Lead Beneficiary	1. PO
Work Package Name	Sustainability, replication and exploitation of project results		
Start Month	1	End Month	72

Objectives
<p>This WP lists all measures that make a significant contribution to ensuring the long-term success of the project (sustainability) and that enable others to use the results and experiences from the project (replication, exploitation). This obviously includes all activities that contribute to the rewetting infrastructure implemented in WP 4 and WP 5 functioning with as little maintenance as possible in the long term - and this also against the background of the climate change that has already begun. Only then can it be assumed that living raised bogs will develop here again in the long term, thereby achieving the actual goal of the project.</p> <p>However, the success of the project is not limited to the achievement of the direct project goals listed in the Impact chapter (§2.1):</p> <p>The long-term preservation of biological diversity in protected areas is always dependent on the acceptance of the local people, administration and politics. Therefore, all communication activities of the project (§3.5) aimed at these groups are also listed here. The synergies and co-benefits for other relevant topics and policy areas listed in the chapters (§1.5 to §1.8) are also among the project goals we are aiming for. Here, the topics include awareness-raising and knowledge transfer on topics such as sustainability, biodiversity and climate change, but also social wellness, jobs and growth as well as contributions to political goals at regional, national and international level (cf. § 1.8).</p> <p>A major contribution of LIFE CrossBorderBog is also the close dovetailing of peatland rewetting in the sense of best practice with scientific research on GHG emissions: The ILÖK will use the research ongoing in the subsite HM to calculate for the first time the CO2 savings directly. The continuous measurement enables both the baseline and the short-term reaction to be recorded after the measures have been successfully implemented, so that for the first time a balance can be made of the contribution of peatland regeneration to climate protection that has taken place in life nature. In this way, LIFE CrossBorderBog also contributes to the currently under development of methods for measuring the contribution of rewetting measures to the reduction of GHG emissions, which will go directly into the further design of the national action plans for climate protection (§1.8). Thus LIFE CrossBorderBog goes well beyond a pure best practice project and also has catalytic potential in the field of synergy of protective measures for biological diversity and climate (§2.5).</p> <p>Overall objectives</p> <ul style="list-style-type: none"> • Sustainability of the rewetting measures (T.7.1) • Encourage and secure acceptance and awareness of the planned measures, climate protection and conservation of biodiversity in general (T.7.8, T.7.9) • Realizing of further synergies and co-benefits (almost all tasks of WP 7) • Exchange of knowledge in the field of nature conservation and in particular its contribution to climate change mitigation (T.7.2, T.7.3, T.7.4, T.7.5, T.7.6) • Promotion of the development of knowledge and methods in the field of natural climate protection and integration into the national funding instruments that are currently being developed (T.7.5, T.7.7) <p>Expected Results</p> <p>AfterLIFE Plan</p> <p>The SGW is involved in the project (funding of regeneration planning, provision of areas for the implementation of measures, provision of loam, additional provision of buffer areas against nutrient input from agriculture)</p> <p>Integration of the topics of biodiversity and climate change in the local educational institutions: excursions with school classes, ESD events of BNE Regionalzentrum of S-NLW, events of Bildungswerk Naturschutzzentrum Münsterland of BSZ</p> <p>Information about LIFE CrossBorderBog: publications, lectures, discussion rounds, excursions in the participating municipalities for the public, homepage, radio & television, social media</p> <p>Exemplary measurement of GHG emissions before and after the implementation of rewetting measures</p> <p>Long-term integration of the project site into the implementation of the federal moor protection strategy in Germany</p> <p>Communication of our project process and results to public and professional stakeholders;</p> <p>Dissemination for the purposes of replication of our technical lessons learned to other raised bog sites in the Dutch-German border zone and beyond in Europe;</p> <p>Dissemination for the purposes of replication of our lessons learned on cross-border working to other cross-border bogs across Europe;</p>

Connection with climate researchers and projects that do research on bog and peatland CO₂ sequestration to gain more insight and to contribute to the European community working on the carbon dynamics of peatlands.

Description

T.7.1: AfterLIFE Plan: Alignment of planning with the long-term durability of the rewetting infrastructure (COO POv, all BEN contribute): Q24

The planned purchase of land (T.3.1) is the basis for being able to carry out all necessary maintenance and optimization measures in the project area in the future.

Durability and low maintenance are two key criteria (§2.3) that were already integrated in early planning stage for the necessary rewetting measures (WP 2, WP3). This applies, for example, to the choice of materials used, but also to the dimensioning of the dams and the type and number of technical facilities such as overflows: reserves are generally planned that also ensure resilience against the ongoing climate change (see §2.3).

The AfterLIFE plan lists all measures that must be continued after the end of the project so that the rewetting achieved is secured in the long term. The adaptation of the area management to the new circumstances is also included here:

- Necessary maintenance measures for the rewetting infrastructure: regular inspections of the dams, overflow structures, culverts, etc., integration of the dams into the sheep grazing to avoid growth of trees and shrubs.
- Measures to preserve the habitat types of the raised bog: Adaptation of sheep grazing to avoid growth of trees and shrubs (new drift paths, areas to be left out because of their development goal of bog forest or with regenerating vegetation on bare peat soil).
- Monitoring to be continued (cf. T.6.5)
- Operation and maintenance of the visitor management infrastructure

Effort for the support at BEN BSZ: 1 apm; BEN POv: 1 apm.

T.7.2 Kick-off event and closing event (COO POv, all BEN contribute): Q1 - Q2 + Q23 - Q24

During our kick-off event we will host a symposium oriented at a large professional audience (ca. 50 attendees), including site managers, government officials, non-governmental organisations, and etc. In this symposium we will share our plans and gather knowledge from all participants to make sure we have up-to-date insights on everything, to apply this in our final planning for the two sites. We will start creating the broad support base and a network for future exchange in this symposium. We want to gather as much as possible all the state-of-the-art knowledge and experience in the field.

The closing event will be oriented sharing the lessons learned of LIFE CrossBorderBog to a wider audience, alike the kick-off event (ca. 100 attendees). A similar professional audience is foreseen, i.e. site managers, governmental officials, scientists, NGO's, etc. Everybody that has contributed to the project (also in the EU-wide exchange) and other interested people will be invited. As the closing symposium will explicitly look into the results and the process of the works, we foresee it will have relevance for contractors working in nature sites as well. The closing symposium will celebrate the work done, but most of all look forward to the future: how can the professional audience present engage in nature restoration of raised (cross-border) bogs in the coming years, and allow us to reach the Natura 2000 objectives for the bog habitat types and species? The symposium will contain a session specially oriented at directors and governors, especially from other raised bog sites, in order to maximize their involvement with raised bog restoration and to aid the prioritization of raised bog restoration and investments for this restoration in other nature sites.

Kick-off event: 1 Day incl. field visit / 50 people / Renting a meeting venue incl. lunch and coffee/tea: €41 per person. Total cost = €41x50 = €2050, rounded down to €2000. Rent of bus for 50 people: €500.

Closing event: 100 people / 1 day incl. field visit / same tariff as kick-off event, €45 p.p. This tariff includes room rent, coffee and lunch. Sum for 100 people = €4500. Due to 100 people we need 2 buses, i.e. 2x €500 = €1000. In total: 8,000 € external costs.

Effort at BEN BSZ: 2 apm.

Travel Costs BEN BSZ: 70 €

T.7.3 Site managers workshops (2) (COO POv (1st workshop), BEN BSZ (2nd workshop), all BEN contribute): Q2-Q3 + Q21-Q22

This is one of the major Tasks in WP7 to ensure replication in nature conservation knowledge. During the first 2-day workshop for site managers of raised bogs (ca. 20 participants), we will not just share our own plans and actions, but also actively engage in exchange with the site managers to aid their own restoration plans. The 2-day workshop will include a field visit (excursion) into the Hündfelder Moor and Aamsveen. Topics to be discussed include, although not exhaustive: work preparation, permit process, selected measures and (dis)advantages and expected effects thereof. Invitees include for instance site managers of the bogs that we already foresee exchange with (such as Weißes Venn/ Geisheide, Fochteloërveen, Haaksbergerveen). Bilateral visits to or from these sites is part of the preparations leading up to the workshop but can also be part of the follow-up of the workshop, depending on the needs of the sites.

We focus on learning by example, and have 3 objectives for this workshop: collecting knowledge, sharing knowledge,

and advising other site managers. We will do so through an informal exchange, and pay attention to the specific site characteristics we are dealing with, for instance the small bog size and the great importance of groundwater raising and stabilizing.

The second workshop is much later in project planning, towards the end of 2027/ early 2028. The reason is that the second workshop will focus on results of the measures implemented until that point. The structure is quite similar: a 2-day workshop with a field visit (excursion), with ca. 20 participants (similar to workshop 1).

2 day workshops / 20 people / Same venue costs as T7.1 budgeted, i.e. €41 p.p. = €1640. Rounded up to €1650. People can be transported to and within site by own cars from POv/LO/BSZ (5 cars). Petrol costs = €100. In total: 3,500 € external costs. Effort at BEN BSZ: 3 apm.

T.7.4 EU-wide exchange cross-border bogs (COO POv, BEN LO and BSZ contribute): Q1-Q24

In this Task we will seek contact with other European cross-border bogs, for instance Šumava (Bohemian Forest) (Czech-German border). The first action in this task is to assess whether there are more cross-border bogs to exchange with and to form an knowledge exchange group with. We aim for approx. 5 other cross-border raised bog sites to engage in exchange with. When they respond positively to our proposal to share experiences we will set up online meetings to get to know them and ask about their situation.

Those that are interested will either be invited to visit LIFE CrossBorderBog project area for a field excursion and face-to-face exchange or we will visit them at their site. Which is most applicable and relevant will be decided in our exchange. We have budgeted for Travel to 2 sites, in case EU site managers instead visit us, this budget will be used for the organization of their visit. The final product of this Task is a concise report in which we describe the lessons learned for cross-border working on raised bog restoration, which will be based on the shared experiences of the knowledge exchange group.

This Task contributes mostly to knowledge exchange in the field of cross-border restoration work, but will make sure to incorporate lessons on other knowledge theme as technical restoration or climate mitigation when they arise. We expect and hope to learn much from EU-professionals as well, as there are still knowledge gaps on this topic.

2 visits budgeted (in case they come to us costs are expected to be the same or less). Each visit = 3 days with 5 people from NL/DE. Costs are calculated as: Train/flight = €250. Hotel = 3 nights x €125 = €375. Rental car incl. petrol for 3 days = €300 (for all). Sustenance = €200 per person for 3 days. Cost per person = €925. For 5 people = €4625. For 2 trips = €9,250 €. Effort at BEN BSZ: 1 apm.

T.7.5: Collaboration with scientific research on bog restoration and climate change mitigation (BEN BSZ, all BEN contribute): Q1-Q24

The cooperation between BEN BSZ and the ILÖK (Institute for Landscape Ecology) of the Universität Münster, which has existed since 2020, will be continued. The current as well as future research is conducted independently by the ILÖK and thus does not cause any costs or effort for LIFE CrossBorderBog. As a practice-oriented application of the knowledge gained, the project plans to estimate the savings in GHG emissions achieved through rewetting (T.6.4). This contributes to converting the results of basic research into practice-oriented applications. Discussions are currently underway with the BMU with the aim of integrating this contribution into the national action program for natural climate protection.

For the coordination of the research activities with the measures of LIFE CrossBorderBog, the project at BEN BSZ incurs an expense of 1 day per quarter (in total: 1apm) as well as travel costs of €630. For the Dutch partners the staff effort also amounts to 1apm.

T.7.6: Updated Best Practice Manual (COO POv, BEN LO and BSZ contribute): Q21-Q24

We do not aim to develop a complete best practice manual (BPM) on our own, as we know that other (LIFE) projects already have this replication action conducted or planned, and we do not wish to redo existing work. However, we do believe we will have new additions to the existing body of knowledge. Mostly we will contribute technical insights that were learned specifically in the context of the Aamsveen and Hündfelder Moor Natura 2000 sites and might not have come up (yet) on other raised bog sites. The results of our climate knowledge theme will also feed the BPM update. We will create an update to existing BPM('s) (i.e. not an entirely new one), where the BPM that will be made in AddMire LIFE will be the starting point for our work. The updated BPM will be shared through a.o. our own network and through the Eurosite network. This Task primarily contributes to knowledge exchange in the field of raised bog restoration.

We calculate 5 days per year for BEN BSZ (in total: 2 apm), for the Dutch partners also 2apm (1 each for LO and POv). Technical support (external costs: 10,000 €)

T.7.7: Networking, advice to regional and national politics (COO POv, BEN LO and BSZ contribute): Q1-Q24

This task brings together all communication activities aimed at political actors at local, regional, national and possibly also EU level. This includes, for example, presentations to local councils and all activities related to the coordination of procedures as part of the preparations (WP 2 and WP3) and the implementation of measures (WP 4 and WP5). In addition, all advisory activities by our project staff are included here, which serve to integrate knowledge and insights into political instruments and action programs in the area of tension between the preservation of biodiversity and climate

protection. These include, in particular, the moor protection programs of the state of North Rhine-Westphalia and the Federal Ministry for the Environment, but especially the action program for natural climate protection of the BMU. BEN BSZ calculates an effort of 6 days per year (in a total of 2 apm). For the Netherlands this is 1apm, BEN POv, more will be done as part of regular work and outside the LIFE budget.

T.7.8: Public relations incl. Communication and Dissemination pack, Layman's Report (COO POv, BEN LO and BSZ contribute): Q1-Q24

This task includes all other activities aimed at the local population and the general public (adults, families, children) through various media. Technical support is calculated in the communication and dissemination pack, it concerns such as a project webpage, brochure, notice boards on site, permanent plaques, newsletters, lectures, 2 conference visits and presentations (for instance at International Peatland Congress). Calculation dissemination pack: Communication job for website, layout for flyer, etc = €18,000 / Notice boards during 5-6yrs = €4,000 per sign (x2) = €8,000 / Permanent signs = €1,300 per sign (x2) = €2,600 / Translations = €10,000.

BEN BSZ calculates 1 day per month for general public relations work plus increased work at the beginning and end of the project (in total: 4 apm). An effort of 5 days per year (in total: 1 apm) is calculated at BEN BSZ for the preparation of the content for the dissemination pack. 2 excursions to the project area for those interested are planned per year (1 apm BSZ). For the Netherlands staff effort (BEN LO) is 1apm.

At the end of the project we will make a Layman's Report, summarizing the work and results of LIFE CrossBorderBog, and the long-term benefits of nature and biodiversity we foresee. The Layman's Report will be oriented at a general audience, and thus be written in an accessible and jargon-free writing style and will be provided in Dutch and German. We will work with visualizations (charts, drawings, pictures) where possible and applicable.

Calculated is an effort of 1 apm at BEN BSZ, and 1 apm for the Netherlands (BEN POv).

The activities of this task also include the continuation of a cross-border cooperation between BEN BSZ and a Dutch voluntary landscape conservation organization called EnHOE: For more than 10 years, cross-border events on cooperation in landscape conservation actions in the subsites Av and HM and beyond have been offered twice a year, of which one is organized and carried out on the German side and one on the Dutch side. To support this, tools (saws, pruning shears, gloves for about 20 people) are purchased in LIFE CrossBorderBog by BEN BSZ (€2,975.00).

T.7.9: Environmental education, Education for sustainable development (BEN BSZ, BEN S-NLW, LO, POv contribute): Q1-Q24

This task includes all activities aimed at individuals (adults, families) mainly via educational institutions (schools, kindergartens). Bildungswerk Naturschutzzentrum Münsterland of BEN BSZ and the BNE Regionalzentrum of BEN S-NLW are significantly involved in their implementation. Both institutions will make their own contribution to LIFE CrossBorderBog, which supplements the contributions of the two BENs outside of the budget: the Bildungswerk will offer at least 2 events per year on the project and its goals, the BNE Regionalzentrum at least 1 event as well as with a newly developed digital and analogue researcher's booklet with research assignments to the bog in connection with the 17 sustainability goals of the United Nations and a reference to the measures to be implemented in the project. An ESD education program on the subject of "More – habitat and climate protection" for school classes at primary level/secondary level 1 is to be developed and carried out annually with up to 4 school classes per year.

As part of the project budget, 2 excursions per year are also offered for schools by the project staff (2 apm for BEN BSZ). Staff effort for task 7.9 for BEN POv and LO is 2 apm.

T.7.10: Realizing of synergies and co-benefits (COO POv, BEN LO and BSZ contribute): Q1-Q24

All activities are gathered here that are required to realize the desired synergies and co-benefits (cf. §1.6, §1.7, §1.8). This does not require a new standalone task; on the contrary, the existing tasks contribute to a sufficient extent to the realization of the synergies:


- Climate change mitigation: The implementation of the rewetting measures (WP 4, WP 5) make a concrete and direct contribution to reducing GHG emissions with the perspective of even storing CO₂ again in the long term. Through the research cooperation with ILÖK, methods are being developed and implemented in an exemplary manner that are required for the assessment of the contributions of the rewetting of organic soils to climate protection (T.7.5)
- Water quality and quantity: The implementation of the rewetting measures (WP 4, WP 5) makes a direct contribution to securing groundwater-dependent ecosystems.
- Agriculture: Aspects of land use are taken into account when planning the measures and especially when planning the subsequent use of biotopes in the cultural landscape (T.1.2, T.1.3)
- Contributions to strengthening rural areas and the local economy (jobs and growth) are realized directly by creating project jobs (WP1) and by awarding construction contracts to implement the rewetting measures (WP2, WP3); the call for tenders calls for the formation of bidding groups from local companies.
- Social wellness is addressed via tasks T.7.8 and T.7.9; The aim here is to build awareness of the importance of their moorland protection area among the local people and to gain acceptance for the necessary yet extensive civil engineering work. The re-opening of the area for local recreation and nature experience by rebuilding visitor management and visitor infrastructure also contributes to this (T.5.14).

- The goals of the UN Agenda 2030 are addressed by T.7.9, which is primarily provided by the BNE Regionalzentrum of BEN S-NLW.
- The contributions to the EU environmental policy are made through the following tasks:
 - o The contribution to the restoration of nature and carbon-rich ecosystems is made directly through the implemented rewetting measures of WP4 and WP5, as well as to the objectives of the Water Framework Directive
 - o The Business for Biodiversity goal is achieved through the participation of the SGW in the implementation of LIFE CrossBorderBog (provision of land, provision of loam, etc.)
 - o Mainly T.7.9 contributes to the goal of education with regard to ecological sustainability, but also all tasks for knowledge dissemination and research (T.7.2 to T.7.8).
- The national and regional policy areas of protection of biological diversity and climate protection are supported in terms of content by the tasks for knowledge determination and dissemination, but in particular by the direct contribution of LIFE CrossBorderBog to the integration of the topics mentioned in the development of regional and national funding instruments (T.7.7).

STAFF EFFORT

Staff effort per participant								
<i>Grant Preparation (Work packages - Effort screen) — Enter the info.</i>								
Participant	WP1	WP2	WP3	WP4	WP5	WP6	WP7	Total Person-Months
1 - PO	2.00	4.00		4.00		1.00	8.00	19.00
2 - BSZ	23.00		28.00		35.00	4.00	22.00	112.00
4 - LO	5.00	4.00		4.00		4.00	6.00	23.00
Total Person-Months	30.00	8.00	28.00	8.00	35.00	9.00	36.00	154.00

LIST OF DELIVERABLES

Deliverables						
<i>Grant Preparation (Deliverables screen) — Enter the info.</i>						
<i>The labels used mean:</i>						
<i>Public — fully open ( automatically posted online)</i>						
<i>Sensitive — limited under the conditions of the Grant Agreement</i>						
<i>EU classified — RESTREINT-UE/EU-RESTRICTED, CONFIDENTIEL-UE/EU-CONFIDENTIAL, SECRET-UE/EU-SECRET under Decision 2015/444</i>						
Deliverable No	Deliverable Name	Work Package No	Lead Beneficiary	Type	Dissemination Level	Due Date (month)
D1.1	KPI Tool – 9mnth update	WP1	1 - PO	DATA — data sets, microdata, etc	SEN - Sensitive	9
D1.2	KPI Tool – end update	WP1	1 - PO	DATA — data sets, microdata, etc	SEN - Sensitive	72
D1.3	Audit Report	WP1	1 - PO	R — Document, report	SEN - Sensitive	72
D1.4	Uploading the yearly reports on cumulative expenditure - 1	WP1	1 - PO	R — Document, report	SEN - Sensitive	6
D1.5	Uploading the yearly reports on cumulative expenditure - 2	WP1	1 - PO	R — Document, report	SEN - Sensitive	18
D1.6	Uploading the yearly reports on cumulative expenditure - 3	WP1	1 - PO	R — Document, report	SEN - Sensitive	30
D1.7	Uploading the yearly reports on cumulative expenditure - 4	WP1	1 - PO	R — Document, report	SEN - Sensitive	42
D1.8	Uploading the yearly reports on cumulative expenditure - 5	WP1	1 - PO	R — Document, report	SEN - Sensitive	54
D1.9	Uploading the yearly reports on cumulative expenditure - 6	WP1	1 - PO	R — Document, report	SEN - Sensitive	66
D1.10	Progress report 1	WP1	1 - PO	R — Document, report	SEN - Sensitive	18

Deliverables						
<i>Grant Preparation (Deliverables screen) — Enter the info.</i>						
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<i>Public — fully open (⚠ automatically posted online)</i>						
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Deliverable No	Deliverable Name	Work Package No	Lead Beneficiary	Type	Dissemination Level	Due Date (month)
D1.11	Progress report 2	WP1	1 - PO	R — Document, report	SEN - Sensitive	52
D2.1	Granted permits Aamsveen	WP2	4 - LO	OTHER	SEN - Sensitive	12
D2.2	Final plan	WP2	4 - LO	R — Document, report	PU - Public	15
D3.1	Land purchase certificates	WP3	2 - BSZ	OTHER	SEN - Sensitive	15
D3.2	Granted permits HM	WP3	2 - BSZ	OTHER	SEN - Sensitive	15
D3.3	Nature conservation plannings	WP3	2 - BSZ	R — Document, report	PU - Public	12
D3.4	Visitor management planning	WP3	2 - BSZ	R — Document, report	SEN - Sensitive	9
D4.1	Report on restoration works Aamsveen	WP4	4 - LO	R — Document, report	PU - Public	69
D5.1	Report on the restoration works HM	WP5	2 - BSZ	R — Document, report	PU - Public	72
D6.1	Baseline monitoring and evaluation report on hydrology, habitat types, dragonflies, amphibians, ghg emissions.	WP6	4 - LO	R — Document, report	PU - Public	15
D6.2	Final monitoring and evaluation report on hydrology, dragonflies, amphibians, ghg emissions.	WP6	4 - LO	R — Document, report	PU - Public	72
D7.1	Website	WP7	1 - PO	DEC — Websites, patent filings, videos, etc	PU - Public	12
D7.2	Best Practice Manual (update)	WP7	1 - PO	R — Document, report	PU - Public	72

Deliverables

Grant Preparation (Deliverables screen) — Enter the info.

The labels used mean:

Public — fully open ( automatically posted online)

Sensitive — limited under the conditions of the Grant Agreement

EU classified — RESTREINT-UE/EU-RESTRICTED, CONFIDENTIEL-UE/EU-CONFIDENTIAL, SECRET-UE/EU-SECRET under Decision [2015/444](#)

Deliverable No	Deliverable Name	Work Package No	Lead Beneficiary	Type	Dissemination Level	Due Date (month)
D7.3	Layman's Report	WP7	1 - PO	R — Document, report	PU - Public	72
D7.4	Report on cross-border restoration working	WP7	1 - PO	R — Document, report	PU - Public	72
D7.5	AfterLIFE Plan	WP7	1 - PO	R — Document, report	PU - Public	72

Deliverable D1.1 – KPI Tool – 9mnth update

Deliverable Number	D1.1	Lead Beneficiary	1. PO
Deliverable Name	KPI Tool – 9mnth update		
Type	DATA — data sets, microdata, etc	Dissemination Level	SEN - Sensitive
Due Date (month)	9	Work Package No	WP1

Description
LIFE tool update 9 months after project start, English

Deliverable D1.2 – KPI Tool – end update

Deliverable Number	D1.2	Lead Beneficiary	1. PO
Deliverable Name	KPI Tool – end update		
Type	DATA — data sets, microdata, etc	Dissemination Level	SEN - Sensitive
Due Date (month)	72	Work Package No	WP1

Description
LIFE tool update end of project, English

Deliverable D1.3 – Audit Report

Deliverable Number	D1.3	Lead Beneficiary	1. PO
Deliverable Name	Audit Report		
Type	R — Document, report	Dissemination Level	SEN - Sensitive
Due Date (month)	72	Work Package No	WP1

Description
LIFE Audit, English

Deliverable D1.4 – Uploading the yearly reports on cumulative expenditure - 1

Deliverable Number	D1.4	Lead Beneficiary	1. PO
Deliverable Name	Uploading the yearly reports on cumulative expenditure - 1		
Type	R — Document, report	Dissemination Level	SEN - Sensitive
Due Date (month)	6	Work Package No	WP1

Description
Yearly expenditure statement, English

Deliverable D1.5 – Uploading the yearly reports on cumulative expenditure - 2

Deliverable Number	D1.5	Lead Beneficiary	1. PO
Deliverable Name	Uploading the yearly reports on cumulative expenditure - 2		
Type	R — Document, report	Dissemination Level	SEN - Sensitive
Due Date (month)	18	Work Package No	WP1

Description
Yearly expenditure statement, English

Deliverable D1.6 – Uploading the yearly reports on cumulative expenditure - 3

Deliverable Number	D1.6	Lead Beneficiary	1. PO
Deliverable Name	Uploading the yearly reports on cumulative expenditure - 3		
Type	R — Document, report	Dissemination Level	SEN - Sensitive
Due Date (month)	30	Work Package No	WP1

Description
Yearly expenditure statement, English

Deliverable D1.7 – Uploading the yearly reports on cumulative expenditure - 4

Deliverable Number	D1.7	Lead Beneficiary	1. PO
Deliverable Name	Uploading the yearly reports on cumulative expenditure - 4		
Type	R — Document, report	Dissemination Level	SEN - Sensitive
Due Date (month)	42	Work Package No	WP1

Description
Yearly expenditure statement, English

Deliverable D1.8 – Uploading the yearly reports on cumulative expenditure - 5

Deliverable Number	D1.8	Lead Beneficiary	1. PO
Deliverable Name	Uploading the yearly reports on cumulative expenditure - 5		
Type	R — Document, report	Dissemination Level	SEN - Sensitive
Due Date (month)	54	Work Package No	WP1

Description
Yearly expenditure statement, English

Deliverable D1.9 – Uploading the yearly reports on cumulative expenditure - 6

Deliverable Number	D1.9	Lead Beneficiary	1. PO
Deliverable Name	Uploading the yearly reports on cumulative expenditure - 6		
Type	R — Document, report	Dissemination Level	SEN - Sensitive
Due Date (month)	66	Work Package No	WP1

Description
Yearly expenditure statement, English

Deliverable D1.10 – Progress report 1

Deliverable Number	D1.10	Lead Beneficiary	1. PO
Deliverable Name	Progress report 1		
Type	R — Document, report	Dissemination Level	SEN - Sensitive
Due Date (month)	18	Work Package No	WP1

Description
Technical progress report, English

Deliverable D1.11 – Progress report 2

Deliverable Number	D1.11	Lead Beneficiary	1. PO
Deliverable Name	Progress report 2		
Type	R — Document, report	Dissemination Level	SEN - Sensitive
Due Date (month)	52	Work Package No	WP1

Description
Technical progress report, English

Deliverable D2.1 – Granted permits Aamsveen

Deliverable Number	D2.1	Lead Beneficiary	4. LO
Deliverable Name	Granted permits Aamsveen		
Type	OTHER	Dissemination Level	SEN - Sensitive
Due Date (month)	12	Work Package No	WP2

Description
Permits are a prerequisite for tendering and awarding the work. Written permits, Dutch language

Deliverable D2.2 – Final plan

Deliverable Number	D2.2	Lead Beneficiary	4. LO
Deliverable Name	Final plan		
Type	R — Document, report	Dissemination Level	PU - Public
Due Date (month)	15	Work Package No	WP2

Description
Final restoration planning for Aamsveen. Report/plan, Dutch language

Deliverable D3.1 – Land purchase certificates

Deliverable Number	D3.1	Lead Beneficiary	2. BSZ
Deliverable Name	Land purchase certificates		
Type	OTHER	Dissemination Level	SEN - Sensitive
Due Date (month)	15	Work Package No	WP3

Description
Digital copies of the land register (with "conservation clause"). German language

Deliverable D3.2 – Granted permits HM

Deliverable Number	D3.2	Lead Beneficiary	2. BSZ
Deliverable Name	Granted permits HM		
Type	OTHER	Dissemination Level	SEN - Sensitive
Due Date (month)	15	Work Package No	WP3

Description
Written permits, German language

Deliverable D3.3 – Nature conservation plannings

Deliverable Number	D3.3	Lead Beneficiary	2. BSZ
Deliverable Name	Nature conservation plannings		
Type	R — Document, report	Dissemination Level	PU - Public
Due Date (month)	12	Work Package No	WP3

Description
Reports/plans, German language

Deliverable D3.4 – Visitor management planning

Deliverable Number	D3.4	Lead Beneficiary	2. BSZ
Deliverable Name	Visitor management planning		
Type	R — Document, report	Dissemination Level	SEN - Sensitive
Due Date (month)	9	Work Package No	WP3

Description
Reports/plans, German language

Deliverable D4.1 – Report on restoration works Aamsveen

Deliverable Number	D4.1	Lead Beneficiary	4. LO
Deliverable Name	Report on restoration works Aamsveen		
Type	R — Document, report	Dissemination Level	PU - Public
Due Date (month)	69	Work Package No	WP4

Description
Description of the works conducted, issues and solutions. English language.

Deliverable D5.1 – Report on the restoration works HM

Deliverable Number	D5.1	Lead Beneficiary	2. BSZ
Deliverable Name	Report on the restoration works HM		
Type	R — Document, report	Dissemination Level	PU - Public
Due Date (month)	72	Work Package No	WP5

Description
Description of the works conducted, issues and solutions. English language.

Deliverable D6.1 – Baseline monitoring and evaluation report on hydrology, habitat types, dragonflies, amphibians, ghg emissions.

Deliverable Number	D6.1	Lead Beneficiary	4. LO
Deliverable Name	Baseline monitoring and evaluation report on hydrology, habitat types, dragonflies, amphibians, ghg emissions.		
Type	R — Document, report	Dissemination Level	PU - Public
Due Date (month)	15	Work Package No	WP6

Description
Baseline monitoring and evaluation report including hydrology, biological measurements, and climate calculations. Written report, English language.

Deliverable D6.2 – Final monitoring and evaluation report on hydrology, dragonflies, amphibians, ghg emissions.

Deliverable Number	D6.2	Lead Beneficiary	4. LO
Deliverable Name	Final monitoring and evaluation report on hydrology, dragonflies, amphibians, ghg emissions.		
Type	R — Document, report	Dissemination Level	PU - Public
Due Date (month)	72	Work Package No	WP6

Description
Final monitoring and evaluation report including hydrology, biological measurements, and climate calculations. Written report, English language. For hydrology there will be annual reports as well, these are not a formal LIFE-deliverable, but will feed the final monitoring and evaluation report.

Deliverable D7.1 – Website

Deliverable Number	D7.1	Lead Beneficiary	1. PO
Deliverable Name	Website		
Type	DEC — Websites, patent filings, videos, etc	Dissemination Level	PU - Public
Due Date (month)	12	Work Package No	WP7

Description
Webpage online, in 3 languages (Dutch, German, English).

Deliverable D7.2 – Best Practice Manual (update)

Deliverable Number	D7.2	Lead Beneficiary	1. PO
Deliverable Name	Best Practice Manual (update)		
Type	R — Document, report	Dissemination Level	PU - Public
Due Date (month)	72	Work Package No	WP7

Description
Update to existing BPM, electronic document, English language.

Deliverable D7.3 – Layman’s Report

Deliverable Number	D7.3	Lead Beneficiary	1. PO
Deliverable Name	Layman’s Report		
Type	R — Document, report	Dissemination Level	PU - Public
Due Date (month)	72	Work Package No	WP7

Description	
Layman's report, electronic document, Dutch, German and English language.	

Deliverable D7.4 – Report on cross-border restoration working

Deliverable Number	D7.4	Lead Beneficiary	1. PO
Deliverable Name	Report on cross-border restoration working		
Type	R — Document, report	Dissemination Level	PU - Public
Due Date (month)	72	Work Package No	WP7

Description	
Concise report summarizing the EU-wide exchange in T7.4, English language.	

Deliverable D7.5 – AfterLIFE Plan

Deliverable Number	D7.5	Lead Beneficiary	1. PO
Deliverable Name	AfterLIFE Plan		
Type	R — Document, report	Dissemination Level	PU - Public
Due Date (month)	72	Work Package No	WP7

Description	
AfterLIFE Plan, electronic document, Dutch, German and English language	

LIST OF MILESTONES

Milestones					
<i>Grant Preparation (Milestones screen) — Enter the info.</i>					
Milestone No	Milestone Name	Work Package No	Lead Beneficiary	Means of Verification	Due Date (month)
1	Permits obtained Aamsveen	WP2	4-LO	Written permits	12
2	Contract for works awarded Aamsveen	WP2	1-PO	Letter of awarded contract, tendering package	15
3	Land purchase completed	WP3	2-BSZ	Written confirmation of the Dezernat 33 Bezirksregierung Münster of the new ownership	15
4	Permits obtained HM	WP3	2-BSZ	Written permits of Kreis Borken	15
5	All restoration works finished: Aamsveen	WP4	4-LO	Visual inspection, pictures, monitoring data	69
6	Restoration works of construction phase 1 are finished: HM	WP5	2-BSZ	Visual inspection, pictures	30
7	Restoration works of construction phase 2 are finished: HM	WP5	2-BSZ	Visual inspection, pictures	42
8	Restoration works of construction phase 3 are finished: HM	WP5	2-BSZ	Visual inspection, pictures	54
9	Restoration of visitor control infrastructure is finished: HM	WP5	2-BSZ	Visual inspection, pictures	72
10	All restoration works finished: HM	WP5	2-BSZ	Visual inspection, pictures, monitoring data	72
11	Baseline monitoring conducted	WP6	4-LO	Written report	15
12	Final monitoring conducted	WP6	4-LO	Written report	72
13	Kick-off event	WP7	1-PO	Invitation to CINEA/project monitor, meeting minutes and pictures.	12
14	First site managers workshop	WP7	2-BSZ	Attendance sheets, meeting minutes and pictures.	12
15	Second site managers workshop	WP7	4-LO	Attendance sheets, meeting minutes and pictures.	66

Milestones					
<i>Grant Preparation (Milestones screen) — Enter the info.</i>					
Milestone No	Milestone Name	Work Package No	Lead Beneficiary	Means of Verification	Due Date (month)
16	Closing symposium	WP7	1-PO	Invitation to CINEA/project monitor, meeting minutes and pictures.	72

LIST OF CRITICAL RISKS

Critical risks & risk management strategy			
<i>Grant Preparation (Critical Risks screen) — Enter the info.</i>			
Risk number	Description	Work Package No(s)	Proposed Mitigation Measures
1	Adverse effects on habitats and species as result of the implementation of works. Impact: High Likelihood after mitigation: Low	WP4, WP5	We will avoid working during the breeding period of protected bird species, and apply general guidelines for work in nature reserves, using existing paths, using drive plates, etc.
2	Unsuccessful land purchase. Impact: Medium Likelihood after mitigation: Medium	WP3	Some plots might be difficult to acquire. We have a 'plan B' and a 'plan C' in case measures cannot be implemented as result of failing land purchase, in which we can take out specific plots out of the planning if no agreement can be made, without consequences for the project area. See section 1.4 for more info.
3	Nuisance for local stakeholders. Impact: Low Likelihood after mitigation: Low	WP4, WP5	A.o. in transport movements and rewetting of surrounding area. Mitigation: ongoing stakeholder information and environment management. Amount of nearby residents is limited, measures are in not-inhabited N2000 sites.
4	Presence of alien materials in the ground. Impact: Medium Likelihood after mitigation: Low	WP4, WP5	E.g. archaeological and unexploded ordnance. Studies have been conducted, remainder will be done in WP3 (and if necessary WP2).
5	Further damage to the gyttja layer as result of the implementation of works. Impact: High Likelihood after mitigation: Low	WP4, WP5	Thorough field work in WP's 2 and 3 (preparations) and WP's 4 and 5 (restoration works) will allow us to execute the works as diligent as possible. Some field work has already been conducted in preparation of this application.

Critical risks & risk management strategy			
<i>Grant Preparation (Critical Risks screen) — Enter the info.</i>			
Risk number	Description	Work Package No(s)	Proposed Mitigation Measures
6	Availability of soil for bunds and filling ditches. Impact: High Likelihood after mitigation: Low	WP4, WP5	Ground assessment has been made. Many dams will largely be constructed with local peat – we have sufficient amounts of peat in a suitable quality available within the area. We expect no problems with the sand supply in the region where we work.
7	Sinking soils due to nearby salt mining. Impact: High Likelihood after mitigation: Low	WP4, WP5	We have designed the dams with extra cm's in height and adjustable overflows mechanisms.
8	Decaying dams due to peat ongoing decomposition Impact: High Likelihood after mitigation: low	WP4, WP5	Long-term durability of the dams is ensured: Appropriate peat qualities are used for sealing and for establishing the dam bodies Extra spare height of dams is included to give safety Low differences between dam crests and targeted water levels keep dams wet and prevent peat decomposition Use of sand and loam wherever it is appropriate
9	Budget overrun and delays. Impact: Medium Likelihood after mitigation: Medium	WP1	This project has been thoroughly planned in the past years. We have included inflation in the cost estimate, and delay space in the planning.
10	GHG Emissions – emission of methane on areas with a higher targeted groundwater level above ground Impact: Medium Likelihood after mitigation: High	WP4, WP5	We fill many of the places with peat where methane emissions will likely will arise, but we cannot avoid it completely. Methane emission is expected to decrease after some time. Through our knowledge exchange on climate mitigation we hope to minimize this effect as much as possible.
11	Cross-border working differences. Impact: High Likelihood after mitigation: Low	WP4, WP7, WP2, WP3, WP6, WP5, WP1	We know each other well through the trajectory thus far, and will work in site-based project teams in an integral manner. Cross-border working is an explicit knowledge theme for us. We have regular consortium meetings and will pay at least once a year explicit attention to the cooperation process. A possible instrument we foresee for this is a yearly mini-survey among the consortium partners in which we ask them to reflect on the cooperation process and include their feedback for the coming years.



Programme for the Environment and Climate Action (LIFE)

Description of the action (DoA)

Part B

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#@APP-FORM-LIFESAPOAG@#

#@PRJ-SUM-PS@# [This document is tagged. Do not delete the tags; they are needed for the processing.]

PROJECT SUMMARY

Project summary

The LIFE CrossBorderBog project works on raised bog restoration in the cross-border bog Aamsveen-Hündfelder Moor. This Dutch-German bog has a significant amount of H7120, and a small segment of H7110*. The bog has great potential for restoration: it has maintained a lot of peat despite former peat excavation, it has an intact lagg zone on the Aamsveen side, and it is relatively isolated from external influences such as agriculture.

The raised bog suffers from desiccation, and faces four main threats: 1) water loss, 2) nutrient pollution, 3) succession, 4) GHG emission. All these threats can be countered or reduced in effects by taking hydrological measures to retain water in the bog and stop desiccation. A fully functional raised bog will retain water, limit the effects of nutrient pollution, stop succession, and reduce GHG emissions.

Our long-term objectives therefore are to: 1) Re-create H7110* and H91D0* to create a total of 99 ha active raised bog and 21 ha bog woodland; 2) Preserve and restore typical bog habitats H3160, H7120, H7140, H7150, and typical bog species such as the northern emerald and the bluethroat; 3) Reduce GHG emissions and start sequestering CO₂. These are long-term objectives, which will take decades to be achieved due to the time it takes for active raised bogs to regenerate. However, the prerequisite for all objectives is to stop desiccation and rewet the bog.

This leads to three short-term (within project) objectives: 1) Re-unite the bog as cross-border hydrological system; 2) Raise water levels within the bog to near-surface level; 3) Increase the resilience of the bog against the consequences of climate change by creating still waters as water supplies for the system.

These objectives are translated to a set of hydrological measures for both the Aamsveen and the Hündfelder Moor. We expect to create an active raised bog that will fulfil an important stepstone function for raised bog habitats in the entire Atlantic biogeographical region.

#§PRJ-SUM-PS§# # @REL-EVA-RE @# # @PRJ-OBJ-PO @#

1. RELEVANCE

Fill in **only** sections 1.1-1.4 at stage 1 (concept note). Fill in **all sections** at stage 2 (full proposal).

1.1 Background and general project objectives

Background and general project objectives

Explain the problem and the needs to be addressed in the project. Describe the background, starting point / quantified baseline of the project.

Please explain in which location and/or sector the main activities of the project will take place and justify that choice.

For Nature and Biodiversity:

Provide a clear and quantified description of the conservation issue and threats targeted, as well as relevant background information and quantified figures defining the baseline to justify the proposed Interventions by

At stage 1 (concept note) when relevant, describe the main species/habitats directly targeted by the project: scientific name; refer to the Annex(es) of the EU Birds or Habitats Directive where they are listed; population size within each project area; conservation status; habitat name and Natura 2000 code; % of the cover within each project area; conservation status.

At stage 2 (full proposals), when relevant, provide a brief description of the areas where conservation actions will be implemented and main species and / or main habitats directly targeted by the project, and submit the following annexes:

- maps
- description of sites
- description of species and habitats

Describe the previous conservation efforts in the project area or for the habitats/species targeted.

For Circular Economy and Quality of Life (n/a to Environmental governance topics):

Describe the previous technical preparatory work and results of previous research and development activities, showing the status of technical development achieved for the proposed solution, including the technical readiness level (TRL) where relevant and proving its technical feasibility.

Explain the scale at which such results have been obtained and if prototypes have been already developed and tested. Their scale/dimension and relevant results and conclusions have to be clearly presented. Illustrate available best practices in the relevant sector (state of the art) and clearly and concisely explain the environmental, technical and economical improved performances/ advantages introduced by the proposed solution in case this is claimed to be innovative/ demonstrative.

The problem and needs

Raised bogs took thousands of years to develop. In humid, acidic and nutrient-poor conditions they usually started from a small core area, growing slowly and steadily, raising the landscape and expanding in area. Particularly during the last century, raised bogs have been drained and cultivated to meet the growing demands of human agriculture. This led to a massive decrease of raised bogs in North-West Europe. Within the Atlantic biogeographical region, living raised bog habitat types H7110* are almost extinct compared with their natural distribution area (approx. 1 km² remaining for Netherlands, and 4,3 km² remaining for Germany).

Raised bog ecosystems accommodate a number of typical habitat types (H3160, H7110*, H7120, H7140, H7150, 91D0*) and host a significant number of species specialised in nutrient-poor, acidic and wet conditions that only exist in this ecosystem. As they are endemic to raised bogs, they are highly endangered and listed in the annexes of the Habitats or Bird Directive or at least in the red lists of threatened species in the Netherlands or Germany.

Thus the conservation and restoration of bog systems, together with their specialised species, plays an important role in the conservation of European biodiversity and the implementation of Natura 2000.

Furthermore, raised bogs will face increasing pressure in the future as a result of ongoing climate change: Studies indicate that we will face longer dry periods in summer that will negatively affect the hydrology of raised bog ecosystems. In dry conditions the ongoing mineralisation of the dry peat emits CO₂ and therefore even enhances climate change. This creates additional urgency for measures that counter the desiccation of raised bogs. In LIFE

CrossBorderBog (LIFE CBB) we will tackle these problems in the Natura 2000 sites Aamsveen (Netherlands) and Hündfelder Moor (Germany).

Project location

The Aamsveen and Hündfelder Moor are located on the Dutch-German border:



Map 1: Project location in Netherlands and Germany, and zoomed out to Europe.



Old boundary post
© Landschap Overijssel

Aamsveen and Hündfelder Moor are remnants of a formerly large single raised bog reaching to both sides of the German-Dutch border, that in former times (>500 years ago, before peat excavation started) covered between 2000 and 2500 hectares of land. On both sides of the border, in the last centuries the raised bogs suffered from peat exploitation and drainage of its water. At present, a wide ditch separates the

former entire bog into two parts: Aamsveen in the Netherlands and the Hündfelder Moor and the Amsvonn in Germany. Although divided by this ditch, the Dutch and German parts of the bog form an integral hydrological system and its restoration therefore requires a closely cooperating cross-

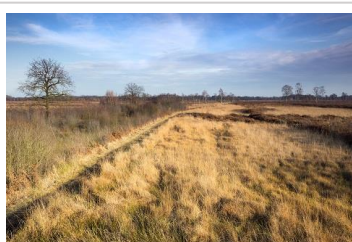


Lagg zone at Aamsveen
© Ronald Stiefelhagen

border partnership in order to be fully effective. Despite the degrading state of the bog due to peat excavation, the Aamsveen-Hündfelder Moor complex has retained a lot of its peat, including an intact lagg zone on the Dutch side. This provides a rare opportunity for proper raised bog restoration. Furthermore, it is relatively isolated (limited interaction with agriculture or residency) from the adjacent agricultural land. This isolation means no measures need to be taken in the environment of the bog (such as a buffer zone) to create a fully functional raised bog. Implementing the measures we propose is expected (based on expert opinion) to suffice for complete raised bog restoration.

This presents a golden opportunity to restore the natural abiotic conditions and revive a large area of rare original habitat, a unique chance to (re-)create a significant amount of active raised bog in the Atlantic biogeographical region.

For practical purposes, we divide our project area into 2 subsites: Aamsveen (Av) and Hündfelder Moor (HM) (see map 1 (maps 1a-1c in Annex 4) and the site description and species and habitats description documents in the annex (Annex 2 and Annex 3):



Aamsveen
© Ronald Stiefelhagen

Subsite Aamsveen (Av) concerns the Natura 2000 Aamsveen nature reserve (Natura 2000 site code NL2003001), and covers a total of 144 hectares, fully owned by land management organization Landschap Overijssel. Aamsveen has a segment of the very rare active raised bog (H7110*) still intact (0.09ha). Furthermore, the H7110* is surrounded by 50 ha of degraded raised bogs still capable of natural regeneration (H7120), creating a suitable setting for increasing the priority habitat H7110*, and habitats such as H6230*, H6410 and H91E0C* (* = priority habitat for

Netherlands) (see map 2).

Subsite Hündfelder Moor (HM) covers 266 hectares, and concerns the northern part of the 894 hectare nature conservation site “Amtsvenn/Hündfelder Moor” (Natura 2000 site code DE3807-301), largely owned by the State of North Rhein-Westphalia. We excluded the southern part of the N2000-site, the so-called “Amtsvenn”, of our project, because the bog remnants there are spatially, hydrologically and ecologically separated from our project area (see site description document). Hündfelder Moor encompasses 47 ha that is degraded raised bogs still capable of natural regeneration (H7120) (see map 2). The subsite Hündfelder Moor (HM) furthermore is part of the Birds Directive area “Moore und Heiden des westl.Münsterlandes” (DE3807-401).



Hündfelder Moor
© Ronald Stiefelhagen

Short site description

In the Dutch Aamsveen large scale mechanical excavation was not applied significantly (only 16 ha). In Hündfelder Moor this was more common. The last peat extraction dates from 1969 (Aamsveen) and 1979 (Amtsvenn-Hündfelder Moor). In the centre of the area there is a 1-3 meter thick layer of raised bog peat, which is still more or less in the condition immediately after the peat excavation was stopped in 60's and 70's: the ribs, ditches and depressions created in the course of the peat removal are largely preserved until today.

The bordering German N2000 site includes two raised bog remnants, divided from each other with a former peat extraction stretch. The northern Hündfelder Moor forms one connected entity with the Dutch Aamsveen, whereas the southern Amtsvenn is currently a separate entity and therefore is excluded from our project area. On the southern and eastern side of the Hündfelder Moor are large parts of the former bog where most peat had been removed.

These days, the remnants are preserved as nature land, such as meadowlands with ponds. Some agricultural plots can also be found northeast of Aamsveen and west of Hündfelder Moor. To the north, the German Hündfelder Moor is hydrologically separated from the directly adjacent Aamsveen by the border ditch, a formerly open but now piped trench along the state border. Together with the Aamsveen, the Hündfelder Moor forms a hydrological unit that is currently severely affected by the border ditch.

The elevation of the cross-border raised bog Aamsveen-Hündfelder Moor is relatively high compared to the excavated lands directly around it. The highest locations have never been excavated, and are approx. 44-45 m above sea level (NAP). In the (partially) excavated parts this decreases to 42 to 41 m above sea level. In the Aamsveen a network of walls and dams is still present. The east-west dams were spared peat stretches intended for accessibility of the bog in the past. In the nineties of the last century north-south dams were added for the purpose of water retention. In the northern part of Aamsveen there are less walls and dams. This area was also subject to mechanical peat extraction in the sixties. In Hündfelder Moor, only small scale measures had been taken to retain the surface water. After peat excavation had stopped, an irregular pattern of ditches mostly in south-eastern direction was left. There are a few large excavated ditches, that are currently large ponds that drain water, including one in the centre of Hündfelder Moor.

In Aamsveen and as well in Hündfelder Moor the original raised bog vegetation no longer remains (except for some small parts), due to peat excavation and desiccation. The majority of the raised bog is currently covered with so-called basal community vegetation, with limited species dominated by one or two strong vegetation species. In Aamsveen the most dominant species are bracken (*Pteridium aquilinum*) and purple moor-grass (*Molinia caerulea*), in Hündfelder Moor additionally heath (*Calluna vulgaris*) and cross-leaved heath (*Erica tetralix*). Bracken and silver birch cover the most elevated parts with the highest degree of desiccation. These elevated ridges enclose the excavated parts which are dominated by purple moor-grass. This vegetation is a result from the peat extraction and desiccation but has less far-reaching consequences than bracken as the average water levels are higher there in the purple moor-grass areas. This region serves as a habitat for bird species like *Anthus pratensis*, *Caprimulgus europaeus*, and *Grus grus*, and for the European adder (*Vipera berus*) which occurs here in a large population. Two wetter vegetation areas are also present: a relatively wet zone with fringed bogmoss (*Sphagnum fimbriatum*) and blunt-leaved bogmoss (*Sphagnum palustre*), and the wettest zone, with feathery bogmoss (*Sphagnum cuspidatum*). In the rift valleys *Sphagnum cuspidatum* also prevails, accompanied by hare's-tail cottongrass (*Eriophorum vaginatum*). The bog restoration project in the Aamsveen which was conducted in 1992 – 1994 has locally led to the development of target vegetation with Magellanic bogmoss (*Sphagnum magellanicum*), Bog rosemary (*Andromeda polifolia*) and Bog cranberry (*Oxycoccus palustris*).

The baseline status for habitat types in the project area is presented further in this section §1.1. The Annex Site Description (Annex 2) describes more of the history, formation and current status of the Aamsveen and the Hündfelder Moor. Our project will work on countering the current desiccation to create the appropriate conditions for active raised bog to reform. We will work on a total of 384,21 hectares (total project area):

	Aamsveen	Hündfelder Moor	TOTAL
N2000 site size	144.21 ha	894.00 ha	N/A
Project subsites area size	144.21 ha	240.00 ha	384.21 ha

Conservation issue

There are four main threats for Aamsveen and Hündfelder Moor:

1. Water loss

For raised bogs and their typical species and habitat types a constantly high water level is essential – typically they have a water level independent from the ground water below, caused by the naturally very low permeability of their base-layer. At degraded raised bogs such as Aamsveen and Hündfelder Moor, this base layer had been affected by peat excavation in the past and thus remains only partially intact. Ditches were built to increase the waterflow out of the bog. As a result of manual peat exploitation, a mosaic of peat depressions (today often filled by water) and higher peat ridges were left after the peat exploitation was ended. The higher parts loose water to the lower parts in the surroundings and thus dry out quickly. As a consequence, Aamsveen and Hündfelder Moor both suffer from ongoing lateral and vertical water loss: their hydrology today depends more or less on the surrounding groundwater level.

An approximated 80+% of the peat surface in Aamsveen and Hündfelder Moor dries out for at least some weeks a year. The key species of the bog ecosystem, the turf mosses, can hardly grow and specialized species of raised bogs can only survive in small niches. Under these conditions, the conservation of typical bog habitat types and species may succeed in the long term, but a *good* conservation status is not possible to achieve. Furthermore, spontaneous development of new intact raised bog habitats H7110* will be very unlikely under the current conditions. An underlying risk of drought are large peat fires, such as in 2012. This has major consequences for the biodiversity of the area.

2. Nutrient pollution

Raised bogs are very sensitive against nutrient inputs, especially when degraded. In intact raised bogs the turf mosses and the peat catch nutrients from aerial deposition and retain them almost completely. This prevents raised bogs from intrusions of species that require a larger nutrient supply. At degraded raised bogs, however, nutrients stored in the peat are continuously released through the decomposition of drying peat, and the aerial deposition of nitrogen has reached more than 90 kg per ha/yr.

Aside from aerial deposition, at Hündfelder Moor, resting geese use the large water bodies for resting and sleeping. Their excrements also lead to eutrophication of some of the typically oligotrophic-dystrophic water bodies. Currently, the majority of the project area still has a nutrient level low enough for restoration efforts. The few places where plant species that prefer enriched conditions, such as *Juncus effusus*, find suitable conditions to grow indicates a future development towards H7140 instead of H7120 or H7110*.

3. Succession

Raised bogs are natural and very stable ecosystems, they need no conservation efforts to stabilize them when they are in good shape. Trees and shrubs can sparsely grow, only at limited suitable places. At degraded raised bogs, however, trees and shrubs can easily grow everywhere. Their evaporation worsens the water loss of the system, roots break open the dried out peat and they shadow the specialised bog plant species and thus impair their growth. In autumn, their leaves cover the bog vegetation. Currently, the majority of the project area provides suitable conditions for trees and shrubs to grow and requires sheep grazing and regularly additional tree cutting measures to stabilize the open landscape.

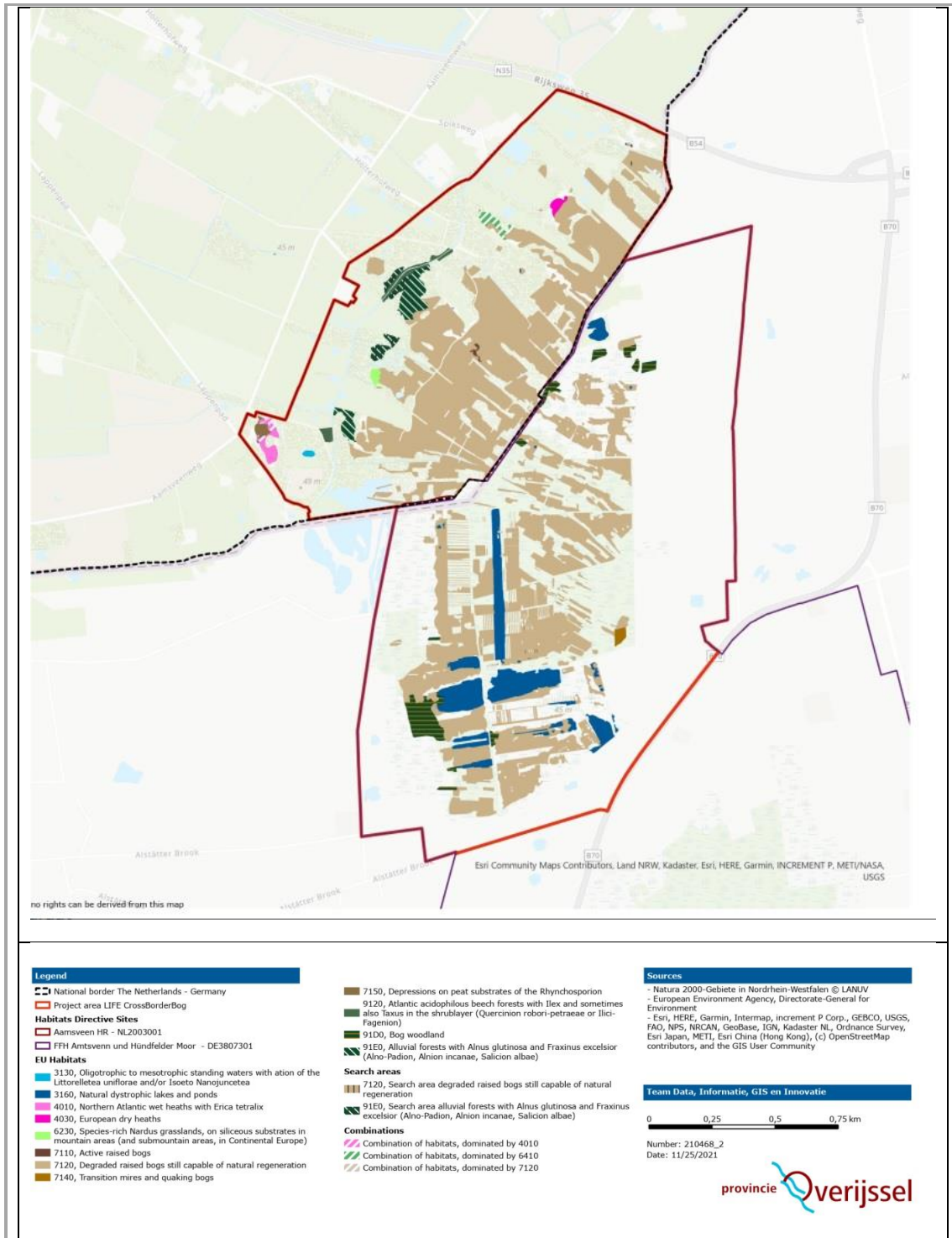
4. GHG-emission

Intact raised bogs play an important role in the global CO₂ balance: by producing peat they are able to store large amounts of CO₂ and thus can help reduce climate change. At degraded raised bogs, the ongoing decomposition of dry peat, on the other hand, causes continuous emissions of CO₂ and thus the degraded bog actually increases CO₂ contribution to climate change. Currently, the majority of the project area unfortunately provides suitable conditions for peat decomposition at least several weeks per year, and thus releases CO₂. From the large and deep water bodies methane is also released. The CO₂ capture potential of the bog is very limited at this moment.

Baseline definition

As a result, the current conservation status of the raised bogs (H7110 and H7120) of the Aamsveen and Hündfelder Moor is classified as Bad by the EU. The baseline in hectares for the current raised bog habitat types for the Aamsveen and the Hündfelder Moor is as follows.

Habitat	Subsite Aamsveen	Subsite Hündfelder Moor	Total project area
H7110* Active raised bogs	0.09 ha	0.0 ha	0.09 ha
H7120 Degraded raised bogs still capable of natural regeneration	38.0 ha	25.7 ha	63.7 ha
H3160 Natural dystrophic lakes and ponds	0.0 ha	5.3 ha	5.3 ha
H7140 Transition mires and quaking bogs	0.0 ha	0.14 ha	0.14 ha
H7150 Depressions on peat substrates of the Rhynchosporion	2.2 ha	0.01 ha	2.21 ha
H91D0* Bog woodland	0.0 ha	1.8 ha	1.8 ha
6230 Species-rich Nardus grasslands	0.2 ha	0.0 ha	0.2 ha
6410 Molinia meadows	0.4 ha	0.0 ha	0.4 ha
91E0C Alluvial forests	2 ha	0.0 ha	2 ha



Map 2: Current distribution of EU Habitat types across Aamsveen and Hündfelder Moor

The baseline for species is as follows:

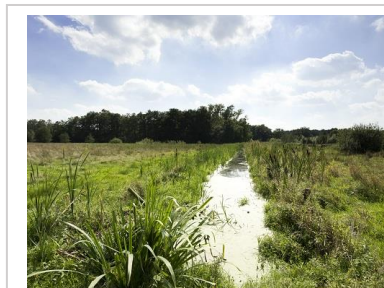
Species	Annex	Current Population size within project area
<i>Anas crecca</i>	Art. 4 (2), DE3807-401	10-20 breeding pairs

<i>Anas querquedula</i>	Art. 4 (2), DE3807-401	0-2 breeding pairs
<i>Anas strepera</i>	Art. 4 (2), DE3807-401	0 breeding pairs
<i>Anser albifrons</i>	Art. 4 (2), DE3807-401	100-500 ind. staging
<i>Caprimulgus europaeus</i>	Annex I, DE3807-401	2-4 breeding pairs
<i>Gallinago gallinago</i>	Art. 4 (2), DE3807-401	0-2 breeding pairs
<i>Grus grus</i>	Annex I, DE3807-401	1-2 breeding pairs
<i>Hyla arborea</i>	Annex IV	45 ind.
<i>Leucorrhinia dubia</i>		50-100 sightings
<i>Leucorrhinia pectoralis</i>	Annex II, IV	10-50 sightings
<i>Leucorrhinia rubicunda</i>		50-500 sightings
<i>Luscinia svecica</i>	Art. 4 (2), DE 3807-401	10-15 breeding pairs
<i>Lymnocyptes minimus</i>	Art. 4 (2), DE3807-401	p
<i>Rallus aquaticus</i>	Art. 4 (2), DE3807-401	2-5 breeding pairs
<i>Rana arvalis</i>	Annex IV	80-120 calling males
<i>Rana lessonae</i>	Annex IV	200-500 ind.
<i>Somatochlora arctica</i>		10-20 sightings
<i>Tachybaptus ruficollis</i>	Art. 4 (2), DE3807-401	2-5 breeding pairs
<i>Tringa glareola</i>	Annex I, DE3807-401	5-10 ind. staging
<i>Tringa ochropus</i>	Art. 4 (2), DE3807-401	5-10 ind. staging
<i>Triturus cristatus</i>	Annex II, IV, DE3807-301	11 ind.
<i>Vipera berus</i>		75-150 ind.
<i>Zootoca</i>		250-1000 ind.

The baseline for CO₂ emissions depends on several variables, such as the amount of hectares to calculate with. We have chosen to calculate with the amount of hectares that we will make wetter with our measures (see §2.2), i.e. 193.5 ha. With an estimated CO₂ emission of 3.75 t C per ha per year (see §2.2) this leads to **726 t C per year as our estimated baseline for CO₂ emission** from the currently desiccating bog.

Previous conservation efforts

To suit peat excavation of the area and the usage of the grounds for agricultural purposes the Dutch Aamsveen site has many ditches and trenches in east-west direction, from the border to the Glanerbeek. When Landschap Overijssel started its site management work in 1967 many of these ditches and trenches were already dammed (when there were no conflicting agricultural uses). The 'Middenpad' (middle path) and the hiking path were also raised to make them function as dams. To stimulate raised bog regeneration three phases have been conducted of wetting the area between 1991 and 1995, based on preceding studies. Perpendicular to the existing peat walls new peat walls have been made, and the Middenpad was raised again. In the final phase in 1995 the raised cycling path and the raised border path created a few large compartments in the northern part of Aamsveen as well. End result of these measures is that approximately 40 compartments have been created in the Aamsveen area, in which drainage takes place through overflows (PVC culverts with bended sections), allowing for management of the water levels. In 1983 the open waterway at the border was replaced with a long culvert and the waterway was filled. An attempt was made to stop water drainage from the peat through the filled waterway by applying a foil layer at the bottom. However, this was largely unsuccessful as water continued to leak via gaps and maintenance shafts. Further attempts were made to stop leakage when the upper reaches area was connected back to the Glanerbeek, and several shafts were closed by pouring concrete in them.



Glanerbeek
© Jacob van der Weele

Numerous small-scale measures have been carried out in Hündfelder Moor since the 1980s to preserve the value of the area. During several years - from 1998 to 2003 also as part of a LIFE project - existing surface drains in trenches were addressed through an installation of small dams and a foil barrier, which was installed in the central middle path, to reduce water loss to the east. The open land areas in the bog (heath and purple moor grass) are regularly grazed by a herd of White Polled Heath sheep (*Moorschnucken*) of the Biologische Station Zwillbrock e.V. This has aided keeping the grounds open for the long-term. Emerging birch growth is also regularly removed manually. The majority of the area has been bought over time by the state of North Rhine-Westphalia and thus secured for nature conservation. To protect the breeding and resting birds in the area, entering the bog areas is prohibited all year round, but one nature trail is open to the public. The border ditch separating the Hündfelder Moor from the Aamsveen, and thus draining heavily in the core area, was closed at the beginning and end and intermitted at two points in between. In the northwest, the upper reaches of the Glanerbeek on the German side were reconnected to the Glanerbeek on the Dutch side in a German-Dutch joint project, and a flood retention basin was created, which is separated from the moor to the east by a dam. In summary, all hydrological measures helped to reduce water loss from the bog area, but they were not suitable to recreate a constantly high water level within the bog, which is a necessary precondition for sustainable conservation of raised bog habitat types and species, and even less for regrowth of intact raised bog.



Border ditch
© Jacob van der Weele

Furthermore, there are previous efforts in the area that directly benefit the LIFE application CrossBorderBog. During the past years we have done much research, with an overall cost of up to €800,000 for the Aamsveen and €60,000 for the Hündfelder Moor. This means we are able to leave out these costs in the LIFE application. It also benefits the assessment and estimation of the measures we need to take, the costs associated with that, and the possible risks and opportunities related to the implementation. We have acquired knowledge on the way the bog was formed historically and what this means for the interrelations in the system. Furthermore, compared to our 2021 submission, we have taken out all design costs and decided to fund these ourselves. This way we can reduce costs for LIFE, to mitigate the

effects of the high inflation on prices at this moment, and we can reduce project duration by 1 year, which is another cost reduction. The estimated reduction in euro's we realized with this is approx. 1 million euros (€350,000 for the Netherlands, €590,000 for Germany – plus staff effort that is not yet calculated for this).

These previous efforts at the Aamsveen include all hydrological and ecological research, the explosives detection research, the assessment of presence of cables and pipes for the Aamsveen, the design sketches of the construction of the dams, the assessment of sand and loam we need per task in the conservation measures, etcetera. At the Hündfelder Moor they include preliminary studies on peat quality, the installation of groundwater measurements, first restauration planning including preliminary dam designs, the preparation of the land purchase and the permission process that is required in Germany.

1.2 Specific project objectives

Specific project objectives

Describe the specific objectives of your project (clear, measureable, realistic and achievable within the duration of the project).

We work with **two types of objectives in the LIFE CrossBorderBog project:**

- a) Our ultimate objectives, which form the reason for our project and the rationale behind all our actions, but which are mid- to long-term and cannot be seen and measured yet during project duration.
- b) Our measurable within-project objectives, that form the essential steps to be able to reach the ultimate objectives mentioned under a).

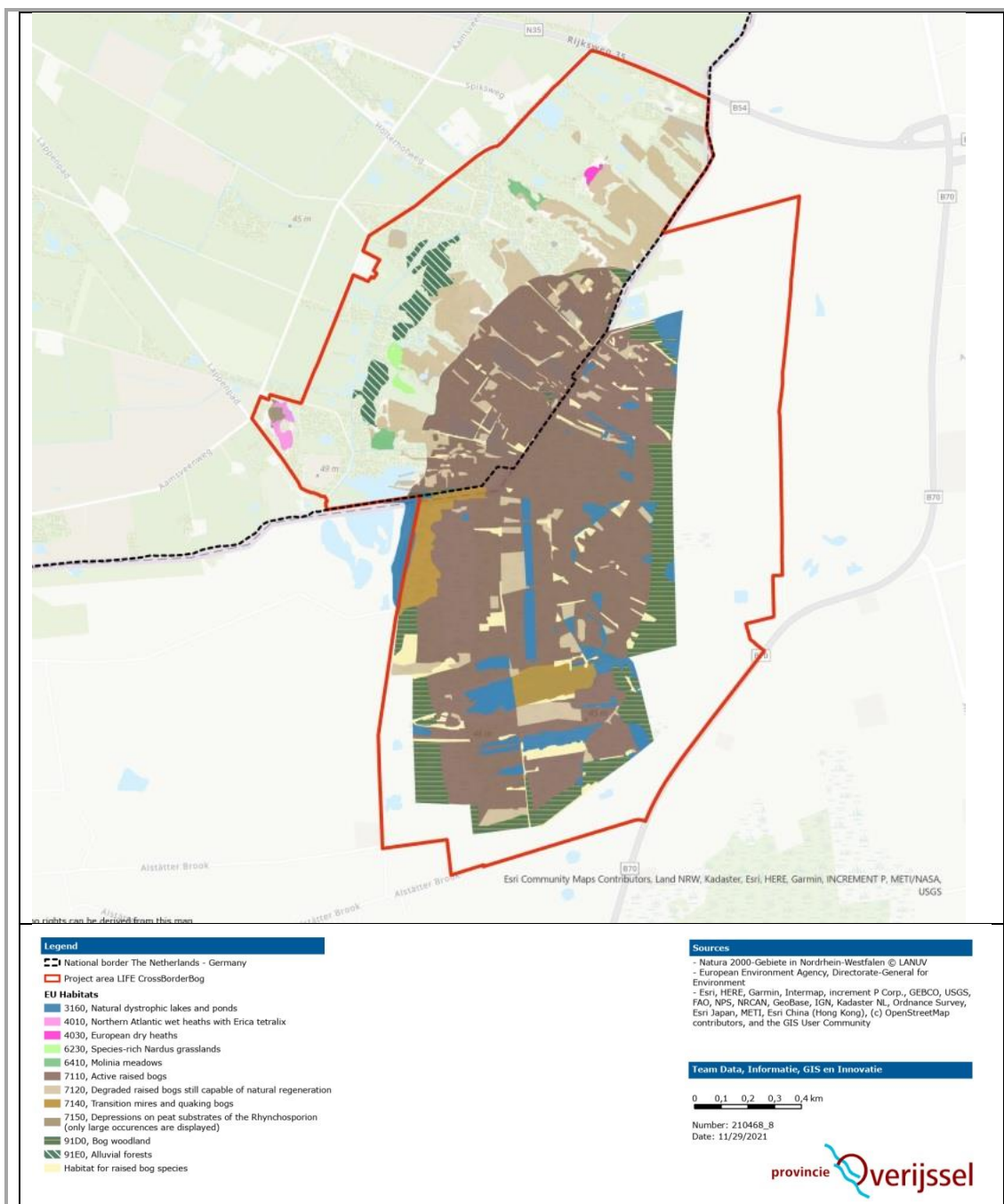
a) Ultimate objectives (mid to long term)

Our *primary ultimate objective* is to re-create new active raised bog (H7110*) and bog woodland H91D0* within the project area. Ultimately, we expect to create 99 ha of H7110* and 21 ha hectares of H91D0*. As raised bogs are complex systems and regenerate very slowly, it will take more than 30 years to achieve this objective, this is therefore a long-term objective which will not be achieved yet at project end.



Active raised bog
© Landschap Overijssel

Our *secondary ultimate objective* is to improve the area and the conservation status of already existing raised bog-related habitat types H3160 (13 ha), H7120 (27 ha), H7140 (8 ha), H7150 (5 ha) and typical bog species such as common crane, European nightjar, bluethroat, great grey shrike, Eurasian teal, common snipe; invertebrates such as northern emerald, white faced darter, and subarctic darter; and species such as the common European adder, Pool Frog and Moor Frog. For the species, this is a short-term to mid-term objective (first improvements expected after approx. 10-15 years, for dragonflies within project duration, as dragonflies function as first responders among species), for the habitats this is a mid- to long-term objective, for which the exact duration varies somewhat per habitat type, but can be expected approx. 10-20 years after project end.



Map 3: Targeted distribution of EU Habitat types in Aamsveen and Hündfelder Moor

Our *third ultimate objective* is twofold:

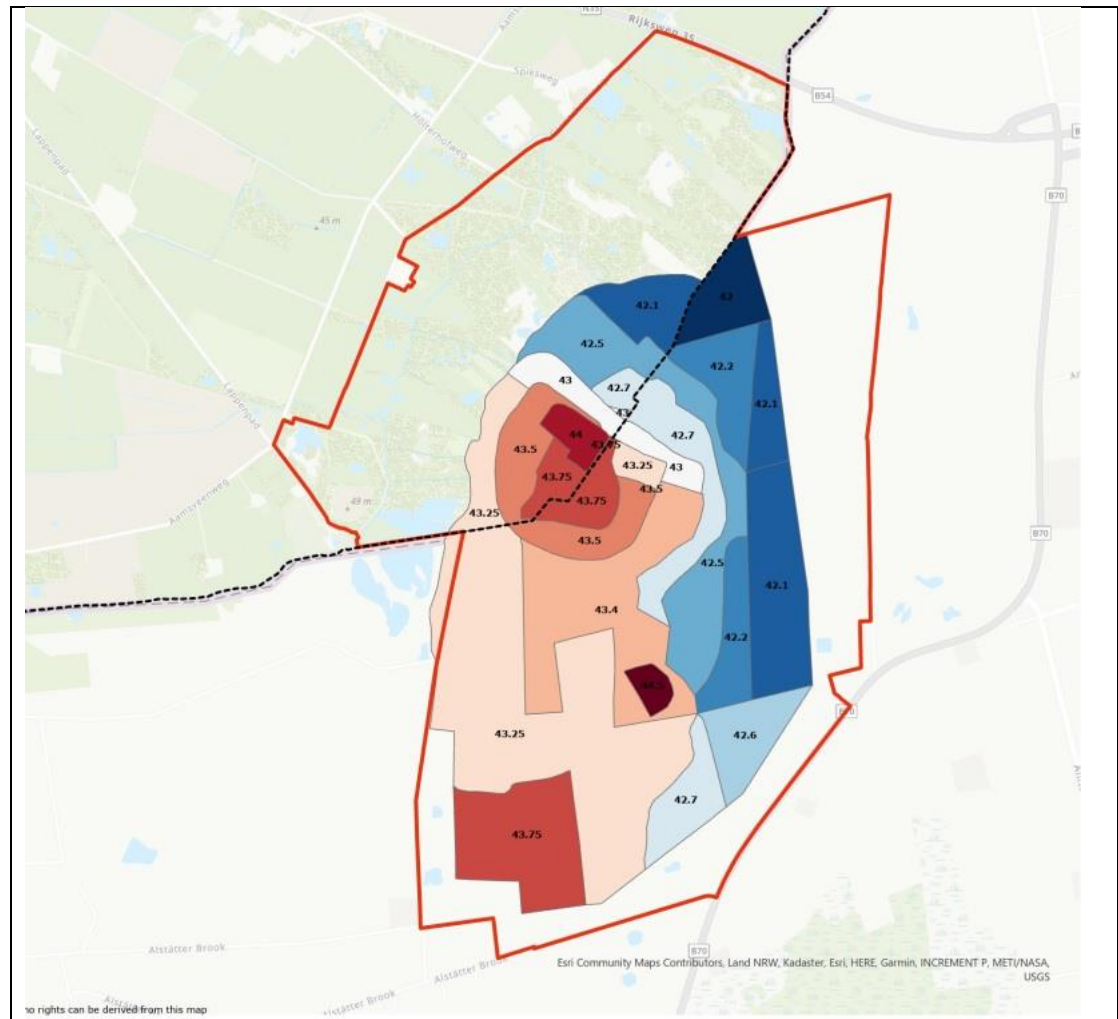
3a: To reduce the CO₂-emission that occurs from the desiccating bog, reducing 484 tonnes of CO₂-eq per year by 2029. This is a short-term objective, and will start taking place as soon as we have improved the hydrology of the area, i.e. at project end.

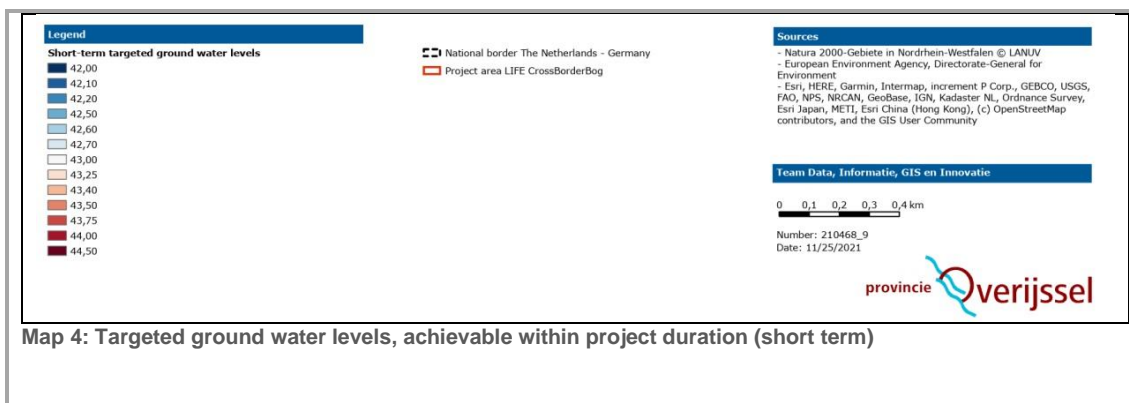
3b: To increase the capability to store CO₂ in the raised bog, ultimately storing 119 tonnes of CO₂ per year. This is a long-term objective, as it requires a healthy active raised bog to form before it can fully fulfil this function, i.e. 30 or more years ahead.

b) Measurable within-project objectives

To achieve these three ultimate objectives, we will work on shorter term subobjectives, that can be reached within the project duration. These are all objectives aimed at restoring the hydrological system of the raised bog, the essential precondition to allow raised bog to form and grow.

- 1. *Reunite the bog as a cross-border hydrological system*, forming a raised bog system of app. 201 ha, and reduce or stop the water loss degrading the raised bog (short term objective, reached step by step within project time (Q6-Q24)).
- 2. *Rise of (ground)water levels within the project area* on app. 232 ha (short term objective, reached step by step within project time (Q6-Q24)).
- 3. *Reduce the water level fluctuations throughout the year* (short term objective, reached step by step within project time (Q6-Q24)).
- 4. *Improve the resilience of the hydrological system against consequences of climate change* by creating 31 ha of new still water bodies as water supplies for the ecosystem, also benefitting species such as protected birds, amphibians and invertebrates.





1.3 Compliance with LIFE programme objectives and call topic

Compliance with LIFE Programme objectives

Explain how the project contributes to the specific objectives of the LIFE Programme and the sub-programme targeted by the call (Nature and Biodiversity, Circular Economy and Quality of Life, Climate Change Mitigation and Adaptation or Clean Energy Transition).

The LIFE CrossBorderBog project will contribute to 2 specific priorities of LIFE in particular (as formulated on p. 6 of the 2022 LIFE Nature Call for Proposals). First, most notably of course the 1st priority of “boosting and integrating the implementation of the EU’s policy objectives for halting and reversing loss of wildlife habitats and species across all sectors”. This is a direct contribution, because the project restores the natural habitat of the raised bogs, and the species that occur in these bogs, such as dragonflies, amphibians and birds. This means that our primary objective is fully in line with the LIFE objective.

Second, the project also contributes to the 3rd LIFE objective of “supporting implementation of the 2030 energy and climate policy framework, the EU’s climate neutrality objective by 2050, and the new EU strategy on adaptation to climate change” because of its contribution to carbon storage in the peat and the mitigating effect this has on climate change. The function of a carbon storage will take some time to form, but the reduction of the CO₂ emissions from the currently desiccating bog will start taking place as soon as hydrological conditions have been improved. Furthermore, we contribute to scientific research in the field of developing standardized methods on measuring and documenting the contribution of rewetting raised bogs to climate change mitigation by our collaboration with the Institute for Landscape Ecology (ILÖK), University of Münster.

LIFE CrossBorderBog is a LIFE Nature project. It contributes to the specific priorities of LIFE Nature in multiple ways. It contributes to the first general priority of LIFE Nature (as described in the 2022 Call for Proposals, p. 7) in its contribution to “the knowledge base and to the application of best practices, including through the support of the Natura 2000”, as the project is a best practice implementation to strengthen Natura 2000 habitats. Furthermore, it contributes to the second specific priority from the call in its “implementation of EU legislation and policy on nature and biodiversity”. Third, it also contributes to the third specific priority, “to catalyse the large-scale deployment of successful solutions/approaches for implementing EU legislation and policy on nature and biodiversity, by replicating results”, because of its emphasis on replication to other raised bog sites in Europe, supported by the letters of support from a.o. Natuurmonumenten for Peat Pals for LIFE and from LIFE for MIREs for Šumava (Annex 5).

Our contribution to the current Call for Proposals (2022) is discussed in the next text box.

Compliance with the call topic

Indicate the call topic to which your proposal relates, and explain how the proposed project addresses the scope of the topic description in the Call document.

The 2022 Call specifies 2 objectives for Nature projects:

- Intervention area: “Space for Nature”: The call defines this objective as “Any project aimed at improving the condition of species or habitats through area based conservation or restoration measures”. Our project works on exactly this: improving the condition of H7110* and H7120 to restore the habitats and create the conditions for the formation of more H7110* and H91D0*.
- Intervention area: “Safeguarding our species”: The call defines this objective as “any project aimed at improving the condition of species (...) through any relevant activities other than area-based conservation or restoration measures”. Our project does contribute to safeguarding of species in general, however, it does so through area-based measures. The Space for Nature intervention area is therefore our key objective.

The ‘Space for Nature’ objective is further discussed in the call document as “priority is given to projects that focus their activities on the implementation of conservation objectives for existing Natura 2000 sites, notably where such conservation objectives are clearly established, improving the condition of species and habitats for which the sites are designated” (p. 11 Call for Proposals). This of course directly applies to LIFE CBB. The Aamsveen and Hündfelder Moor are existing N2000 sites, and the sites are designated for the occurrence of (active) raised bogs. Furthermore, the raised bogs fall under the category of “Habitats and Species in Unfavourable conservation status” (U2, both national and European), which further strengthens the contribution of LIFE CBB to the policy priorities of LIFE Nature. The sites are part of the Habitats directive, and the Hündfelder Moor is also part of the Birds Directive. The 2022 Call for Proposals reads: “For proposals targeting species and habitats covered by the EU Habitats Directive, priority is given to those that are clearly targeting habitats or species in unfavourable and declining conservation status based on the latest Article 17 reports assessments (<https://natureart17.eionet.europa.eu/article17/>), in particular when their status is unfavourable bad and declining (U2-) both at the EU- and national biogeographical region(s) level, where the project is taking place.” Active raised bog (H7110*) fulfils this criterium:

EU biogeographical assessments																																
MS/EU28	Surface	Status Range	Trend	FRR	Min	Max	Best value	Type est.	Method	Status Area	Trend	FRA	Good	Not good	Not known	Status Str. & funct.	Trend	Range prosp.	Area prosp.	S & f prosp.	Status future prosp.	Curr. CS	Curr. CS trend	2012 CS	2012 CS trend							
EU28	132812.27	1	=	>	132821	260.38	310.38	285.38		1	-	>>	310.38	27.17	45.30	36.24	113.01	148.11	130.56	114.32	144.57	129.44	1	+	poor	bad	bad	XXA	MTX	-	U2	-
The current dataset is read-only, so you cannot add a conclusion.																																

EU level for Atlantic biogeographical region

Member States reports																												
MS	Range (km ²)			Area (km ²)							Structure and functions (km ²)						Future prospects				Overall assessment							
	Surface	Status (% MS)	Trend	FRR	Min	Max	Best value	Type est.	Method	Status (% MS)	Trend	FRA	Good	Not good	Not known	Status	Trend	Range prosp.	Area prosp.	S & f prosp.	Status	Curr. CS	Curr. CS trend	Prev. CS	Prev. CS trend			
BE	100	0.01	=	>>	0.01	0.01	0.01	estimate	a	0.01	=	>>	N/A - N/A	0.01 - 0.01	N/A - N/A	U2	x	bad	bad	bad	U2	U2	-	x	U2	=	-	
DE	12494	9.41	=	>	4.30	4.30	4.30	estimate	b	9.41	-	>>	1.26 - 1.26	2.36 - 2.36	0.68 - 0.68	U2	-	poor	bad	bad	U2	U2	-	-	U2	=	-	
DK	2840	2.14	=	=	N/A	N/A	0.51	estimate	b	0.18	=	>>	N/A - N/A	0.51 - 0.51	N/A - N/A	U2	=	good	bad	bad	U2	U2	-	-	U2	=	+	
ES	12700	9.56	=	=	N/A	N/A	25.70	minimum	b	9.01	=	x	1.08 - 3.01	N/A - N/A	19.37 - 24.62	XX	x	good	poor	unk	U1	U1	=	-	U1	=	-	
FR	15000	11.25	=	>	50	100	N/A	estimate	c	25.21	-	>	5 - 20	25 - 50	25 - 50	U2	x	good	poor	unk	U2	U2	-	x	U2	=	-	
IE	17300	13.83	=	=	21700	N/A	N/A	16.59	estimate	a	9.81	-	41.59	1.47 - 1.47	15.12 - 15.12	N/A - N/A	U2	-	poor	bad	bad	U2	U2	-	-	U2	=	-
NL	5500	4.14	=	>>	N/A	N/A	1.30	estimate	a	0.46	+	>>	0.30 - 0.90	0.40 - 1	N/A - N/A	U2	-	bad	bad	bad	U2	U2	-	-	U2	=	-	
UK	66878.27	50.36	=	=	66878.27	N/A	N/A	161.96	estimate	b	56.75	=	>>	18.07 - 18.67	69.61 - 79.11	69.27 - 69.27	U2	+	good	poor	bad	U2	U2	-	+	U2	=	-

Member state level for Atlantic biogeographical region

On an EU level and for the German member state level the status is U2-, for the Dutch member state level the status is U2=.

The project furthermore contributes to specified subobjectives based on the EU Biodiversity Strategy for 2030, mostly to “Restoring degraded and carbon-rich ecosystems” (p. 13 Call,

which states “Proposals with a focus on restoring degraded carbon-rich ecosystems are given priority for LIFE support”).

#§PRJ-OBJ-PO§# #@CON-MET-CM@#

1.4 Concept and methodology

Concept and methodology

Describe the overall intervention logic of the project, including the main idea and assumptions (i.e. how are the proposed activities and steps of your project expected to lead to the intended changes in terms of outcomes and impacts).

Explain the methodology, i.e. the main tools, techniques, methods and procedures you will use to implement the technical part of your project. Justify why the proposed methodology is the most suitable for achieving the project’s objectives.

For Clean Energy Transition:

Describe the market barriers, the needs and constraints of market actors, and how your concept will address them concretely.

For Circular Economy and Quality of Life (n/a to Environmental governance topics):

Describe the technical details of the proposed solution (process, material, product etc.) using a flowchart and including, where possible, the general mass and energy balance. Explain how you plan to establish your supply chain.

Specify the scale (e.g. production capacity) and output of the project (e.g. quantity produced/sold during the project). The chosen technical scale should be one that allows the evaluation of the technical and economic viability of the proposed solution. In case of close-to-market conditions the target should be industrial/commercial scale already during the project.

Focus and main concepts of the project

The main focus of our project is the restoration of the hydrology of the current degraded raised bog. The targeted water level within the bog site is approx. 15 cm above/below ground (15 cm below surface in the highest-lying compartments up to 15 cm above surface in the lower-lying zones).

To achieve this target, we need to stop the current water loss, which occurs through four routes:

1. above ground water flow,
2. lateral flow of water inside the peat from high parts to low parts,
3. vertical flow from the bog into the ground water,
4. evaporation

To address these routes, we use different techniques, for each route we have a set of techniques:

Route 1: we close existing ditches (approx. 17 km) and build dams (approx. 22 km) to create compartments with homogenous ground water levels;

Route 2: As part of the dams and the whole peat body below the dam, we create a vertical sealing in the peat layer down to the basis of the bog;

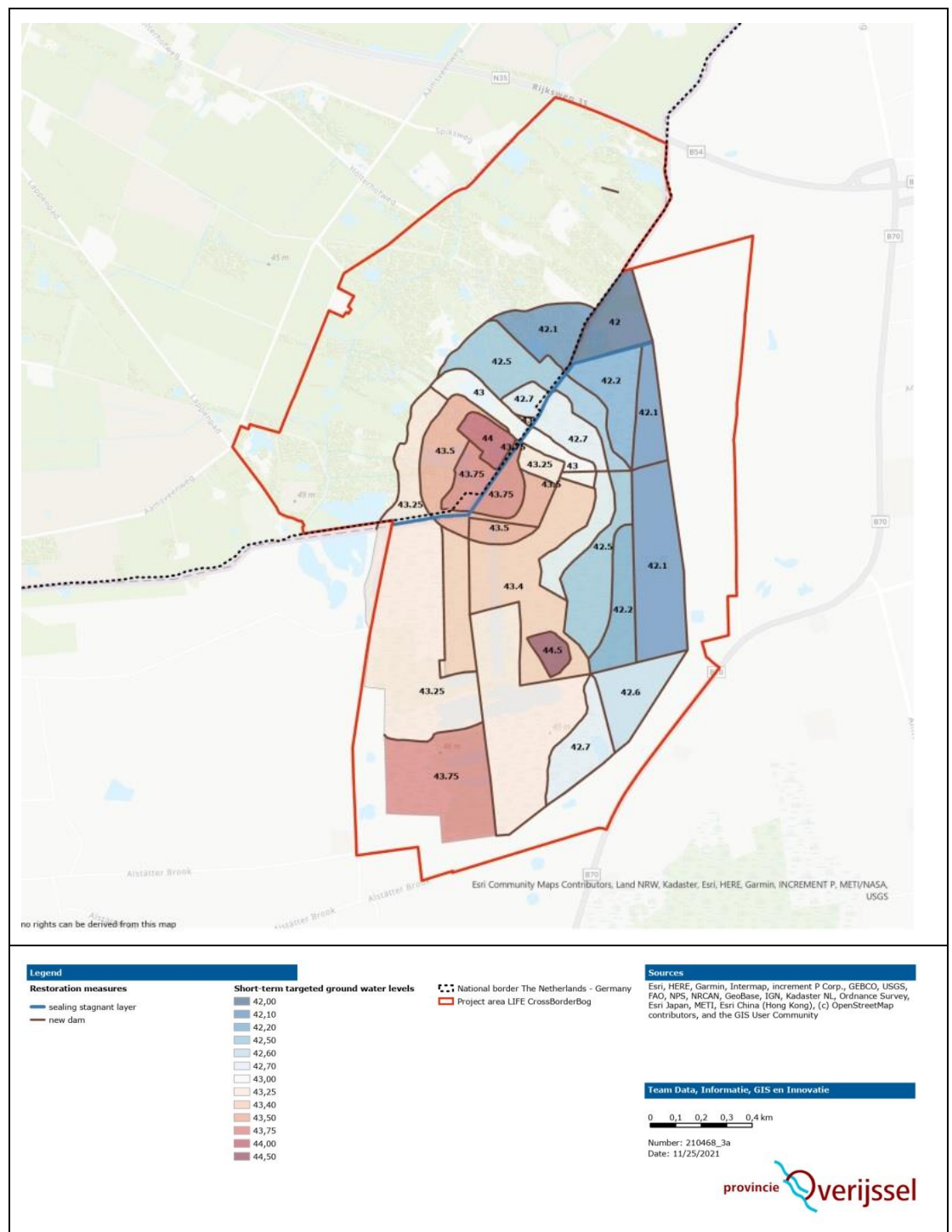
Route 3: We raise the ground water level below the bog and thus reduce the outflow rate of bog water into groundwater by creating still water bodies (31 ha). Their water will give counterpressure to the groundwater downstream and thus decrease the groundwater flow;

Route 4: We remove trees and shrubs (on approx. 110 ha) and refill peat cuts and depressions.

Restoration measures

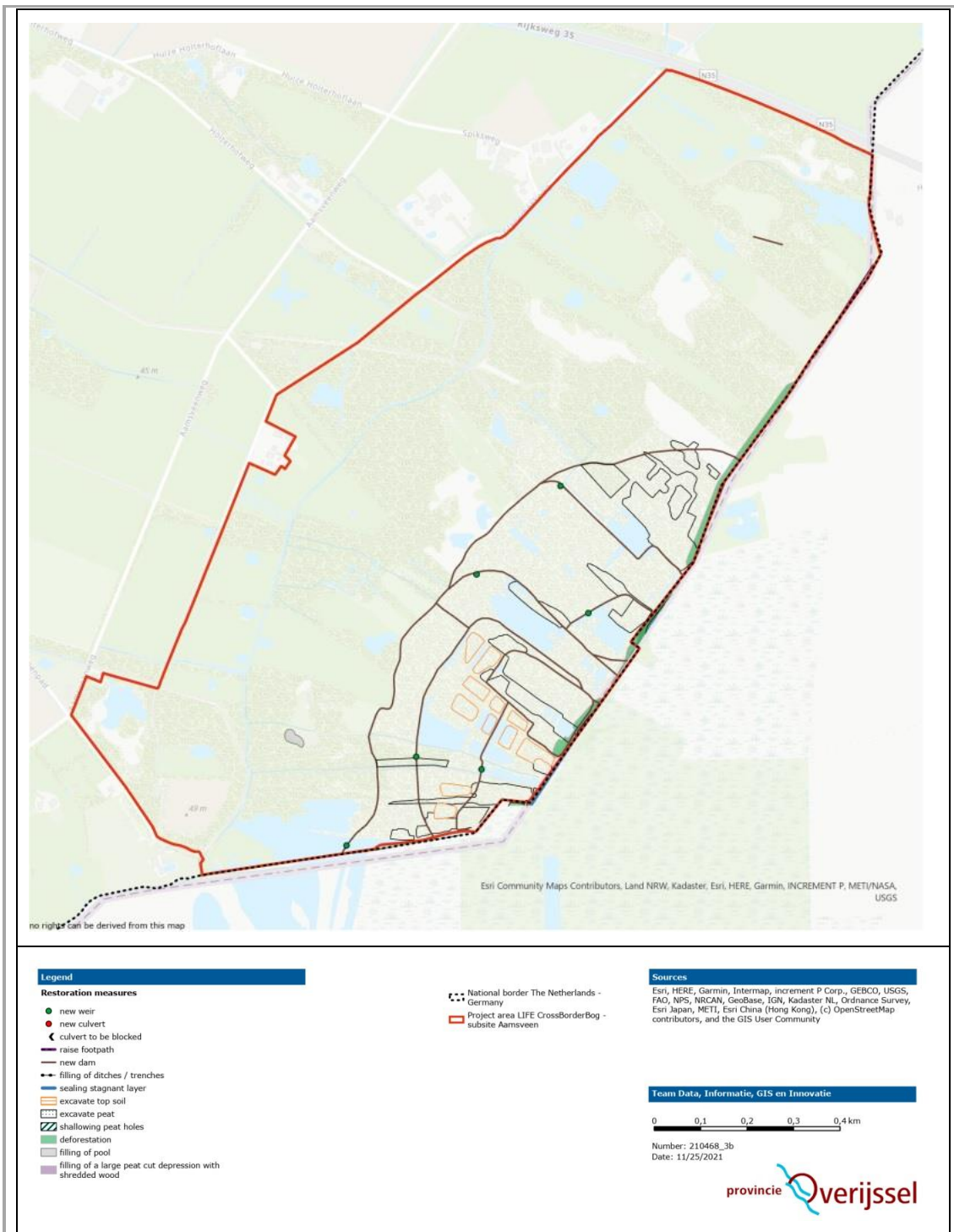
The following maps show the restoration measures we will conduct as part of the 4 routes

described above.



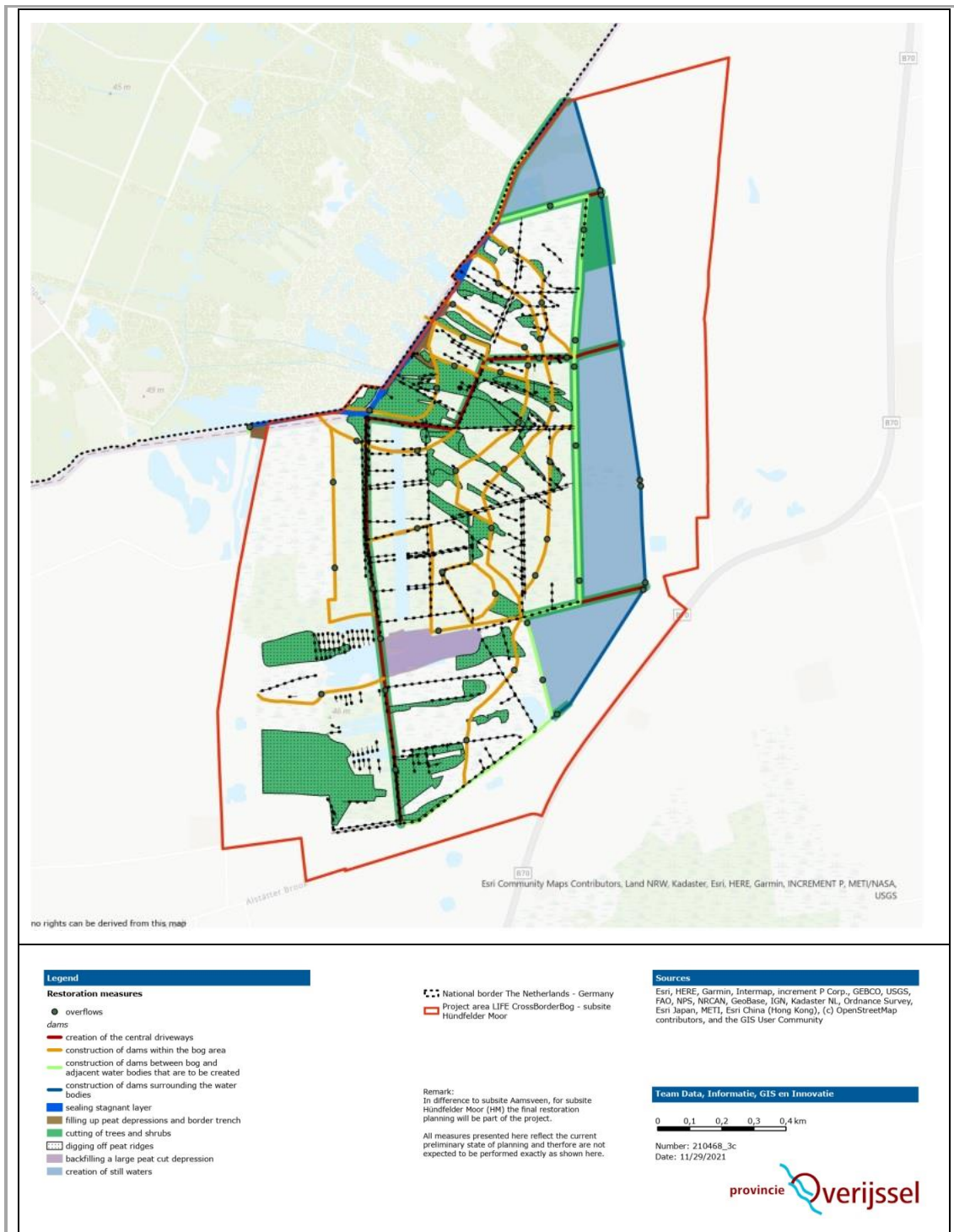
Map 5: Location of compartments and dams at both subsites Aamsveen and Hündfelder Moor

The above map shows the new dams that will be made in both the Aamsveen and the Hündfelder Moor to create compartments (route 1) (brown lines). In the border region a sealing layer will be created to close the existing border ditch (route 2) (blue line).



Map 6: Restoration measures at subsite Aamsveen

The above map shows all measures to be taken at the subsite Aamsveen, part of all routes, albeit not of the still waters of route 3.



Map 7: Restoration measures at subsite Hündfelder Moor

The above map shows the restoration measures for the subsite Hündfelder Moor. These are part of all 4 routes. As stated, the map represents the current planning for the site Hündfelder Moor.

Methods and practical considerations

As the peat within bogs has a very limited carrying capacity, all works to be conducted require the use of specialized construction machines and a special knowledge in bog restoration – therefore they are typically much more expensive compared to similar measures in other

landscapes. To close the ditches and to build the dams, we need to make use of a chain dredger with extra wide chains; transportation of material requires either the use of similar transport vehicles or to temporarily build transport routes and remove them afterwards or – where appropriate - finally convert them into dams.

For the creation of dams and sealings, we use appropriate techniques depending on their specific function and accessibility, size, position, durability and prize: dams are built of sand or peat of suitable quality, the sealings inside and in the peat below the dam itself are built of loam or degraded black peat that is almost impermeable. Peat will be used where it is easily available and the transport of sand or loam would be too costly. Sand and loam will be used in dams with high demands on stability and carrying capacity for vehicles as later transportation routes and outer dams; the creation of still water bodies gives the opportunity to excavate some of the sand and loam on site. These are all natural materials (i.e. no plastic sheets for example) and are all known for their durability. In the past, raised bog sites have used dams from a.o. wood, which turned out to have a limited lifespan. The experience with sand and loam is that these are very durable materials, which will last for centuries. In the case of peat, the use of the right peat quality, an extra spare height and an appropriate dam dimensions are crucial to build long lasting dams. Dams will thus have different dimensions, depending on their function and usage. They will be between 1.3 m and 2.6 m in height, with a crest width of either 3 m or 5 m (5 m when they need to be driven on). Further details can be found in the relevant Work Packages 4 and 5.

The removal of trees and shrubs in many places has to be performed manually; in areas where peat is excavated for the dams, we need to remove the trees and shrubs together with their roots. The dams will get adjustable overflows. They allow a controlled outflow of precipitation water and provide the opportunity to adjust the targeted groundwater level within the compartments. Peat ridges that are too high in relation to the targeted ground water level, and therefore cannot be reached by a risen groundwater level, will be reduced in height; the peat will be used as construction material for peat dams. Deeper peat depressions or old peat cuts will either be filled with the excavated peat or will remain and later develop as H3160 (Natural dystrophic lakes and ponds).



As a consequence of all these measures the ground water level will rise. This will cause the decay of trees and shrubs and reduce peat decomposition as the dry out period will shorten, and thus the release of nutrients and CO₂ will stop. To further reduce nutrient influences at some places, we fill up the most eutrophicated peat depression and cover it with peat. This also contributes to reduction of its methane release.

At the border of the bog area, we create a buffer zone, where trees are allowed to regrow – they will help to reduce aerial nutrient input as they will slow down wind speed and work like a filter. On the long term, we expect these tree stands to develop into H91D0* (Bog woodland). The created new large new water bodies between the bog and the adjacent grassland will be much more attractive as sleeping habitats for geese than the still water bodies of the bog area and thus will help to reduce nutrient input by bird excrement. At 2 places within subsite HM with a higher nutrient influence, we predict the development of H7140 (Transition mires and quaking bogs) instead of H7110* because the situation is not nutrient-poor enough anymore for H7110*. The raised groundwater level will automatically lead to the creation of new dystrophic water bodies and thus will increase H3160 occurrences in number and size.

Once the bog hydrology has been restored, little by little the targeted bog habitat types can start to develop by natural succession, and the typical raised bog species can recolonise the area.

Best practice nature

Our project is a *best practice project*, we use a set of raised bog restoration techniques that has been validated to be effective before. The four main techniques that we use (1) filling ditches and trenches, 2) creating dams, 3) removing trees and shrubs, 4) cutting off peat ridges have been described in literature and have been applied to various raised bogs before: (see for instance Mackin *et al.* 2017: 21¹ and OBN 2017: 164-167²) for evidence of the best practice nature of these measures.

Land purchase

In the Netherlands, land purchase is not required, as the Natura 2000 site is already owned by beneficiary Landschap Overijssel. In Germany some land purchase will be required at the Hündfelder Moor. A total of 13.94 hectares of land within the HM subsite is owned by private owners. These lands are heathlands, moorlands, grasslands and forest (not in agricultural use). Here, the approval of measures depends on the agreement of each owner. For security and to simplify the permit process, those parcels will be purchased that are located within our work area and are likely to be directly affected by its results (10.47ha). The land acquisition is carried out by the partner MUNV (formerly MULNV), represented by the district government of Münster, which is responsible in the area. The practical work concerning the purchase is carried out by the responsible land consolidation authority, District Government of Münster, Department 33; the project does not incur any costs for carrying out the procedure, just the actual land purchase will be funded through LIFE. The owner of the land will be partner MUNV.

In this section we will address each of the land purchase criteria:

(i) The land purchase must be clearly related to the objectives of the project.

To achieve rewetting in the Hündfelder Moor, app. 16 km of dams are being built. Constructing dams is internationally seen as an effective way of rewetting moorland and therefore creating the right conditions for the restoration of active raised bog (H7110). It is easier to construct such dam structures on land owned by nature conservation organisations than on private land. On private property, you would need the owner's agreement to all measures you plan, and this has to be contractually regulated.

Contractual regulations are complex and, above all, limited in time or cancellable. In principle, it is possible to draft contracts that are non-cancellable and not restricted in time, however the costs for these non-cancellable contractual arrangements without time limitation are comparable to purchasing the land. Furthermore, they can encompass only the measures foreseen at time the contract was signed; for any other additional measures an amendment or an entirely new contract would be necessary.

The only way of fully securing the implementation of project objectives is therefore through the purchase of the private lands for the purposes of nature restoration and conservation. This applies in particular to all private areas where the objective is to construct dams. It is crucial to have these lands in public ownership, to ensure proper implementation of the measures, and ongoing long-term management and sustaining of the implemented measures.

Thus, the purchase of all private owned land is intended; whereas contractual regulations may be appropriate for owners who are not willing to sell their land and will serve as a plan B.

¹ [Best Practice in Raised Bog Restoration \(npws.ie\)](https://www.npws.ie/)

² http://dt.natuurkennis.nl/uploads/OBN212_NZ_Duurzaam_herstel_hoogveenlandschappen.pdf

(ii) The land purchased must contribute to improving, maintaining or restoring the integrity of the Natura 2000 network.

The purchased parcels are important for the optimal design and construction of dams, which will contribute to the extensive rewetting of the project area. This is the prerequisite for the regeneration of the moor and the creation of priority habitat active raised bog (H7110), contributing to restoring the integrity of the Natura 2000 network.

(iii) The purchase is the only or most cost-effective way of achieving the desired conservation outcome.

The purchase of private owned land is the most effective method to allow all actual and future rewetting measures. Equivalent contracts with private individuals would be just as expensive, but without granting the freedom to perform all future rewetting measures. This ensures a very sustainable future of the implemented works, without the risk of requiring new contracts and negotiations.

(iv) The purchased land is reserved in the long-term for uses consistent with the objectives set out in Article 3 of the LIFE Regulation, through the most appropriate form of legal protection.

For permanent / unlimited use of parcels, ownership is the most reliable and durable legal form. This legal form is therefore best suited to achieve the project goals, in line with the program objectives as set out in Article 3 of the LIFE regulation, and to secure the long-term use permanently.

(v) The beneficiaries must ensure that the sales contract / notary act and/or entry in the land register includes a guarantee that the land is assigned definitively (without time limitation) to nature conservation purposes. Where both possibilities exist (sales contract and land registry entry), the beneficiaries must use the option that offers the strongest long-term protection. Note that at the latest with the final report, the beneficiaries will have to submit a copy of the sales contract and/or entry in the land register including the above mentioned guarantee. Should they fail to provide such documents, the corresponding land purchase costs and associated costs will be considered ineligible. For countries where it would be illegal to include such a guarantee in both the land register and in the sale contract, the granting authority may accept an equivalent guarantee, provided it offers the same legal level of protection in the long term.

The purchase of private parcels is carried out by the Department of Land Consolidation at the District Government of Münster (cf. LoS). This Department is authorized to buy parcels according to the laws of land consolidation. State NRW itself is one of the biggest owner of land for nature protection in NRW. Regarding land administration the state NRW is represented by the District Government Münster in our region (there are five District Governments in NRW). For buying new land for nature protection state NRW makes use of its District government. Within the District Government, there are different departments. One is department No. 33, which is called "Flurbereinigung" (land consolidation). This department 33 is responsible for land purchase.

No new procedure will be opened for this LIFE project - the areas will be purchased as part of an ongoing land consolidation procedure. At the end of the purchase process, the state of North Rhine-Westphalia, through its ministry MUNV (project beneficiary), becomes the owner of these areas, and the securing and project-related use of these areas is inscribed in the land register. The evidence of the new owner (state of North Rhine-Westphalia) and the legal security of the project objectives will be provided by excerpts from the land registers at the end of the project. The guarantee that the land is assigned definitively to the state NRW (without time limitation) to nature conservation is done in a specific document, which is called "Besitzinweisung". This step is based on law.

(vi) The land must be purchased by one of the project beneficiaries who is either a well-established private organisation (e.g. nature conservation NGO or other) or a public body with nature conservation responsibility, and must remain in its ownership after the end of the project.

The state of North Rhine-Westphalia, through its Ministerium für Umwelt, Naturschutz und Verkehr (MUNV, project beneficiary) buys the parcels within the framework of a land consolidation process and becomes their owner at the end of the project. MUNV is a public body with nature conservation responsibility. The land consolidation process will be performed by the competent authority Department 33 of District Government of Münster free of charge.

(vii) The proposal must demonstrate that each beneficiary that will carry out land purchase has the necessary competence and experience in land purchase for nature conservation, and that the planned target is realistic within the time framework of the project.

Department 33 of District Government of Münster is the competent authority for land consolidation processes and thus has a high level of competence in the purchase of land. Most of the nature conservation areas in NRW have been bought as part of land consolidation procedures. Land purchase is done by dep. 33 since more than 100 years. Because of this, dep. 33 is the most important authority for calculating purchase prices. With this big market experience the purchase price for buying peatland was calculated with €10,000 each hectare.

(viii) If the purchasing body is a private organisation, its statutes must include a provision that, in case of dissolution, the land will be transferred to another legal body primarily active in the field of nature conservation (e.g. another conservation NGO or appropriate public body).

Department 33 of District Government of Münster is a public body. See earlier descriptions of the organizational structure behind this.

(ix) Evidence must be provided in the proposal that the purchase price is consistent with the current market prices for the type of land and the region concerned.

The purchase price of €10,000 per hectare is in line with the market and has been calculated by the land consolidation authority (see confirmation letter of the competent authority Department 33 of District Government of Münster).

(x) Evidence must be provided that the land purchased was not owned by a public authority in the 24 months prior to the project application date.

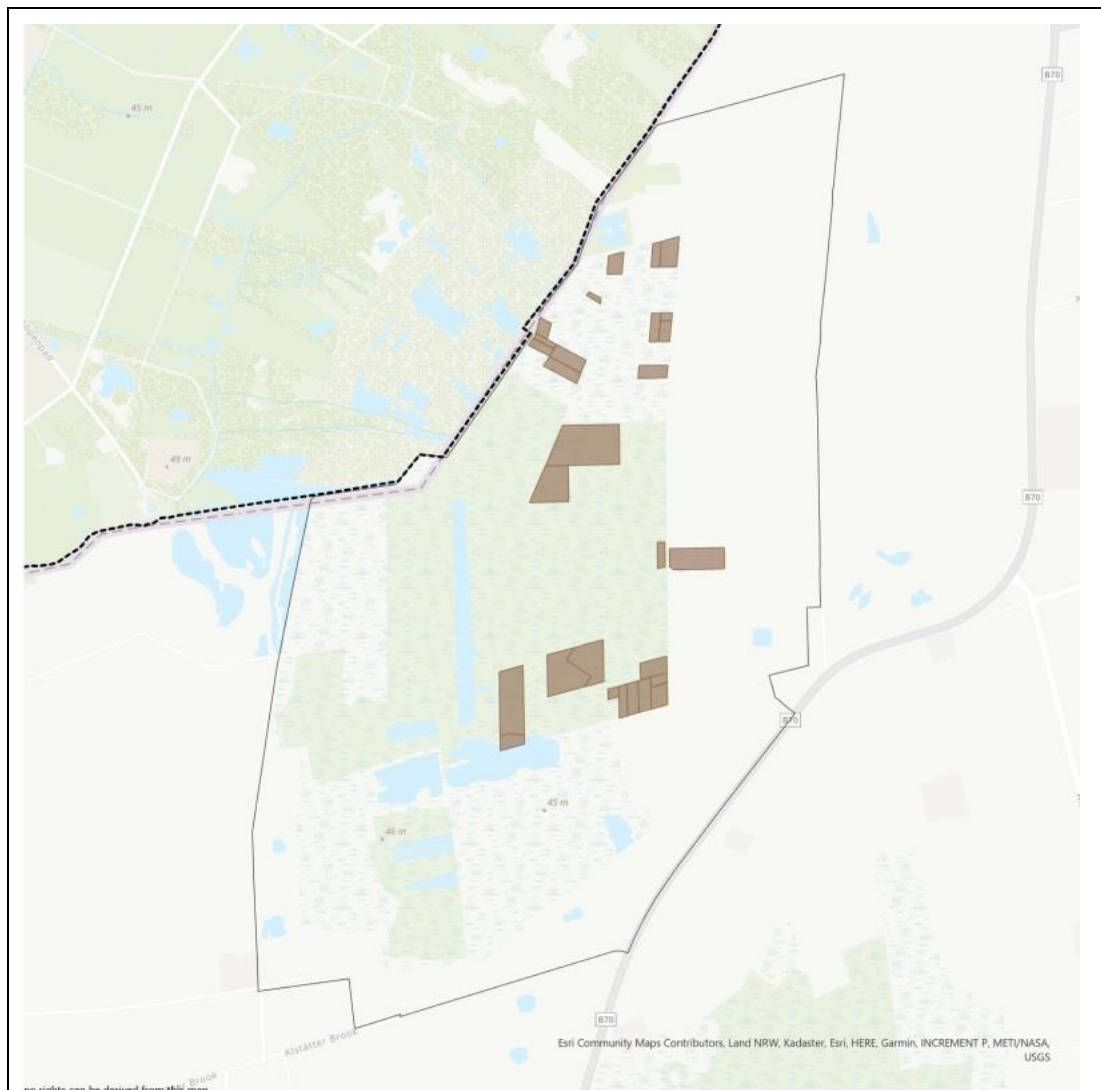
The current land registers prove that the areas to be purchased have been privately owned for more than 24 months.

(xi) The purchased land must be the subject, during the project, of specific restoration and/or active management or restrictions of use that go beyond legal obligations and existing restrictions that could not be imposed without purchasing the land. The purchase of land that is in excellent conservation status (i.e. that requires no restoration or specific management or restrictions of use) is only eligible if strategic to the objectives of the project.

The parcels are needed to implement the appropriate measures to restore ground water conditions suitable to restore active raised bog habitats (H7110). At present, they do not host active raised bog (H7110), in contrary, they mostly not even host degraded raised bog (H7120).

We expect some land owners (approx. half of them) to be very willing to sell their land. As land purchase offers us by far the best legal protection and implementation possibilities we see this as plan A. In case some of the land owners do not wish to cooperate, which is likely, the option of the not-time-restricted and non-cancellable contract is available as 'plan B' / our contingency plan. This will probably be sufficient to obtain working permission on most of the required parcels. For the few private land owners that do not cooperate with plan B, we have a 'Plan C' available to ensure we can still do our work. Since the parcels are rather small and dispersed (see map 8 below), missing one or a few parcels in the land purchase does not mean our project cannot be executed. It will require a change in the design and location of the dams, thus reshaping the compartments around the dam locations around the plots we cannot obtain. This is of course less optimal, but will not restrict the implementation of works – and thus reaching of objectives – in a too significant manner.

The map below shows the locations of the to be purchased land plots in the Hündfelder Moor:

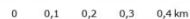


no rights can be derived from this map

- Legend**
- National border The Netherlands - Germany
 - Subsite Hündfelder Moor
 - Land purchase

- Sources**
- Natura 2000-Gebiete in Nordrhein-Westfalen © LANUV
 - European Environment Agency, Directorate-General for Environment
 - Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, Geobase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

Team Data, Informatie, GIS en Innovatie



Number: 210468_11
 Date: 11/25/2021



Map 8: Land purchase at subsite Hündfelder Moor

1.5 Upscaling results of other EU funded projects *(n/a for concept note)*

Upscaling results of other EU funded projects *(n/a for concept note)*

Explain if and how the proposal builds on or up-scales results of other EU funded projects.

There are many EU-funded projects that are relevant for our LIFE CrossBorderBog project. We have 3 main knowledge themes on which we will to gather knowledge from other projects and to share our own experiences towards other projects. These are:

1. Raised bog restoration (technical knowledge on hydrological restoration of peatlands)
2. Climate change mitigation (reduction of GHG emissions and capture of GHG in the active raised bog)
3. Cross-border working on nature restoration (process aspects)

The EU-funded projects we will interact with can help us to address these knowledge themes. Of course, some projects can contribute to more than one theme. We list them for the knowledge theme that we primarily see and will of course explore the broader exchange we can engage in with them.

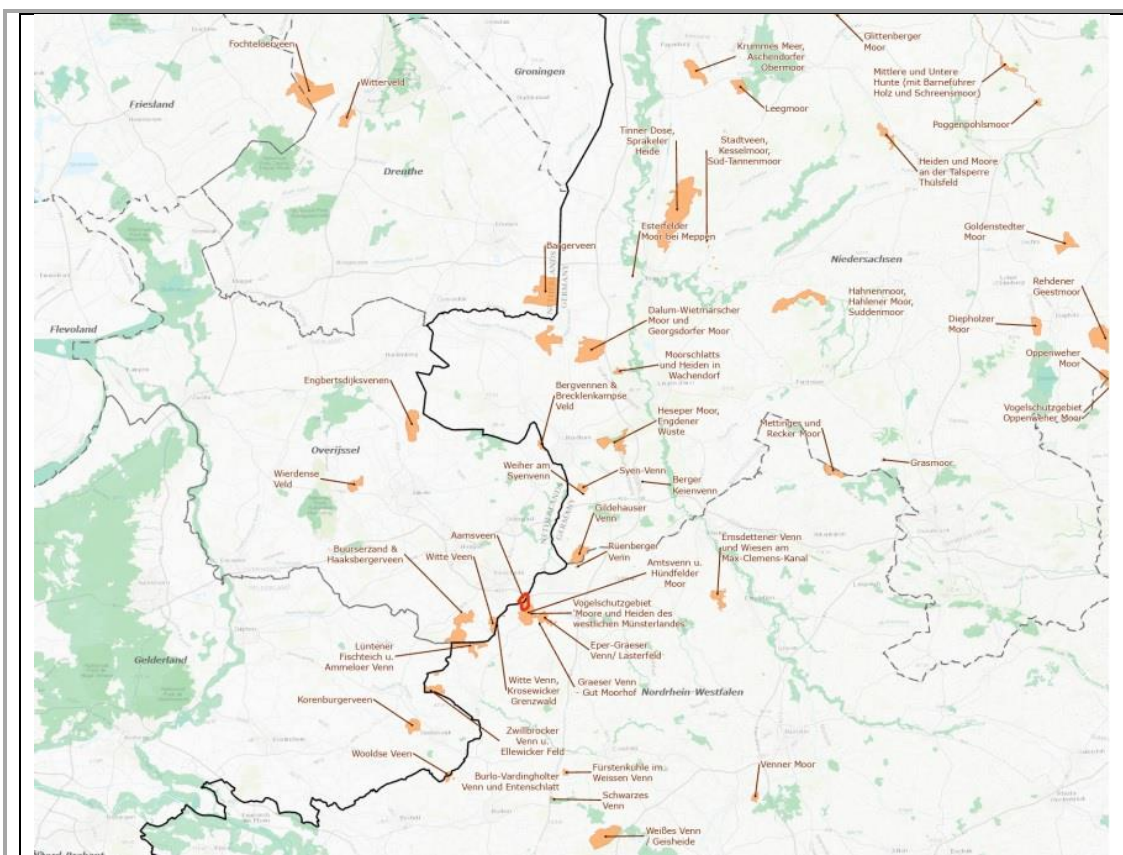
1. Raised bog restoration

Our planning for LIFE CrossBorderBog started on a knowledge base built from our current raised bog restoration network, for instance New LIFE for Dutch Fens (LIFE12 NAT/NL/000372), LIFE The Dutch Crane Resort (LIFE08 NAT/NL/000193), LIFE Bargerveen (LIFE04 NAT/NL/000206), LIFE Peelvenen (LIFE11 NAT/NL/000777), LIFE Moore und Heiden (LIFE98 NAT/D/005100), and LIFE Grosses Torfmoor (LIFE03 NAT/D/000004). Very notably, the coordinating beneficiary is involved in a similar raised bog restoration project (AddMire LIFE, LIFE18 NAT/NL/00636) for the N2000 site Engbertsdijkvenen, in cooperation with Staatsbosbeheer.

In several of these projects blocking up drains and cell bunding have been applied before, and have proved to be effective and successful techniques, e.g. in LIFE Dutch Crane Resort, LIFE Bargerveen, and LIFE Peelvenen, but also for instance in Cumbria Bogs LIFE (LIFE13 NAT/UK/000443). From the LIFE Moore und Heiden project and the LIFE Grosses Torfmoor project we learned that the construction of long-term durable dams in the moor requires a special planning effort. In addition, peat dams in particular have to be oversized so that they are stable in the long term despite the peat decomposition taking place there. The experiences in LIFE Bargerveen suggest that dams made of mineral material should be built, especially on the fringes of the bogs.

Overall, we are aware of the long history of LIFE raised bog projects throughout Europe. We will build on their knowledge and expertise, for instance regarding their construction design, perceived effectiveness of measures and possible courses for improvement. Projects we will approach are a.o. the Irish LIFE14 NAT/IE/000032, the Latvian LIFE08 NAT/LV/000449, the Lithuanian LIFE12 NAT/LT/000965, the Swedish LIFE08 NAT/S/000268, and the 'PROMME' steps for raised bog restoration from LIFE03 NAT/CP/NL/000006. We will exchange experiences on raised bog restoration techniques and processes with the to-be-submitted LIFE application Peat Pals for LIFE, conducting more-or-less similar measures at the Fochteloërveen (contact with this project is evidenced by Letter of Support Natuurmonumenten, who is also working on the Wooldse Veen and the Korenburgerveen, LIFE00 NAT/NL/007049).

There are many raised bog sites in the vicinity of the Aamsveen-Hündfelder Moor site, which will function as starting point for scaling up our own knowledge base. Please see §2.5 for a further discussion of this:



Map 9: Starting point for technical exchange: Dutch-German raised bog sites

2. Climate change mitigation

Although nature restoration is very typical for the LIFE programme, there are also Horizon and Interreg projects that we see common ground with. Especially in the cross-over with climate mitigation we can make use of interesting experiments and studies that have been, and currently are being, conducted. For this knowledge theme we do not focus as much on sharing our own knowledge, and rather on gathering knowledge and experiences from other (EU-funded) projects.

To this end we look at for instance the peatland case study of the Horizon 2020 project LANDMARC³ and the Interreg NWE project Carbon Connects⁴. These two projects also collaborate on a shared case study site. Lessons on feasible business models and maximizing carbon storage would be highly welcomed by us. The carbon storage potential of peatlands is also investigated in another Interreg NWE project, Care-Peat⁵. In Care-Peat, the Natura 2000 site De Wieden (in the Province of Overijssel) is part of this carbon storage potential study. This means we have a direct connection to share knowledge here. A recent LIFE project PEAT under the Climate subprogramme is cofinanced by Province of Overijssel (LIFE MULTI PEAT, LIFE20 CCM/DE/001802), and works on climate change mitigation through

³ <https://www.landmarc2020.eu/netherlands-peat-soils-agroforestry>

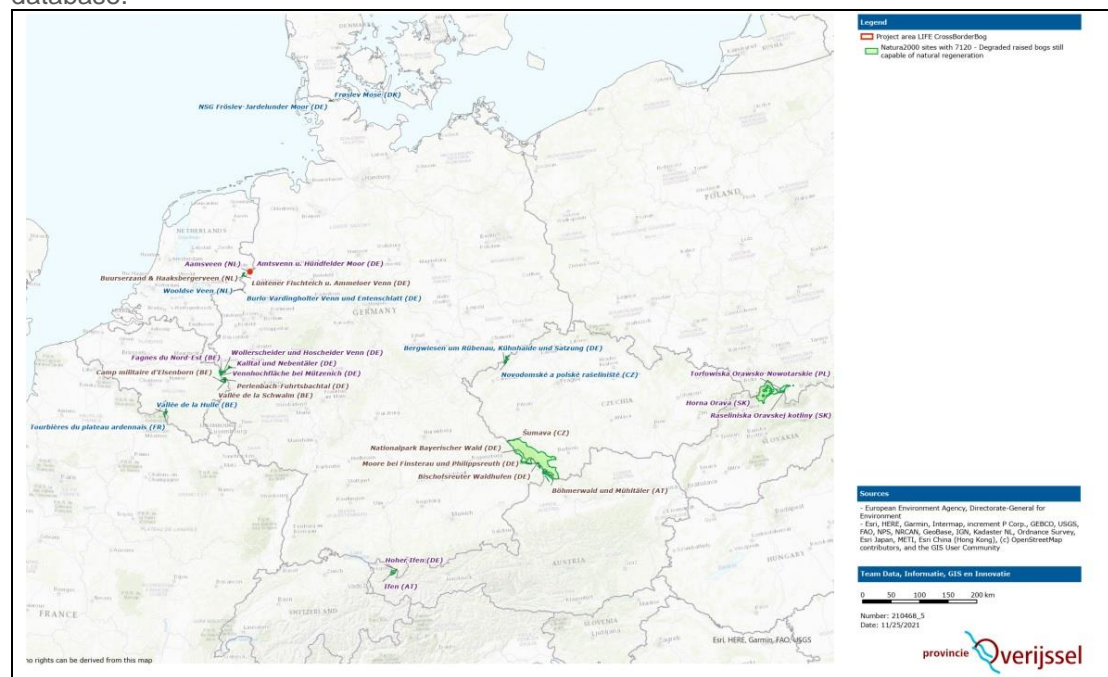
⁴ <https://www.nweurope.eu/projects/project-search/cconnects-carbon-connects/>

⁵ <https://www.nweurope.eu/projects/project-search/care-peat-carbon-loss-reduction-from-peatlands-an-integrated-approach/>

peatland restoration. The results of this will directly feed LIFE CrossBorderBog and the climate effect we intend to have. Our network partner Staatsbosbeheer (one of the Letters of Support to this application) is involved in the recently started Horizon/ Green Deal project WaterLANDS (Water-based solutions for carbon storage, people and wilderness), which will restore wetland sites across Europe and lay the foundations for scalable protection across much wider areas. On the carbon capture potential of raised bogs, but also in broader sense on restoration solutions for wetlands, we will seek exchange with WaterLANDS, with our network partner Staatsbosbeheer as point of entry. In the closing symposium of our project we will pay attention to EU-wide exchange on the role of raised bogs in CO₂ emissions and CO₂ sequestration. We will also include this information in our update to the Best Practice Manual on raised bog restoration.

3. Cross-border nature restoration

Even today, cross-border cooperation in the European Union is associated with a multitude of difficulties and problems. These include, for example, the nationally completely different administrative rules for spending public funds. In the past, BSZ has carried out numerous cross-border projects within the framework of Interreg (supplement some titles and durations) and can therefore draw on a great deal of experience and in-depth knowledge of this topic. We are keen to learn more from other cross-border nature restoration projects, especially projects that focus on raised bog restoration. To that end, we have created an EU wide map of cross-border raised bogs, and combined this with an assessment of the LIFE project database.



Map 10: Cross-border Natura 2000 sites in the EU with H7120

Through this experiment, we came across the LIFE for MIREs project on the Czech-German border and already reached out to them for exchange (see Letters of Support - Annex 5). We will continue to build on creating a network of cross-border bog restoration projects. Cross-border projects are often those that are left for last, because they are complex in terms of process (for instance language, laws and regulations, financing, sense of urgency, etc). Either countries take up action just for their own national site, or they leave the measures altogether for another day. We want to create a knowledge exchange network in which we can inventory other cross-border bog sites experiences and share our own insights on process aspects of cross-border raised bog restoration. This will be partially online (Teams meetings, online exchange), but will result in invitations for those that are interested to come visit our site to provide them with a guided tour in the field and exchange knowledge and

experiences. We will primarily focus on raised bog restoration projects (technical nature projects), but will be open to sharing experiences with cross-border bog projects that have a different angle. For instance, another EU-funded project for a cross-border bog is the in 2019 finished Interreg Germany-Netherlands project Grenzeloos Veen. This project is focused on the raised bog with a somewhat broader perspective (they include recreation/tourism as important component) but their exchange across the Dutch-German border is relevant for us and we will seek contact with them on that. We have made a Task specifically focused at this exchange (T7.4) which ends with a concise report on cross-border restoration working.

1.6 Complementarity with other actions *(n/a for concept note)*

Complementarity with other actions *(n/a for concept note)*

Explain how the project is complementary to other regional, national or international initiatives/activities/projects. How will it integrate the results from these other actions?

We have partially addressed this point in §1.5. We will discuss several other international, national and regional initiatives here that relate to this LIFE application.

International initiatives

At the coordinating beneficiary Province of Overijssel we are engaged in several other raised bog restoration efforts within the LIFE programme (such as AddMire LIFE, LIFE MULTI-PEAT). This means there is complementarity and exchange with the site management and restoration efforts on these locations. Furthermore, we are part of the preparation trajectory of a LIFE Strategic Nature (SNaP) application (LIFE Connectivity, concept note submitted in October 2021), in which we plan to do pilots on land uses in and around raised bogs as beneficiary (POv). We will perform these pilots in the bog sites Wierdense Veld, Engbertsdijksvenen, and Haaksbergerveen. Furthermore, this provides a connection to the actualization of the strategic planning of Natura 2000 in the Netherlands, as the preparation of the Prioritized Action Framework 2021-2027 is linked to this trajectory.

In Germany (North Rhine Westfalia) there is a running life-project “life-meadowbirds NRW” (LIFE19 NAT/DE/000816. Biologische Station Zwillbrock is, among 10 others, one associated beneficiary. The project area here is the SPA “Moore und Heiden des westlichen Münsterlandes” (DE 3807 401), where subsite Hündfelder Moor is part of. One major target is to increase both breeding success of meadow birds and waterfowl (e.g. godwit, curlew), and minimize of disturbances onto migration birds by reducing impact of predators (e.g. wild boar, fox). This project focuses on the management of agriculture and of predators, and provision of advice to farmers to optimize the situation for meadow birds. It does not affect the LIFE CrossBorderBog project site directly by any foreseen measures but will lead to a synergistic effect to breeding and resting birds using the future restored bog habitats as part-habitats. Typical bog species like Black Adder, Moor Frog and Pool frog will benefit from the predator control, too.

National initiatives

Recently (July 2021) a new law was adopted in the Netherlands to reduce nitrogen deposition (“Besluit stikstofreductie en natuurverbetering”). This will aid the effectiveness of our measures because the amount of deposition will be reduced in a national effort. Furthermore, the Dutch partner Landschap Overijssel is strongly involved in the so-called OBN, a knowledge network on development and management of nature, in which the wet sandy soils are one of the focus groups (see also the Letter of Support for OBN). This group includes the raised bog habitats. As a result, we have direct access to scientific knowledge and actual developments on the restoration and ecology of raised bogs. The OBN network is, on its own,

related to international knowledge networks like the International Mire Conservation Group.

Regional initiatives

In the Province of Overijssel we work on the initiative ‘Natuur voor Elkaar’⁶. In NvE we work on recreating the connection between people and nature policy, following a development where the strict focus on nature protection led to a ‘juridicisation’ of nature protection, creating too much distance between people and their intrinsic motivation to protect nature, and the actual nature policies. The meaning of nature for people and ways to work in a nature-inclusive manner on for instance construction and infrastructure should get more attention, visible in for instance green procurement rules in nature-inclusive working.

In Germany the state North-Rhine Westphalia financially supports “Regional Centre of Education for Sustainable Development”. Within a network of 27 Regional Centres in NRW, Stiftung Natur und Landschaft Westmünsterland (S-NLW) is the Regional Centre of Education for Sustainable Development for the Westmünsterland. The education work is done according to the 17 sustainable development goals of the United Nations. Especially with schools this education work is done outside at so called “out of school places for learning”. Since years places like this are located within the bogs along the border, e.g. Zwillbrocker Venn. Via S-NLW the Hündfelder Moor will be added to these out-of-school places for learning.

1.7 Synergies and co-benefits with other LIFE sub-programmes *(n/a for concept note)*

Synergies and co-benefits with other LIFE sub-programmes *(n/a for concept note)*

Describe synergies with other LIFE sub-programmes (Nature and Biodiversity, Circular Economy and Quality of Life, Climate Change or Clean Energy Transition). Describe spillover effects (co-benefits) in addition to those targeted by the project. If possible, quantify the contribution.

Identify the activities/tasks that address these policy objectives of other LIFE sub-programmes.

We have a strong synergy with the **LIFE Climate (Mitigation)** subprogramme. Raised bogs have the potential to sequester large amounts of CO₂. Worldwide, the remaining area of near natural peatland (>3 million km²) contains more than 550 gigatonnes of carbon, representing 42% of all soil carbon and exceeds the carbon stored in all other vegetation types, including the world’s forests. This remaining peatland area sequesters 0.37 gigatonnes of CO₂ a year (source: IUCN⁷).

On the other side, when the raised bog is desiccated, it emits large amounts of CO₂. Currently, CO₂ emissions from drained peatlands are estimated at 1.3 gigatonnes of CO₂ annually (worldwide) (IUCN).

By rewetting the Aamsveen-Hündfelder Moor bog (all tasks in WP4 and WP5), we first of all prevent the emission of the currently stored CO₂. We have estimated that we can reduce the current emission of 726 t C per year by approx. two-third. I.e. we will save 484 t CO₂-eq emission per year, in other words: that will not be emitted. Secondly, we can create a carbon

⁶ Difficult to translate well, as it includes a figurative element. ‘Nature for Each Other’ is most literal, ‘Together with Nature’ more accurate in a figurative sense.

⁷ <https://www.iucn.org/resources/issues-briefs/peatlands-and-climate-change>

storage that can sequester CO₂ in the future. It will take time before the raised bog can fulfil this function maximally, due to the long term nature of raised bog development. If we follow Succow 2005 (active raised bogs sequester 1.2 tonnes CO₂ per hectare per year), and we create 99 hectares of H7110, we have the potential to sequester 119 tonnes CO₂ per year. This is just calculated for the active raised bog. Other habitat types such as bog woodland are expected to have a sequestering effect as well.

An indirect contribution consists in considering the consequences of climate change already in the design of the rewetting: As an example, corresponding hydrological calculations are carried out, on the basis of which the wetting measures are designed accordingly. This concerns, for example, the reserve height of the dams against heavy rainfall and the adjustment of the storage targets, in order to create a water reserve in the moor for the dry summer months, but also the consideration of the groundwater and the installation of adjacent still water bodies as a water reserve. These topics have largely been missing in the current guidelines on peatland regeneration and should be discussed at the site manager workshops (T.7.3) and finally included in the update of the Best Practice Manual (T.7.6).

At subsite HM, a fruitful collaboration with the University of Münster, Institute of Landscape Ecology (ILÖK) has started in recent years. It includes interdisciplinary investigations of peat soils, their gas exchange at different moisture levels, the measurement of released greenhouse gases as well as the flora and fauna of the area. In addition, remote sensing methods are also being tested in order, for example, to bring moisture measurements or GEST types from individual investigation plots into the area. This cooperation will also accompany the project during the implementation of the waterlogging measures and afterwards and will provide contributions to project monitoring (WP 7). In the optimum case, ILÖK will determine the contribution of the implemented measures to the reduction of GHG emissions on the basis of the baseline measurements of the GHG emissions and the short-term reaction. This also contributes to the determination of standardized methods for measuring and estimating the rewetting of raised bogs.

A second contribution of our project to other LIFE programmes is the contribution it makes to water quantity and water quality, a priority topic in the **LIFE Circular Economy and Quality of LIFE** subprogramme (p. 15 of Priority Topics document). We make a local contribution to reduce desiccation, and, in doing so, provide a retention basin for water in the area, for example in the 31 ha of still waters that we create. The area suffers from nitrogen deposition, which impacts water quality, and the measures serve to counter the negative impacts from nitrogen pollution as much as possible (for instance by removing birch trees and grasses such as *Molinia caerulea*). The recent Dutch law on nitrogen deposition reduction (see §1.6) will aid this process as well.

1.8 Synergies and co-benefits with other EU policy areas *(n/a for concept note)*

Synergies and co-benefits with other EU policy areas *(n/a for concept note)*

Describe the synergies and positive spillover effects (co-benefits) with other EU policy areas (for example agriculture, health, civil protection, jobs and growth, etc.). If possible, quantify the contribution.

Identify the activities/tasks that address these other EU policy objectives.

Climate change mitigation

The synergy with Climate is, aside from the potential to reduce emissions and sequester CO₂ as discussed above in §1.7, also evidenced in the recent 'Fit for 55' Communication from the EC, where it is explicitly stated that the climate crisis and the nature crisis cannot be seen as separate actions. Biodiversity restoration to increase the carbon storage potential of nature is a key aspect of this. Climate change mitigation is directly contributed to in WP4 and WP5 (the restoration work packages), and it is monitored in WP6 (T.6.4). The scientific exchange with

ILÖK will be very instrumental in this (see e.g. §1.7).

Water quality and quantity

Raised bogs require stable high water levels, and the project thus works on reducing desiccation of the bog. However, it also provides a retention basin for excess waters, partially within the bog system itself, and partially in the still waters in the Hündfelder Moor. The protection of wetlands as part of the broader water policy is also recognised in a.o. the EU Water Framework Directive (2000/60/EG). Water quality and quantity is addressed throughout the whole project, but most notably in WP4 and WP5 (the restoration work packages). Hydrology is monitored in WP6 (T6.1).

Agriculture

There is some agriculture in the vicinity of the raised bog. Agricultural needs in the past led to excavation of peat and fast discharge of water. The future of agriculture will have to be more balanced, which might lead to new forms of agriculture around wet nature zones, such as paludiculture. The relation with agriculture is part of the environmental management in WP1 (T1.2 and T1.3).

EU Green Deal

In line with the EC policy strategies following the Green Deal (From Farm to Fork, and more notably the Biodiversity strategy 2030), our work in the Aamsveen and Hündfelder Moor will contribute to broader biodiversity in the wider area. For instance, we are currently already working in the laggzone of the Aamsveen, to improve the water balance. Overall, our project contributes significantly to the EU Green Deal in the field of biodiversity and ecosystems, in its effort to reduce loss of biodiversity of the vulnerable raised bog. We will have to cut some trees in order to protect the bog, but take measures elsewhere in the region to compensate this, by planting new trees. For instance, Province of Overijssel has recently adopted the first draft Forest Strategy and will soon start planting the first 60 hectares of trees⁸. The EU argued⁹ that the three largest economic sectors of the EU (agriculture, construction and food production) all depend highly on nature and generate more over 7 trillion EUR. As a result, the yearly advantages of Natura2000 are estimated at 200-300 billion EUR. Through investigating in nature, you also invest in local jobs and opportunities for enterprises, such as nature restoration, biological agriculture and blue infrastructure. As such, nature and biodiversity are seen by the Green Deal not as just sectors that cost money, but also create economic value.

Zoom in: EU Biodiversity Strategy 2030

LIFE CrossBorderBog contributes directly to the implementation of the goals of the European Biodiversity Strategy 2030:

- First, Member States should improve the conservation status of at least 30% of species and habitats in poor status (U2) or bring about a strong positive development trend for these species (point 2.1). Bogs are among the ecosystems that are to be strictly protected in the future. Clearly defined conservation goals and measures are to be set for all protected areas. Within the framework of LIFE CrossBorderBog, these are not only set (WP2 and WP3), but are already being implemented (WP 5 and WP6).
- Within the framework of the plans for nature restoration (item 2.2.1), reference is also made

⁸ This is part of a national agreement under the Climate Agreement, which aims to increase with 37.000 hectares of forest in the Netherlands by 2030.

⁹ https://ec.europa.eu/commission/presscorner/detail/nl/qanda_20_886

to the fact that an EU-wide methodology is required for recording, assessing and achieving a good status of ecosystems. In the project, methods are being developed in cooperation with ILÖK to measure and evaluate the contribution of peatland rewetting to CO₂ reduction in a standardized way (T.7.5). This contribution is also relevant for point 3.3.4 Improving knowledge, education and skills.

- Significant areas of degraded and high-carbon ecosystems to be restored by 2030, according to the EU's Nature Restoration Plan; through the entirety of the rewetting measures planned in WP5 and WP6, this will be implemented for the LIFE CrossBorderBog project site.
- At subsite HM, the company Salzgewinnungsgesellschaft Westfalen (SGW) has also been involved in the preservation of the Natura 2000 area for years. Compensation obligations resulting from approval procedures are implemented in coordination with the area management in such a way that they also provide other functions such as hydrological buffering or buffering against the entry of nutrients from adjacent agricultural areas via the air in addition to their legal obligations. SGW is directly involved in the preparation of LIFE CrossBorderBog by taking on the financing of the detailed peatland regeneration planning that will start in the winter and making its land available for the planned measures. In this way, LIFE CrossBorderBog - in cooperation with SGW - implements, for example, point 3.3.1 "Business for Biodiversity" - the commitment of companies to biodiversity.
- In cooperation with the Bildungswerk of BSZ and the BNE regional centre of S-NLW, LIFE CrossBorderBog actively contributes to the integration of the topics of biological diversity and ecosystems to expand education with regard to ecological sustainability (T.7.9) (Point 3.3. 4 Improving knowledge, education and skills).

Jobs and growth

LIFE CrossBorderBog creates 2 highly qualified jobs in the field of 'Ecological Restoration' at BSZ for the duration of the project period of 6 years.

When awarding external services (in various WP's), regional companies in both Germany and the Netherlands from the hydraulic engineering, civil engineering, agriculture and forestry sectors are involved by enabling and initiating the merger of working groups of local companies in the tenders becomes. This secures jobs in rural regions. Services for the development of public relations materials (WP7) will be contracted out to regional agencies and companies.

Social wellness

Raised bogs can fulfil an important role in the social environment of a region, as is evidenced by for instance the Irish Abbeyleix bog¹⁰, where the grassroots movement to restore the bog led to a remarkable shared space for nature and people, benefitting the health of those around the raised bog and creating a common cause. By restoring the Aamsveen and Hündfelder Moor we cannot definitively state we will directly influence human health or socioeconomic conditions, but in broader sense it can certainly be argued that access to, and quality of, nature is closely related to human health¹¹, also argued in the EU Zero Pollution

¹⁰ <https://www.abbeyleixbog.ie/home>

¹¹ See the case made by IEEP: https://ieep.eu/uploads/articles/attachments/911b9c71-6b23-4376-be7b-85c75ea4de7b/Briefing_Nature_Health_Fairness_-_Final_-_16_Feb_2017.pdf?v=63664510012

Action Plan¹². The nature reserve is a green zone for inhabitants of cities such as Enschede and Gronau. We will actively seek the crossover with nature education and nature tourism, generally outside the project budget, to create a better connection with the social environment, and enlarge the support base of the raised bog restoration. In this light, we will keep a close eye on the 'Council Recommendation on education for environmental sustainability', an action coming forth from the Biodiversity Strategy 2030. We address social wellness through several tasks. It is part of the environmental management in WP1 (T1.2 and T1.3) but also part of for instance the replication and dissemination actions in WP7. For instance the website and information panels (T7.8) contribute to inclusion of the social environment. In the restoration work packages we have included limited costs for restoration of visitor control infrastructure, this serves to guide visitors away from the most vulnerable and wettest parts of the bog, but still allow them to enjoy the beauty of the raised bog habitat after its restoration (T4.7 and T5.14).

#§COM-PLÉ-CP§# #§REL-EVA-RE§# #@IMP-ACT-IA@#

¹² "For better mental and physical well-being, the Commission will consider promoting depolluted and re-naturalised sites as potential public green areas in its upcoming proposal for legally binding EU nature restoration targets, in the new soil strategy and in all urban greening actions, as announced in the EU biodiversity strategy for 2030. In doing so, it will aim at redressing social inequalities to an equitable access to green infrastructure in cities as much as possible.", section 2.2

2. IMPACT

Fill in **only** sections 2.1-2.3 at stage 1 (concept note). Fill in **all sections** at stage 2 (full proposal).

2.1 Ambition of the impacts

Ambition of the impacts

Identify and quantify the effects of the project (during the implementation and up to 5 years after its end).

Be specific and provide only information about impacts that are a result of your project. The impact of other projects should not be taken into account.

Wherever possible, use quantified indicators and targets.

Note: In addition to the description above, for stage 2 (full proposals) include quantified indicators in Part C of the application forms (both horizontal KPIs for the LIFE programme as well as any specific KPIs relevant to the proposal). Ensure correspondence between Part B and Part C.

Our long-term objective is the recreation of H7110* and 91D0*, and improvement of the conservation status of the other raised bog habitat types and species. This is, as we stated in §1.2, a long term objective. It is the ultimate ambition of our project. However, it takes time for these habitats to form and grow. The effects of the project during the implementation and up to 5 years after the project end therefore differ somewhat from our ultimate ambition. They are, however, the required preconditions for the recreation of active raised bog and bog woodland, and therefore the essential step towards the ultimate ambition.

The effects we will achieve within 5 years after the end of the project are the following:

1. Suitable hydrological conditions for recreation of raised bog habitat types and species:
 - a. Groundwater level class 1: between 15 cm above and 15 cm below surface on 121 ha: mandatory precondition to create H7110*, H91D0*, H7140 and H7150;
 - b. Groundwater level class 2: 15-30 cm above surface or 15-30 cm below surface, on 33 ha: mandatory precondition to create and preserve H7120 and H7150;
 - c. Groundwater level class 3: More than 30 cm above surface, i.e. too wet for raised bog habitats H7110 and H7120, on 8.5 ha: mandatory precondition to create and preserve H3160.
 - d. Groundwater level class 4: More than 30 cm below surface: i.e. too dry for raised bog habitats H7110 and H7120, on 12.6 ha: mosaic of structures more than 0.3 m higher above groundwater level as relevant habitat requisites for typical bog species such as *Vipera berus* and *Rana arvalis* that need drier ground for wintering.
2. 31 hectares of additional water supply in the downstream of Hündfelder Moor to improve the resilience of the hydrological system against droughts caused by climate change and to attract resting geese and waterfowl (see Annex 3 for data)
3. GHG emission by peat decomposition:
 - a. CO₂ emissions are reduced by preventing 104.000 m³ of peat from further decomposition as it is moved from the dry peat ridges into wet peat depressions;
 - b. CO₂ emissions are reduced on 32.69 ha with targeted groundwater level between 15 or 30 cm above surface and between 15 and 30 cm below surface;
 - c. CO₂ emissions are reduced on 121.02 hectares with targeted groundwater levels 15 cm above ground up to 15 cm below surface.
 - d. CO₂ emissions are reduced on 8.44 hectares with targeted groundwater levels of more than 30cm above surface.
 - e. CO₂ emissions are reduced on 31 hectares where still waters will be created.

Starting point: site measurements	
N2000 site Aamsveen	144.21 ha
N2000 site Amtsvenn-Hündfelder Moor	894.38 ha
Project area:	
Subsite Aamsveen:	144.21 ha
Subsite Hündfelder Moor	240.00 ha
Total:	384.21 ha
Impact: Targeted hectare amounts per habitat type for full project area (long term perspective, i.e. 2055 and beyond)	
Active raised bog (H7110*)	99 ha
Degraded raised bogs still capable of natural regeneration (H7120)	27 ha
Transition mires and quaking bogs (H7140)	8 ha
Bog woodland (H91D0*)	21 ha
Depressions on peat substrates of the Rhynchosporion (H7150)	5 ha
Natural dystrophic lakes and ponds (H3160)	13 ha
Alluvial forest (H91E0C)	1.5 ha
Species rich Nardus Grassland (H6230)	0.5 ha
Nutrient poor grassland with carnation sedge (H6410)	0.5 ha
The developments of the habitats (≥ 5 ha) in the targeted amount of hectares (2055 and beyond) versus the current baseline amounts is pictured in the diagram below:	

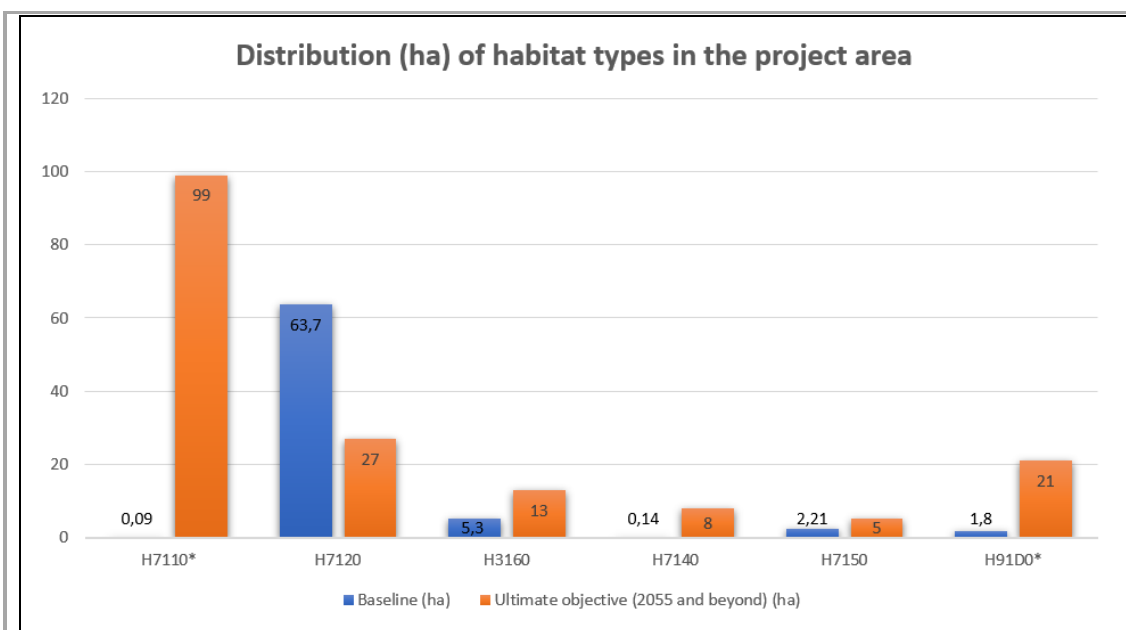


Figure 1: Baseline versus targeted distribution of habitat types in the project area. Please note, the decimal formatting is in Dutch/German style, instead of UK/US.

The targeted population for species is as follows:

Impact: Targeted population size per species for full project area (long term perspective)			
Targeted Species		Current Population size	long term targeted population size
<i>Aeschna subarctica</i>	sightings	app. 8	20-50
<i>Anas crecca</i>	breeding pairs	10-20	50
<i>Anas querquedula</i>	breeding pairs	0-2	2-5
<i>Anas strepera</i>	breeding pairs	0	10-20
<i>Anser albifrons</i>	staging	100-500	500-1000
<i>Caprimulgus europaeus</i>	breeding pairs	2-4	5-10
<i>Gallinago gallinago</i>	breeding pairs	0-2	2-4
<i>Grus grus</i>	breeding pairs	1-2	2-4
<i>Hyla arborea</i>	individuals	45	150-200
<i>Leucorrhinia dubia</i>	sightings	50-100	200-300
<i>Leucorrhinia pectoralis</i>	Sightings	10-50	100-150

<i>Leucorrhinia rubicund a</i>	Sightings	50-500	500-700
<i>Luscinia svecica</i>	breeding pairs	10-15	15-25
<i>Lymnocyptes minimu s</i>	staging individuals	P	P
<i>Rallus aquaticus</i>	breeding pairs	2-5	15-20
<i>Rana arvalis</i>	Calling males	80-120	150-250
<i>Rana lessonae</i>	individuals	200-500	500-650
<i>Somatochlora arctica</i>	sightings	10-20	20-30
<i>Tachybaptus ruficollis</i>	breeding pairs	2-5	8-12
<i>Tringa glareola</i>	staging individuals	5-10	10-25
<i>Tringa ochropus</i>	staging individuals	5-10	10-30
<i>Triturus cristatus</i>	individuals	11	50-75
<i>Vipera berus</i>	individuals	75-150	150-200
<i>Zootoca</i>	individuals	250-1000	1500

The predicted impact for GHG emission and potential CO₂ capture is:

Impact: GHG emission effects	
Reduction of CO ₂ per year	484 t CO ₂ -eq emission will be prevented yearly
Potential CO ₂ capture per year	119 t CO ₂ will be sequestered in long term yearly

2.2 Credibility of the impacts

Credibility of the impacts

Show the steps of your calculations and base yourself on the activities mentioned in your work plan.

Justify and substantiate the baselines, benchmarks and assumptions you used, making reference to relevant publications, studies or statistics.

Try to use the same methodologies for calculating impacts (avoid using different methodologies for each partner,

region or country).

Starting point for the impact calculation

Our project planning is based on years of preparatory work. The starting point was a detailed analysis of the current situation of the cross-border raised bog ecosystem (Bell Hullenaar 2018¹³; Hofer 2020¹⁴, Herring 2021¹⁵). The investigations included not only the cross-border area of the current raised bog, but also the areas of the lagg zone of the subsite Aamsveen and the surrounding grassland areas of the subsite Hündfelder Moor. The project partners LO and BSZ know from their long-term site management that the conservation status of the habitat types and animal and plant species in the two subsites is largely not favourable. The aim of the analysis was therefore to identify the relevant threats and to derive effective measures to eliminate or at least reduce them. Extensive investigations were carried out on the subsoil, groundwater, water level, water quality, peat thickness and peat quality, among other things.

The analysis of Bull Hullenaar 2018, Hofer 2020, and Herring 2021 showed that the greatest impairment is caused by the disturbed hydrology of the bog ecosystem; the nutrient poverty that is typical for raised bogs is still largely present. The causes are largely located within the project area:

- As a result of the former peat exploitation, the surface of the bog had been changed significantly, and the raised bog system has been losing too much water, especially through the border ditch running across the bog along the state border. The water loss occurs both above ground as well as horizontally within the peat body and vertically into the groundwater. As a result, the water levels in the raised bog drop widely up to 20-50 cm below the ground, especially in summer. As a consequence, the hydrological conditions for the long-term preservation of typical raised bog habitat types are hardly given in both subsites.
- Furthermore, this reduces the pressure on the groundwater body below the lagg zone of the subsite Aamsveen, so that here the alkaline groundwater no longer emerges in the required quantity and quality as it used to. As a result, the habitat types occurring here are also impaired.

The impairment of hydrology found in the project area is typical of peat bog areas, so that extensive experience from the literature and from neighbouring sites can be used to derive appropriate measures to improve it (Mackin et al. 2017¹⁶, Graf et al. (2021)¹⁷, Buus et al. (2011)¹⁸, Schumann & Joosten (2008)¹⁹). Which measures are most suitable in a project, depends on many site-specific factors such as the soil conditions in the subsoil, the slope, the

¹³ J.S. Bell, J.W. van 't Hullenaar (Bureau Bell Hullenaar), A.J.M. Jansen (Unie van Bosgroepen), M. van der Linden (BIAX-consult) en J. Sevink (Universiteit van Amsterdam), 2018: Ecohydrologische systeemanalyse Aamsveen.

¹⁴ Hofer, B. (2020): Machbarkeitsstudie zur Beurteilung des Wiedervernässungs-Potentials des NSG Hündfelder Moor, Kreis Borken.

¹⁵ Herring, L. (2021): Biochemische Charakterisierung der Torfe im Hündfelder Moor als Grundlage für mögliche Renaturierungsmaßnahmen. Unveröff. Bachelorarbeit an der Universität Münster, Institut für Landschaftsökologie.

¹⁶ Mackin et al (2017): Best practice in raised bog restoration in Ireland, via:

https://www.npws.ie/sites/default/files/publications/pdf/IWM99_RB_Restoration_Best%20Practice%20Guidance.pdf

¹⁷ Graf, M., Blankenburg, J. & Hauck, K. (2021): Handlungsempfehlungen der Hochmoorrenaturierungen in Niedersachsen. 2nd edition draft Version

¹⁸ Stenild, J., Glerup, K. & Kjaer, Sören (ed.) (2011): Restoration of raised bogs in Denmark using new methods. Report LIFE05 NAT/DK/000150

¹⁹ Schumann, M. & H. Joosten (2008): Global peatland restoration manual, Version 18 April 2008

peat quality, the structures created by peat exploitation and the surrounding groundwater situation.

Towards impactful measures

On the basis of the system analysis carried out, suitable measures that could effectively be implemented in the respective subsite were identified and already worked out in detail (subsite Aamsveen, Bell Hullenaar 2018: p. 114-116; Bull Hullenaar 2019²⁰) or roughly planned as part of the project preparation (subsite Hündfelder Moor):

- Trees and bushes contribute to the water loss of the bog through their transpiration and are therefore removed widely. Peat ribs that were left behind during peat exploitation and regularly dry out are dug up; Peat cuttings are refilled.
- Lateral above-ground water losses are effectively prevented by backfilling drainage ditches and building dams in sloping terrain. Lateral water losses within the relatively permeable peat itself are stopped by installing a seal below the dams down to the almost impermeable bog base.
- By creating the ditches and the deep peat cuttings, the sealing moor base was mostly destroyed, so that there can be more runoff from the moor into the groundwater. By the closure of ditches and the backfilling of peat cuttings this vertical runoff into the groundwater is reduced.
- In addition, in the subsite Hündfelder Moor, in the outflow of the groundwater along the entire eastern border of the raised bog area, still waters are being created. This gives pressure on the groundwater here and significantly reduces the pressure gradient of the groundwater below the bog and thus also reduces the runoff of bog water into the groundwater.

These measures are also evidenced as effective in Streefkerk (2018) on the 'Restoration of the Bargerveen Peat Bog: Ontwikkeling van het hoogveenreservaat Bargerveen: 1968 to 2018'. The application of measures to specifically our site has then further been tested and discussed visits and/or consultations from national and international experts on peat bog restoration, such as JW van 't Hullenaar and André Jansen. The OBN Nat Zandlandschap with national experts on bog restoration visited the area on 20 June 2019 to provide their advice. Furthermore, these methods have been applied in a.o. the UK (CumbriaBogLIFE) and the Netherlands (aside from Bargerveen, also Fochteloërveen and Deurnse Peel).

Calculating the effect of the measures on formation of raised bog habitats

The dams create a new hydrological system consisting of a total of 28 compartments with adjustable water levels (map 5). The course of the dams and the target water levels were chosen in such a way that a significantly (20-50 cm) higher and as near-surface water level as possible will be achieved over the largest possible area in the future. An analysis of soil and hydrology (LESA) indicated that targeted water level can be achieved if these actions are carried out.

On the basis of the target water levels and the current terrain elevation, a detailed map of the water levels in the targeted state can be created (map 4 (maps 4a and 4b in Annex 4)), it shows the distance between the terrain surface and the targeted groundwater level after the

²⁰ J.S. Bell & J.W. van 't Hullenaar (Bureau Bell Hullenaar (2019): Herstelplan Natura 2000-gebied Aamsveen - Uitwerking van maatregelen ten behoeve van uitvoering van de PAS-opgave

performance of the measures. This distance is the key factor for bog regeneration – the lower the distance, the better for raised bog habitat types. To clarify the relation between this distance and the long-term conservation of typical raised bog habitat types, we grouped the distances in distance classes that reflect their suitability for the preservation of raised bogs habitat types. That was based on data derived from literature (Couwenberg et al. 2008²¹) and discussed with Prof. Knorr of the Institute for Landscape Ecology, University of Münster.

We use the following distance classes:

- Groundwater level class 1:
between 15cm above to 15cm below surface:
mandatory precondition for H7110*, H91D0*, H7140 and H7150;
- Groundwater level class 2:
between 15-30cm above surface or between 15-30cm below surface: mandatory precondition to create and preserve H7120 and H7150;
- Groundwater level class 3:
More than 30cm above surface: mandatory precondition to create and preserve H3160.
- Groundwater level class 4:
More than 30cm below surface: i.e. too dry for raised bog habitats, but mosaic of structures serves as relevant habitat requisites for typical bog species such as *Vipera berus* and *Rana arvalis* that need drier ground in particular for overwintering

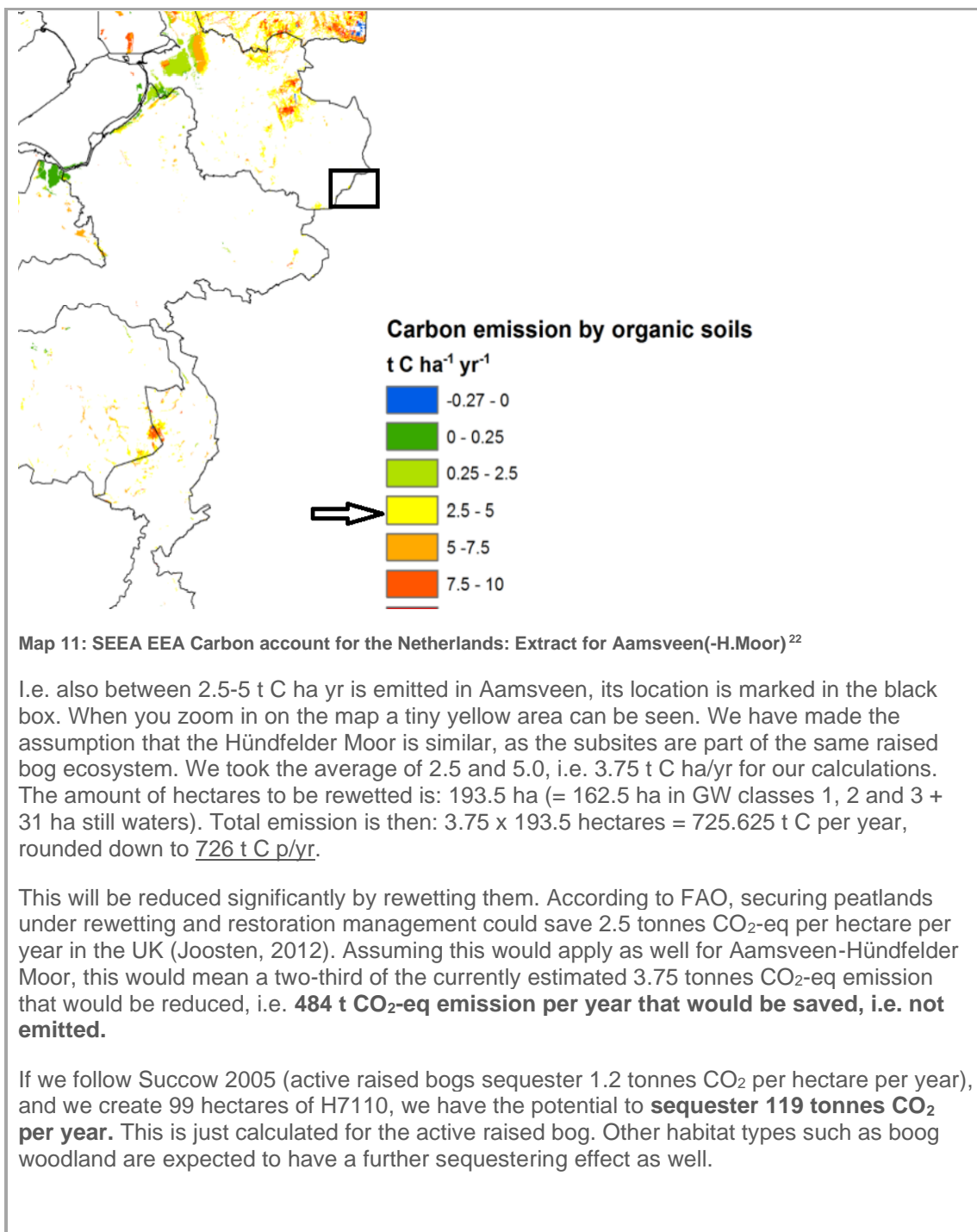
The targeted groundwater levels as well as the new surface levels will develop already a short time after the implementation of the measures, so that the success of the measures can be measured directly during the project duration. Because of the strong accordance of the ground water level distance classes and the habitats demands of the raised bog habitat types, we are able to use these data (in combination with information on the nutrient load) to create a quantitative projection of the future development of habitat types typical of raised bogs (map 3) after reaching these targeted ground water distances. However, the development of bog habitat types takes several decades; it cannot be expected within the project period and is therefore not one of the project's measurable goals.

As we address all possible water runoffs with our measures, we are quite sure that we will achieve our short-term objectives. And because of the strong relationship between the groundwater level distances to the long-term conservation of raised bog habitat types, we are quite confident as well to reach our long term-objectives: to re-create a cross-border living raised bog again together with all his unique typical habitat types and species.

Calculation of CO₂ emission reduction and CO₂ sequestration potential

Active raised bogs sequester 1.2 tonnes CO₂ /ha/year (Succow, 2005). Currently, in the Aamsveen and Hündfelder Moor between 2.5 and 5 tonnes C/ha/year are emitted as a result of mineralisation and oxidation of desiccated peat (Lof et al., 2017 – The SEEA EEA carbon account for the Netherlands). As a direct effect of the hydrological restoration of LIFE CrossBorderBog, we expect that rewetting of 193.15 ha would lead these emissions to drop significantly.

²¹ Couwenberg, J., Augustin, J., Michaelis, D., Wichtmann, W. & Joosten, H. (2008): Entwicklung von Grundsätzen für eine Bewertung von Niedermooren hinsichtlich ihrer Klimarelevanz



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2.3 Sustainability of project results

²² SEEA EEA 2017, accessible via: <https://seea.un.org/content/seea-eea-carbon-account-netherlands>

Sustainability of project results

Describe your strategy to sustain the project's results after the EU funding ends. Consider the following aspects:

- How will the project impact be ensured and sustained? Which tasks will you carry out during the project to ensure that?
- Which parts of the project should be continued or maintained? How will this be achieved and which resources will be necessary?

Current contributions of the project to ensure the impact:

- Land purchase (T.3.1) with the purpose of nature conservation ensures the possibility of realizing management measures now and in the future
- The rewetting (WP 3 and 5) makes it more difficult for trees to repopulate the moor areas and thus contributes to improved stability of the bog system and reduces the cost of the necessary maintenance measures
- By including the groundwater in the rewetting, extensive resilience to the effects of climate change is achieved.
- With adjustable overflows the water level within the compartments can be individually adjusted seasonally. Appropriate guidelines are being drawn up for this purpose as part of the hydrological report that is currently being prepared (outside the budget).
- This and the creation of 31 ha of standing water (T.5.12) will enable higher winter precipitation to be stored as a reserve for dry summers.
- The dam construction technology used and the materials used (WP 3 and 5) as well as the selected overflows and built-in emergency overflows ensure the durability of the dams and the most trouble-free and low-maintenance operation possible; Improvements are not necessary for a long time
- In the AfterLIFE plan (T.7.1), the necessary maintenance of the infrastructure set up in the project for rewetting is worked out in detail. This also includes the replanning of the current sheep grazing, which will also contribute to the preservation of the bog in the future, but also to the preservation of the dams.
- Awareness of the importance of the project site among the local people and administrations is significantly increased (T.7.8). This helps to ensure that the necessary acceptance for planned and future maintenance and optimization measures is achieved. In addition, it is the basis for people to adhere to the visitor management measures (T.4.7 and T.5.14) that are necessary to protect the bird sanctuary from disturbance.

Work to be continued to ensure the success of the project:

Most of the topics below are subject of the AfterLIFE Plan that will be elaborated as part of Task T.7.1.

- Site management – responsibility of LO and BSZ is secured and financed in the long term. BSZ has already started the discussion with the responsible district government of Münster about the future new tasks for of their future annual work and action plans that will arise as a consequence of the rewetting of subsite HM. In the Netherlands the maintenance and area management is already fully arranged and financed through regular structures.
- The hydrological monitoring indicates whether the conditions necessary for moor growth are still given - it will be part of the water law permit obligations in Germany and will be provided by BSZ. Hydrological monitoring is already in place in the Netherlands as part of the standard monitoring actions.

- Control and adjustment of water levels of the compartments - is part of the water law permit obligations in Germany and will be part of the site management based on hydrological monitoring.
- Inspection of dams and overflows: is part of the water permit obligations in Germany and will be provided by BSZ. It is part of standard maintenance operations in the Netherlands.
- Removal of woody growth on the peatland regeneration areas – will continue to be necessary as a conservation measure in the future; will be done in Hündfelder Moor as before by sheep grazing and supplementary manual decoupage. Removing shrubs and other woody growth will be continued in the Netherlands as well.
- Monitoring of habitat types, vegetation, hydrology, birds and amphibians is currently one of the permanent tasks of the site managers LO and BSZ. It is therefore also guaranteed in the long term.
- Educational Events on the topics of biodiversity, sustainability and climate change will continue to be held by the Bildungswerk of BSZ and the BNE-Regionalzentrum (T.7.9), both independently and in cooperation with educational institutions, also across borders. In the Netherlands organizing public excursions and other events for informing the public will also continue to be organized.
- The cross-border voluntary landscape conservation campaigns offered in cooperation with EnHOE (part of T.7.8) will be continued. They promote the commitment of the local population to their moor protection area.

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2.4 Exploitation of project results (n/a for concept note)

Exploitation of project results (n/a for concept note)

Do you foresee other ways of exploiting the project's results (e.g. utilisation in further research, in developing / creating / marketing a product or process, in creating / providing a service, in standardisation activities etc.)? Who are the targeted users?

For close-to-market projects: Describe the reference market: actual and potential market size, features of prospective customers and of their demand, competitors, market and regulatory barriers, etc. Explain the economic feasibility of the proposed solution comparing cost, price or other economic investment variables (e.g. payback period, net present value, etc.).

Note: Don't forget to include the activities in the mandatory Work Package for Sustainability, replication, and exploitation of project results.

Exploitation for our nature restoration project will focus on delivering and implementing a solid AfterLIFE Plan (T.7.1), in which we will develop a plan to continue with the project results when the project's lifetime is finished. This includes attention for future financing and funding sources, maintenance, safeguarding of the restoration actions taken during the project lifetime, identification and prioritization of future actions and action owners, organizational capacity, and ongoing assessment of effectiveness of the works conducted. Actions taken thus far will be assessed for their effectiveness, and this monitoring will continue in the project's AfterLIFE, to guarantee meaningful work. For instance, but not exclusively, in the AfterLIFE we will address:

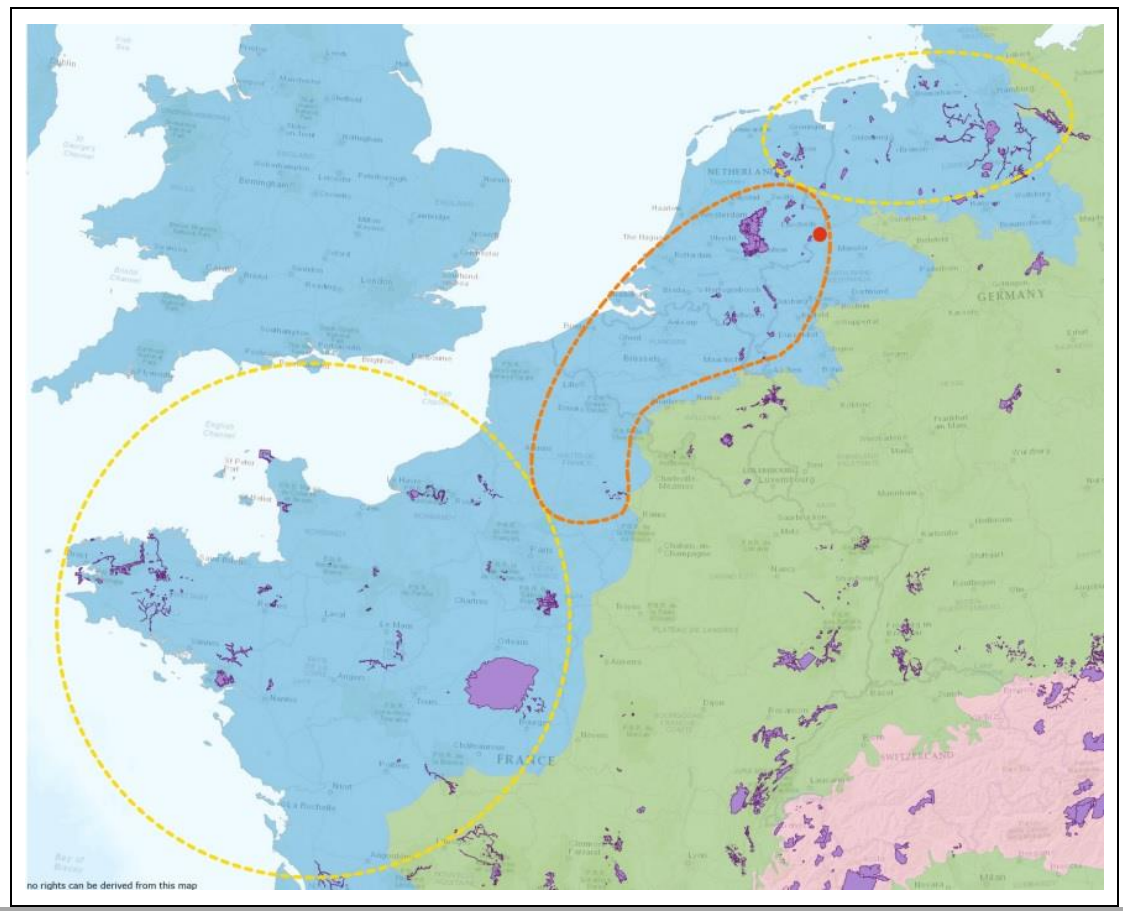
- o Adaptation of the sheep grazing of the bog to maintain the dams and to prevent the establishment of trees and shrubs in the area;
- o Adaptation of the care measures such as manual de-cussing, especially for the maintenance of the dams;
- o Water management: control inspections of the dams and overflows, regulation of the storage targets at the overflows;

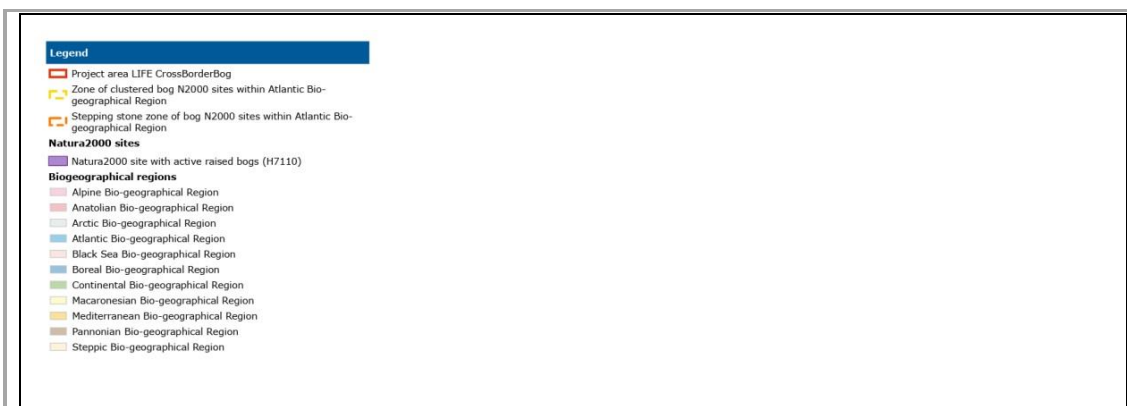
o Continuation of hydrological and biological monitoring: groundwater and bog water levels, runoff, monitoring of amphibians, dragonflies, birds, vegetation.

In addition, we see other subject areas in which the results of the project can be used with a partially catalytic effect:

- With the research cooperation with the ILÖK (T.7.5), which has already begun, our LIFE Nature peatland rewetting project is being accompanied by actual GHG measurements for the first time (T.6.4). However, the long-term goal of research at the ILÖK is to develop long-term methods through interdisciplinary research in the Hündfelder Moor with which greenhouse gas emissions can be reliably determined for entire areas. In this way, LIFE CrossBorderBog contributes directly to research and development in this field.
- Such methods are required, e.g. in order to later be able to determine and monetarily evaluate the contribution of an applied project to climate protection in political funding instruments. There is a prospect that the research activities will be included in the Federal Ministry for the Environment's emerging action program for natural climate protection.
- Finally, the results from LIFE CrossBorderBog are also included in the further development of adequate instruments for climate and biodiversity protection through the support of the German project manager Christoph Rückriem on the moor protection programs of the state and federal government (T.7.7).

We believe the synergy we can create between a nature restoration project and climate mitigation measurements will truly benefit the entire European raised bog community. This is something we intend to replicate towards the broader EU site management of raised bog (Natura2000) sites. The Aamsveen-Hündfelder Moor is an important raised bog site in the Atlantic Biogeographical region, (see figure 12 below). Sharing our knowledge with the whole of EU raised bog site managers is an important actions (T7.4).





Map 12: Stepping stone function in the Atlantic biogeographical region

In the northern Netherlands raised bogs such as the Fochteloërveen, the Bargerveen, and Engbertsdijksvennen exist, across the German border accompanied by sites such as Krummes Meer, Aschendorfer Obermoor, Leegmoor, and Tinner Dose-Sprakeler Heide. South of the Aamsveen and the Hündfelder Moor, we find Dutch raised bog sites such as Haaksbergerveen, Korenburgerveen, and Wooldse Veen, whereas in Germany we see sites such as Amtsvenn, Ammeloer Venn, Zwillbrocker Venn and Burlo-Vardingholter Venn. These are just – important, yet not exhaustive – examples of all raised bogs in this chain of bog sites. We will replicate our knowledge base to the site managers of these raised bogs (a.o. T.7.3).

2.5 Catalytic potential: Replication and upscaling

Catalytic potential: Replication and upscaling *(n/a for concept note)*

Describe the potential for the results to be replicated in the same or other sectors or places. Which factors might favour or limit the replication?

Describe the potential for the results to be up-scaled by public/private actors or through mobilising larger investments or financial resources. What is the coverage and size of the market? Who are the potential users of the results?

Describe the strategy and tasks to multiply the impact of the project (during implementation or afterwards). How will its main actions and results be replicated elsewhere?

Note: Don't forget to include the activities in the mandatory Work Package for Sustainability, replication, and exploitation of project results.

LIFE CrossBorderBog is primarily a best practice project; The direct project goals relate to the restoration of the site conditions of a former raised bog to secure and restore its inventory of habitat types typical of raised bogs as well as animal and plant species (§2.1). It builds on the profound experience of the participating beneficiaries on helpful techniques and procedures.

The experience gained during the implementation of the planned measures and the knowledge gained in the process are made available to other site managers, nature conservation experts and climate protection experts on an ongoing basis and in several events: Events such as kick-off and closing symposia (T.7.2) and 2 planned site manager workshops (T.7.3) are used for the direct exchange of information, whereby at the beginning of the project the focus is more on gaining helpful knowledge for the implementation of the project measures (WP4 and WP5) and at the end of the project more on passing on one's own experiences. These are also included in existing best practice manuals, which will be updated at the end of the project (T.7.6).

We are aware that given the uniqueness of bog sites, a direct transferability of approaches from one restoration project to another is rarely possible. It is therefore of great importance to

prepare one's own findings in such a way that they are suitable as a guide when deciding on the selection of the locally most suitable methods, materials and designs. As a rule, we will only be able to improve or add new aspects to the existing guidelines.

However, we have identified 4 subject areas that have been insufficiently addressed or are completely missing in the existing guides; From their integration we therefore expect a clear catalytic effect on future moor regeneration projects and climate protection projects in the moor:

- Small peatlands often only contribute to a small extent to the goals of Natura 2000 (small area, limited species inventory, often poor conservation status). In relation to their small size, the necessary waterlogging measures are often complicated: For instance, combinations with tourism and land use have to be sought very carefully, as the area size is small and does not allow for intensive usage. Measures have to be significant in small bogs: we have to maintain the required high stable water tables in a very small area size, which means we have none to little natural buffer zones around the bog, and need perfect conditions in the bog. Raised bog restoration is, as a result, much more expensive per hectare than it would be in a larger bog. Many small bogs also have intensive interaction with the physical and social environment, especially with the groundwater balance. However, their preservation is still of great importance against the background of the biotope network and the coherence of the Natura 2000 network. We want to contribute to integrating the special features of small peatlands into the guidelines for peatland regeneration to a greater extent than has been the case up to now.
- The prospects of successful rewetting depend not only on good planning and implementation of the necessary measures. The advancing climate change also plays an important role in whether the goal (preservation or restoration of peat growth) can be achieved. Therefore, in our preparatory investigations, it is also determined whether the success of the measures can also be guaranteed against the background of the regionally forecast climate changes. This requires special hydrological considerations, for which we want to integrate our approaches from LIFE CrossBorderBog into the guidelines.
- The rewetting of moors usually not only contributes to the preservation of biological diversity, but also makes a relevant contribution to climate protection. In the process, there are regular conflicts of interest, which have to be resolved in both LIFE Nature and LIFE Climate protection projects. From our point of view, there is still a lack of information on how to deal with this.
- The contribution of peatland rewetting to climate protection is generally considered to be significant, but there is still no suitable standardized method for measuring this contribution in a specific project. The cooperation with ILÖK will for the first time accompany the implementation of a life nature project with direct measurements of GHG emissions.

Against this background, the main target group of our replication actions are peatland conservation and restoration managers and climate protection experts (cf. target group g at §3.5), with whom we want to exchange our knowledge.

We foresee working in three layers on contact:

1. The inner-most layer concerns the **other raised bog sites in the direct vicinity of the Aamsveen and Hündfelder Moor**, i.e. other Dutch and/or German raised bog in the border region. These sites are expected to be highly comparable to our raised bog sites, in terms of scale, characteristics, problematics, etcetera. Technical exchange is therefore expected to be most relevant with these sites, as appropriate choice of techniques and methods is largely dictated by the conditions of the raised bog site. We refer to map 9 for sites that fall under this category.
We will continue to build on creating a network of cross-border bog restoration projects. Cross-border projects are often those that are left for last, because they are complex in terms of process (for instance language, laws and regulations, financing, sense of urgency, etc). Either countries take up action just for their own national site, or they leave the measures altogether for another day. We want to create a

knowledge exchange network in which we can inventory other cross-border bog sites experiences and share our own insights on process aspects of cross-border raised bog restoration (T.7.4). This will be partially online (Teams meetings, online exchange), but will result in invitations for those that are interested to come visit our site to provide them with a guided tour in the field and exchange knowledge and experiences. We will primarily focus on raised bog restoration projects (technical nature projects), but will be open to sharing experiences with cross-border bog projects that have a different angle. For instance, another EU-funded project for a cross-border bog is the in 2019 finished Interreg Germany-Netherlands project Grenzeloos Veen. This project is focused on the raised bog with a somewhat broader perspective (they include recreation/tourism as important component) but their exchange across the Dutch-German border is relevant for us and we will seek contact with them on that. We have made a Task specifically focused at this exchange (T.7.4) which ends with a concise report on cross-border restoration working.

2. The second layer concerns the **raised bogs sites that are somewhat further away, but still part of the Atlantic biogeographical region**. These will have many similarities in terms of site characteristics as well. Depending on the country were they lie, they might have somewhat different approaches in terms of process and ways of working, but technical exchange is still expected to be highly relevant. We refer to map 12 for sites that fall under this category.

In the northern Netherlands raised bogs such as the Fochteloërveen, the Bargerveen, and Engbertsdijksvenen exist, across the German border accompanied by sites such as Krummes Meer, Aschendorfer Obermoor, Leegmoor, and Tinner Dose-Sprakeler Heide. South of the Aamsveen and the Hündfelder Moor, we find Dutch raised bog sites such as Haaksbergerveen, Korenburgerveen, and Wooldse Veen, whereas in Germany we see sites such as Amtsvenn, Ammeloer Venn, Zwillbrocker Venn and Burlo-Vardingholter Venn. These are just – important, yet not exhaustive – examples of all raised bogs in this chain of bog sites.

The Aamsveen and Hündfelder Moor are not the largest bogs in this chain, but they together form a unique cross-border and well-preserved bog with a high potential for restoration, also due to the hydrological isolation, the limited presence of agriculture, and the remaining intact lagg zone. Replication actions that allow us to fulfil this stepping stone function in terms of replication as well are a.o. the workshops we will organize with other site managers (T.7.3), the updated Best Practice Manual (T.7.6), and the exchange with other cross-border raised bogs (T.7.4). For the breakdown into tasks and deliverables refer to WP7 and §3.6.

3. The third layer concerns the **EU raised bogs in general**. We have experienced in earlier projects that we can certainly benefit from exchange with for instance Finnish, Baltic or Irish raised bogs, but that they differ in many accounts as well. They often have very large bog sites where restoration might mostly concern removal of shrubs and other less far-reaching methods. We do want the exchange with these projects, but this exchange might be more of a dissemination-oriented kind, whereas the exchange in the first layer will be a true cooperation in which we mutually help raised bog sites. We refer to map 10 for an investigation we did into other cross-border raised bogs in the wider EU.

The network we as combined consortium already have is a very instrumental starting point for us in achieving the maximum potential of replication, as we already have much contact with the raised bogs in the area surrounding us, and will snowball from there to enlarge our network. These are all factors that favour replication.

Of course, we are not working on a commercial product, and whether other actors can mobilize investments is largely out of our hands. However, what we can offer them is as much insight into the work we do in preparing the measures and insight into what measures work most effectively. This will reduce cost for other sites in the future. To maximize this effect we will present our work at 2 conferences (such as International Peatland Congress), and we will host a session in the closing symposium of the project oriented specifically at directors and governors. We expect this will aid in the mobilization of investments in other sites.

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3. IMPLEMENTATION

Fill in **only** section 3.1 and 3.3 at stage 1 (concept note). Fill in **all sections** at stage 2 (full proposal).

3.1 Work plan

Work plan

Provide a brief description of the overall structure of the work plan (list of work packages or graphical presentation (Pert chart or similar)).

Working cross-border means that we are dealing with two separate countries, with their own juridical, organizational, procedural requirements. In the past years the consortium has already engaged in ongoing exchange and plan-making, in order to create an integral restoration plan for the Aamsveen and Hündfelder Moor. We have learned from that that even though the Netherlands and Germany are culturally and historically connected, at the same time we have different procedures for e.g. permit processes, work planning, financial arrangements, and etcetera. This means we will not be able to do everything jointly, as we have to comply with national rules and regulations. We have structured our work by the following principle: "Together when we can, separate when we have to".

For example: This means that the on-the-ground restoration measures cannot, or should not, be conducted by one overarching contractor. A contractor should always have extensive local knowledge and be deeply ingrained in local processes, especially when working in highly vulnerable Natura 2000 sites. Think of for instance permit processes, rules concerning transport of ground, and environmental rules. As a result, we have chosen to conduct a separate tender for a contractor per country, but will ensure in the tender specifications that the contractor will cooperate wherever necessary with their across-border counterpart.

For this reason, we have set out to create as many joint work packages as possible, but separate WP's for the actual restoration works and the work preparation work packages:

- WP1: Project management
- WP2: Work preparation subsite Aamsveen
- WP3: Work preparation subsite Hündfelder Moor
- WP4: Restoration subsite Aamsveen
- WP5: Restoration subsite Hündfelder Moor
- WP6: Monitoring and evaluation
- WP7: Sustainability, replication and exploitation of project results

WP1, WP6 and WP7 are joint work packages. WP2, WP3, WP4 and WP5 are divided for the sites Aamsveen and Hündfelder Moor, but know high degrees of exchange. Synchronisation between subsites is part of WP1, but will also be an ongoing effort in preparation work packages WP2 and WP3, and restoration work packages WP4 and WP5.

Timetable (n/a for concept note)

~~Timetable (projects up to 2 years) (n/a for concept note)~~ **LIFE CROSSBORDERBOG USES THE 2+ YEARS TEMPLATE!**

Fill in cells in beige to show the duration of activities. Repeat lines/columns as necessary.

Note: Use the project month numbers instead of calendar months. Month 1 always marks the start of the project. In the timeline you should indicate the timing of each activity per WP.

ACTIVITY	MONTHS																							
	M 1	M 2	M 3	M 4	M 5	M 6	M 7	M 8	M 9	M 10	M 11	M 12	M 13	M 14	M 15	M 16	M 17	M 18	M 19	M 20	M 21	M 22	M 23	M 24
WP1 - ...																								
Task 1.1 - ...																								
Task 1.2 - ...																								
Task ...																								

Timetable (projects of more than 2 years) (n/a for concept note)

Fill in cells in beige to show the duration of activities. Repeat lines/columns as necessary.

Note: Use the project months/years instead of calendar months/years. Month 1 always marks the start of the project. In the timeline you should indicate the timing of each activity per WP. You may add additional columns if your project is longer than 6 years.

ACTIVITY	YEAR 1				YEAR 2				YEAR 3				YEAR 4				YEAR 5				YEAR 6			
	M 1	M 4	M 7	M 10	M 13	M 16	M 19	M 22	M 25	M 28	M 31	M 34	M 37	M 40	M 43	M 46	M 49	M 52	M 55	M 58	M 61	M 64	M 67	M 70
WP1 – Project management and coordination																								

Task 1.1 – Overall Project Management																									
Task 1.2 – Project management subsite Aamsveen																									
Task 1.3 – Project management subsite H.Moor																									
Task 1.4 – LIFE Reporting																									
ACTIVITY	YEAR 1				YEAR 2				YEAR 3				YEAR 4				YEAR 5				YEAR 6				
	M 1	M 4	M 7	M 10	M 13	M 16	M 19	M 22	M 25	M 28	M 31	M 34	M 37	M 40	M 43	M 46	M 49	M 52	M 55	M 58	M 61	M 64	M 67	M 70	
WP2 – Work preparation Aamsveen																									
Task 2.1 – Permit procedures																									
Task 2.2 – Installation of monitoring infrastructure																									
Task 2.3 - Tendering																									
ACTIVITY	YEAR 1				YEAR 2				YEAR 3				YEAR 4				YEAR 5				YEAR 6				

	M 1	M 4	M 7	M 10	M 13	M 16	M 19	M 22	M 25	M 28	M 31	M 34	M 37	M 40	M 43	M 46	M 49	M 52	M 55	M 58	M 61	M 64	M 67	M 70	
WP3 – Preparation works H.Moor																									
Task 3.1 – Land purchase																									
Task 3.2 - Tendering																									
Task 3.3 – Permit procedures																									
Task 3.4 – Nature conservation planning																									
Task 3.5 – Visitor management																									
ACTIVITY	YEAR 1				YEAR 2				YEAR 3				YEAR 4				YEAR 5				YEAR 6				
	M 1	M 4	M 7	M 10	M 13	M 16	M 19	M 22	M 25	M 28	M 31	M 34	M 37	M 40	M 43	M 46	M 49	M 52	M 55	M 58	M 61	M 64	M 67	M 70	
WP4 – Restoration Aamsveen																									
Task 4.1 - Support																									
Task 4.2 – Digging off peat ridges																									
Task 4.3 – Digging																									

ACTIVITY	YEAR 1				YEAR 2				YEAR 3				YEAR 4				YEAR 5				YEAR 6			
	M 1	M 4	M 7	M 10	M 13	M 16	M 19	M 22	M 25	M 28	M 31	M 34	M 37	M 40	M 43	M 46	M 49	M 52	M 55	M 58	M 61	M 64	M 67	M 70
WP7 – Sustainability, replication and exploitation of project results																								
Task 7.1 – AfterLIFE Plan																								
Task 7.2 – Kick-off and closing events																								
Task 7.3 – Site manager workshops																								
Task 7.4 – EU-wide exchange																								
Task 7.5 – Collaboration w. scientific research																								
Task 7.6 – Updated Best Practice Manual																								
Task 7.7 – Networking, political advice																								

3.2 Stakeholder engagement

Stakeholders engagement

Identify any key stakeholders outside the consortium that are required to ensure the success of the project. How will you mobilise them to contribute to your project activities or participate in these?

Annex Letters of support to demonstrate the type and level of commitment already secured (if any). (n/a for concept note)

For Nature and Biodiversity: If your project (or a part of it) depends on support of the competent authority or stakeholders, provide letters of support to show their commitment to the project (needed for full proposal, n/a for concept note)

The project LIFE CrossBorderBog will conduct mostly hydrological measures for the raised bog restoration. Hydrological measures can have an effect on the surrounding environment. As a result we have been in contact with the (social) environment of the bog for several years. This includes both professional stakeholders as well as residents and other private stakeholders.

Stakeholders from the project's direct environment

Since 2018 a meeting group has been formed to discuss the cross-border possibilities of Aamsveen-Hündfelder Moor raised bog regeneration. This meeting group consisted of - aside from partners Province of Overijssel, Landschap Overijssel, Biologische Station Zwillbrock e.V., and MUNV – Bezirksregierung Münster, Kreis Borken, und Landesamt für Natur, Umwelt und Verbraucherschutz Nordrhein-Westfalen (LANUV). During the initiation and planning stages prior to this application contact has also been made with the Dutch water authority Vechtstromen, the municipality Enschede and the local representation group of farmers near the Dutch Aamsveen STAWEL. Nationally, of course the relevant ministry (Ministry of Agriculture, Nature and Food Quality) has been and will be informed of the measures. These parties are all represented by Letters of Support to this application.

In Germany exchange exists – aside from the already above mentioned organizations – with Wasserverband Amtsvvenngbiet, the Salzgewinnungsgesellschaft (SGW), Stadt Gronau, Stadt Ahaus, and many others, such as Kreisjägerschaft Borken e. V., Naturschutzbund NABU, the Bundesumweltministerium, Vogelschutzwarte NRW, BNE-Regionalzentrum, AK Libellen NRW/ Vlinderstichting, University of Münster, Biologische Station Recklinghausen, Dachverband Biologische Stationen NRW, Landwirtschaftskammer NRW, and geoinformation business EFTAS. We have approached a selection of them for Letters of Support, which were all granted (see Annex 5).

The support for the measures we will take is generally high. The involved actors recognize the importance of raised bog regeneration, and support the measures that the project intends to take. We do not expect significant resistance in the social environment (residents, farmers) of the bogs. There are not many people living in the direct vicinity, and there have been ongoing conversations with the few that do reside for many years already. Environmental management is part of WP1 to ensure that the current support base continues in the years to come.

Stakeholders for knowledge exchange and replication

The other two land managing organizations in the province of Overijssel are also part of our stakeholder network: Staatsbosbeheer and Natuurmonumenten. Staatsbosbeheer manages the Engbertsdijksvenen site, where the AddMire LIFE project operates, and is very interested to see the raised bog regeneration measures implemented at Aamsveen-Hündfelder Moor. Furthermore, Staatsbosbeheer manages the Haaksbergerveen in the province of Overijssel, with very similar current issues and threats. Natuurmonumenten is, a.o., involved in the Witte Veen (LIFE MULTI PEAT) and preparing a LIFE application for the Fochteloërveen (Peat Pals for LIFE). With both organizations we have frequent contact. The OBN Knowledge Network has already contributed in the initiation and design stages of the project plans, and will be continuously kept in the loop throughout the process. We therefore also annex Letters

of Support from Staatsbosbeheer, Natuurmonumenten, and OBN.

As stated, we will also engage in international exchange with other European (LIFE and other programmes) raised bog restoration projects. As a first step, we have approached the LIFE for MIRES project, and we expect more to follow in the early stages of our project. A Letter of Support from LIFE for MIRES is also annexed to this application.

At subsite Hündfelder Moor, there is an ongoing collaboration of BSZ together with Prof. Dr. Knorr at Institute for Landscape Ecology of Universität Münster. Peat quality, humidity and hydrology are some of the topics that have been scientifically been investigated. A Letter of Support from University of Münster is annexed.

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3.3 Impact monitoring and reporting *(n/a for concept note)*

Impact monitoring, evaluation and reporting strategy *(n/a for concept note)*

Describe your overall approach to monitor and evaluate the impact indicators during your project. Ensure that you include specific tasks to monitor, evaluate and report impacts in the work plan (section 2 of this template).

Impact monitoring and evaluation during the project

We have a full work package designated for impact monitoring and evaluation (WP6). Here, we will measure the impact of our restoration works. Due to the long-term nature of raised bog restoration (see a.o. §1.2 in this application), the most important measurements to assess the impact of the project are the hydrological measurements. Groundwater level monitoring is therefore the primary impact monitoring of our project. However, we will add habitat, vegetation and species monitoring to that as much as possible. See the description of Tasks in WP6 for a more extensive elaboration. Summarized, we foresee the following monitoring:

Hydrological monitoring

The monitoring in the subsite Aamsveen uses the already existing extensive network of measuring points, in the subsite Hündfelder Moor it uses some already existing groundwater measuring points and Thomson measuring weirs of the main surface drains, more monitoring infra is installed during the project (WP3). On the basis of the annual reports, the height of the processes in the individual compartments is adjusted and the water level in the individual compartments is readjusted as required. Some additional modelling data on nitrogen deposition and water quality will be available through Aerius and will be included in the monitoring reports.

Biological monitoring

Biological monitoring within the LIFE project (the short-term monitoring) is mostly aimed at habitats and species that will show a reaction during the project's lifetime, i.e. the fast responding species such as dragonflies and amphibians. Especially dragonflies are very interesting for monitoring the biological effects of our restoration works, as they can be seen as the 'first responders' in the fauna monitoring. In the long term we will continue monitoring, and include slower responding indicators (such as vegetation).

Biological monitoring includes habitat types and selected groups of species. It builds on ongoing monitoring as part of the area management of the individual subsites Aamsveen and Hündfelder Moor. There is baseline data available for all parts of biological monitoring (Vegetation (Av/HM), Habitat types (Av/HM), Breeding birds (Av/HM), Dragonflies (Av/HM), Amphibians (Av/HM)). For Dragonflies (whole project area Av/HM) an update of the baseline data in the project is required, for the amphibians at subsite HM an initial survey and at

subsite Av an update is required. These aspects will subsequently be monitored as well for their short term (end of project) reaction. First effects can already be witnessed at the end of the project, meaning that we can use this data to be able to say more about effectiveness of measures than just hydrological effects at the end of the project.

Summarized, we monitor the short term reaction of vegetation and species on the whole project area after the rewetting measures have been conducted: Breeding birds (Av/HM), Dragonflies (Av/HM), Amphibians (Av/HM), Vegetation (Av/HM).

The methods used for monitoring are described in detail at WP6 (T.6.2).

Greenhouse gas emission monitoring

This monitoring task is twofold: The first part consists of a calculation to form a baseline and a future value after the measures have been carried out, and 193,15 hectares will be rewetted. These calculations will be carried out by POv, probably through a subcontracted external company, with input from LO and BSZ.

The second part is the result of is part of an ongoing research collaboration of BSZ with University of Münster (ILÖK) on GHG emissions at subsite HM. It consists of a direct and continuous measuring of greenhouse gas fluxes (CO₂ and CH₄) at the site 12 months prior to and 12 months after restoration. This will be done using the scientific eddy covariance technique that is already available on site and operated by the group of Prof Mana Gharun, Institute of Landscape Ecology. The results will be scientifically compared and evaluated (T.6.4). The intended collaboration can be evidenced, however, with the included Letter of Support from University of Münster. It is signed by the Head of the institute, prof. dr. Knorr, who specializes in a.o. peatland carbon dynamics²³).

In addition, the collaboration group intends to get one more step further: by integrating data on water level and moisture of peat and data on vegetation and the use of remote sensing, we try to perform an estimation of the contribution of the whole project measures to greenhouse gas reduction; this has never been done for a life nature project. As this is highly dependent on the necessary research progress in many of the topics involved, it is impossible to guarantee such a balance as a delivery in LIFE CrossBorderBog.

The monitoring results will be presented in a baseline monitoring report and a final monitoring report.

Impact monitoring after the project end

We do not stop with monitoring when the project ends. We will continue monitoring on various aspects after project end (T.6.5). It includes the following regularly examined groups:

- Ground water level (Av/HM)
- Breeding birds (Av/HM)
- Habitat types (Av/HM)
- Amphibians (Av)

²³ https://www.uni-muenster.de/Ecohydrology/en/knorr_Klaus_holger.html, referring to recent research project 'DFG Project KN 929/23-1: Probabilistic Modeling of Long-term Peatland Carbon Dynamics'.

- Vegetation (Av)
- Dragonflies (Av/HM)

Reporting on impact

Aside from the baseline and final monitoring reports, we will report on impact through formal LIFE deliverables, such as the Mid Term Report and the Final Report. We will describe the impact and effectiveness of the project in an accessible manner in the Layman's Report. The AfterLIFE plan, furthermore, will contribute to the project's ongoing impact, as it plans the ongoing uptake and maintenance of the project's actions. Furthermore, the replication actions we have planned under WP7 are an important source for reporting on impact. For instance in the site manager workshops (T.7.3), the updated Best Practice Manual (T.7.6), and the closing symposium (T.7.2). These actions have a broader objective than just reporting on our own impact (we want to truly aid other site managers in their raised bog restoration efforts), but reporting on our impact will be a natural part of that process. Of course, it will also be part of the exchange we foresee under WP7 with other EU cross-border bogs (T.7.4), where we do not only hope to learn from European raised bog site managers, but also share our own measures and their effectiveness with them, in order to improve the restoration of raised bogs throughout Europe.

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3.4 Communication, dissemination and visibility *(n/a for concept note)*

Communication, dissemination and visibility of funding *(n/a for concept note)*

Define your target audience(s). Describe the planned communication and dissemination activities to promote the action and its results and maximise the impact (to whom, which format, how many copies, etc.). Clarify how you intend to reach each target audience, and explain the choice of the dissemination channels. Describe the methods and indicators (quantitative and qualitative) to monitor and evaluate the outreach and coverage of the communication and dissemination activities and results.

Describe how the visibility of EU funding will be ensured.

Communication and dissemination activities, target groups and actors

Our communication activities are the main tool to achieve the objectives listed in WP7:

- Sustainability of the rewetting measures (T.7.1)
- Encourage and secure acceptance and awareness of the planned measures, climate protection and conservation of biodiversity in general (T.7.8, T.7.9)
- Realizing of further synergies and co-benefits (almost all tasks of WP 7)
- Exchange of knowledge in the field of nature conservation and in particular its contribution to climate change mitigation (T.7.2, T.7.3, T.7.4, T.7.5, T.7.6)
- Promotion of the development of knowledge and methods in the field of natural climate protection and integration into the national funding instruments currently being developed (T.7.5, T.7.7)

With the communication activities we want to reach the following target groups:

- a. Local population
- b. General public, adults, children, families
- c. Educational institutions

- d. Local administration and politics
- e. Regional and transregional administration and politics
- f. Scientific community
- g. Professional nature and climate conservations communities including site managers of other raised bogs

The communication is carried out by the beneficiaries of the project, supplemented by other actors whose activities complement LIFE CrossBorderBog and are provided outside of the budget:

1. POv;
2. LO;
3. BSZ with 3.a Bildungswerk Naturschutzzentrum Münsterland (contribution outside of budget);
4. S-NLW together with 4.a BNE Regionalzentrum (contribution outside of budget);
5. ILÖK (Institute for Landcape Ecology, Universität Münster) (contribution outside of budget).

The communication and dissemination tasks with their actors and target groups are listed in detail in the table below. Where possible, targeted amounts of participants per task and means of verification are also listed:

Task	Target	Verification*
T7.2 Kick-off event, Closing symposium (all actors) (target groups a,b,c,d,f,g)	50 resp. 100 attendees	Minutes, pictures
T.7.3 Site manager workshops (actors 1,2,3) (target group g)	20 participants	Attendance sheets, minutes
T.7.4 EU cross-border bog exchange (actors 1,2,3) (target groups e,g)	5 EU cross-border bog projects	Report on lessons learned
T.7.5 Collaboration with scientific research on bog restauration and climate change mitigation (all actors) (target groups e,f,g)	Effort of 4 days per year (actor 3)	Not applicable
T.7.6 Updated BPM (actors 1,2,3) (target groups e,f,g)	100 readers	Excel file with addressees for distribution
T.7.7 Networking, advice to regional and national politics (actors 1,2,3) (target groups e,g)	Effort of 6 days per year (actor 3)	Not applicable
T.7.8: Public relations incl. Communication and Dissemination pack, Layman's Report:		

• Website (actors 1,2,3) (all target groups)	200 visitors per year	Online visit
• Brochure (actors 1,2,3) (mainly target groups a,b,d)	300 readers	Online document
• Newsletters (actors 1,2,3)	20 newsletters (mainly target groups a,b,d)	Online distribution, possibility to sign up to newsletter
• Notice boards (actors 1,2,3)	2 notice boards on site (1NL/1DE) (mainly target groups a,b,d)	Visual inspection/ pictures
• Permanent signs (actors 1,2,3)	2 permanent signs on site (1NL/1DE) (mainly target groups a,b,d)	Visual inspection/ pictures
• Landscape conservation campaign for volunteers (actor 3.a)	2 working days per year	Minutes, pictures
• Field excursions (actor 3.a) (mainly target groups a,b)	2 field excursions per year	Minutes, pictures
• Layman’s Report (actors 1,2,3)	500 readers (mainly target groups a,b,d)	Online report
T.7.9: Environmental education, Education for sustainable development (actors 3.a, 4.a) (target group c)	2 field excursions per year for school classes (actor 3) 2 events of actor 3.a per year, 1 event of actor 4.a per year, development of education unit “Bogs – living space and climate saver” for schools (actor 4.a)	Minutes, pictures
T.7.10: Realizing of synergies and co-benefits (all actors, all target groups)	No independent task required, target and verification not applicable	
<i>* all relevant deliverables will be made available online through the project’s website</i>		

EU funding and visibility of the LIFE Programme

EU funding will be made visible by fulfilling all publicity requirements as listed by the LIFE Programme. We will include the LIFE logo and the Natura 2000 logo on all our project communications, such as construction notice boards, webpage, formal deliverables, newsletters, and etcetera. In case we produce published articles we will include a reference to the LIFE programme as supporting instrument.

4. RESOURCES

Fill in **only** section 4.1 at stage 1 (concept note). Fill in **all sections** at stage 2 (full proposal).

4.1 Consortium set-up

Consortium cooperation and division of roles (if applicable)

Describe the consortium composition. How will all the partners together bring the necessary expertise?

In what way does each of the participants contribute to the project? Show that each has a valid role and adequate resources to fulfil that role.

For stage 2 (full proposal), fill out the Participant information (annex) with more details on the participants and their project teams (key staff).

Coordinating beneficiary

The coordinating beneficiary is **Province of Overijssel (POv)**, a regional government in the east of the Netherlands. POv will be the formal project manager of this project. It has the capacity and expertise to fulfil this role, maintain a proper project administration, provide co-financing, and provide staff for all managerial and dissemination related tasks. POv is experienced in leading EU projects.

Other beneficiaries

In the Netherlands the other beneficiary, besides POv, is **Landschap Overijssel (LO)**, a non-governmental organization. LO manages over 20 nature sites in the Province of Overijssel. LO will manage all implementation actions in the Netherlands as project leader, and will supervise the contractor conducting the works. LO has conducted larger bog restoration in the Wierdense Veld area over the past decades. LO is a board member of the Dutch OBN knowledge network related to bog restoration and participates in symposia of the International Mire Conservation Group.

In Germany the beneficiaries are **Biologische Station Zwillbrock e.V. (BSZ)**, **Stiftung Natur und Landschaft Westmünsterland (S-NLW)** and **Ministerium für Umwelt, Naturschutz und Verkehr des Landes Nordrhein-Westfalen (MUNV)**. BSZ will be the main partner in Germany. It is a non-governmental organization and responsible for the management of about 30 nature conservation sites in Kreis Borken, incl. the subsite Hündfelder Moor. BSZ has experience in performing international and national projects both as coordinating beneficiary as well as partner.

BSZ will provide the project leader for the works in Germany, and as such perform the coordination and management for all corresponding implementation works, public relations actions and the supervision of the contractor. S-NLW is a regional foundation working on nature conservation; it will contribute by monitoring typical raised bog dragonflies. MUNV is the competent nature conservation authority at the Bundesland level in Germany. It will own the purchased land and will co-finance the project.

Joint action where possible, separate action where necessary

We will require local management and implementation of physical measures at both sides of the border. Due to local specificities and differences in legislation and regulations across the border, for instance on legal obligations (permits etc.), not everything can be combined, which is why we have chosen to have a Dutch (LO) and a German (BSZ) project leader, coordinated for LIFE by POv. We will work closely together in an integral project group in a.o. research and design, planning and execution, and communication and knowledge exchange. We take on as many work packages in a joint effort as possible, but will need national contractors for the works in Aamsveen and Hündfelder Moor to ensure compatibility with national standards and regulations.

We refer to Annex 6 for the Participant Information Forms of all 5 beneficiaries.

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4.2 Project management *(n/a for concept note)*

Project management, quality assurance and monitoring of progress *(n/a for concept note)*

Describe the management structures and decision-making mechanisms within the consortium. Explain how decisions will be taken and how regular and effective communication will be ensured.

Describe the measures and methods planned to ensure good quality, monitoring, planning and control of project implementation.

Overall project management is carried out by Province of Overijssel. Project manager is Guus Ogink, who is already experienced in leading LIFE projects, as he conducts the same role in AddMire LIFE. POv is complemented with on the ground project leaders for the Aamsveen (Landschap Overijssel) and H. Moor (B.S. Zwillbrock). Project manager for LO will be either a staff member, either external. This will be decided in the coming period. Project manager for BSZ is Christoph Rückriem. MUNV and S-NLW do not deliver specific project leaders, as their contribution is more specific to specific work packages (MUNV mostly WP3 in the land purchase trajectory; S-NLW mostly WP6 in the dragonflies monitoring). Of course, there is a designated contact person for these partners, that is part of relevant consortium meetings. For S-NLW this is Dietmar Ikemeyer, for MUNV this is Georg Keggenhoff.

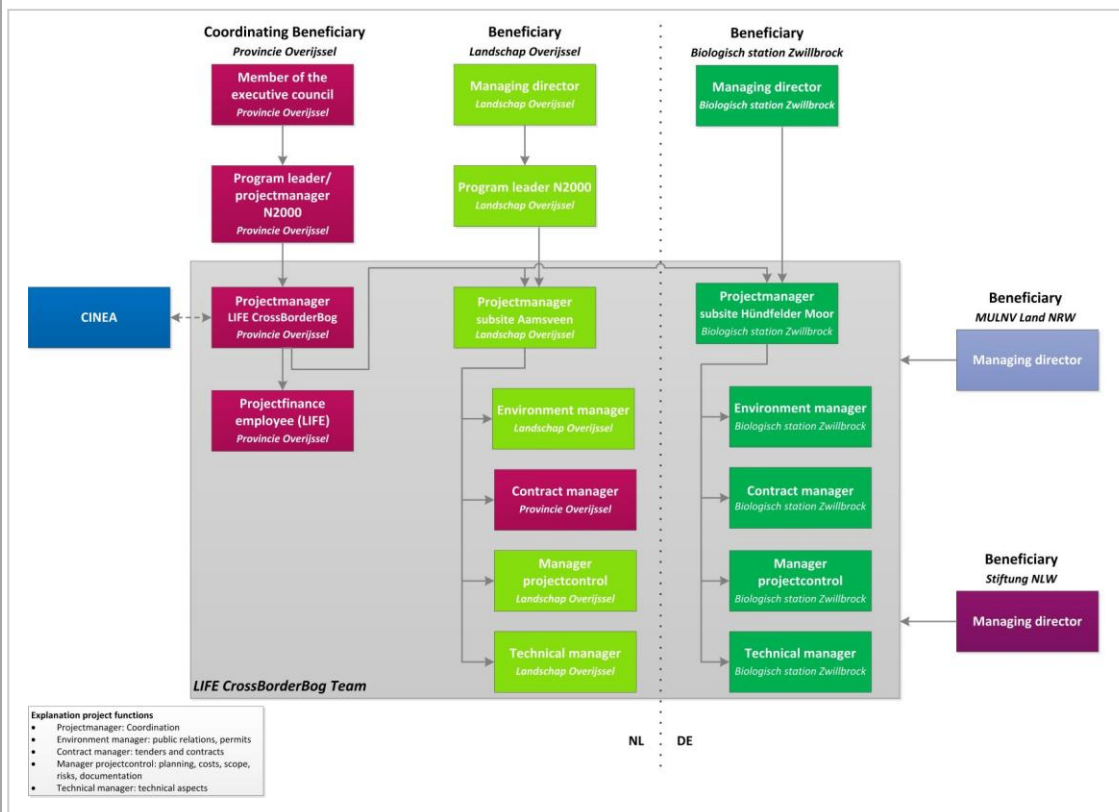


Figure 2: Organisation chart LIFE CrossBorderBog

Objective in consortium-wide decision-making processes is to reach uniform agreement on the decisions to be made as much as possible. In case of conflicting opinions the first strategy will be to seek middle ground and reach agreement through negotiation. Only in case of unresolvable conflict we will resort to other measures. In this instance an escalation meeting with the directors for the consortium partners will be the first step. These are

(currently) Henk Jonkers for POv, Hans Pohlmann for LO, Dietmar Ikemeyer for BSZ (see top-section of the chart, above the grey box). If the conflict concerns land purchase or (dragonflies) monitoring, and MUNV and/or S-NLW is also involved, we will seek directors from these organizations to join the escalation meeting (see boxes at the right side of the chart, outside the grey box). We do not expect to need this measure, however. As a consortium we have developed our connection thoroughly in a multiple years trajectory prior to the submission of the current application, and we greatly value each other's expertise and contributions.

We will have both bilateral as well as consortium-wide meetings on a regular basis. Two-monthly we will have progress meeting between POv, LO and BSZ to discuss any developments. We foresee many bilateral meetings between LO and BSZ to coordinate the works in the sites. We are foresee bilateral meetings between e.g. POv and LO to discuss progress in Aamsveen, and between MUNV and BSZ to discuss progress in H.Moor. Furthermore, bilateral meetings on monitoring will be held between BSZ and S-NLW. We will have on average 2 consortium meetings per year. This might slightly vary per year, due to actual circumstances of that moment, that will determine the frequency of contact.

Overall progress is monitored by POv as coordinating beneficiary. POv will maintain a Sharepoint site for all partners to collect all relevant project documents, and have a regularly updated overview of project costs. Partners will be asked by POv to deliver financial updates on a regular basis (quarterly).

4.3 Green management *(n/a for concept note)*

Green management *(n/a for concept note)*

Describe the measures proposed to reduce the environmental impact of your project, for example through the use of green procurement, environmental management systems, etc.

Green procurement

We will apply GPP in our project. In the procurement policy of coordinating partner Province of Overijssel sustainability is defined as one main variables in purchasing and tendering (ch. 1.3 Policy Principles). Sustainability is defined as green procurement, but applied together with principles such as social returns and social entrepreneurship. For works such as required for LIFE CBB this is visible is for instance the sustainability criterium in the tendering process, in which applications will be evaluated on the degree of sustainability opportunities their plan offers (for instance sustainable transport). This has already been done for the AddMire LIFE project, and will be done as well for LIFE CBB. As a result, sustainability and circularity generally become important factors in the tendering process, although circularity will be limited in our type of project as it concerns mostly ground works.

In Overijssel we fully support the EU Objectives for a net-zero emission 2050. The Province is one of the parties of the 'Aanpak duurzaam GWW' (approach sustainable ground, water and road works), which explicitly focuses on the circular transition that can be created when the 60 billion in yearly purchases in the Dutch government are carried out with a sustainable procurement approach. In Germany similar initiatives exist to stimulate green procurement²⁴.

²⁴ For instance <https://www.umweltbundesamt.de/en/topics/economics-consumption/green-public-procurement>

Sustainability opportunities

Within the Natura 2000 Programme at the Province of Overijssel we apply to so-called 'Ambitieweb' (ambition web): a tool that shows the sustainability themes and the ambition level for each of these themes in a visual representation. This is part of the 'Aanpak duurzaam GWW' mentioned above. We have developed opportunities maps that we apply to every project to determine which sustainability themes apply in the project and what opportunities can be used to make it more sustainable. We will do this as well for LIFE CrossBorderBog, for both the Aamsveen as well as the Hündfelder Moor. This is part of our coordinating beneficiary's overall project management (T1.1).

Sustainable work execution

The contractor will be asked to present a work plan that is as sustainable as possible. For instance in the choice of transport modes, the streamlining of the transport process (efficiency can greatly reduce the transport frequency), and the use of eco-friendly road transport (e.g. biofuels, hybrid/electric vehicles, etc). Biofuels are also part of the standard tendering obligations from Province of Overijssel (minimally 30% biofuels). We will use natural materials virtually everywhere. Where applicable and available for those categories of products, we will prescribe products that own an EU-Ecolabel.

As a project team, we make a further contribution to green working by reducing unnecessary travel movements and by using sustainable travel modes where possible. The COVID19 crisis has taught the world that many meetings can be held online or in hybrid form, which reduces travel movements. In some instances meeting physically can have great added value. Whenever that is the case, we will travel as sustainable as possible (public transport and/or carpooling).

An environmental impact assessment has been done prior to the execution of the works.

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4.4 Budget *(n/a for concept note)*

Estimated budget — Resources *(n/a for concept note)*

See detailed budget table for an in-depth budget. Furthermore, the budget can be found as part of Forms A in the Funding & Tenders portal. To avoid duplications, we focus here just on the main aspects of the budget.

The budget has been split over partners as well as work packages. We have a very significant portion of Subcontracting costs, the reason for this is that our work requires professional contractors to carry out the restoration works, and these are the most costly items in our budget. This is necessary in order to implement the project well, as these measures require delicate working and can only be done by specialized and experienced contractors.

Our total budget is **€12.995.736,35**. This might seem high, but it is inevitable due to the measures we intend to conduct and the vulnerability of the areas we will work in, which will require specialized materials and machinery. **We have steered towards greater value for money in several regards:**

- Firstly, we have steered towards less EU budget needed in by **selecting a moderate funding percentage** (see also Ch.6), i.e. a percentage of 67% whereas we could make an argument for 75% funding.
- Secondly, we have **already conducted a lot of preparatory work** prior to submission of this application (see also §1.1 Previous conservation efforts), which has reduced the total cost we bring into this LIFE application significantly (almost a million prior to our 2021 application, and another million for this 2022 resubmission).

Following the rejection of our 2021 application we faced a massive increase in regular purchase prices due to inflation – a problem many EU applications will face. To keep our costs at the same level as in 2021 we have taken out the majority of the preparation costs, taken on all design and engineering costs by ourselves (a shared effort of Province of Overijssel, MUNV, and the Salzgewinnung).

- Thirdly, in light of these inflation rises, we would still exceed the indicate range maximum budget if we calculate future inflation for the coming years. To mitigate this effect, we have decided that **all inflation will be covered by the standard 7% flatrate on all direct costs (except land purchase) for indirect costs/ overhead**. This means we will use this 7% for construction costs rather than overhead. Any inflation exceeding this 7% (which is likely) will be covered by beneficiaries Province of Overijssel for the Dutch works and MUNV for the German works.
- Fourthly, we undertake **additional efforts that are not budgeted** in the application, such as the hours of partner MUNV in the land purchase, provision of loam by the Salzgewinnung for the German works, and several monitoring actions.

We hope that with these actions we can show our goodwill to the LIFE programme, that we have done our maximum effort to keep the costs as limited as possible, and therefore have maximized the **value for money** we provide for the LIFE programme.

Three more final notes:

1. Upon reading the Detailed Budget Table the evaluator might notice there are no Subcontracting costs budgeted for LO, only Personnel costs and Indirect costs. The reason for this is that POv functions as the legal client for all Subcontracting assignments, and will therefore conduct all tendering and assignment of contracts. The reason for this is the way the Dutch Natura 2000 management is organized, in which the regional government is the responsible actor, but the works are planned, supervised and executed by the nature management and nature conservation organisations assigned to that specific Natura 2000 site, in this case LO.

2. Concerning our budget and calculation of person months: it might be noted that BSZ has more person months than POv and LO in the work packages, for instance in the table Staff effort per participant, just below the Work Packages. The reason for this is that in the Netherlands it is more customary to work with much subcontracted consultants and seconded staff members. We are aware that under certain conditions seconded staff may be reported as Personnel costs in the LIFE Programme, following Annex X to the grant agreement. To be on the safe side, and as the tendering for most assignments has yet to be done, we have budgeted these costs in the Netherlands as subcontracting. This includes a.o. the project leader for subsite Aamsveen. This might become someone employed by LO, but it is also possible it will be someone working on a subcontracting or secondment basis. We have currently budgeted this as Subcontracting, which is the reason we currently have a limited amount of Person Months at LO, compared to BSZ. Hourly rates for LO are higher, because they include some expenses that are calculated separately at BSZ, such as mileage, and because several specialists are budgeted.

3. Please note that beneficiary MUNV co-finances the majority of the costs from the three German partners (i.e. BSZ, S-NLW, and MUNV itself) (of the costs remaining after 67% subsidy deduction). This is because BSZ and S-NLW have limited own resources, and it is customary in Germany for the responsible government (in this case MUNV) to take up to co-financing.

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5. OTHER

5.1 Ethics

Ethics
Not applicable

#§ETH-ICS-EI§# #@SEC-URI-SU@#


5.2 Security

Security
Not applicable

#§SEC-URI-SU§# #@DEC-LAR-DL@#

6. DECLARATIONS

Higher funding rate <i>(for Nature and Biodiversity; n/a for concept note)</i>	YES/NO
<p>Do you fulfil the conditions set out in the Call document for a higher funding rate (75% or 67%)? If YES, explain and provide details.</p>	yes
<p>Our project will restore H7110* and H91D0* to enlarge the raised bog habitats in Natura 2000 sites Aamsveen and Hündfelder Moor. We will work with a significant section of H7120 to create H7110*. Raised bogs are listed as Endangered for the EU28 in the latest EU Red List²⁵. In the EUNIS factsheets, H7120 (Degraded bogs still capable of natural regeneration) is classified as ‘Unfavourable-Bad’ for the Atlantic biogeographical region. The same is true for H7110* (Active raised bog) and H91D0* (Bog woodland), which are also classified as a priority habitat. In doing so, we will also benefit other habitat types (for instance H3160, H7120, H7140, H7150). Priority habitats H7110* and H91D0* are however our focus point in all these actions.</p> <p>We have doubted whether we should apply for 75% funding in this regard, as we work in our focus fully for priority habitats. However, to increase our value for money we opt for 67% funding rate instead.</p> <p>The reason for this is twofold:</p> <p>1) by selecting 67% over 75% we can also work on habitat types that might not be priority habitats, but that do play a crucial role in the larger bog ecosystem, and as a result we can increase the amount of hectares we work on and the amount of habitats that we benefit, and;</p> <p>2) we reduce the absolute amount of euros we ask from the EU, knowing that our measures are expensive, which is inevitable, but this allows us to at least reduce some of the cost for the LIFE Programme.</p>	

Double funding <i>(n/a for concept note)</i>	
Information concerning other EU grants for this project	YES/NO
<p> Please note that there is a strict prohibition of double funding from the EU budget (except under EU Synergies actions).</p>	
<p>We confirm that to our best knowledge neither the project as a whole nor any parts of it have benefitted from any other EU grant (including EU funding managed by authorities in EU Member States or other funding bodies, e.g. EU Regional Funds, EU Agricultural Funds, etc.). If NO, explain and provide details.</p>	yes
<p>We confirm that to our best knowledge neither the project as a whole nor any parts of it are (nor will be) submitted for any other EU grant (including EU funding managed by authorities in EU Member States or other funding bodies, e.g. EU Regional Funds, EU Agricultural Funds, etc.). If NO, explain and provide details.</p>	yes

²⁵ P. 14, https://ec.europa.eu/environment/nature/knowledge/pdf/terrestrial_EU_red_list_report.pdf

Financial support to third parties (if applicable) (n/a for concept note)

If in your project the maximum amount per third party will be more than the threshold amount set in the Call document, justify and explain why the higher amount is necessary in order to fulfil your project's objectives.

We have noticed in the LIFE documentation that the phrase 'third parties' is used for two options: 1) All non-partners that fulfil a role in the proposal, including subcontractors; and 2) Citizens and other non-profit actors that receive grants or prizes through the LIFE project. To be complete, we shortly address both cases here.

1. We will use a significant amount of subcontractors, due to the nature of our project's work. A contractor will be needed in both Netherlands and Germany to carry out the hydrological measures. This is a significant amount of our project budget (ca. 81%). It is, however, unavoidable, as it requires very specialized knowledge and machinery to carry out these works in the vulnerable N2000 sites.

2. We will not engage in financial support to third parties like local citizens or NGO's, such as grants and prizes.

Seal of Excellence (if applicable) (n/a for concept note)

If provided in the Call document, proposals that pass the evaluation but are below the budget threshold (i.e. pass the minimum thresholds but are not ranked high enough to receive funding) will be awarded a Seal of Excellence.

In this context we may be asked to share information about your proposal with other EU or national funding bodies.

Do you agree that your proposal (including proposal data and documentation) is shared with other EU and national funding bodies to find funding under other schemes?

YES

#§DEC-LAR-DL§#

ANNEXES

LIST OF ANNEXES

LIFE CrossBorderBog annexes:

Part of this document:

- ANNEX 1 – Participant Information forms for PO, LO, BSZ, MUNV, S-NLW
- ANNEX 2 - Description of Sites
- ANNEX 3 - Description of Species and Habitats
- ANNEX 4 - Maps

Separate from this document (submitted with Application):

- ANNEX 5 - Letters of Support
- ANNEX 6 – Evidence statement on land purchase costs

ANNEX 1 - PARTICIPANT INFORMATION

(To be filled in by the participants and uploaded as part of the application. To add information for more participants, copy the table as many times as necessary. This section is not bound by any page limit.)

PROJECT	
Project name and acronym:	Cross-border restoration and reunion of the raised bogs Aamsveen and Hündfelder Moor — LIFE CrossBorderBog

PARTICIPANT 1 <i>(use same partner numbering as on Submission System screens).</i>	
Legal name (short name):	Provincie Overijssel (POv)

DESCRIPTION OF PARTICIPANT	
<i>Provide a short description of the participant, with an explanation on how it matches its main role and tasks in the proposal.</i>	

Province of Overijssel (POv) – one of the 12 Dutch provinces - is a regional government in the eastern part of the country. In the Netherlands, the conservation of Natura2000 areas is the responsibility of the regional governments. POv is responsible for 24 Natura2000 areas. The employees of POv involved in this LIFE project are active at the department 'Nature and Environment'. The Province initiates, prepares, executes and manages projects in Natura2000 areas. POv is already accustomed to managing European subsidy projects as coordinating beneficiary. Current examples include Interreg NSR projects INDU-ZERO and BITS. Moreover, POv is also used to working in LIFE projects, as it participates in LIFE project 'A Better LIFE for Bittern', and coordinates the AddMire LIFE project. Therefore POv has the required experience and expertise to successfully coordinate this LIFE project.

KEY STAFF	
<i>Provide a short description of the profile of the persons who will be primarily responsible for carrying out the proposed activities.</i>	

Guus Ogink, male, project manager, MSc Land use Planning and Construction Management

Current project manager of AddMire LIFE, main applicant for various EAFRD projects.

Nicoliene Oosterhof, female, project employee finance, horticultural college Green, Nature and Environment and Green, Nature and Landscape

Current finance manager for AddMire LIFE and various EAFRD projects.

Fulco Hillegers, male, contract manager, BSc Engineering Land, Water and Environment management

Past EAFRD projects experience.

PROJECTS OR ACTIVITIES	
<i>List of up to 5 relevant previous projects or activities, connected to the subject of this proposal.</i>	

1. AddMire LIFE, LIFE18 NAT/NL/000636, 2019-2024 LIFE project on raised bog restoration in Natura2000 site Engbertsdijksvenen. Province of Overijssel is coordinating beneficiary, associated beneficiary (project partner) is Staatsbosbeheer.

2. Various EAFRD projects on nature restoration, for Natura2000 sites Zunasche Heide (part of Sallandse Heuvelrug), Boetelerveld, Engbertsdijksvenen, Springendal & Dal van de Mosbeek, Punthuizen Stroothuizen (part of Dinkelland) (all nearing finalization or in progress), and Buurserzand, Horsterveen en Witte Veen (recently approved), to be accompanied by site De Wieden (in application). Province of Overijssel is (sole) beneficiary of these projects, and carries out all relevant reporting and administration

tasks, aside from the implementation works themselves.

3. A Better LIFE for Bittern, LIFE13 NAT/NL/000167, 2014-2019 LIFE project on biotope optimisation for bittern and great reed warbler, in which Province of Overijssel was associated beneficiary (project partner), and Natuurmonumenten was coordinating beneficiary.

AFFILIATED ENTITIES / ASSOCIATED PARTNERS

Does the participant envisage that part of its work is performed by affiliated entities or associated partners? If yes, please describe the entity / partner, their link to the participant, and describe and justify the tasks foreseen to be performed by them.

No, we not envisage work to be carried out by affiliated entities or associated partners, in the current sense of the word 'associated partner' (noting that the 2014-2020 LIFE Programme used this term for project partners, and we do of course envisage working together with the listed project partners, but these are separate entities).

PARTICIPANT 2 *(use same partner numbering as on Submission System screens).*

Legal name (short name):

Biologische Station Zwillbrock e.V. (BSZ)

DESCRIPTION OF PARTICIPANT

Provide a short description of the participant, with an explanation on how it matches its main role and tasks in the proposal.

Biologisch Station Zwillbrock e.V. is a nature conservation association under private law in the Borken district. It is based in the immediate vicinity of the Natura2000 area "Zwillbrocker Venn und Ellewicker Feld" (DE-3906-301) and employs a permanent team of 12 people. Additional employees are regularly employed to carry out externally financed projects (INTERREG, LIFE).

Biological stations in North Rhine-Westphalia take on numerous nature conservation tasks for the state of North Rhine-Westphalia and the nature protection objectives in its districts (Landeskreisen). These tasks are defined as part of annual plans. For the BSZ, this includes the technical support of the areas and the farmers working here, the planning, tendering and implementation of maintenance and optimization measures as well as the implementation of mapping within the scope of Natura2000 monitoring.

The areas managed by the BSZ include 8 Natura2000 areas, including the project area Hündfelder Moor. The BSZ also maintains its own sheep farm here with Moorschnucken, which are used to maintain the moor and heathland areas.

KEY STAFF

Provide a short description of the profile of the persons who will be primarily responsible for carrying out the proposed activities.

Christoph Rückriem, male, project manager, Diplom-Biologe

- Diploma in biology with a focus on vegetation studies
- Member of staff of the Life project LIFE95 NAT/D/000093 (Evaluation of the Conservation Status of Natural Habitats according to the Habitat Directive (92/43 EEC)) at the Federal Agency for Nature Conservation of Germany, Bonn
- Site management for 10 nature protection sites within the district of Borken including the sub-site Hündfelder Moor since 1999
- Member of staff of the LIFE project LIFE98 NAT/D/005100 (Improvement of the SPA Moore und Heiden des west. Münsterlandes (moorland and heaths of the western Münsterland region))

- Natura 2000 monitoring for NRW within our managed sites
- Contribution to LIFE11 NAT/DE/000348 (Species conservation project Common Spadefoot (Pelobates fuscus) in parts of the Münsterland (North Rhine-Westphalia))

Unknown (to be hired), technical project employee, qualifications yet unknown

To assist Mr. Rückriem with his work we will hire a technical project employee.

PROJECTS OR ACTIVITIES

List of up to 5 relevant previous projects or activities, connected to the subject of this proposal.

- LIFE98 NAT/D/005100 Improvement of the SPA Moore und Heiden des west. Münsterlandes (moorland and heaths of the western Münsterland region): Lead management
- LIFE11 NAT/DE/000348 Species conservation project Common Spadefoot (Pelobates fuscus) in parts of the Münsterland (North Rhine-Westphalia): Contribution
- LIFE14 TAE/DE/000005 (Development of an Integrated LIFE Project (IP) for the exemplary implementation of the EU 2020 target with a focus on oligotrophic habitats on sand in the Atlantic region of Germany): Contribution
- LIFE19 NAT/DE/000816 (Breeding and migratory low wetland meadow birds in North-Rhine – Westphalia): project partner
- Implementation of a study for the hydrological optimization of the Zwillbrocker Venn (DE-3906-301 and partly DE-3807-401), in progress

AFFILIATED ENTITIES / ASSOCIATED PARTNERS

Does the participant envisage that part of its work is performed by affiliated entities or associated partners? If yes, please describe the entity / partner, their link to the participant, and describe and justify the tasks foreseen to be performed by them.

Not applicable.

PARTICIPANT 3 *(use same partner numbering as on Submission System screens).*

Legal name (short name):

Stiftung Natur und Landschaft Westmünsterland (Stiftung NLW)

DESCRIPTION OF PARTICIPANT

Provide a short description of the participant, with an explanation on how it matches its main role and tasks in the proposal.

Stiftung Natur und Landschaft Westmünsterland is an independent foundation under private law based in Vreden Zwillbrock. Since it was founded in 2004 (www.stiftung-NLW.de), it has been active in the areas of biotope and species protection and it works closely together with representatives of the regional economy. The foundation owns more than 20 hectares of meadows and pastures, which are managed by farmers in accordance with nature conservation objectives. Since April 2019, the NLW Foundation has also been recognized as a regional center in the state network "Education for sustainable development (BNE)", in cooperation with the *Bildungswerk der Biologische Station Zwillbrock e.V.* and the *Borken district*. Although there's cooperation between SNLW and BSZ, they are different and separate legal entities.

KEY STAFF

Provide a short description of the profile of the persons who will be primarily responsible for carrying out the proposed activities.

Dr. Dietmar Ikemeyer, board member Stiftung NLW

- Biology Diploma
- PhD thesis about forest decline
- Managing Director Biologische Station Zwillbrock e.V.
- Co-founder and Board member Stiftung NLW, 2004

Unknown (to be hired), technical project employee, qualifications yet unknown

To assist Mr. Ikemeyer with his work we will hire a technical project employee.

PROJECTS OR ACTIVITIES

List of up to 5 relevant previous projects or activities, connected to the subject of this proposal.

- Since 2019: centre for education for sustainable development (funding project of the state NRW), main organization.
- Since 2016: investigation projects about dragonflies in moor and heathlands (own funding), main organization.

AFFILIATED ENTITIES / ASSOCIATED PARTNERS

Does the participant envisage that part of its work is performed by affiliated entities or associated partners? If yes, please describe the entity / partner, their link to the participant, and describe and justify the tasks foreseen to be performed by them.

Not applicable.

PARTICIPANT 4 *(use same partner numbering as on Submission System screens).*

Legal name (short name):

Landschap Overijssel - LO

DESCRIPTION OF PARTICIPANT

Provide a short description of the participant, with an explanation on how it matches its main role and tasks in the proposal.

Landschap Overijssel is a regional organisation with the objective to protect the typical natural landscape of the province of Overijssel. LO is a foundation, and connected to the overarching foundation LandschappenNL, which includes a.o. foundations that guard the nature in the other eleven provinces of the Netherlands.

Landschap Overijssel works on the restoration, conservation and development of nature and landscape in Overijssel. It does so through the stimulation, coordination and initiation of activities that lead to maintenance, restoration development and experience of nature and landscape.

KEY STAFF

Provide a short description of the profile of the persons who will be primarily responsible for carrying out the proposed activities.

Project manager (Staff OR external to be contracted)

Responsible for overall project management and achieving project deliverables. We will seek for a project manager in the own staff of LO first, in case we cannot find a suitable candidate we will contract externally.

Jacob van der Weele, male, ecologist, BSc Environmental sciences

Responsible for achieving and ecological goals and monitoring ecological protection during implementation

of measurements.

Alexander van der Elst, male, area manager (MBO)

Responsible for daily maintenance and knowledge of field and terrain conditions.

Manager project control (external to be contracted)

Prepares and monitors the project planning, organizes budget control and ensures project risk management.

Technical manager (external to be contracted)

Monitoring the technical content of the project. It is his responsibility to make the implementation design and quality in the field and making area suitable for maintenance after realisation.

Environment manager (external to be contracted)

Stakeholders/environmental management, creating and maintaining support base for the project.

PROJECTS OR ACTIVITIES

List of up to 5 relevant previous projects or activities, connected to the subject of this proposal.

- LIFE04 NAT/NL/000201/ LIFE AMBITION/ 2004/ EU-funding: €651,270/ Dur.: 05-2004–12-2008/ CB: Staatsbosbeheer/ AB's: a.o. Natuurmonumenten, Landschap Overijssel (+more).
- Site management Wierdense Veld, which includes raised bog restoration efforts, please see: <https://www.landschapoverijssel.nl/wat-we-doen-en-waarom/dossiers/hooqveenherstel-wierdense-veld>

AFFILIATED ENTITIES / ASSOCIATED PARTNERS

Does the participant envisage that part of its work is performed by affiliated entities or associated partners? If yes, please describe the entity / partner, their link to the participant, and describe and justify the tasks foreseen to be performed by them.

Not applicable

PARTICIPANT 5 *(use same partner numbering as on Submission System screens).*

Legal name (short name):

Ministerium für Umwelt, Naturschutz und Verkehr des Landes Nordrhein-Westfalen (MUNV)

DESCRIPTION OF PARTICIPANT

Provide a short description of the participant, with an explanation on how it matches its main role and tasks in the proposal.

The Ministry for Environment, Nature Conservation and Transport of the State of North Rhine-Westphalia (MUNV) is the supreme nature conservation authority in North Rhine-Westphalia (NW). Until recently it was called Ministry for Environment, Agriculture, Nature Conservation and Consumer Protection of the State of North Rhine-Westphalia (MULNV). In the Funding & Tenders portal its name is not updated yet, but MUNV and MULNV are the same organization.

In the Federal Republic of Germany the federal states are responsible for nature conservation. The MUNV is therefore responsible for the implementation of Natura 2000 and the Priority Action Framework (PAF) in NW.

As part of its obligations to implement Natura 2000, the MUNV in cooperation with its subordinate authorities (i.e. the 5 district governments, the State Agency for Nature, Environment and Consumer Protection (LANUV), the counties and especially the network of biological stations in NW) uses LIFE for the implementation of measures and projects for the development of the Natura 2000 sites and their relevant

species and habitats.

There are many years of experience with the European financial instrument LIFE. Since 1996 in NW a total of 38 LIFE Nature projects have been successfully implemented or are currently being implemented. These were technically and financially supported by the MUNV, the responsible district governments and the LANUV and in one case (IP-LIFE Atlantic Sand Landscapes LIFE15 IPE DE 000007) MUNV is the coordinating beneficiary.

KEY STAFF

Provide a short description of the profile of the persons who will be primarily responsible for carrying out the proposed activities.

Georg Keggenhoff, male, civil servant, diploma landscape planner

- LIFE National Contact Point for North Rhine-Westphalia
- contact person for the IP-LIFE project Atlantic Sand Landscapes, LIFE15 IPE DE 000007
- accompanies and supports all LIFE Nature projects in North Rhine-Westphalia

PROJECTS OR ACTIVITIES

List of up to 5 relevant previous projects or activities, connected to the subject of this proposal.

- LIFE14 TAE/DE/000005, Development of an Integrated LIFE Project (IP) for the exemplary implementation of the EU 2020 target with a focus on oligotrophic habitats on sand in the Atlantic region of Germany, coordinating beneficiary
- LIFE15 IPE/DE/000007, The exemplary implementation of the EU 2020 target with a focus on oligotrophic habitats on sand in the Atlantic region of Germany, coordinating beneficiary
- LIFE15 NAT/DE/000743, Improvement of habitats and population connectivity for endangered amphibians in the cityregion of Aachen, associated beneficiary
- LIFE16 NAT/DE/000660, Management of yellow bellied toad and other amphibians in dynamic habitats, associated beneficiary
- LIFE19 NAT/DE/000871, Promotion of Violet Copper (*Lycaena helle*) and Marsh Fritillary (*Euphydryas aurinia*) in the Northern Eifel, associated beneficiary

AFFILIATED ENTITIES / ASSOCIATED PARTNERS

Does the participant envisage that part of its work is performed by affiliated entities or associated partners? If yes, please describe the entity / partner, their link to the participant, and describe and justify the tasks foreseen to be performed by them.

Not applicable

ANNEX 2 – DESCRIPTION OF SITES

(Describe the areas and / or site(s) targeted by your project and upload as part of the application. If your project involves several distinct sub-areas / sub-sites, please fill in one form for each (copy table as many times as necessary). Please note that maps are mandatory for projects with area-based activities.)

This Description of Sites annex will subsequently discuss:

- 1) The general project site Aamsveen-Hündfelder Moor (full project area),
- 2) Will zoom in on the subsite Hündfelder Moor,
- 3) Will zoom in on the subsite Aamsveen.

To guide the reader through the document we have created a separate chapter for each site description, and start each description with the Description of Sites table.

1. FULL PROJECT AREA: AAMSVEEN AND HÜNDFELDER MOOR

DESCRIPTION OF SITES			
Project name and acronym:	Cross-border restoration and reunion of the raised bogs Aamsveen and Hündfelder Moor – LIFE CrossBorderBog		
Name of the project area: <i>The name must be used consistently on all maps and Part B</i>	Project area Aamsveen-Hündfelder Moor <ul style="list-style-type: none"> • Subsite Aamsveen (Av) • Subsite Hündfelder Moor (HM) 		
Surface area (ha): <i>Indicate the total surface of the project area in hectares, rounded to two decimals</i>	384,21 hectares		
EU protection status (if applicable)	SCI		
	SAC	Av is appointed in habitat directive NL 2003001 (144,21 ha) HM is part of DE 3807-301 (894 ha)	
	SPA	HM is part of DE 3807-401 (2323 ha)	
Other protection status according to national or regional legislation (if applicable):	<i>Naturschutzgebiet "Amtsvenn und Hündfelder Moor" (BOR-003)</i>		
Main land uses and ownership status of the project area			
<i>Indicate what are, at the project application date, the main uses made of the project site (e.g. farming, tourism, urban, nature conservation, etc.). Indicate the approximate percentages (in %) of the various uses, ensuring that the total reaches 100%. Indicate also the ownership status / types of the area at the project application date (e.g. private, state, etc.) and the approximate percentages (in %) of the different ownership status / types, ensuring that the total reaches 100%.</i>			
Main land uses	ha	% of the area	
Nature conservation	378,72	98	

forestry	1,37	0,4
Agricultural use (pasture)	2,808	0,7
Tourism (hiking path)	2,43	0,6

ownership	ha	% of the area
Stichting Landschap Overijssel	144,21	44,1
Land NRW, Zweckbestimmung Naturschutz	155,71	47,6
Private (ca. 22 different owners)	10,45	3,2
Salzgewinnungsgesellschaft Westfalen (SGW)	1,61	0,5
BIMA Kompensationsflächen	1,29	0,4
Cities of Ahaus and Gronau	14,08	4,3

Importance of the project area for biodiversity and/or for the conservation of the species /habitat types targeted at regional, national and EU level (give quantitative information if possible)

Justify why you have selected this particular area for your project. Explain why your choice is the most appropriate to reach the project's objectives.

On the border of Netherlands and Germany, between the cities of Enschede and Gronau, once a single large raised bog area was situated. The major part was situated in Germany and a much smaller part in the Netherlands. The moor originally emerged from several spatially separated starting moor centres. One starting location was near the Dutch- German Border, another in the South Eastern part, near the present Amtsvenn. In the course of time these separated centres melted to a single large, cross-border raised bog.

The cultivation of the moor began with settlement in the region: starting from the edges, ditches were made and the moor was drained. Peat was excavated and large stretches of land were used as grassland, meadows and later also a arable land. The last peat excavations date from 1969 (Aamsveen) and 1979 (Hündfelder Moor).

By the end of its use in 1979 the area of moor slowly but steadily decreased: from the original 2000 ha, only appr. 250 ha remained. As a result of this and lowering of groundwater in the region, the moor was split into several spatially and hydrologically independent sub-areas, all of which are now designated as national nature reserves. Two of the sub areas, the Aamsveen and the Hündfelder moor, still make up a consecutive bog area and also make up a common hydrological system.

The areas of the former bog which were barely used for agriculture are now home to the typical bog landscape with many species and habitat types which are bound to raised bog areas. The structures of exploitation and excavation are still preserved. Ditches, drainage systems and large holes are still present these days. This causes an ongoing drainage of the habitats and seriously affects the nature values. Habitat types from undisturbed bogs are limited (H7110 and H91D0) whereas degraded raised bog (H7120) dominates.

Topographical maps from 1930 still show a coherent raised bog landscape, despite the fact significant peat extraction already occurred in the early 19th century. In the Dutch Aamsveen large scale mechanical excavation was not applied significantly (only 16ha). In Hündfelder Moor this was more common. The last peat extraction dates from 1969 (Aamsveen) and 1979 (Amtsvenn-Hündfelder Moor). In the centre of the area there is a 1-3 meter thick layer of raised bog peat, which is still more or less in the condition immediately after the peat excavation was stopped in 60s and 70s: the ribs, ditches and depressions created in the course of the peat removal are largely preserved until today.

The bordering German N2000 site includes two raised bog remnants, divided from each other with a former

peat extraction stretch. The northern Hündfelder Moor forms one connected entity with the Dutch Aamsveen, whereas the southern Amtsvenn is currently a separate entity and therefore is excluded from our project area. The extraction stretch and broad zones besides the southern and eastern outside borders of the raised bog remnants have been transformed back to nature areas, currently mostly as grasslands with several ponds. Some agricultural plots can also be found northeast of Aamsveen and west of Hündfelder Moor.

To the north, the German Hündfelder Moor is separated from the directly adjacent Aamsveen by the border ditch (Grenzgraben), a formerly open but now piped trench along the state border. Together with the Aamsveen, the Hündfelder Moor forms a hydrological unit that is currently severely affected by the border ditch (Grenzgraben).

Geological origins

Geologically the site was formed in the Saale Glaciation, when the northern land ice entered the region and pushed local sediments into forming the Enschede push moraine. East of this a large basin was created, of the Flörbach stream. The Aamsveen-Hündfelder Moor-Amtsvenn bog is situated in the western part of this basin. Below the ice boulder clay was formed. Deep drilling measurements indicate that the boulder clay starts at a depth of 3,95-5,65m in the Dutch measurement and at 5-12m at the German measurement. The clay layers continue all the way down to end depth of the measurements. On top of the loam and clay there is a sand layer. The sand layer increases in thickness in eastern direction, originating from fluvioperiglacial deposition during the Weichselian glaciation. In the Flörbach basin bog forming started during the Holocene.

Geohydrological buildup

The site has a basis of (nearly) impermeable boulder clay/ loam, which can be up to 100m thick. On top of that there's a layer of sand, varying in thickness from less than 1m to ca. 5m. Where peat is present, the basis of the peat layer is formed by a poorly impermeable layer, often consisting of gyttja, and sometimes formed by a cemented B-horizon, partially combined with humus ('gliede'). The peat layer itself consists mostly of combinations of peat remainders and secondarily formed peat. The deeper peat remainders are moderately humified and reasonably permeable. Secondarily formed peat is barely humified and therefore very permeable.

Positioning and current structure raised bog

The cross-border raised bog remnant Aamsveen-Hündfelder Moor is on all sides relatively high compared to the excavated lands directly around it. The highest areas have never been excavated, and are approx. 44-45m above sea level (NAP). In the (partially) excavated parts this decreases to 42 to 41m above sea level. In the Aamsveen there exists a network of walls and dams. The east-west dams were spared peat stretches intended for accessibility of the bog. In the nineties north-south dams were added for the purpose of water retention. In the northern part of Aamsveen there are less walls and dams. This area was also subject to mechanical peat extraction in the sixties. In Hündfelder Moor, only small scale measures had been taken to retain the surface water. When peat excavation was stopped an irregular pattern of ditches mostly in south-eastern direction was left. There are a few large excavated ditches, that currently large ponds that drain water, including one in the centre of Hündfelder Moor.

Ecological values

In Aamsveen and as well in Hündfelder Moor the original raised bog vegetation no longer remains, due to peat excavation and desiccation. The majority of the raised bog is currently covered with so-called basal community vegetation, with limited species dominated by one or two strong vegetation species. In Aamsveen the dominant species are bracken (*Pteridium aquilinum*) and purple moor-grass (*Molinia caerulea*), in Hündfelder Moor additionally heath (*Calluna vulgaris*) and cross-leaved heath (*Erica tetralix*). Bracken in combination with Silver birch covers the areas with the thickest peat layers with the highest degree of desiccation, and is surrounded by purple moor-grass, which also originates from the peat extraction and desiccation but has less far-reaching consequences than bracken as the average water levels are higher there in the purple moor-grass areas. This region serves as a habitat for bird species like *Anthus pratensis*, *Caprimulgus europaeus*, and *Grus grus*, and for the European adder (*Vipera berus*) which occurs here in a large population. Two wetter vegetation areas are also present: a relatively wet zone with fringed bogmoss (*Sphagnum fimbriatum*) and blunt-leaved bogmoss (*Sphagnum palustre*), and the wettest zone, with feathery bogmoss (*Sphagnum cuspidatum*). In the rift valleys *Sphagnum cuspidatum* also prevails, accompanied by hare's-tail cottongrass (*Eriophorum vaginatum*).

In Hündfelder Moor larger dystrophic water bodies are developed in the large rift valleys and smaller ones fill the deeply excavated parts of the former raised bog. They host a large number of raised bog species: dragonflies like *Somatochlora arctica*, *Leucorrhinia dubia* and *L. rubicunda*, *Aeschna subarctica*, amphibians

like *Rana lessonae* and *Rana arvalis*, birds like *Luscinia svecica*, *Anas crecca*, and *Rallus aquaticus*.

The border zone of the peatland is widely covered with stands of moor birch (*Betula pubescens*) and in the north-eastern part of black alder (*Alnus glutinosa*). It is surrounded by moderate nutrient-rich grassland-communities that serve as habitats for bird species like *Vanellus vanellus* and *Saxicola rubicola*.

The northern part of Aamsveen does not have properly developed areas with raised bog vegetation and wet heath. It was the outermost border of the raised bog area and most of the remaining peat has desiccated. *Pteridium aquilinum*, *Molinea caerulea* and *Erica tetralix* cover the not-excavated sections. Excavated sections are dominated by *Juncus effusus* or species-few grasslands. The north-western part of the Aamsveen holds a small population of Crested newt (*Triturus cristatus*) and tree frog (*Hyla arborea*). The southern Aamsveen is in better condition, but still includes large sections covered by *Pteridium aquilinum* and *Molinea caerulea* and *Erica tetralix*. However, in basins mosaics of raised bog vegetation communities have developed, in a gradient from east to west, with hump forming peat mosses well present in the western area. The reason from this difference in east and west are the lower water levels in the eastern Aamsveen.

Regional and national levels

Data on the importance of the project area at regional and national levels are placed in the site description forms of the subsites Aamsveen (Av) and Hündfelder Moor (HM).

EU Level

The project area is situated on the Dutch-German border. It consists of 2 subsites (maps 1a and 1b): the Dutch subsite Aamsveen (Av) and the German subsite Hündfelder Moor (HM) (map 1c). The project area encompasses an old in former times entire raised bog site that hosts most of the typical raised bog habitat types and a lot of its specialized species. For detailed information please refer to the Annex document "Description of species & Habitats".

The subsite Hündfelder Moor (HM) together with the subsite Aamsveen (Av) adjoining to the north forms a hydrological unit that is today severely impaired. There is a watershed in the area, the surface drainage takes place to the northwest (Av), to the southeast and northeast (HM). In the groundwater body below there is a gradient from northwest to southeast (Av) or southwest and northeast (HM).

A ditch along the state border between the two subsites has destroyed the watershed and thus separated the two subsites hydrologically until today for more than 50 years. It also decreases the water levels in the N2000 sites bordering on both sides and thus leads to an unfavourable conservation status of their raised bog habitat types.

However, the elimination of this impairment is necessary in order to achieve the long-term conservation objectives of the adjacent Natura2000 areas; even more, regarding the main objectives of this project: to restore the former entire raised bog system as a basis for the regrowth of typical raised bog habitat types and its typical species. However, it can only be implemented in a coordinated binational project such as the life project CrossBorderBog applied for

On a broader view, within the project area the preconditions to re-establish new occurrences of H7110* on more than 100 hectares are given to a great extent. This is a unique chance not only to maintain or improve the conservation status of existing degraded bogs but on mid- to long-term level to recreate intact raised bog habitats.

In total, the project will contribute to the sustainable conservation of 9 EU habitat types typical for raised bog ecosystems within the Atlantic biogeographic region, including 2 priority habitats (H7110*, 91D0*) and several species as 4 amphibians listed on Annex II resp. IV, 5 dragonfly species (1 listed on Annex II and IV) and 13 bird species that are target species of the superposed birds directive Natura 2000 site (see annex document description of species and habitats).

Raised bogs with their typical habitat types and specialized species are very dependent on the precipitation – they can only develop under very humid conditions with sufficient rainfall. As such they are very vulnerable against climate change. Because of exploitation and cultivation, raised bogs have been destroyed widely, so that today only a small rest of them remained – a large number of them is included in the Natura 2000 network today. Compared to their former size, bogs decreased enormously both in number and in size.

This makes every site much more vulnerable against local extreme weather conditions like droughts or floods – they may cause the extinction of a local population of specialized raised bog species. In natural situations, the former habitats of a locally extinct species would be recolonized by individuals of the same species from the neighbourhood. But if you look to distribution maps of raised bog habitat types or species,

you see that they mostly are quite scattered within a region, country, biogeographical region or even the European Union. Raised bog sites like the Aamsveen – Hündfelder Moor, are the last strongholds for flora and fauna which are confined to these habitats. Species like Cranes, many species of Moor Dragonflies, Viper, Moor Frog etcetera are depended upon area like this for survival of the population.

Therefore, to enable the recolonization of bog sites after local extinction processes and thus to ensure the long term conservation of biodiversity of raised bog ecosystems, it becomes essential today to preserve the stepping-stone function even of as many as possible and even small bog sites. The project area together with the other adjacent parts of the N2000 site DE3807-301 represents the largest raised bog remnant in the Atlantic biogeographic region of North Rhine-Westphalia. Together with numerous larger and smaller former raised bog and heath areas on both sides of the German-Dutch border, it is an important stepping stone biotope between the raised bogs in Lower Saxony and the bog areas in the south of the Netherlands, Belgium and even France (map 12).

2. SUBSITE HÜNDFELDER MOOR

DESCRIPTION OF SITES		
Project name and acronym:		Cross-border restoration and reunion of the raised bogs Aamsveen and Hündfelder Moor - LIFE CrossBorderBog
Name of the project area: <i>The name must be used consistently on all maps and Part B</i>		Project area Aamsveen-Hündfelder Moor, subsite Hündfelder Moor (HM)
Surface area (ha): <i>Indicate the total surface of the project area in hectares, rounded to two decimals</i>		HM: 240 hectares
EU protection status (if applicable)	SCI	
	SAC	HM is part of DE 3807-301 (894 ha)
	SPA	HM is part of DE 3807-401 (2323 ha)
Other protection status according to national or regional legislation (if applicable):		<i>Naturschutzgebiet "Amsveen und Hündfelder Moor" (BOR-003)</i>
Main land uses and ownership status of the project area <i>Indicate what are, at the project application date, the main uses made of the project site (e.g. farming, tourism, urban, nature conservation, etc.). Indicate the approximate percentages (in %) of the various uses, ensuring that the total reaches 100%. Indicate also the ownership status / types of the area at the project application date (e.g. private, state, etc.) and the approximate percentages (in %) of the different ownership status / types, ensuring that the total reaches 100%.</i>		
Main land uses	ha	% of the area
Nature conservation	234,51	97,6
forestry	1,37	0,6
Agricultural use	2,808	1,2

Tourism (hiking path)	1,5	0,6
ownership	ha	% of the area
Land NRW, Zweckbestimmung Naturschutz	204,3	85,1
Private (ca. 22 different owners)	13,94	5,8
Salzgewinnungsgesellschaft Westfalen (SGW)	2,764	1,2
BIMA Kompensationsflächen	5,09	2,1
Cities of Ahaus and Gronau	14,08	5,9

Importance of the project area for biodiversity and/or for the conservation of the species /habitat types targeted at regional, national and EU level (give quantitative information if possible)

Justify why you have selected this particular area for your project. Explain why your choice is the most appropriate to reach the project's objectives.

Subsite HM borders directly on subsite Aamsveen and is located within the northern part of the N2000 site „Amtsvenn und Hündfelder Moor“ (DE 3807-301), the so-called Hündfelder Moor. Only a part of the raised bog habitat types of the entire N2000 site is located here. The much larger part of the former entire raised bog, so-called Amtsvenn (map 1c), is excluded from the project area for these reasons:

- Amtsvenn is divided from Hündfelder Moor by a sandy ridge and by a large state road, the bog remnants are separated by a distance of more than 400 meters.
- Amtsvenn and Hündfelder Moor today form 2 discrete and widely independent hydrological systems. Therefore, it is not necessary to include the Amtsvenn in the project to achieve the project objectives.
- Even with the focus on Aamsveen and Hündfelder Moor, the project budget touches the upper limit for life nature projects.
- Nevertheless, as the restoration of the hydrology either at Amtsvenn is necessary for the entire N2000 site to reach its overall conservation objectives, it is planned to be subject to a complementary project proposal in the future.

Subsite HM provides all prerequisites we need to re-establish on a long term perspective the regrowth of raised bogs and thereby create extensive occurrences of habitat types H7110* and H91D0*:

- More than 140 ha of subsite is covered by raised bog peat with a thickness of 0,5 to more than 3 meters
- The quality of the peat is good, and especially its nutrient content is widely very low. Local sources of nutrients in the surrounding of the subsite are not present.
- Together with the adjacent subsite Aamsveen, subsite HM forms one coherent but impaired hydrological system that can easily be improved en bloc.
- The impact of a raised groundwater level on the surrounding of subsite HM can easily be confined.
- Most of the land parcels within subsite HM are already owned by Land Nordrhein-Westfalen and other public bodies, only about 6% is owned by private owners.
- Only 0,6% is forested land, private agricultural land is present on 1,2% of the area. Nature conservation is the dominant land use form, the former raised bog is partly grazed by sheep of BSZ, surrounding grassland is managed by contracted local farmers.
- As typical raised bog species are still present, they will easily be able to colonise the newly created habitats.

- Although in a lesser degree as at subsite Aamsveen, for subsite Hündfelder Moor many preparatory works have already been performed and serve as a solid basis for our project.
- Since more than 30 years, the subsite is managed by BSZ and will be managed continuously in the future. Thus the maintenance of the built dams and overflows after the project ends is ensured.

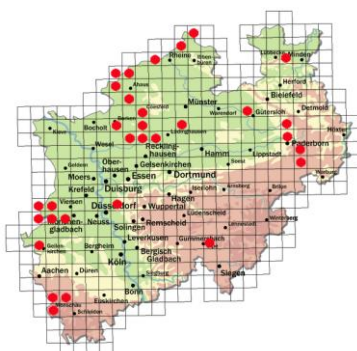
To recreate the hydrological system of the project area, parcels beside the remaining bog remnants are included in subsite HM. They will serve as buffers against the much lower groundwater level in the surrounding and will be used to create still water bodies to provide a water supply for the groundwater. They are essential to improve the resilience of the hydrological system against droughts caused by climate change.

Subsite HM is furthermore part of N2000 Bird Directive site DE 3807-401. The project does not focus on the bird protection, however, it also does not conflict them. Waterfowl and raised bog birds will benefit from the project instead (see description of species and habitats).

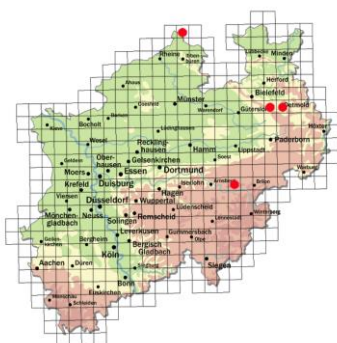
Regional and national levels

Subsite HM is part of N2000 site “Amtsvenn u. Hündfelder Moor” (DE 3807-301), that was designated to protect habitat types H3150, H3160, H4010, H6410, H6510, H7120, H7140, H7150 and H91D0*. From these, H3150, H4010, H6410 and H6510 occur only outside subsite HM.

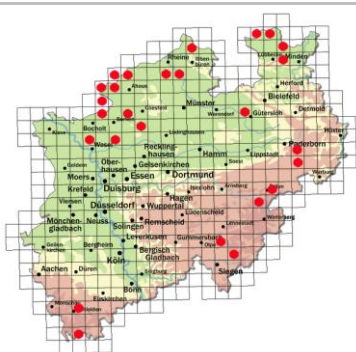
N2000 site DE 3807-301 encompasses the second largest former raised bog ecosystem within NRW; with more than 350 ha covered with raised bog peat in a still good quality, it is the best choice for restoration of living raised bog habitat type H7110* in NRW. But even today, the site plays an important role in the conservation of raised bog related habitats, as it hosts raised bog related habitats in significant portions (FFH-Bericht des Landes NRW 2019):



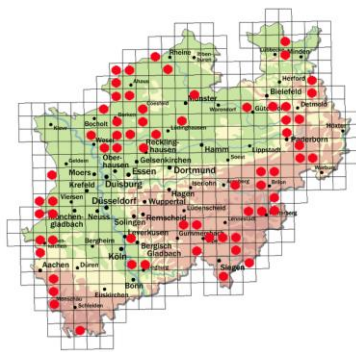
The current presence of H3160 within Nordrhein-Westfalen consists of 31 occurrences with active raised bog, hosting in total 76-84 ha.



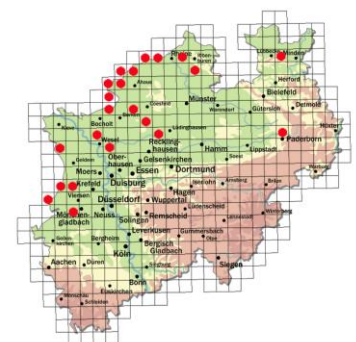
The current presence of H7110* within Nordrhein-Westfalen consists of only 4 occurrences hosting in total just 4,1 ha. Within the Atlantic biogeographic region of NRW, there is just 1 N2000 site designated for H7110* of only 0,5 ha.



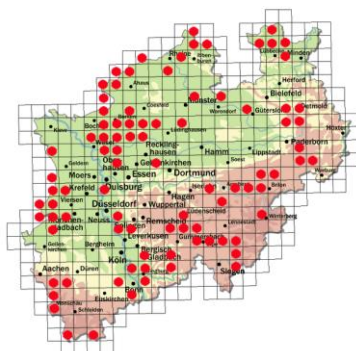
For Habitat type H7120, NRW designated 26 N2000 sites with a total of 625-680 ha; 17 of them are located within the Atlantic biogeographic region of NRW:



For Habitat type H7140, the situation in NRW is only slightly better: 65 N2000 sites are designated for this habitat type, but host a total of only 145-150 ha:



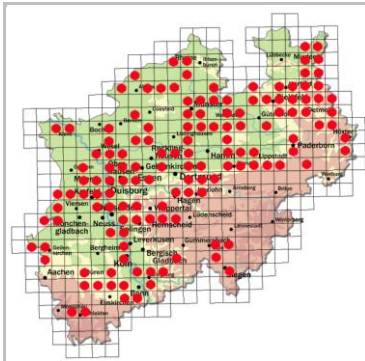
For Habitat type H7150, the situation in NRW is quite similar to H7120: Only 22 N2000 sites host a total of 17-19 ha; 21 of them located within the Atlantic biogeographic region of NRW:



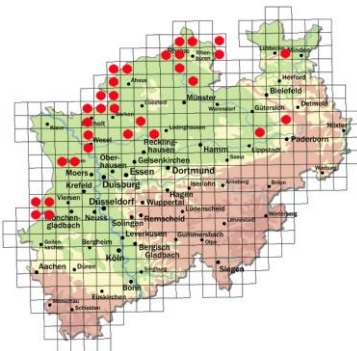
For Habitat type H91D0*, the situation in NRW looks a little different: we have numerous N2000 sites located within the Atlantic and the continental biogeographic region of NRW, but they mainly host only small occurrences of this priority habitat type as they host a total of only 330-365 ha:

H7110* and H91D0* are listed with priority for D in the database on Restoration efforts required for achieving the objectives of the Birds and Habitats Directives.

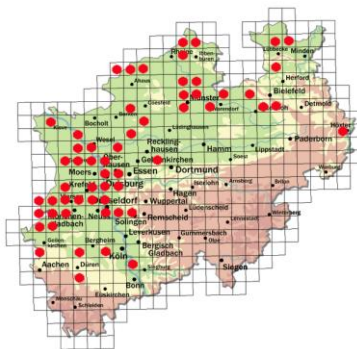
Relevant species include:



For *Triturus cristatus* (Annex II & IV), the N2000 site “Amtsvenn und Hünfelden Moor” is one of several N2000 sites that are designated to protect him. Within the subsite Hünfelden Moor, no occurrences are known.

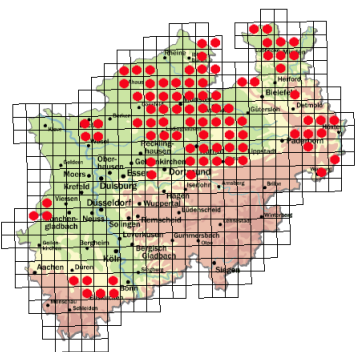


For *Rana arvalis* (Annex IV), N2000 site DE3087-301 hosts one of the largest populations of NRW. The species is restricted to the larger former raised bog sites.

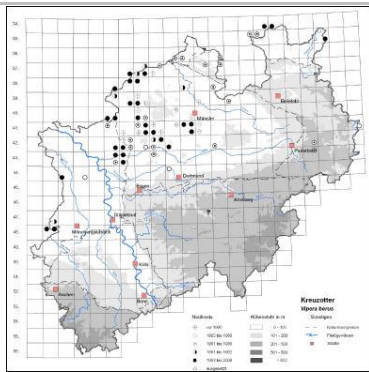


For *Rana lessonae* (Annex IV), N2000 site DE3087-301 hosts a large population. In contrast to *Rana arvalis*, the species is not as bound to former raised bog sites, but a large portion of its population can be found there.

Rana arvalis and *Rana lessonae* are listed for Atlantic biogeographical region of D in the database on Restoration efforts required for achieving the objectives of the Birds and Habitats Directives.

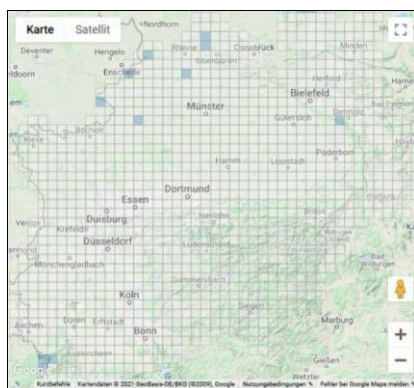


Hyla arborea (Annex IV) has its main occurrence in the central Münsterland. The occurrences within N2000 site DE3807-301 serve as a stepping stone towards the occurrences in the Netherlands

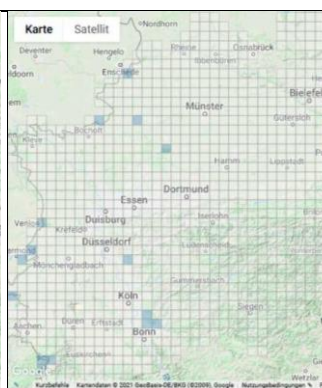


Vipera berus has one of its largest known population at DE3807-301 in NRW, the species is restricted to bog and heath nature conservation sites (<http://www.herpetofauna-nrw.de/arbeitskreis/projekt-1993-2011/verbreitungskarten/index.php>)

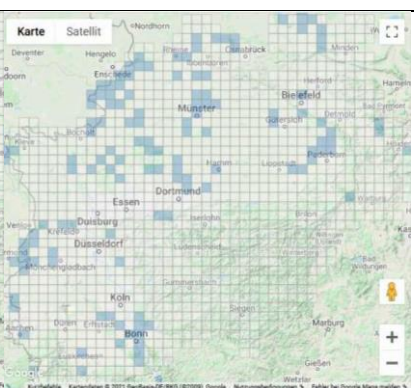
The next four Dragonfly species are specialized inhabitants of raised bogs in NRW. As you see from their distribution maps, they are quite rare in NRW, and especially the first 2 ones are restricted to a handful of sites. All the four species are known as very negatively affected by climate change and especially by increasing droughts and rising temperatures.



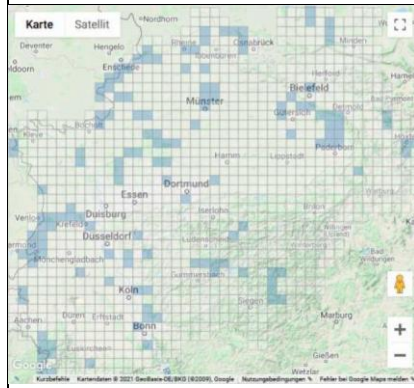
Aeshna subarctica



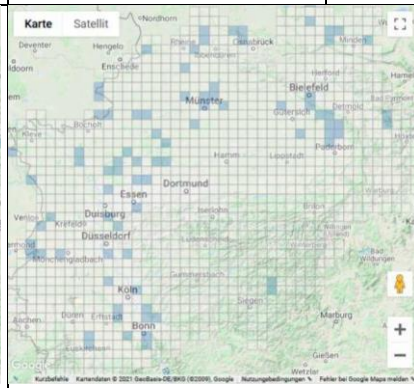
Somatochlora arctica



Leucorrhinia rubicunda



Leucorrhinia dubia



Leucorrhinia pectoralis (Annex II and IV) occurs within DE3807-301, but in only small numbers; its main occurrence is outside raised bog dystrophic waters. Leucorrhinia pectoralis enlarges its distribution area in middle Europe since years. Crucial important stepstone habitats are found in former raised bog like subsite HM. All currently known permanent populations of L. pectoralis in our region occur in nature reserve like subsite HM along the Dutch - German border.

EU Level

Information on the importance at EU level are already given as part of the information on the whole project area above.

3. SUBSITE AAMSVEEN

DESCRIPTION OF SITES		
Project name and acronym:	Cross-border restoration and reunion of the raised bogs Aamsveen and Hündfelder Moor — LIFE CrossBorderBog	
Name of the project area: <i>The name must be used consistently on all maps and Part B</i>	Project area Aamsveen-Hündfelder Moor, subsite Aamsveen (Av)	
Surface area (ha): <i>Indicate the total surface of the project area in hectares, rounded to two decimals</i>	Aamsveen: 144.21 hectares	
EU protection status (if applicable)	SCI	
	SAC	Av is appointed in habitat directive NL 2003001 (144,21 ha)
	SPA	
Other protection status according to national or regional legislation (if applicable):	<i>Part of the Dutch NNN (Nationaal Natuur Netwerk)</i>	
Main land uses and ownership status of the project area <i>Indicate what are, at the project application date, the main uses made of the project site (e.g. farming, tourism, urban, nature conservation, etc.). Indicate the approximate percentages (in %) of the various uses, ensuring that the total reaches 100%. Indicate also the ownership status / types of the area at the project application date (e.g. private, state, etc.) and the approximate percentages (in %) of the different ownership status / types, ensuring that the total reaches 100%.</i>		
Main land uses	ha	% of the area
Nature conservation	144,21	99,4
Tourism (hiking path)	0,93	0,6
ownership	ha	% of the area
Stichting Landschap Overijssel	144,21	100
Importance of the project area for biodiversity and/or for the conservation of the species /habitat types targeted at regional, national and EU level (give quantitative information if possible) <i>Justify why you have selected this particular area for your project. Explain why your choice is the most appropriate to reach the project's objectives.</i>		
<p>Subsite Aamsveen is the outer north-western part of the large former raised bog area Aamsveen / Hündfelder Moor / Amtsvenn. In the preparation for this proposal the Aamsveen area and adjacent Hündfelder Moor were thoroughly investigated in the period 2013-2018 (<i>Van 't Hullenaar en Jansen, 2015*</i>, <i>Van 't Hullenaar en Jansen, 2018&</i>). The overall purpose for this research was to appoint all bottlenecks and provide solutions and measures for the restoration of the raised bog and lagg zone. As a secondary purpose an analysis was made on the formation of the large bog area in the past. Results of this research pointed out that the Aamsveen area is hydrologically, ecologically and physically strong related and dependent upon the Hündfelder Moor. Hence, restoration measures in the Aamsveen will not be successful without proper measures in the Hündfelder Moor. Intense cooperation on both sides of the border is thus the only way to success in bog restoration of the cross-border bog area Aamsveen / Hündfelder Moor.</p> <p>The research that was conducted on the subsite Aamsveen pointed out that chances for restoration of H7110 and H91D0 are very high. Moreover, restoration of the raised bog can be achieved without negative hydrological effects on the adjacent areas. Aamsveen is, together with the Korenburgerveen, the only remaining bogg area where the lagg zone has not been excavated in the past. Chances for restoration of the habitats in the lagg zone have also been part of the research and have led to the execution of measures in the lagg zone in 2021. The aim is to improve habitat system quality for H7150, H6230, H6410, H91E0C. H6230 and H91E0C are priority habitats for the Netherlands. In addition to this, small surfaces of H7120 are present in the lagg zone area and will benefit from bog restoration measures. H7110 and H7120 are situated outside the laggzone and therefor benefit only to a minor extend.</p> <p>A first bog restoration project (according to the plan of van Ziel, 1995#) was conducted in the Aamsveen in the period 1992 – 1994. A system of dams was constructed to avoid the lateral runoff of surface water. This restoration was successful on a small scale; small locations proved that under the right hydrological conditions the restoration of H7110 is possible. Although only 0.09 ha of actual H7110 is present in the</p>		

Aamsveen, approximately 5 hectares are currently in favourable condition to form H7110. Biggest bottlenecks are the quality of the dams and the draining border ditch which is located on the German Dutch border. These are therefore the main targets in our project.

The Aamsveen area has furthermore:

- 100% of the Aamsveen area has been designated as nature.
- Approximately 48 hectares made up of the historic raised bog of which 42 hectares still have good chances for restoration.
- Excavation in the past has only been done on smaller scale. Much of the remaining peat (more than 40 hectares) is still present and can be up to 2,5 meters.
- Except for the border ditch the hydrological base of the raised bog (gyttja) in the Aamsveen is still intact.
- The Aamsveen area has never faced intensive agricultural use. Although some parts were excavated, the soils are not severely damaged nor extensively enriched. Hence, biochemical analysis of soils and groundwater prove right conditions for bog restoration.
- The Aamsveen is a hotspot for biodiversity in the area, although other bog areas on the Dutch side are within reach (Witte Veen, Haaksbergerveen). Exchange of species between raised bog sites is possible.
- In 2021 measures for the restoration of the lagg zone are being carried out. This provides good conditions for enlargement and quality of H6230, H91E0C and H6410, although part of the success will be dependent on the raised bog restoration.
- The preliminary research pointed out that bog restoration is possible on a large scale, but only if the Hündfelder Moor is included in the measures. The same is true for the Hündfelder Moor which is dependent upon the Aamsveen area.
- There is no intensive agricultural use of the surrounding areas of the Aamsveen. Conflicts with agricultural land use are nihil. Within the N2000 area Aamsveen there are no other production goals except for nature. Hence no conflicts are expected.
- The whole area is included in the Dutch Nature Network. This means that the area is protected for other purposes and management is secured for the future.
- Many protected species are already present including target species for the goals of our project.
- But maybe most of all; the preparatory work, meetings and contacts for this project have intensified the cross-border cooperation of this beautiful and special area. Regardless of the outcome of this proposal we will continue our exchange in the future.

As mentioned above, a large sum of money and effort has already been spent in the restoration of the Aamsveen lagg zone. This border zone of the raised bog area is important for the success of the measures in the raised bog: the development of a new acrotelm needs restoration on the scale of a landscape. The lagg zone provides this space. Abundant water runoff to the lagg zone is possible and in times of drought the lagg zone provides a moist buffer. Vice versa the lagg zone needs the 'water pressure' of the retaining water in the bog area. This provides the necessary upwelling of groundwater for the habitats in the lagg zone.

Crucial for the success of our project is the removal of the piped ditch on the German Dutch border. This measure can only be conducted with a cross border approach.

References:

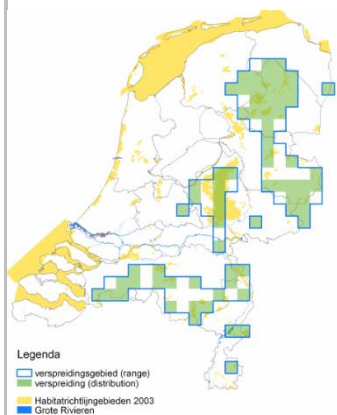
- * *Systeemanalyse Dal van de Glanerbeek, 2015. JW van 't Hullenaar en A.W.J.Jansen, Bureau Bell-Hullenaar*
- & *Ecologische systeemanalyse Aamsveen, 2018. JW van 't Hullenaar en A.W.J.Jansen, Bureau Bell-Hullenaar*
- # *Onderzoek Kwaliteitsverbetering Aamsveen, 1995. Bureau Hemmen, Ir. H.W. van Ziel.*

Regional and national levels

Subsite Av makes up the N2000 site "Aamsveen" (NL 2003001), that was designated to protect habitat types H3130, H4010A, H4030, H6230*, H6410, H7110A*, H7120, H9120, H9190 and H91E0C*. In the Netherlands it is, together with the Korenburgerveen, the only raised bog area with a more or less intact lagg zone. Because the Aamsveen is situated at the lowest part of the Enschede moraine hydrological implications for the surrounding areas can be neglected as a result of the re-wetting measures. The Aamsveen is one of the remaining raised bog areas on the border of Germany and the Netherlands. Distances to the Witte Veen (7 km), Haaksbergerveen (12 km), are limited. Korenburgerveen (28 km), Wooldse Veen (33 km), Engbertsdijkerven (36 km) and Wierdense Veld (35 km) are situated at a slightly larger distance. Mapping and analysis of the hydrological system showed that only the Korenburgerveen has similar conditions with a very shallow hydrological base. This ensures a good potential for restoration

without a large impact on the adjacent areas. Together with Hündfelder Moor the Aamsveen encompasses the third largest raised bog area in the region.

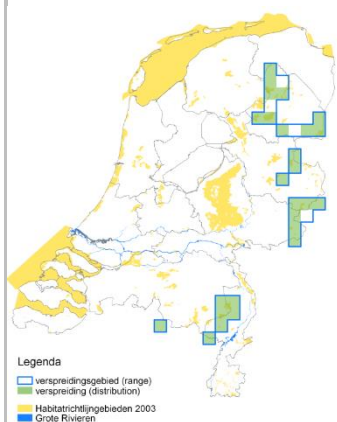
The current presence of H3160 within The Netherlands is restricted to 100-200 hectares with the majority in Drenthe and the Veluwe. The regional importance for this type is big.



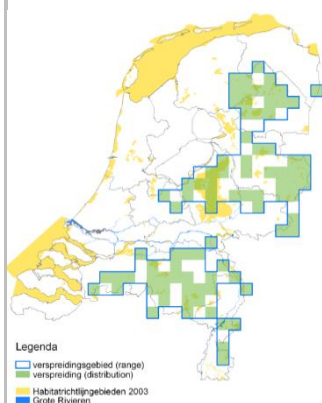
The current presence of H7110* within the Netherlands. Although distribution seems widespread, most of the areas are very small. Largest surfaces are only as big as 2,5 ha. In total H7110A in the Netherlands encompasses not more than 30 hectares.



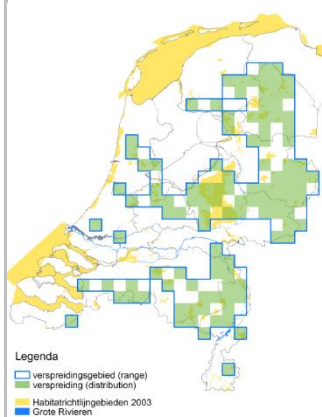
For Habitat type H7120, most of them are located within former raised bog areas in the Eastern part of the Netherlands:



For Habitat type H7150, the situation in the Netherlands is quite similar to H3160. Most of the locations are in the Eastern part of the Netherlands and local patches are relatively small.



Habitat type H91D0*, although the H91D0 seems widespread throughout the Netherlands, it is limited to only small patches in former bog areas.

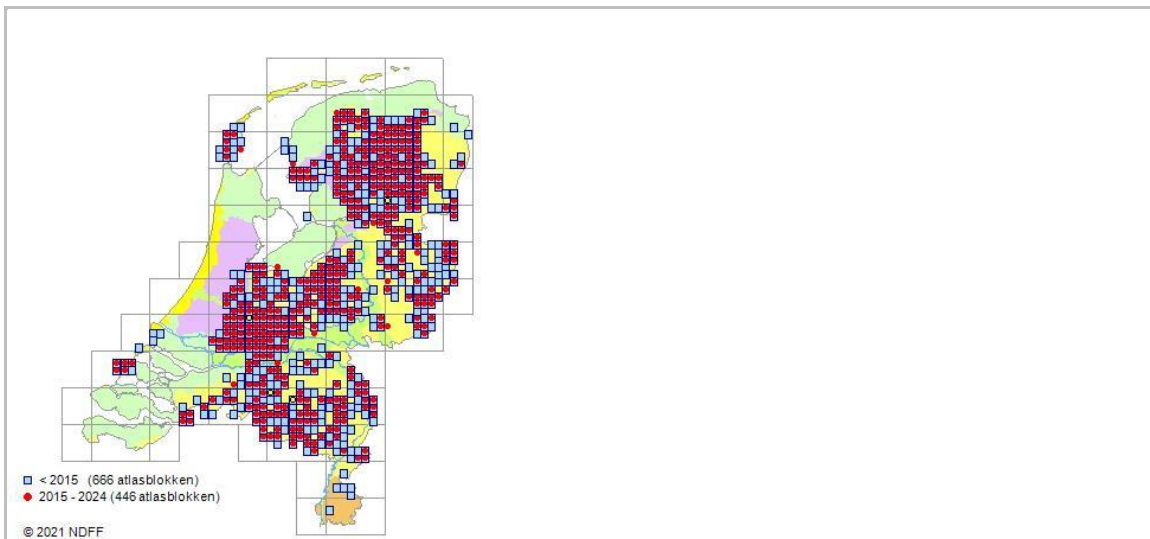


EU Level

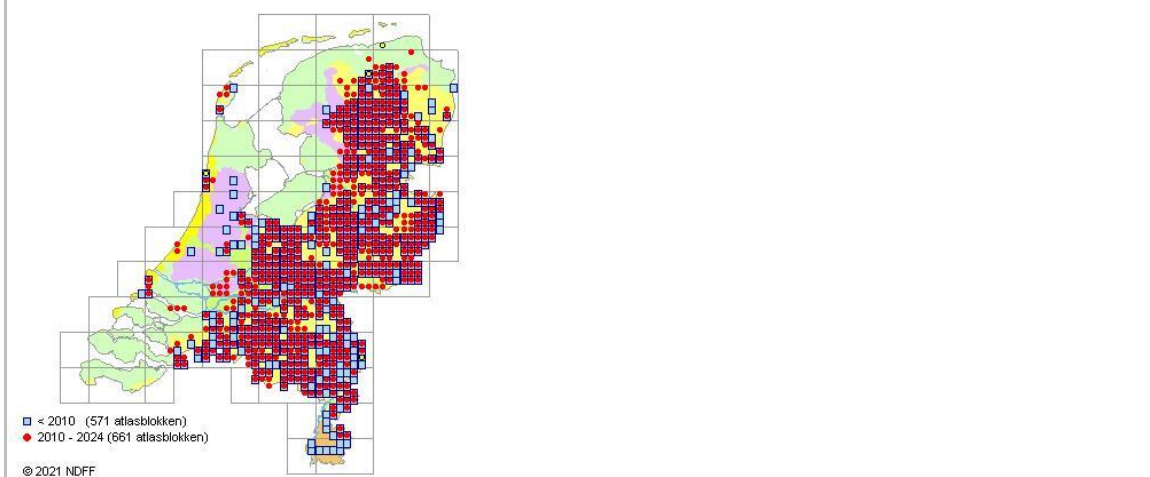
Connecting and stepping stone function: SCI NL 2003 001 represents one of the best preserved surviving former raised bog areas in the Netherlands. However desiccation and decline occurs on this site, valuable species and habitats still occur (however endangered). Together with numerous larger and smaller former raised bog and heath areas on both sides of the German-Dutch border, it is an important stepping stone biotope between the raised bogs in Lower Saxony and the bog areas in the south of the Netherlands and in Belgium. Furthermore, see the generic site description for both subsites for a discussion of EU level relevance.

Relevant species include:

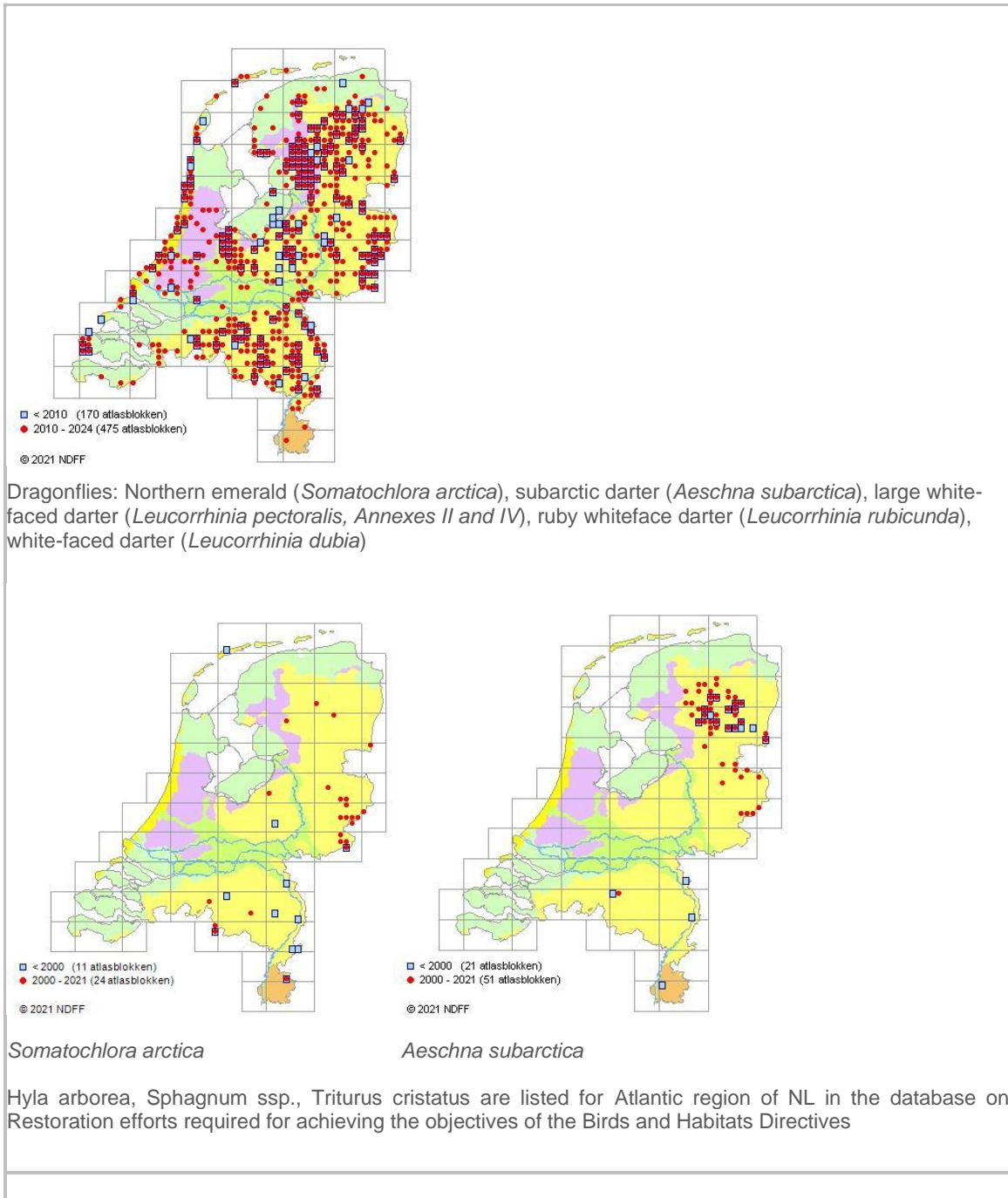
For *Rana arvalis* (Annex IV), N2000 site NL 2003001 Aamsveen is an important hotspot. The species is restricted to the larger former raised bog sites and smaller dystrophic waters.



For *Rana lessonae* (Annex IV), N2000 Aamsveen is part of the connected habitats in the region. It has an importance as a stepstone. In contrast to *Rana arvalis*, the species is not as bound to former raised bog sites, but a large portion of its population can be found there.



Leucorrhinia pectoralis (Annex IV) occurs within the Aamsveen, but in only small numbers; its main occurrence is outside raised bog dystrophic waters.



ANNEX 3 – DESCRIPTION OF SPECIES AND HABITATS

DESCRIPTION OF SPECIES AND HABITATS						
Project name and acronym:		LIFE CrossBorderBog				
Species						
For each of the <u>main</u> species <u>directly</u> targeted by the project, please indicate:						
<ul style="list-style-type: none"> scientific name (in Latin). If the species is a priority species according to Annex II of the Habitats Directive or is on the list of priority bird species, please mark with an asterisk the Annex(es) of the EU Birds or Habitats Directive where the species is listed, if relevant population size within the project area. In case the project does not include actions targeting a well-defined area, please indicate the population size at regional, national or multinational level, as relevant the conservation status within the project area. Please provide quantitative details. In case the project does not include actions targeting a well-defined area, please indicate the conservation status at regional, national or multinational level, as relevant for bird species, please indicate whether the project area (if relevant) is used for breeding, wintering or staging. 						
Species targeted by the project						
Species	Annex	Current Population size within project area	Conservation status			long term targeted population size within project area
			project area current population trend	project area long term conservation perspective without the project	Regional/ National level Red List NRW/NL	
<i>Aeschna subarctica</i>		app. 8 sightings	↘	↘	1/ NL CR	20-50 sightings
<i>Anas crecca</i>	Art. 4 (2), DE3807-401	10-20 breeding pairs	→	↘	3S / NL VU	50 breeding pairs
<i>Anas querquedula</i>	Art. 4 (2), DE3807-401	0-2 breeding pairs	→	↘	1S / NL EN	2-5 breeding pairs
<i>Anas strepera</i>	Art. 4 (2), DE3807-401	0 breeding pairs	0	0	*	10-20 breeding pairs
<i>Anser albifrons</i>	Art. 4 (2), DE3807-401	100-500 ind. staging	↗	→		500-1000 ind. staging
<i>Caprimulgus europaeus</i>	Annex I, DE3807-401	2-4 breeding pairs	→	→	1S	5-10 breeding pairs
<i>Gallinago gallinago</i>	Art. 4 (2), DE3807-401	0-2 breeding pairs	↘	↘	1S / NL EN	2-4 breeding pairs
<i>Grus grus</i>	Annex I, DE3807-401	1-2 breeding pairs	↗	↗	NL NT	2-4 breeding pairs
<i>Hyla arborea</i>	Annex IV	45 ind.	↘	↘	2S / NL EN	150-200 ind.
<i>Leucorrhinia dubia</i>		50-100 sightings	↘	↘	2 / NL VU	200-300
<i>Leucorrhinia pectoralis</i>	Annex II, IV	10-50 sightings	↗	→	1 / NL VU	100-150
<i>Leucorrhinia rubicunda</i>		50-500 sightings	↘	↘	2 / NL NT	500-700
<i>Luscinia svecica</i>	Art. 4 (2), DE 3807-401	10-15 breeding pairs	→	→	2S	15-25 breeding pairs
<i>Lymnocyptes minimus</i>	Art. 4	P	→	→		P

	(2), DE3807-401					
<i>Rallus aquaticus</i>	Art. 4 (2), DE3807-401	2-5 breeding pairs	↘	↘	3	15-20 breeding pairs
<i>Rana arvalis</i>	Annex IV	80-120 calling males	↘	↘	2S / NL VU	150-250 calling males
<i>Rana lessonae</i>	Annex IV	200-500 Ind.	↘	↘	3 / NL VU	500-650 ind.
<i>Somatochlora arctica</i>		10-20 sightings	→	↘	1 / NL VU	20-30 sightings
<i>Tachybaptus ruficollis</i>	Art. 4 (2), DE3807-401	2-5 breeding pairs	↘	↘	*	8-12 breeding pairs
<i>Tringa glareola</i>	Annex I, DE3807-401	5-10 ind. staging	↘	↘	0	10-25 ind. staging
<i>Tringa ochropus</i>	Art. 4 (2), DE3807-401	5-10 ind. staging	↘	↘		10-30 ind. staging
<i>Triturus cristatus</i>	Annex II, IV, DE3807-301	11 ind.	→	→	3 / NL VU	50-75 ind.
<i>Vipera berus</i>		75-150 ind.	→	→	1 / NL VU	150-200 ind.
<i>Zootoca vivipara</i>		250-1000 ind.	→	→	3 / NL NT	1500 ind.

Habitats

For each of the main habitats directly targeted by the project, please indicate:

- name and Natura 2000 code, as indicated in the EU Habitats Directive. If the habitat is a priority habitat (according to Annex I of the Habitats Directive), please mark with an asterisk
- the % of the cover of the habitat type over the whole project area and for each sub-area
- the conservation status within the project area. Please provide quantitative details.

Habitat type	% cover project area	% cover sub-site Aamsveen	% cover sub-site Hündfelder Moor	Conservation status		% cover project area targeted
				Subsites Av/HM	Area trend & Structure & functions	
H 3160 Natural dystrophic lakes and ponds	1,6% (5,3 ha)	0% (0 ha)	2,9% (5,3 ha)	↘	U2/U1	3,97% (13 ha)
6230 Species-rich Nardus grasslands	0,06% (0,2 ha)	0,14% (0,2 ha)	0% (0 ha)	→	U2/-	0,15% (0,5 ha)
6410 Molinia meadows	0,12% (0,4 ha)	0,28% (0,4 ha)	0% (0 ha)	→	U2/-	0,15% (0,5 ha)
H7110A* Active raised bogs	0,1% (0,09 ha)	0,06% (0,09 ha)	0% (0 ha)	→	U2/-	30,2% (99 ha)
H7120 Degraded raised bogs still capable of natural regeneration	19,5% (63,7 ha)	26,4% (38 ha)	14% (25,7 ha)	→	U2/U2	8,2% (27 ha) **
H 7140 Transition mires and quaking bogs	0% (0,14 ha)	0% (0 ha)	0,08% (0,14 ha)	→	-/U2	2,44% (8 ha)
H 7150 Depressions on peat substrates of the Rhynchosporion	0,68% (2,21 ha)	1,53% (2,2 ha)	0,01% (0,01 ha)	→	U2/U1	1,53% (5 ha)
H91D0* Bog woodland	0,55% (1,8 ha)	0% (0 ha)	0,98% (1,8 ha)	→	U2/U2	6,4% (21 ha)
91E0C Alluvial forests	0,61% (2 ha)	1,39% (2 ha)	0% (0 ha)	→	U2/-	0,45% (1,5 ha)

FV – Favourable

U1 – Unfavourable-Inadequate

U2 – Unfavourable-Bad

**Remark: For H7120 we predict a decrease in area in comparison to the baseline of 36,7 ha in total. This decrease is because the majority of its area will suit for the development of H7110* after our measures have been performed and though will develop in a long term perspective into H7110*.

ANNEX 4 - MAPS

(Merge all requested maps into one file and upload it as part of the application. Maps should be of high quality and high resolution, preferably in colour. They should be easy to read and include a scale and legend. To insert additional site maps, copy the table as many times as necessary.)

MAP OF THE GENERAL LOCATION / PROJECT SITES

Provide a map of the general location of the project area(s). Locate the project area(s) within the country and, if necessary, within the region(s) concerned. If your project does not target a defined area, indicate, as clearly as possible, where the project is implemented (city, area, region, etc.).

Maps can be provided in an A4 or A3 format.

Project name and acronym:	Cross-border restoration and reunion of the raised bogs Aamsveen and Hündfelder Moor – LIFE CrossBorderBog
Country(ies)/region(s):	Netherlands and Germany / Overijssel and Nordrhein-Westfalen
Map name:	See list below

The maps are organized according to appearance in the application form and/or logical coherence. The maps template that was provided in the Part B application package was not entirely suitable for the internal logic of our map numbering and sequences. We provide the list of maps as they are presented in this annex.

LIST OF MAPS:

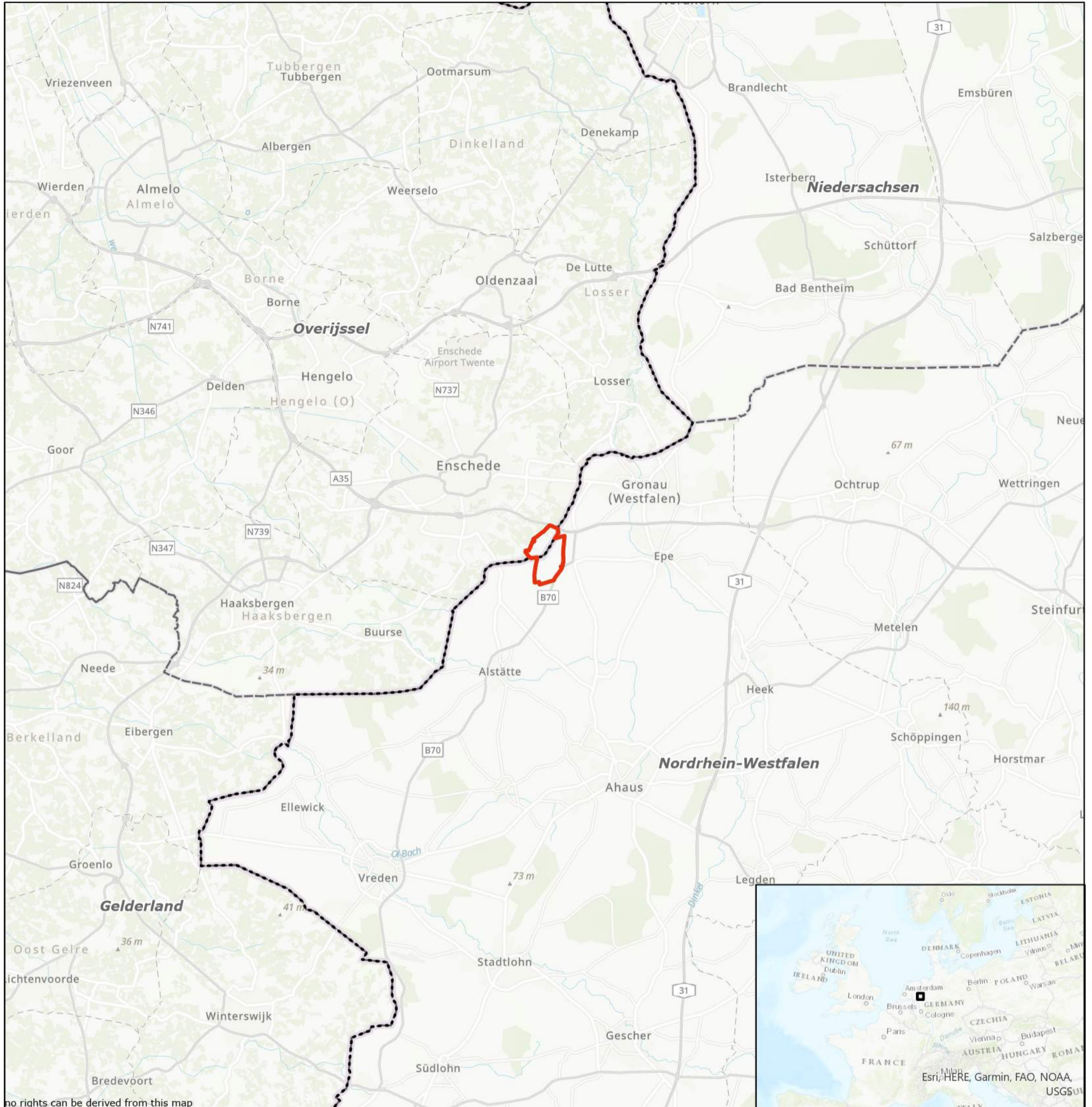
- 1a Location project area
- 1b Project area Natura 2000 sites
- 1c Delimitation Hündfelder Moor
- 2 Current distribution EU habitats
- 3 Targeted distribution EU habitats
- 4a Short term targeted ground water levels
- 4b Short term targeted ground water levels compared to ground level
- 5 Compartments and dams at project sites
- 6 Restoration measures Aamsveen
- 7 Restoration measures Hündfelder Moor
- 8 Land purchase Hündfelder Moor
- 9 Dutch-German raised bog sites
- 10 EU cross-border H7120 sites
- 11 Carbon account for the Netherlands
- 12 Stepstone function in Atlantic biogeographical region

(please note the page numbering is absent for the Maps for technical reasons)

LIFE CrossBorderBog

MAP 1A

Location projectarea



no rights can be derived from this map

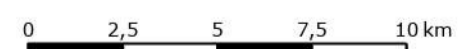
Legend

- National border The Netherlands - Germany
- Dutch province / German Bundesland
- Project area LIFE CrossBorderBog

Sources

- European Environment Agency, Directorate-General for Environment
- Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

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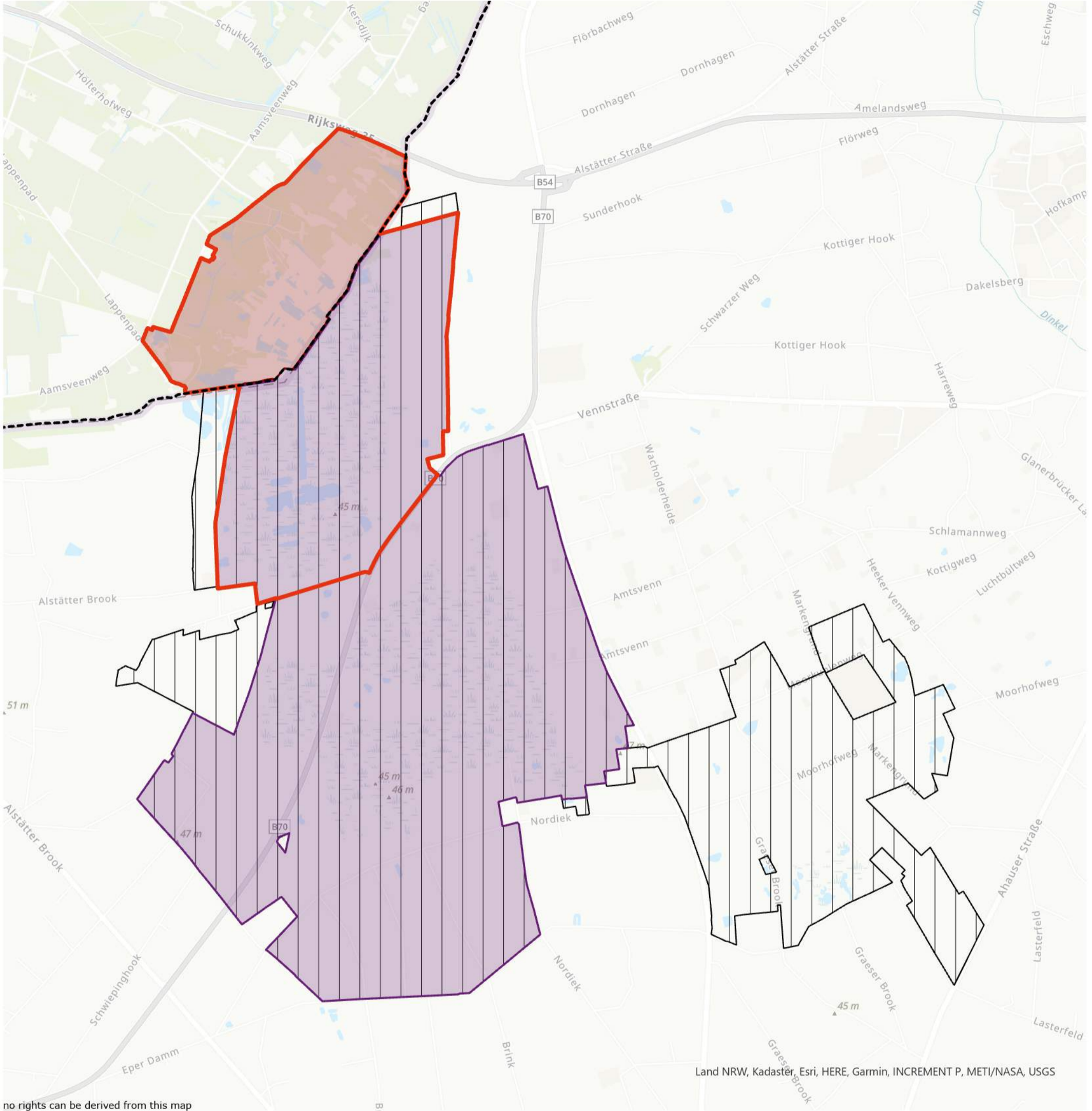


Number: 210468_6
Date: 11/25/2021

LIFE CrossBorderBog

MAP 1B

Project area and Natura2000 sites



Land NRW, Kadaster, Esri, HERE, Garmin, INCREMENT P, METI/NASA, USGS

no rights can be derived from this map

Legend

- National border The Netherlands - Germany
- Project area LIFE CrossBorderBog
- Habitats Directive Sites**
- Aamsveen HR - NL2003001
- FFH Amtsvenn und Hündfelder Moor - DE3807301
- Birds Directive Sites**
- VSG Moore und Heiden des westlichen Münsterlandes - DE3807401

Sources

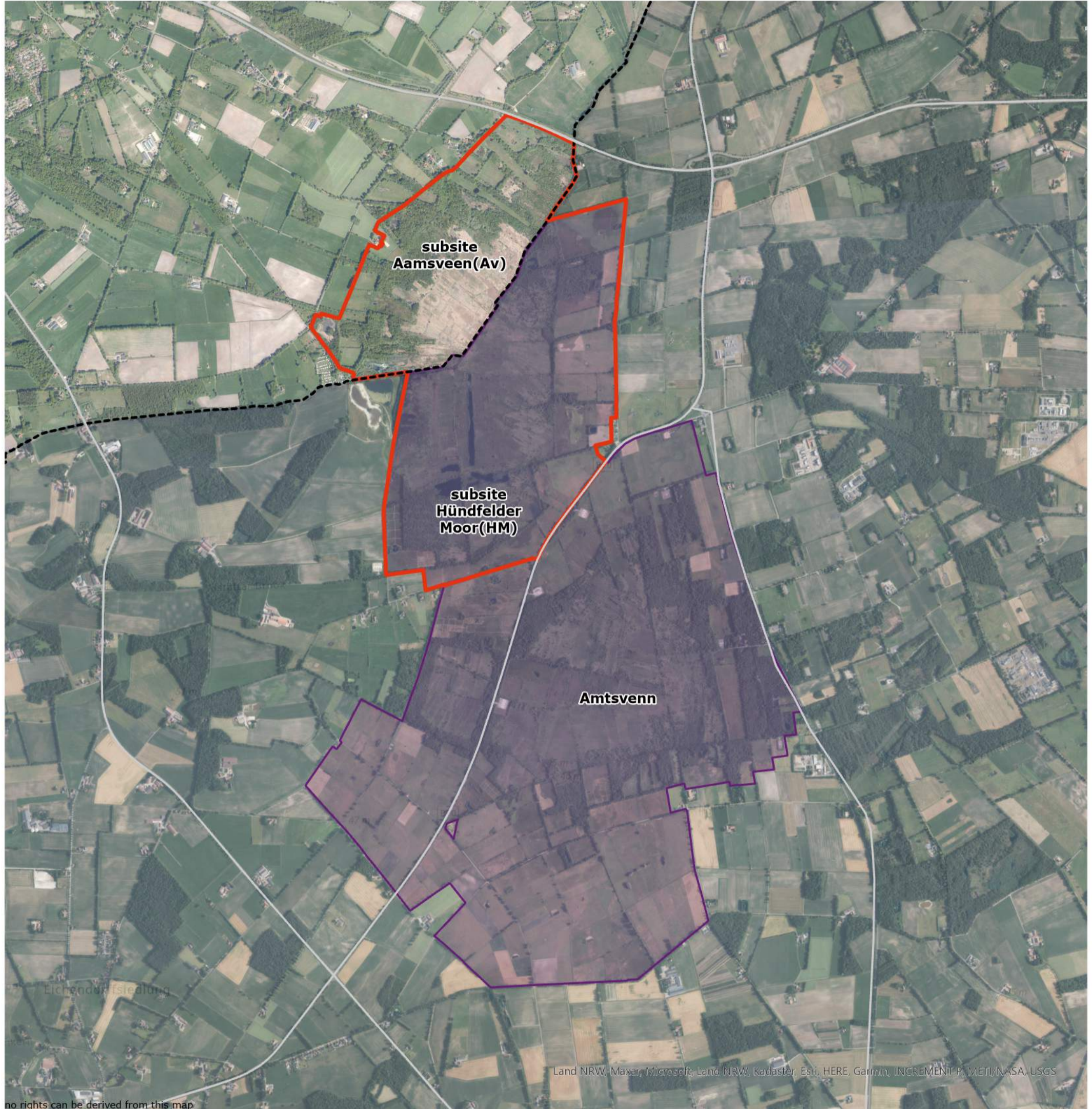
- Natura 2000-Gebiete in Nordrhein-Westfalen © LANUV
- European Environment Agency, Directorate-General for Environment
- Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

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0 0,25 0,5 0,75 1 km

Number: 210468_1
Date: 11/25/2021

Delimitation of subsite Hündfelder Moor



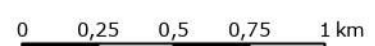
Legend

-  National border The Netherlands - Germany
-  CrossBorderBog subsites
-  FFH Amtsvenn und Hündfelder Moor - DE3807301
-  Main road

Sources

- Natura 2000-Gebiete in Nordrhein-Westfalen © LANUV
- European Environment Agency, Directorate-General for Environment
- Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

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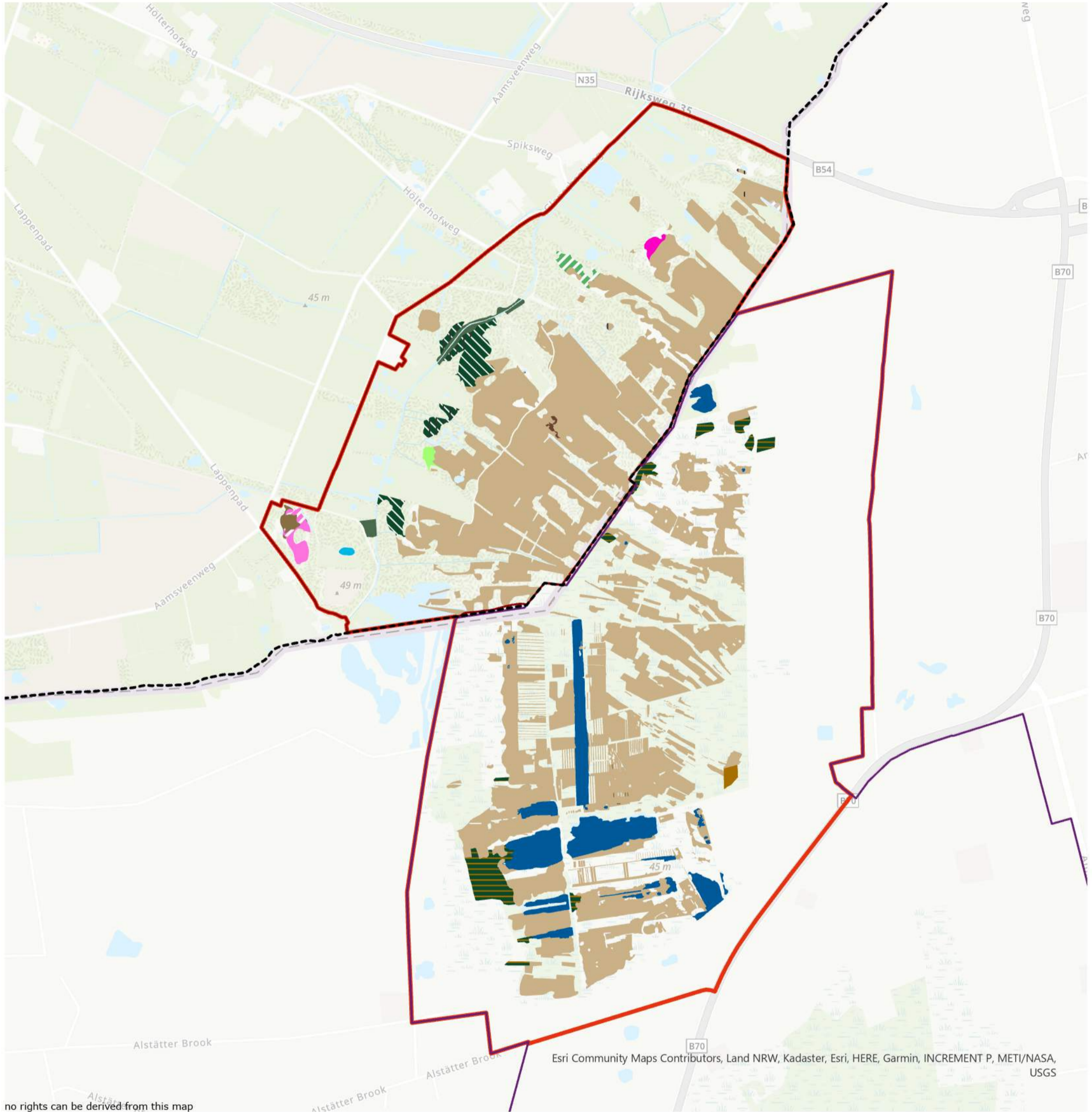


Number: 210468_7
Date: 11/25/2021

LIFE CrossBorderBog

MAP 2

Current distribution of EU Habitats



no rights can be derived from this map

Legend

National border The Netherlands - Germany

Project area LIFE CrossBorderBog

Habitats Directive Sites

Aamsveen HR - NL2003001

FFH Amtsvenn und Hündfelder Moor - DE3807301

EU Habitats

3130, Oligotrophic to mesotrophic standing waters with ation of the Littorelletea uniflorae and/or Isoetes Nanojuncetea

3160, Natural dystrophic lakes and ponds

4010, Northern Atlantic wet heaths with Erica tetralix

4030, European dry heaths

6230, Species-rich Nardus grasslands, on siliceous substrates in mountain areas (and submountain areas, in Continental Europe)

7110, Active raised bogs

7120, Degraded raised bogs still capable of natural regeneration

7140, Transition mires and quaking bogs

7150, Depressions on peat substrates of the Rhynchosporion

9120, Atlantic acidophilous beech forests with Ilex and sometimes also Taxus in the shrublayer (Quercion robori-petraeae or Ilici-Fagenion)

91D0, Bog woodland

91E0, Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae)

Search areas

7120, Search area degraded raised bogs still capable of natural regeneration

91E0, Search area alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae)

Combinations

Combination of habitats, dominated by 4010

Combination of habitats, dominated by 6410

Combination of habitats, dominated by 7120

Sources

- Natura 2000-Gebiete in Nordrhein-Westfalen © LANUV

- European Environment Agency, Directorate-General for Environment

- Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

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0 0,25 0,5 0,75 km

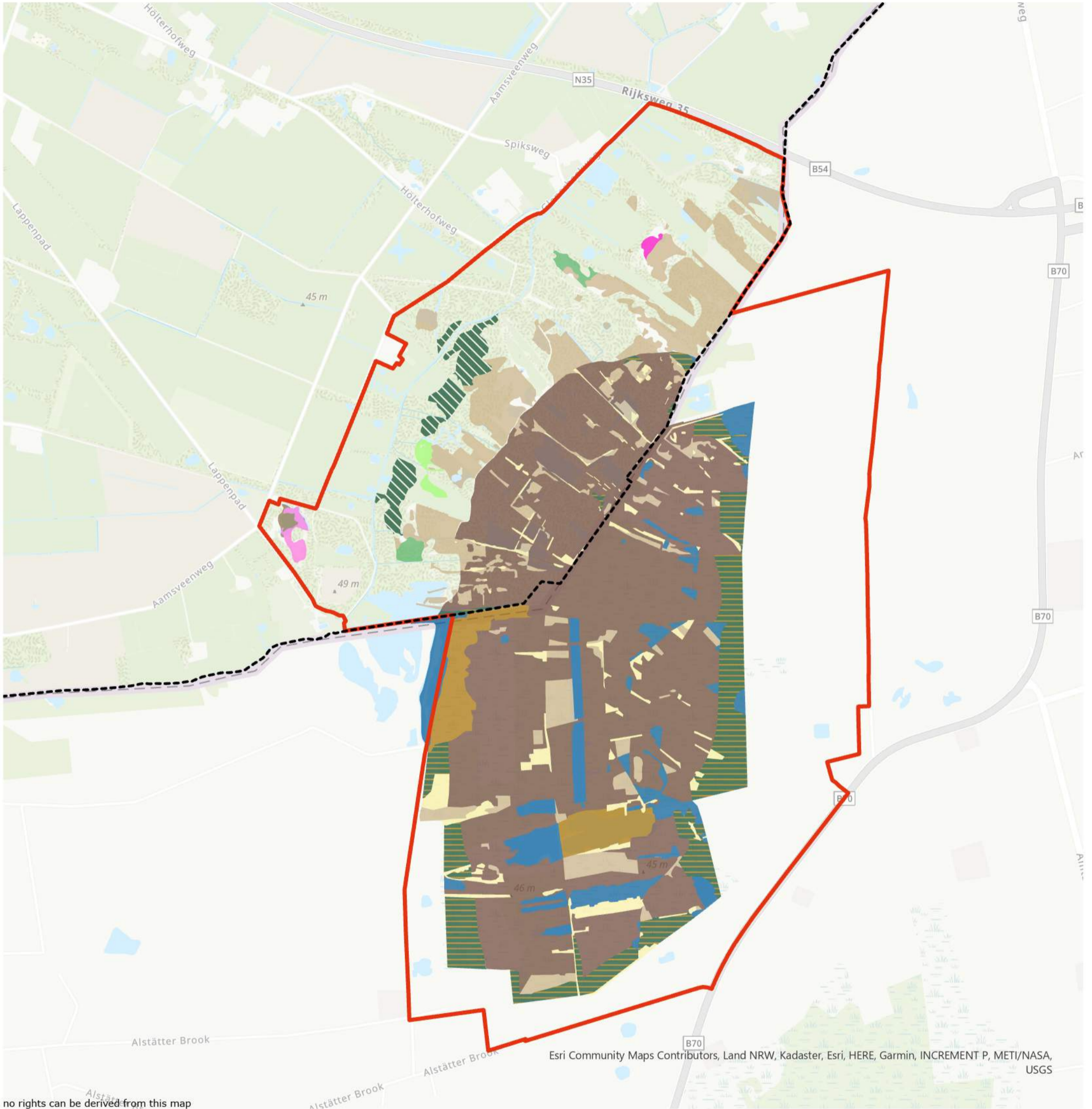
Number: 210468_2

Date: 11/25/2021

LIFE CrossBorderBog

MAP 3

Long-term targeted distribution of habitat types



no rights can be derived from this map

Legend

- National border The Netherlands - Germany
- Project area LIFE CrossBorderBog
- EU Habitats**
- 3160, Natural dystrophic lakes and ponds
- 4010, Northern Atlantic wet heaths with Erica tetralix
- 4030, European dry heaths
- 6230, Species-rich Nardus grasslands
- 6410, Molinia meadows
- 7110, Active raised bogs
- 7120, Degraded raised bogs still capable of natural regeneration
- 7140, Transition mires and quaking bogs
- 7150, Depressions on peat substrates of the Rhynchosporion (only large occurrences are displayed)
- 91D0, Bog woodland
- 91E0, Alluvial forests
- Habitat for raised bog species

Sources

- Natura 2000-Gebiete in Nordrhein-Westfalen © LANUV
- European Environment Agency, Directorate-General for Environment
- Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

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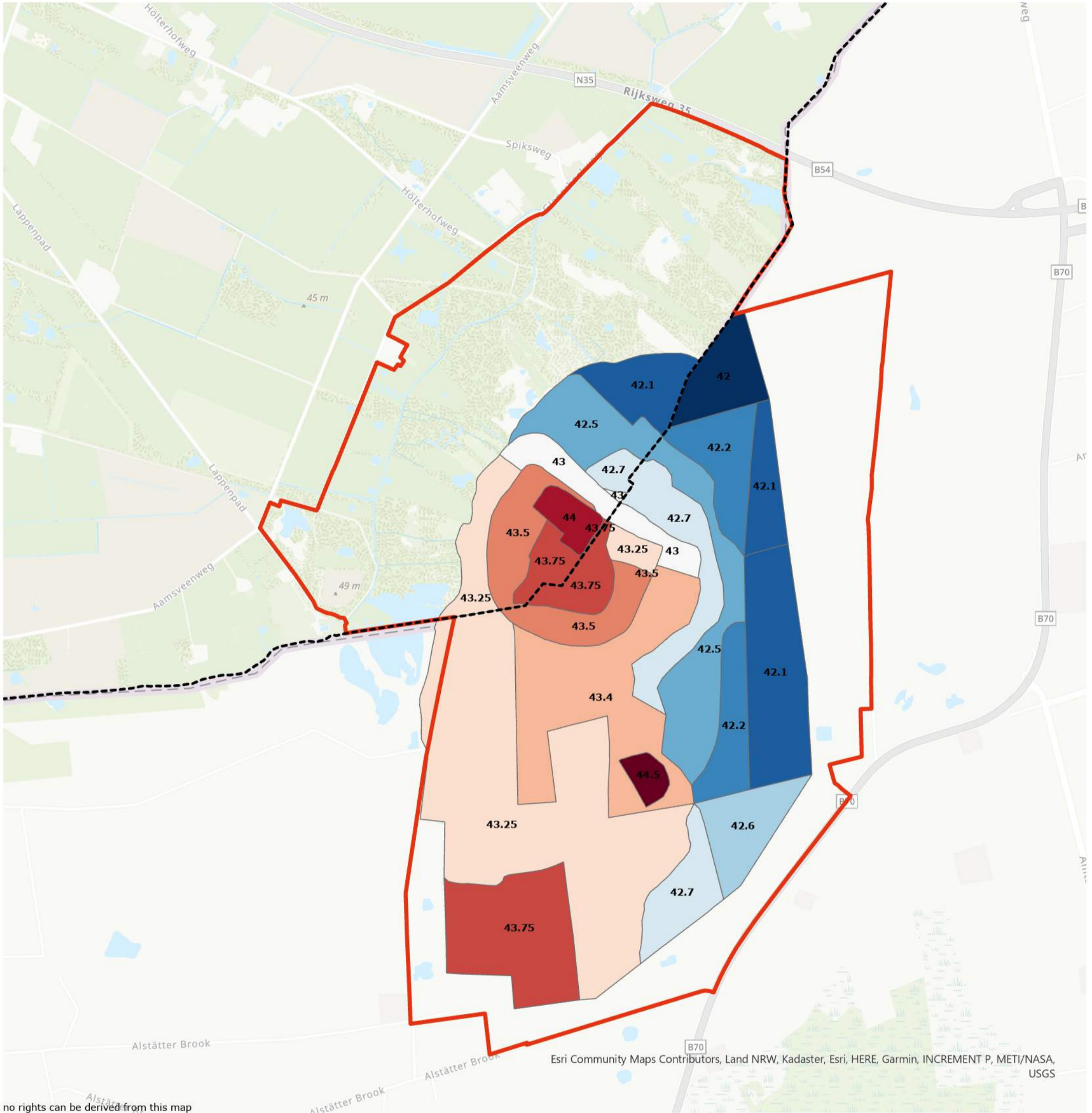
0 0,1 0,2 0,3 0,4 km

Number: 210468_8
Date: 11/29/2021

LIFE CrossBorderBog

MAP 4A

Short-term targeted ground water levels



no rights can be derived from this map

Legend

Short-term targeted ground water levels

- 42,00
- 42,10
- 42,20
- 42,50
- 42,60
- 42,70
- 43,00
- 43,25
- 43,40
- 43,50
- 43,75
- 44,00
- 44,50

- National border The Netherlands - Germany
- Project area LIFE CrossBorderBog

Sources

- Natura 2000-Gebiete in Nordrhein-Westfalen © LANUV
- European Environment Agency, Directorate-General for Environment
- Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

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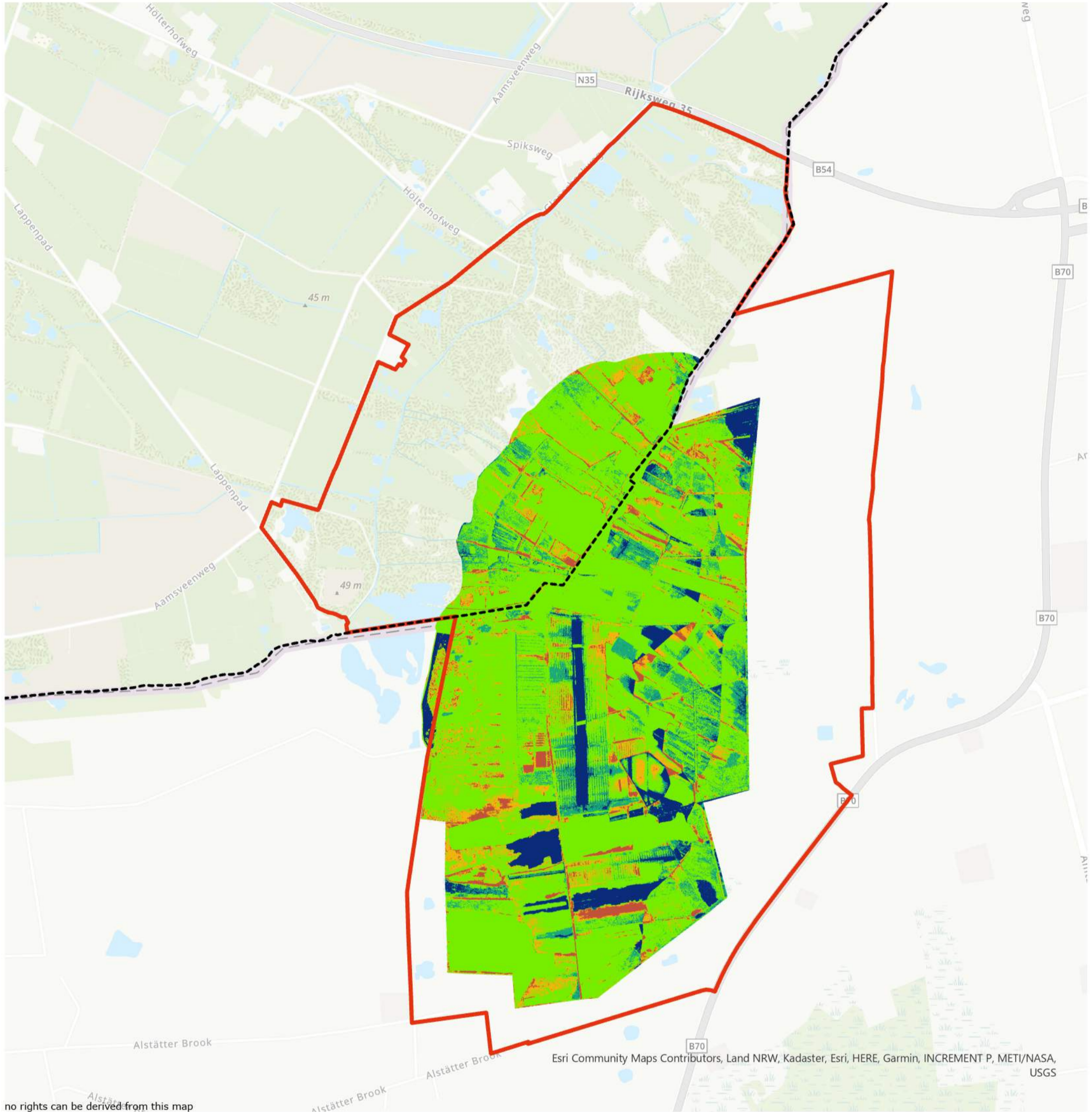
0 0,1 0,2 0,3 0,4 km

Number: 210468_9
Date: 11/25/2021

LIFE CrossBorderBog

MAP 4B

Short-term targeted ground water levels compared to ground level



no rights can be derived from this map

Legend

targeted ground water level above / below ground level

- < -0,3 m
- -0,3 m to -0,15 m
- -0,15 m to 0,15 m
- 0,15 m to 0,3 m
- > 0,3 m

- National border The Netherlands - Germany
- Project area LIFE CrossBorderBog

Sources

- Natura 2000-Gebiete in Nordrhein-Westfalen © LANUV
- European Environment Agency, Directorate-General for Environment
- Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

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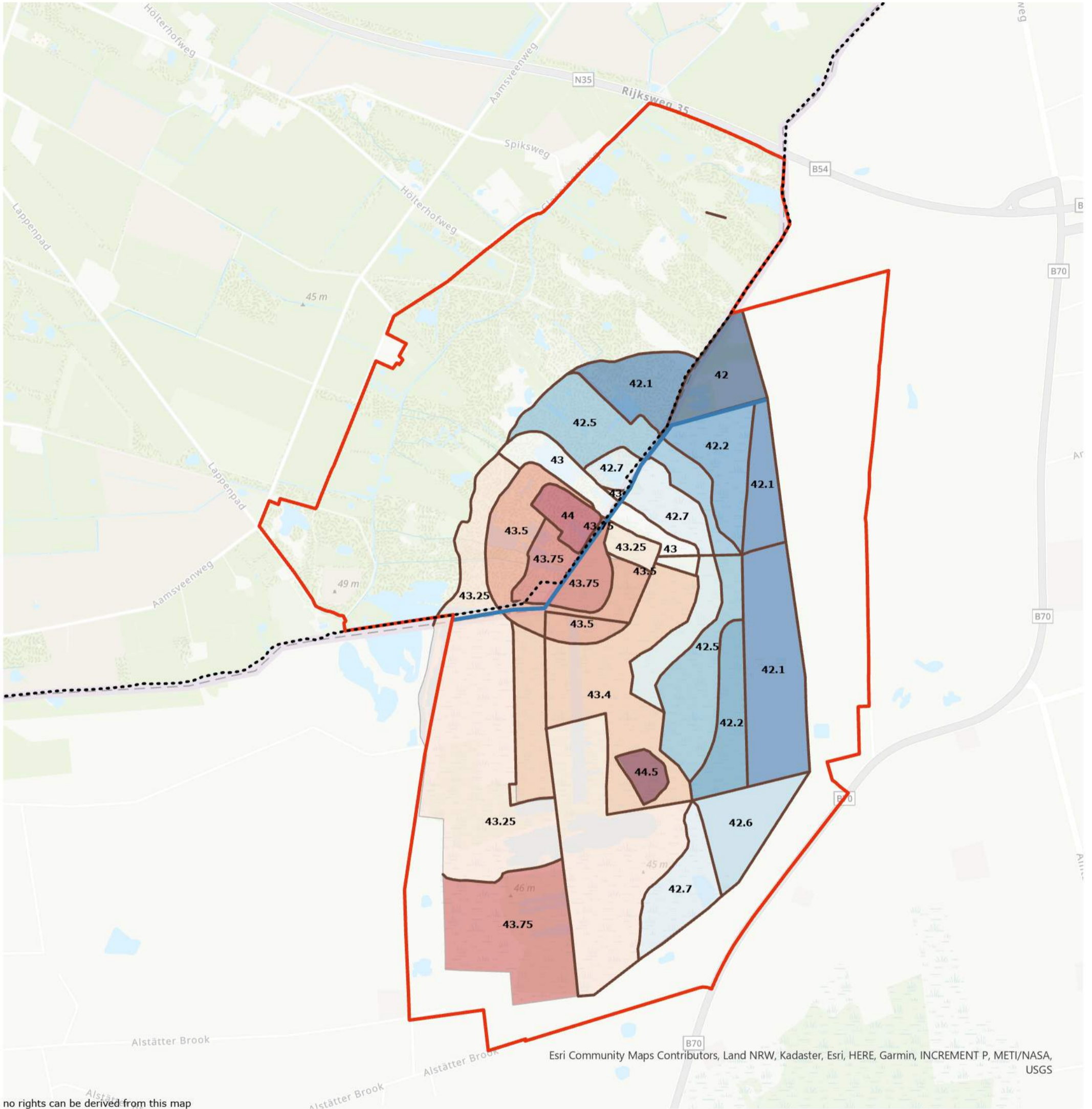
0 0,1 0,2 0,3 0,4 km

Number: 210468_10
Date: 11/25/2021

LIFE CrossBorderBog

MAP 5

Creation of cross-border retention compartments built by dams and closure of the ditch along the state border



Legend

Restoration measures
 — sealing stagnant layer
 — new dam

Short-term targeted ground water levels

- 42,00
- 42,10
- 42,20
- 42,50
- 42,60
- 42,70
- 43,00
- 43,25
- 43,40
- 43,50
- 43,75
- 44,00
- 44,50

- - - National border The Netherlands - Germany
- ▭ Project area LIFE CrossBorderBog

Sources

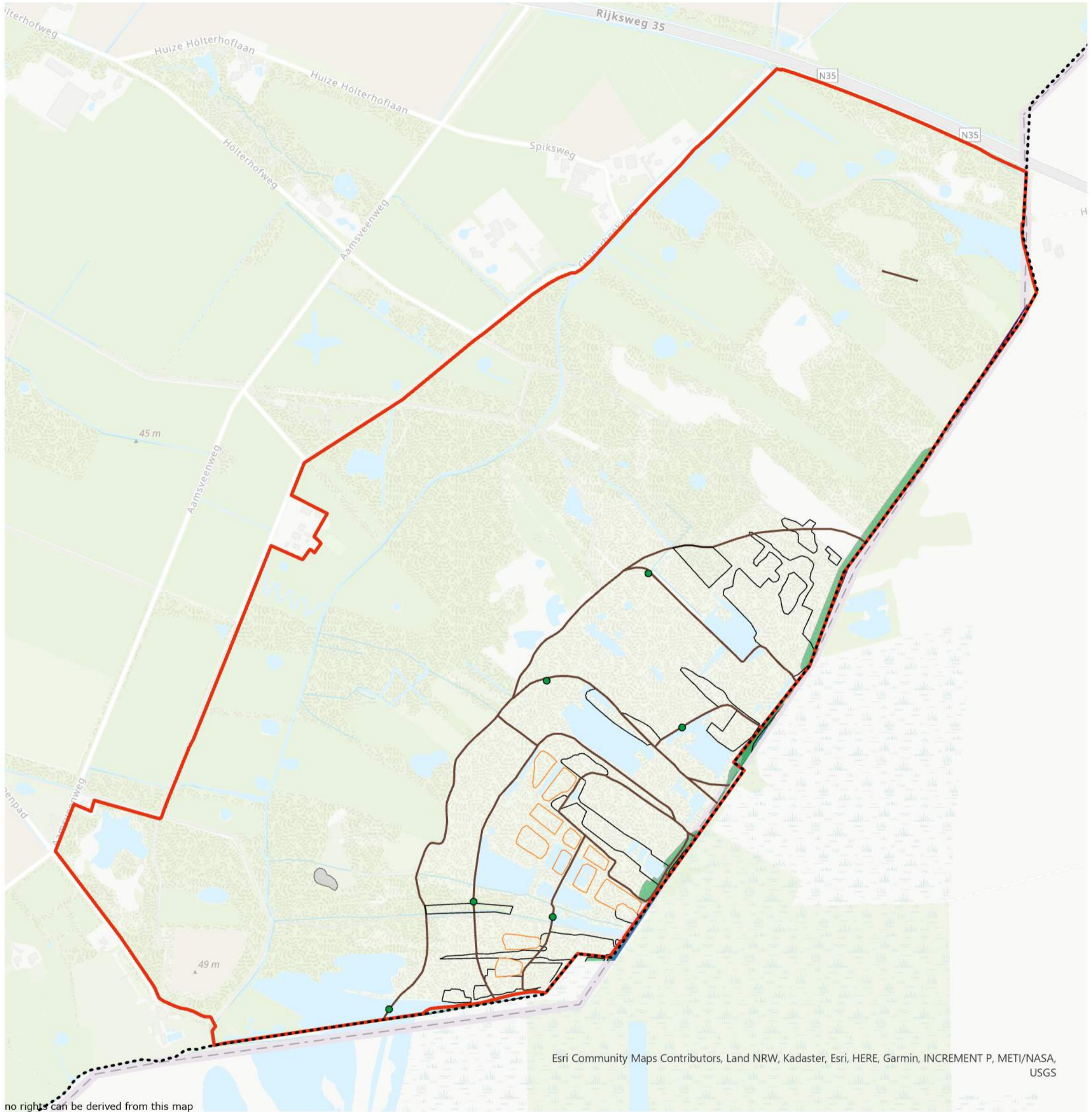
Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

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0 0,1 0,2 0,3 0,4 km

Number: 210468_3a
 Date: 11/25/2021

Restoration measures of subsite Aamsveen



Esri Community Maps Contributors, Land NRW, Kadaster, Esri, HERE, Garmin, INCREMENT P, METI/NASA, USGS

no rights can be derived from this map

Legend

- Restoration measures**
- new weir
 - new culvert
 - ↖ culvert to be blocked
 - raise footpath
 - new dam
 - filling of ditches / trenches
 - sealing stagnant layer
 - excavate top soil
 - excavate peat
 - shallowing peat holes
 - deforestation
 - filling of pool
 - filling of a large peat cut depression with shredded wood

- National border The Netherlands - Germany
- Project area LIFE CrossBorderBog - subsite Aamsveen

Sources

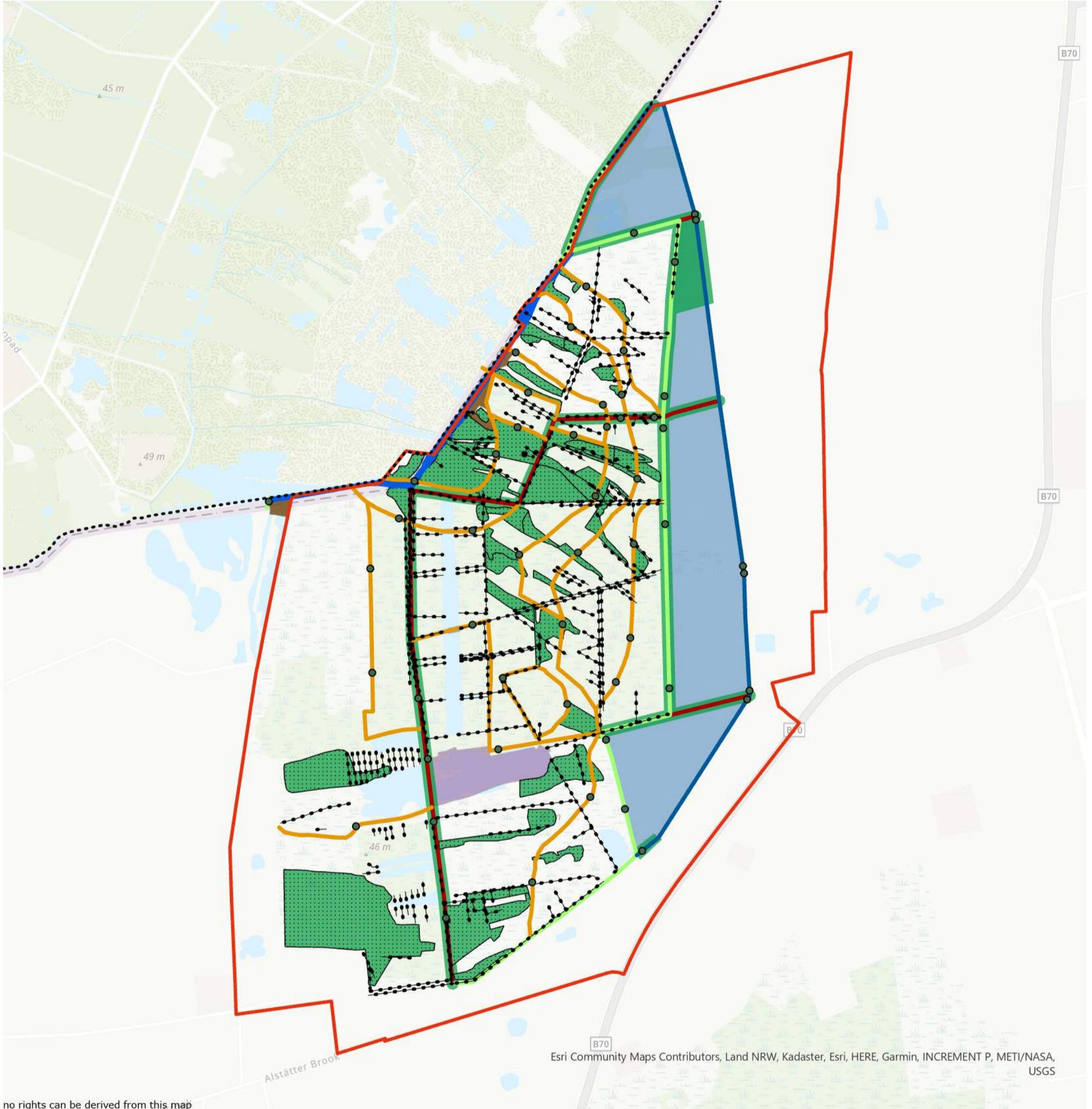
Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

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Number: 210468_3b
Date: 11/25/2021

Restoration measures of subsite Hündfelder Moor



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Legend

- Restoration measures**
- overflows
 - dams**
 - creation of the central driveways
 - construction of dams within the bog area
 - construction of dams between bog and adjacent water bodies that are to be created
 - construction of dams surrounding the water bodies
 - sealing stagnant layer
 - filling up peat depressions and border trench
 - cutting of trees and shrubs
 - digging off peat ridges
 - backfilling a large peat cut depression
 - creation of still waters

- National border The Netherlands - Germany
- Project area LIFE CrossBorderBog - subsite Hündfelder Moor

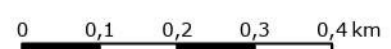
Remark:
In difference to subsite Aamsveen, for subsite Hündfelder Moor (HM) the final restoration planning will be part of the project.

All measures presented here reflect the current preliminary state of planning and therefore are not expected to be performed exactly as shown here.

Sources

Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

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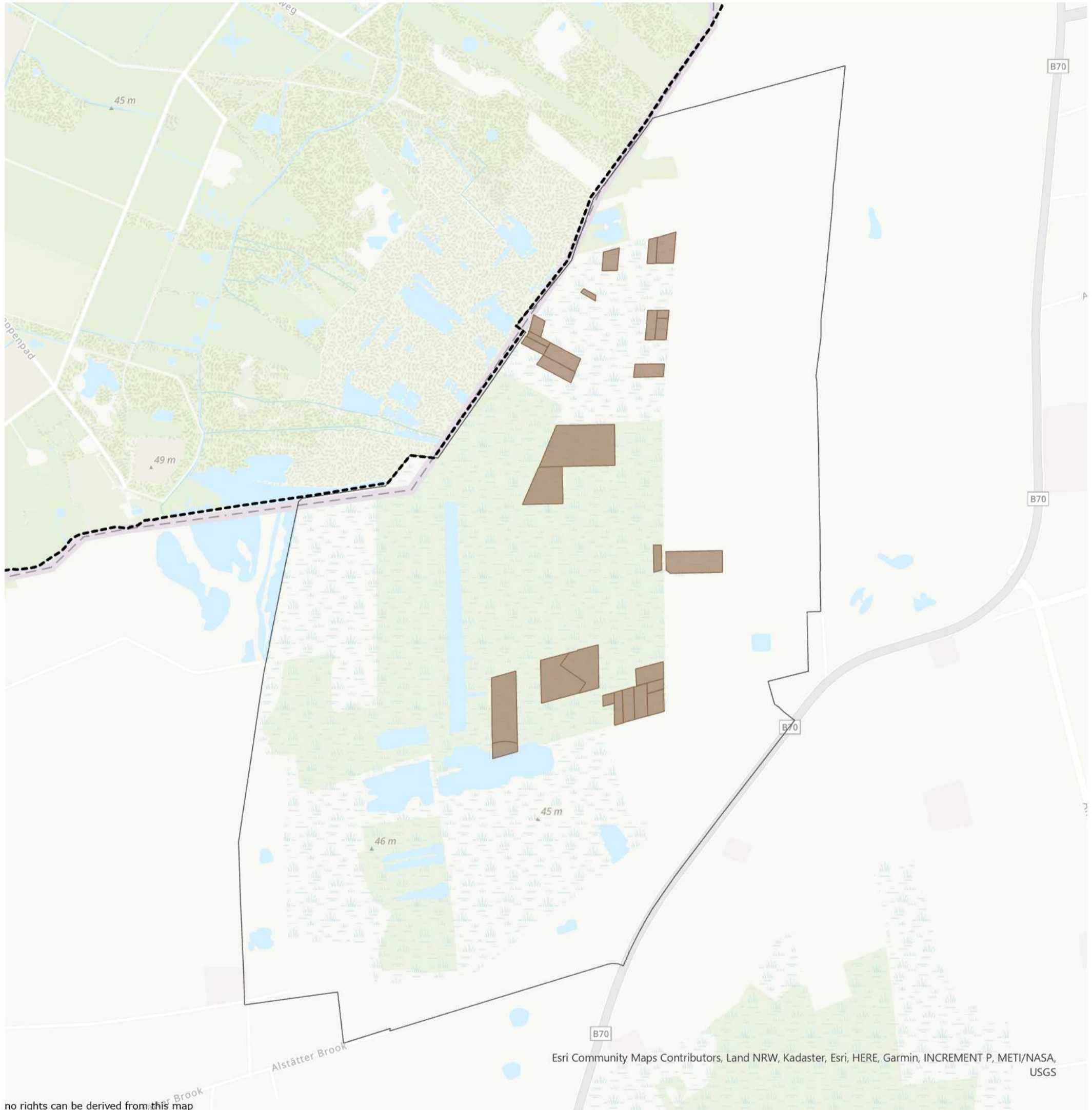


Number: 210468_3c
Date: 11/29/2021

LIFE CrossBorderBog

MAP 8

Land purchase at subsite Hündfelder Moor



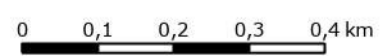
Legend

-  National border The Netherlands - Germany
-  Subsite Hündfelder Moor
-  Land purchase

Sources

- Natura 2000-Gebiete in Nordrhein-Westfalen © LANUV
- European Environment Agency, Directorate-General for Environment
- Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

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Number: 210468_11
Date: 11/25/2021

LIFE CrossBorderBog

MAP 10

Cross-border adjacent Natura 2000 sites with degraded raised bogs



Legend

- ▭ Project area LIFE CrossBorderBog
- ▭ Natura2000 sites with 7120 - Degraded raised bogs still capable of natural regeneration

Sources

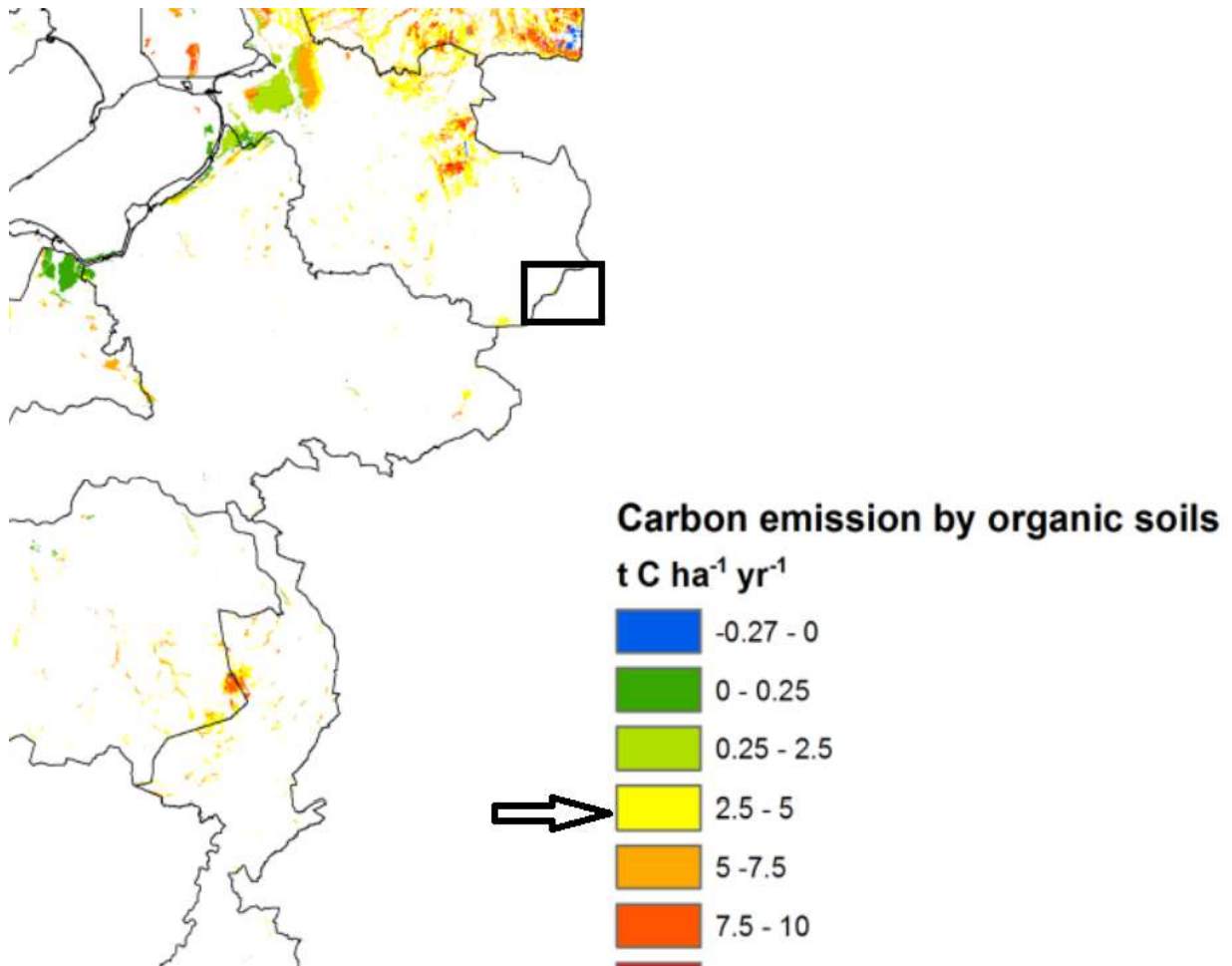
- European Environment Agency, Directorate-General for Environment
- Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

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0 50 100 150 200 km

Number: 210468_5
Date: 11/25/2021

Esri, HERE, Garmin, FAO, USGS



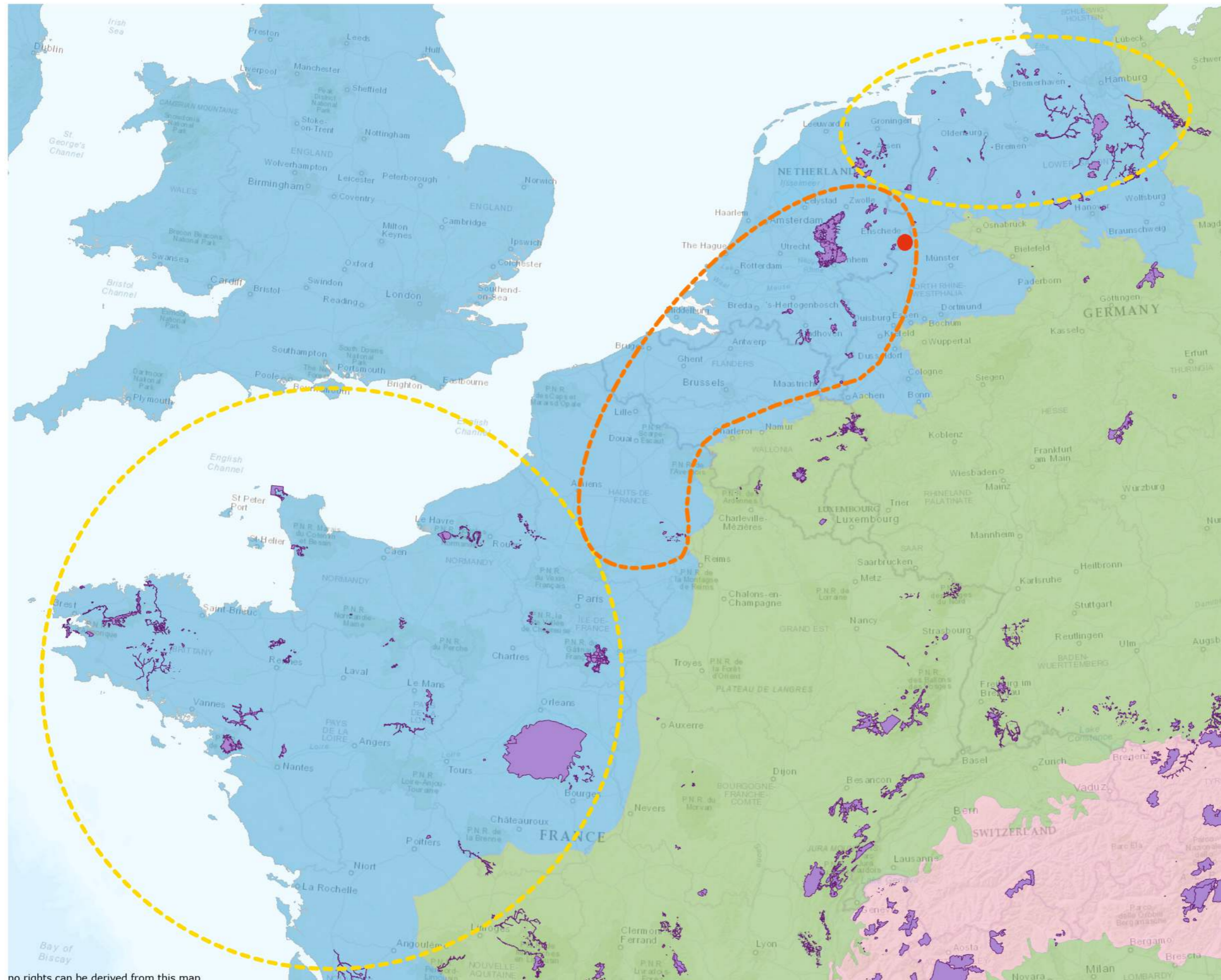
SEEA EEA Carbon account for the Netherlands: Extract for Aamsveen(-H.Moor)¹

¹ SEEA EEA 2017, accessible via: <https://seea.un.org/content/seea-eea-carbon-account-netherlands>

LIFE CrossBorderBog

MAP 12

Step-stone function of small Natura2000 sites with active raised bog within the atlantic biogeographical region



no rights can be derived from this map

Legend

- Project area LIFE CrossBorderBog
- Zone of clustered bog N2000 sites within Atlantic Bio-geographical Region
- Stepping stone zone of bog N2000 sites within Atlantic Bio-geographical Region

Natura2000 sites

- Natura2000 site with active raised bogs (H7110)

Biogeographical regions

- Alpine Bio-geographical Region
- Anatolian Bio-geographical Region
- Arctic Bio-geographical Region
- Atlantic Bio-geographical Region
- Black Sea Bio-geographical Region
- Boreal Bio-geographical Region
- Continental Bio-geographical Region
- Macaronesian Bio-geographical Region
- Mediterranean Bio-geographical Region
- Pannonian Bio-geographical Region
- Steppic Bio-geographical Region

Sources

- European Environment Agency, Directorate-General for Environment
- Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

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Number: 210468_4
Date: 11/25/2021



HISTORY OF CHANGES		
VERSION	PUBLICATION DATE	CHANGE
1.0	15.04.2021	Initial version (new MFF).
2.0	01.05.2022	Change of document short name. Clarifications in the Important Notice (language, font size, concept notes, etc). Minor adaptation of structure (section 3.2 becomes section 3.3). Minor clarifications regarding other sections. Addition of declaration on SoE. Consolidation, formatting and layout changes. Tags added.
3.0	11.05.2023	Changed document based on Revision Points after evaluation. Changes from the Revision Phase include: - Additional milestones WP5 - Change of several deliverables across WP's from status Sensitive to Public - Mid Term and Final Report are deleted from deliverables WP1 - 6 yearly reports on cumulative expenditure and 2 technical progress reports added as deliverables for WP1 - Due date for MS7.4 has been changed from Q26 to Q24 - Due date for D3.1 has been changed from Q24 to Q5 Additionally, changes were made to delete sections (3.2 and 4.5) that were inserted into the Grant Management Tool and to adjust section numbering accordingly. Annexes were inserted into the proposal (Participant information forms; Maps; Description of Sites; Description of Species and Habitats). Layout changes were made to fulfil the Guidance Note actions (incl. headers, cover page, etcetera).

Detailed Budget Table								
LIFE CrossBorderBog								
<p>Important: You may add rows but no additional tabs. This may result in your proposal being considered inadmissible. Please ensure that the file can be printed on a format of 1 page wide (number of pages depending on the number of participants). Please make sure that the figures in this table are consistent with the total budget provided in part A section 3 of the application. In case of inconsistencies, part A will prevail.</p>								
<p>Staff effort allocation Fill in the effort per work package and Beneficiary/Affiliated Entity. Please indicate the number of person-months over the whole duration of the planned work. Adapt the columns to the number of work packages in your proposal. Identify the work-package leader for each work package by showing the relevant person-month figure in bold.</p>								
Participant Number/Short Name	WP1	WP2	WP3	WP4	WP5	WP6	WP7	Total
1. Provincie Overijssel	2	4		4		1	8	19
2. BSZ	23		28		35	4	22	112
3. LO	5	4		4		4	6	24
4.								0
5.								0
6.								0
7.								0
8.								0
9.								0
10.								0
Total person-months	30	8	28	8	35	9	36	155
<p>Personnel costs Present your estimated "Personnel costs" split into 3 categories as per the table below. If you do not have any personnel costs falling under "A.4 SME owners and natural person beneficiaries" or "A.5 Volunteers", all personnel costs should be budgeted under "A1. Employees (or equivalent); A2. Natural persons under direct contract and A3. Seconded Persons". For A.4 SME owners and natural person beneficiaries: please note that as per Annex 2a of the LIFE General Model Grant Agreement (MGA), a unit cost is applied to this cost category. The units are the days spent working on the action (rounded up to the nearest half-day) and the amount per unit (daily rate) is calculated according to the following formula: (EUR 5 000 / 18 days = EUR 282.22 per day) multiplied by (country-specific correction coefficient of the country where the beneficiary is established). Note that the country specific correction coefficient to use is the one applied for the Marie Skłodowska-Curie Actions (MSCA). Yearly rates are published in the Horizon Europe Work Programme – Marie Skłodowska-Curie Actions under the funding and tender portal Reference Documents (work programme and call documents section), available at https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/how-to-participate/reference-documents;programCode=HORIZON. For A.5 Volunteer Costs: a unit cost is also applied to this cost category. The units are the days spent working on the action (rounded up to the nearest half-day) and the amount per unit (daily rate) is a country specific rate of the country where the beneficiary is established. Country specific rates to apply can be found in the LIFE MGA on pages 83 & 84.</p>								
Participant Number/Short Name	Country	Number of person months (staff effort per beneficiary)	Average monthly salary rate	A1. Employees (or equivalent); A2. Natural persons under direct contract and A3. Seconded Persons (costs)	A.4 SME owners and natural person (sole trader) beneficiaries (Unit costs in €)	Subtotal personnel costs without volunteers (A1+A2+A3+A4) - must be the same as in part A section 3	A.5 Volunteers (Unit costs) must be the same as in part A section 3	Total Personnel costs
1. Provincie Overijssel	NL	19	6.973 €	132.480 €		132.480 €		132.480 €
2. BSZ	D	112	8.202 €	918.604 €		918.604 €		918.604 €
3. LO	NL	24	13.283 €	312.592 €		312.592 €		312.592 €
4.		0	#####			0 €		0 €
5.		0	#####			0 €		0 €
6.		0	#####			0 €		0 €
7.		0	#####			0 €		0 €
8.		0	#####			0 €		0 €
9.		0	#####			0 €		0 €
10.		0	#####			0 €		0 €
Total		0		1.363.676 €	0 €	1.363.676 €	0 €	1.363.676 €
<p>Subcontracting Give details on subcontracted action tasks (if any) and explain the reasons why (as opposed to direct implementation by the participants). Subcontracting – Subcontracting means the implementation of action tasks, i.e. specific tasks which are part of the action and are described in Annex 1 of the Grant Agreement. Note: Subcontracting concerns the outsourcing of a part of the action to a party outside the Consortium. It is not simply about purchasing goods or services. We normally expect the participants to have sufficient operational capacity to implement the project activities themselves. Sub-contracting should therefore be exceptional. Include only subcontracts that comply with the rules (i.e. best value for money and no conflict of interest; coordinator tasks can normally not be subcontracted).</p>								
Participant Number/Short Name	Subcontract Description	Cost (€)	WP	Justification (Why is subcontracting necessary?)				
Provincie Overijssel	Projectmanager and Project secretary (project control) (T.1.2)	€ 144.038,40	WP 1	Might be staff member LO, but budgeted as external in case no staff member can be found. This concerns all daily management activities, such as supervision of the works, connecting the Aamsveen subsite to the Hündfelder Moor works, and the larger LIFE CrossBorderBog project, etcetera. Subcontracting is quite standard practice for BEN's POv and LO for these roles, to ensure availability of capacity and highly skilled project manager/project control tasks.				
Provincie Overijssel	Installation of monitoring infrastructure (T2.3)	2.420 €	WP 2	To document the changes that occur in the groundwater levels, measuring devices are provided that are installed before the work is carried out. Requires a technical contractor to install monitoring infrastructure.				
Provincie Overijssel	Projectmanager, Technical manager and Project secretary (T.2.1/2.2/2.3/2.4/2.5/2.6)	26.533 €	WP 2	Overall supervision and management of preparation works, such as tendering and permit procedures. Might be staff member LO, but budgeted as Subcontracting in case no staff member can be found. The expectation is that the project manager, technical manager and project secretary will have to be subcontracted, as this is a flexible working method with which BEN's PSZ and LO generally works to ensure capacity and optimal match between required skills and to be conducted tasks.				
Provincie Overijssel	Communication/ environmental manager (T.2.1/2.2/2.3/2.4/2.5/2.6)	15.633 €	WP 2	Environmental management and stakeholder outreach. Capacity for this task is outsourced to ensure availability. This is a standard method of flexible working at BEN's POv and LO, which aids availability of capacity and optimal match between the required tasks and the skill set of the person conducting the tasks.				
Provincie Overijssel	Restoration works Aamsveen based on SSK cost estimate (T.4.2/4.3/4.4/5/4.6/4.7)	2.431.157 €	WP 4	This is the major portion of the Aamsveen work and has to be done by a specialized contractor with experience in vulnerable nature areas. This cannot be done by one of the beneficiaries. The restoration costs are detailed in Part B of this application (see WP4), to provide LIFE more insight into this large sum on Subcontracting. If desired, we have an even more detailed cost estimate available in the revision phase.				

Provincie Overijssel	Technical support (T.4.1)	215.283 €	WP 4	See also above at WP2, technical support during restoration phase. This is a role that is commonly outsourced by BEN's POv and LO to ensure capacity and quality, and create flexibility in the amount of staff at the organization. In case a staff member can be found to conduct the technical support in WP4 we will make sure to select this option.
Provincie Overijssel	Projectmanager, Technical manager and Project secretary (project control) (T.4.1)	220.694 €	WP 4	Overall supervision and management of restoration works. Might be staff member LO, but budgeted as Subcontracting in case no staff member can be found. See also project manager T1.2 and project manager WP descriptions above in this Detailed Budget Table. In the Part B we have provided some more explanation about the calculation of these amounts (amount of hours vs daily rate), please refer to the WP4 description for this explanation.
Provincie Overijssel	Communication/ Environment manager (T.4.1)	46.900 €	WP 4	See also communication manager WP2. In the Part B we have provided some more explanation about the calculation of these amounts (amount of hours vs daily rate), please refer to the WP4 description for this explanation.
Provincie Overijssel	Monitoring hydrology, fauna and climate (T6.1, 6.3, T6.4)	105.315 €	WP 6	Engineering consultancy firm that creates monitoring reports based on monitoring data we collect, requires specialist knowledge and availability of capacity. Some monitoring tasks can be done by staff, but compiling all data and processing these reports will be done by the engineering firm.
Provincie Overijssel	External assistance Best Practice Manual (T.7.6)	5.000 €	WP 7	Technical writer for updated BPM based on data project staff provide, requires specialist technical knowledge and writing skills. Staff will provide input to the BPM and work on reviews and input rounds, but the majority of the writing will be done by the technical writer.
BSZ	Support in tendering & contracting (contract manager) (3.2)	29.750 €	WP 3	Technical supervision for tendering on restoration at H.Moor. The orders required for this must be prepared, tendered and awarded in accordance with the applicable national rules. For this we require a subcontracted technical supervisor to ensure quality.
BSZ	Restoration works subsite Hündfelder Moor: T5.1 - Support in contracting and technical supervision (238,000 €) for the largest contracts, installing work site facilities (23,800 €)	261.800 €	WP 5	This is the major portion of the Hündfelder Moor work and has to be done by a specialized contractor with experience in vulnerable nature areas. Technical supervision is required to ensure quality.
BSZ	Restoration works subsite Hündfelder Moor: Cutting of trees and shrubs (T5.2, 55 ha), shredding work (43,000m3)	473.858 €	WP 5	This is the major portion of the Hündfelder Moor work and has to be done by a specialized contractor with experience in vulnerable nature areas. This cannot be done by one of the beneficiaries. The restoration costs are detailed in Part B of this application (see WP 5), to provide LIFE more insight into this large sum on Subcontracting. If desired, we have an even more detailed cost estimate available in the revision phase.
BSZ	Restoration works subsite Hündfelder Moor: filling of ditches and peat depressions, Digging off peat Transport of soils (T5.3, T5.4, T5.5, T5.7, T5.10)	4.113.097 €	WP 5	This is the major portion of the Hündfelder Moor work and has to be done by a specialized contractor with experience in vulnerable nature areas. This cannot be done by one of the beneficiaries. The restoration costs are detailed in Part B of this application (see WP 5), to provide LIFE more insight into this large sum on Subcontracting. If desired, we have an even more detailed cost estimate available in the revision phase.
BSZ	Restoration works subsite Hündfelder Moor: Constructions of dams and driveways and excavation of still waters (T5.6, T5.8, T5.9, T5.10, T5.11, T5.12, T5.13)	2.283.350 €	WP 5	This is the major portion of the Hündfelder Moor work and has to be done by a specialized contractor with experience in vulnerable nature areas. This cannot be done by one of the beneficiaries. The restoration costs are detailed in Part B of this application (see WP 5), to provide LIFE more insight into this large sum on Subcontracting. If desired, we have an even more detailed cost estimate available in the revision phase.
BSZ	Restoration works subsite Hündfelder Moor: T5.14 - Restoration visitor control infrastructures	55.930 €	WP 5	Contractor has to be tendered with experience in vulnerable nature areas, we do not have the capacity and materials to conduct these works ourselves. If desired, we have an even more detailed cost estimate available in the revision phase. Restoration costs are detailed in Part B of this application (see WP5), to provide LIFE more insight into this large sum on Subcontracting.
BSZ	Monitoring hydrology and climate (T6.1 & T6.4)	89.250 €	WP 6	Engineering consultancy firm that creates monitoring reports based on monitoring data we collect, requires specialist knowledge and availability of capacity. Some monitoring tasks can be done by staff, but compiling all data and processing these reports will be done by the engineering firm.
BSZ	External assistance Best Practice Manual (T.7.6)	5.000 €	WP 7	Technical writer for updated BPM based on data project staff provide, requires specialist technical knowledge and writing skills. Staff will provide input to the BPM and work on reviews and input rounds, but the majority of the writing will be done by the technical writer.
S-NLW	Monitoring fauna (T.6.3)	16.065 €	WP 6	Engineering consultancy firm that creates monitoring reports based on monitoring data we collect, requires specialist knowledge and availability of capacity. Some monitoring tasks can be done by staff, but compiling all data and processing these reports will be done by the engineering firm.
BSZ				
BSZ				
BSZ				
BSZ				
	Total estimated costs	10.541.073 €		

If subcontracting for the entire project goes beyond 30% of the total eligible costs, give specific reasons.

We will use a significant amount of subcontractors, due to the nature of our project's work. A contractor will be needed in both Netherlands and Germany to carry out the hydrological measures of WP4 and WP 5. This is a significant amount of our project budget (ca. 81%). It is, however, unavoidable, as it requires very specialized knowledge and machinery to carry out these works in the vulnerable N2000 sites. Furthermore, working with specialized hired staff for project operations (management, technical manager, project secretary, etc) is a customary way of organizing project work in especially the Netherlands, as it allows organizations to maximize capacity for projects, without having a standard staff employment that might not always have enough projects to work on.

Other direct costs

Please complete the table below for each participant. If required add further tables at the end of this work sheet (one per participant). Please ensure that sufficient details are provided in part B. For major cost items add lines below, in order to provide a detailed breakdown within one cost category. For major items listed in the justification column, indicate the work package to which they belong. For equipment and infrastructure, please explain if the cost represents the full cost or the depreciation.

1 / POV	Cost (€)	Justification
Travel & subsistence	4.625 €	EU-exchange: 2 visits budgeted (in case they come to us costs are expected to be the same or less). Each visit = 3 days with 5 people from NL/DE (T7.4). Costs are calculated as: Train/flight = €250. Hotel = 3 nights x €125 = €375. Rental car incl petrol for 3 days = €300 (for all). Sustenance = €200 per person for 3 days. Cost per person = €925. For 5 people = €4625. For 2 trips = €9250. Of this sum, half is positioned at POV, and half is positioned at BSZ (as part of the merged row for Travel).
Equipment (incl. infrastructure)	1.936 €	Monitoring hydrology (hardware) (T.6.1)
Other goods, works and services	1.250 €	Kick-off event NL/DE: 1 Day incl field visit / 50 people / Renting a meeting venue incl lunch and coffee/tea (checked at Van der Valk Enschede): €41 per person. Total cost = €41x50 = €2050, rounded down to €2000. Rent of bus for 50 people: €500. (T.7.2)
	10.000 €	LIFE audit costs (T1.4)
	19.300 €	Dissemination pack: Communication job for website, layout for flyer, etc = €18.000 / Notice boards during 5-6yrs = €4000 per sign (x2) = €8000 / Permanent signs = €1300 per sign (x2) = €2600 / Translations = €10.000. (T7.2)
	1.750 €	1st on 2nd site managers workshop (T7.3). All costs X 2: 2 day workshop / 20 people / Same venue costs as T7.1 budgeted, i.e. €41 p.p. = €1640. Rounded up to €1650. People can be transported to and within site by own cars from POV/LO/BSZ (5 cars). Petrol costs = €100. Half of the costs are calculated at POV, the other half is at BSZ.

	2.750 €	Closing symposium: 100 people / 1 day incl field visit T.7.8. See also kick-off event for calculation: Closing symposium: 100 people / 1 day incl field visit / same tariff as earlier tasks (based on Van der Valk), €41 p.p., due to later stages project actualized to €45 p.p. This tariff includes room rent, coffee and lunch. Sum for 100 people = €4500. Due to 100 people we need 2 buses, i.e. 2x €500 = €1000.
Financial support to third parties		
Land purchase		
Total	41.611 €	
2 / BSZ	Cost (€)	Justification
Travel & subsistence	30.000 €	WP 1: 1,260.00 € for project management (T.1.1), WP 3: 252 € for permit procedure meetings, WP 5: 8,505 € for ecological construction supervision, 11,340 € for technical construction supervision, WP 6: 882 € for hydrological monitoring (T.6.1), 4,625 € for EU-wide exchange (T.7.4, see calculation at POV), 336 € for vegetation monitoring (T.6.3), WP 7: 70 € kickoff/closing (T.7.2), 630 € for research supervision (T.7.5), 2,100 € for public relations activities, excursions etc. (T.7.8)
Equipment (incl. Infrastructure)	2.975 €	Tools for volunteers for field work excursions
	33.320 €	T.5.1: all-terrain vehicle (13,090 €), portacabin (20,230 €)
Other goods, works and services	10.000 €	LIFE audit costs (T.1.4)
	1.250 €	Kick-off event NL/DE: 1 Day incl field visit / 50 people / Renting a meeting venue incl lunch and coffee/tea (checked at Van der Valk Enschede): €41 per person. Total cost = €41x50 = €2050, rounded down to €2000. Rent of bus for 50 people: €500. (T.7.1)
	19.300 €	Dissemination pack: Communication job for website, layout for flyer, etc = €18,000 / Notice boards during 5-6yrs = €4000 per sign (x2) = €8000 / Permanent signs = €1300 per sign (x2) = €2600 / Translations = €10,000. (T.7.2)
	1.750 €	1st on 2nd site managers workshop (T.7.3). See also calculation at POV.
	2.750 €	Closing symposium: 100 people / 1 day incl field visit T.7.8. See also calculation at POV.
Financial support to third parties		
Land purchase		
Total	101.345 €	
3 / LO	Cost (€)	Justification
Travel & subsistence		
Equipment (incl. infrastructure)		
Other goods, works and services		
Financial support to third parties		
Land purchase		
Total	0 €	
4 / S-NLW	Cost (€)	Justification
Travel & subsistence		
Equipment (incl. infrastructure)		
Other goods, works and services		
Financial support to third parties		
Land purchase		
Total	0 €	
5 / MUNV	Cost (€)	Justification
Travel & subsistence		
Equipment (incl. infrastructure)		
Other goods, works and services		
Financial support to third parties		
Land purchase	104.692 €	Purchase of 10,47ha land - please refer to section 1.4 of Part B for a full discussion of all land purchase criteria, purchase plan, contingency plan, and a map with the locations of the to be purchased plots. Average price is calculated at 10,000 € per hectare.
Total	104.692 €	
Participant Number/Short Name (6)	Cost (€)	Justification
Travel & subsistence		
Equipment (incl. infrastructure)		
Other goods, works and services		
Financial support to third parties		
Land purchase		
Total	0 €	
Participant Number/Short Name (7)	Cost (€)	Justification
Travel & subsistence		
Equipment (incl. infrastructure)		
Other goods, works and services		
Financial support to third parties		
Land purchase		
Total	0 €	
Participant Number/Short Name (8)	Cost (€)	Justification
Travel & subsistence		
Equipment (incl. infrastructure)		
Other goods, works and services		
Financial support to third parties		
Land purchase		
Total	0 €	
Participant Number/Short Name (9)	Cost (€)	Justification
Travel & subsistence		
Equipment (incl. infrastructure)		
Other goods, works and services		
Financial support to third parties		
Land purchase		
Total	0 €	
Participant Number/Short Name (10)	Cost (€)	Justification
Travel & subsistence		
Equipment (incl. infrastructure)		
Other goods, works and services		
Financial support to third parties		
Land purchase		
Total	0 €	

Proposal ID
101113605

Call for Proposal
LIFE-2022-SAP-NAT

Topic
LIFE-2022-SAP-NAT-NATURE

Type of Action
LIFE-AG

LIFE Programme – Application Forms (Part C – KPI)

Horizontal KPIs for all LIFE applicants (Mandatory to report on all the KPIs of this section).

<p>Innovation</p> <p>Is your project proposal developing, demonstrating and promoting innovative techniques and approaches?</p> <p><input type="radio"/> Yes <input checked="" type="radio"/> No</p>	<p>Governance</p> <p>Is your project proposal improving governance through enhancing capacities of public and private actors and the involvement of civil society?</p> <p><input type="radio"/> Yes <input checked="" type="radio"/> No</p>	<p>Plans & strategies</p> <p>Is your project proposal implementing key plans or strategies?</p> <p><input checked="" type="radio"/> Yes <input type="radio"/> No</p>
<p>Catalytic effect - Financial</p> <p>Will your project trigger additional investments?</p> <p><input type="radio"/> Yes <input checked="" type="radio"/> No</p>	<p>Catalytic effect - Spatial</p> <p>Will the results of your project be replicated beyond its intended geographical scope?</p> <p><input checked="" type="radio"/> Yes <input type="radio"/> No</p>	<p>Catalytic effect - Thematic</p> <p>Will the results of your project be replicated (transferred) beyond its intended thematic scope?</p> <p><input checked="" type="radio"/> Yes <input type="radio"/> No</p>
<p>Catalytic effect - Societal</p> <p>Will your project :</p> <p>a) Contribute to the development of new or existing national legislation, policies, regulations, incentives and voluntary commitments?</p> <p>b) Achieve a step-change in more effective compliance with and enforcement of Union environmental and climate legislation and/or in policy implementation?</p> <p>c) Achieve a step-change in awareness and support of environmental and climate matters?</p> <p>d) Establish a new macroregional or national model of cooperation (networking)?</p> <p><input type="radio"/> Yes <input checked="" type="radio"/> No</p>	<p>Rio markers for climate, biodiversity and air quality</p> <p>Please indicate if your proposal:</p> <ul style="list-style-type: none"> • Has climate change/ biodiversity/ air quality as their primary objective • Has climate change/ biodiversity/ air quality as their secondary objective and provide substantial contributions to these objectives • Does not contribute significantly to climate change/ biodiversity/ air quality <p>Climate change Secondary Objective</p> <p>Biodiversity Primary Objective</p> <p>Air quality Not contributing</p>	

LIFE Programme - Context selection

Please select the EU Member State(s) or/and Associated Countries (if any) or/and potential Associated Countries (if any) that best describe the geographical context of your project proposal, i.e. the area(s) of work or/and area(s) of impact.

Please select the type of country you wish to add

EU Member States
 Associated Countries

To Be Associated Countries

Germany(DE)

Please select the EU Member State(s) or/and Associated Countries (if any) or/and potential Associated Countries (if any) that best describe the geographical context of your project proposal, i.e. the area(s) of work or/and area(s) of impact.

Please select the type of country you wish to add

- EU Member States
- Associated Countries
- To Be Associated Countries

Netherlands(NL)

If relevant, please select the Natura 2000 sites that your project will be addressing.

EU Country

Typology

Germany

SCI: Sites of Community Importance

Natura 2000 sites

If relevant, please select the Natura 2000 sites that your project will be addressing.

EU Country

Typology

Netherlands

SCI: Sites of Community Importance

Natura 2000 sites

LIFE Programme - Annex II - Section 2 - Specific KPIs - (Please report on KPIs you consider relevant).

Please select the relevant indicators for your project. For each selected indicator please provide any required values and comments. Please note that if you deselect an indicator, all values entered will be lost.

- | | | |
|--|--|---|
| <input type="checkbox"/> Air quality | <input type="checkbox"/> Biodiversity (Invasive Alien Species) | <input checked="" type="checkbox"/> Biodiversity (habitats) |
| <input checked="" type="checkbox"/> Biodiversity (number of Species) | <input type="checkbox"/> C2M projects | <input type="checkbox"/> Chemicals (environment) |
| <input type="checkbox"/> Chemicals (humans) | <input type="checkbox"/> Climate area vulnerability reduction | <input type="checkbox"/> Climate vulnerability (humans) |
| <input type="checkbox"/> Employment | <input type="checkbox"/> Energy savings | <input checked="" type="checkbox"/> GHG emissions |
| <input checked="" type="checkbox"/> GHG sequestration | <input type="checkbox"/> Investments and Financing | <input type="checkbox"/> Noise |
| <input checked="" type="checkbox"/> Other project specific KPIs | <input type="checkbox"/> Renewable energy | <input type="checkbox"/> Resource efficiency |
| <input type="checkbox"/> Soil quality | <input type="checkbox"/> Waste management | <input type="checkbox"/> Water efficiency |
| <input type="checkbox"/> Water quality | | |

Biodiversity (habitats)

Area of habitats where loss of biodiversity is being halted and reversed

The start-value is pre-set to 0. In the end-value please provide an estimate of the area of habitats where loss of biodiversity is being halted and reversed due to your project, at project-end. The end-value is expected to be higher than the start-value, demonstrating an increase in the area positively affected, due to the project actions. Please also provide the estimated number, 3/5 years after the project-end, to demonstrate if further area of habitats will be positively affected. Please also provide relevant comments (e.g. 3 most relevant habitats addressed, their areas, etc)..

Project-Start Value (Baseline)	Project-End Value	3/5 years beyond Project-End Value	Unit
0	1.75	1.75	km2

Please provide stand-alone information to further clarify your input and briefly explain any assumptions/calculations. Please also ensure alignment with the main proposal text.

Habitat biodiversity loss being halted and reversed will take a long period for raised bog habitats. However, we can indicate the amount of hectares in which hydrological conditions are restored, and thus biodiversity loss is expected to be halted and eventually reversed.

- Baseline value: 0 ha
- Project-End value: 175.1 ha where further habitat degradation will be stopped, but not (yet) reversed
- 3/5 years beyond project end value: same as project end value, because the long-term character of bog restoration processes

Biodiversity (number of Species)

Number of species whose population loss is being halted and reversed

The start-value is pre-set to 0. In the end-value please provide an estimate of the number of species whose population loss is being halted and reversed due to your project, at project-end. The end-value is expected to be higher than the start-value, demonstrating an increase in the number of species positively affected, due to the project actions. Please also provide the estimated number, 3/5 years after the project-end, to demonstrate if further species will be positively affected. Please also provide relevant comments (e.g. 3 most relevant species addressed, their populations, ranges/areas, etc).

Project-Start Value (Baseline)	Project-End Value	3/5 years beyond Project-End Value	Unit
0	9	22	Number of species

Please provide stand-alone information to further clarify your input and briefly explain any assumptions/calculations. Please also ensure alignment with the main proposal text.

- Baseline value: 0,
- Project-End value: 9 (all but bird species),
- 3/5 years beyond project end value: 22

Species list:

Aeschna subarctica, Anas crecca, Anas querquedula, Anas strepera, Anser albifrons, Caprimulgus europaeus, Gallinago gallinago, Grus grus, Hyla arborea, Leucorrhinia dubia, Leucorrhinia rubicunda, Leucorrhinia pectoralis, Luscinia svecica, Limnocyptes minimus, Rallus aquaticus, Rana arvalis, Rana lessonae, Somatochlora arctica, Tachybaptus ruficollis, Tringa glareola, Tringa ochropus, Triturus cristatus

GHG emissions

Reduction of greenhouse gas emissions in Tonnes of CO2 equivalent per year (CO2e/year)

In the start-value please provide the baseline of the problem at the start of the project (e.g. the amount of greenhouse gases emitted). In the end-value please provide the new estimated amount of greenhouse gases emitted, at project-end. The end-value is expected to be lower than the start-value, demonstrating a reduction in the amount of greenhouse gases emitted, due to the project actions. Please also provide the estimated amount of greenhouse gases emitted for the 3/5 years after the project end to demonstrate if further reduction would be achieved. Please also provide relevant comments.

Project-Start Value (Baseline)	Project-End Value	3/5 years beyond Project-End Value	Unit
726	242	200	Tn of CO2eq/Year

Please provide stand-alone information to further clarify your input and briefly explain any assumptions/calculations. Please also ensure alignment with the main proposal text.

Current CO2 emission is calculated at 725,6 t CO2 per year for the hectares that will be rewetted (193,5ha). After rewetting we expect to reduce this by two-third. On the long term is might reduce somewhat further, this effect is still uncertain. The University of Münster will contribute to the knowledge base and address some of the knowledge gaps through studies in our N2000 sites during the project.

GHG sequestration

Increase in greenhouse gas sequestration in Tonnes of CO2 equivalent per year (CO2e/year)

In the start-value please provide the baseline at the start of the project (e.g. the amount of greenhouse gases sequestration in the context targeted by your project). In the end-value please provide the new estimated amount of greenhouse gases sequestration due to the project, at project-end. The end-value is expected to be higher than the start-value, demonstrating an increase in the amount of greenhouse gases sequestrated, due to the project actions. Please also provide the estimated amount of greenhouse gases sequestrated for the 3/5 years after the project end to demonstrate if further increase would be achieved. Please also provide relevant comments.

Project-Start Value (Baseline)	Project-End Value	3/5 years beyond Project-End Value	Unit
0	1	10	Tn of CO2eq/Year

Please provide stand-alone information to further clarify your input and briefly explain any assumptions/calculations. Please also ensure alignment with the main proposal text.

Please note that the KPI fields do not do justice to actual eventual sequestration. We have calculated long-term sequestration at 119 t C per year, however, this will take longer than 3/5 years after project end. It takes several decades for active raised bog to form and fulfil its maximum potential for CO2 sequestration.

Other project specific KPIs

Please enter your project's specific KPI title and provide clarifications in the comment box.

Please specify any other KPIs you wish to present that you consider relevant and not included in the existing KPI list.

Project-Start Value (Baseline)	Project-End Value	3/5 years beyond Project-End Value	Unit
0	175.1	175.1	Hectares

Please provide stand-alone information to further clarify your input and briefly explain any assumptions/calculations. Please

also ensure alignment with the main proposal text.

Target area of restored hydrological conditions.

- Baseline value: 0 ha
- Project-End value: 100%, 175.1 ha
- 3/5 years beyond project end value: same as project end value

Detailed to groundwater level classes:

- Groundwater level class 1: 121 ha
- Groundwater level class 2: 33 ha
- Groundwater level class 3: 8.5 ha
- Groundwater level class 4: 12.6 ha

ANNEX 2

ESTIMATED BUDGET FOR THE ACTION

Forms of funding	Estimated eligible ¹ costs (per budget category)										Estimated EU contribution ²				
	Direct costs									Indirect costs	Total costs	EU contribution to eligible costs			Maximum grant amount ⁶
	A. Personnel costs			B. Subcontracting costs	C. Purchase costs			D. Other cost categories		E. Indirect costs ³		Funding rate % ⁴	Maximum EU contribution ⁵	Requested EU contribution	
	A.1 Employees (or equivalent)	A.4 SME owners and natural person beneficiaries	A.5 Volunteers	B. Subcontracting	C.1 Travel and subsistence	C.2 Equipment	C.3 Other goods, works and services	D.1 Financial support to third parties	D.2 Land purchase	E. Indirect costs					
A.2 Natural persons under direct contract															
A.3 Seconded persons															
	Actual costs	Unit costs ⁷	Unit costs ⁷	Actual costs	Actual costs	Actual costs	Actual costs	Actual costs	Actual costs	Flat-rate costs ⁸					
	a1	a3	a4	b	c1	c2	c3	d1a	d2	e = flat-rate * (a1 + a3 + b + c1 + c2 + c3 + d1a)	f = a + b + c + d + e	U	g = f * U%	h	m
1 - PO	132 480.00	0.00	0.00	3 212 973.00	4 625.00	1 936.00	35 050.00	0.00	0.00	237 094.48	3 624 158.48	67	2 428 186.18	2 428 186.18	2 428 186.18
2 - BSZ	918 604.00	0.00	0.00	7 312 035.00	30 000.00	36 295.00	35 050.00	0.00	0.00	583 238.88	8 915 222.88	67	5 973 199.33	5 973 199.33	5 973 199.33
3 - Stiftung NLW	0.00	0.00	0.00	16 065.00	0.00	0.00	0.00	0.00	0.00	1 124.55	17 189.55	67	11 517.00	11 517.00	11 517.00
4 - LO	312 592.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	21 881.44	334 473.44	67	224 097.20	224 097.20	224 097.20
5 - MUNV NRW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	104 692.00	0.00	104 692.00	67	70 143.64	70 143.64	70 143.64
Σ consortium	1 363 676.00	0.00	0.00	10 541 073.00	34 625.00	38 231.00	70 100.00	0.00	104 692.00	843 339.35	12 995 736.35		8 707 143.35	8 707 143.35	8 707 143.35

¹ See Article 6 for the eligibility conditions. All amounts must be expressed in EUR (see Article 21 for the conversion rules).

² The consortium remains free to decide on a different internal distribution of the EU funding (via the consortium agreement; see Article 7).

³ Indirect costs already covered by an operating grant (received under any EU funding programme) are ineligible (see Article 6.3). Therefore, a beneficiary/affiliated entity that receives an operating grant during the action duration cannot declare indirect costs for the year(s)/reporting period(s) covered by the operating grant, unless they can demonstrate that the operating grant does not cover any costs of the action. This requires specific accounting tools. Please immediately contact us via the EU Funding & Tenders Portal for details.

⁴ See Data Sheet for the funding rate(s).

⁵ This is the theoretical amount of the EU contribution to costs, if the reimbursement rate is applied to all the budgeted costs. This theoretical amount is then capped by the 'maximum grant amount'.

⁶ The 'maximum grant amount' is the maximum grant amount decided by the EU. It normally corresponds to the requested grant, but may be lower.

⁷ See Annex 2a 'Additional information on the estimated budget' for the details (units, cost per unit).

⁸ See Data Sheet for the flat-rate.

ANNEX 2a

ADDITIONAL INFORMATION ON UNIT COSTS AND CONTRIBUTIONS

SME owners/natural person beneficiaries without salary

See [*Additional information on unit costs and contributions \(Annex 2a and 2b\)*](#)

Volunteers

See [*Additional information on unit costs and contributions \(Annex 2a and 2b\)*](#)

ANNEX 3

ACCESSION FORM FOR BENEFICIARIES

BIOLOGISCHE STATION ZWILLBROCK EV (BSZ), PIC 889942603, established in ZWILLBROCK 10, VREDEN 48691, Germany,

hereby agrees

to become beneficiary

in Agreement No 101113605 — LIFE22-NAT-NL-LIFE CrossBorderBog (‘the Agreement’)

between OVERIJSEL (PO) and the European Climate, Infrastructure and Environment Executive Agency (CINEA) (‘EU executive agency’ or ‘granting authority’), under the powers delegated by the European Commission (‘European Commission’),

and mandates

the coordinator to submit and sign in its name and on its behalf any **amendments** to the Agreement, in accordance with Article 39.

By signing this accession form, the beneficiary accepts the grant and agrees to implement it in accordance with the Agreement, with all the obligations and terms and conditions it sets out.

SIGNATURE

For the beneficiary

ANNEX 3

ACCESSION FORM FOR BENEFICIARIES

STIFTUNG NATUR UND LANDSCHAFT WESTMUNSTERLAND (Stiftung NLW), PIC 889377675, established in ZWILLBROCK 10, VREDEN 48691, Germany,

hereby agrees

to become beneficiary

in Agreement No 101113605 — LIFE22-NAT-NL-LIFE CrossBorderBog (‘the Agreement’)

between OVERIJSEL (PO) and the European Climate, Infrastructure and Environment Executive Agency (CINEA) (‘EU executive agency’ or ‘granting authority’), under the powers delegated by the European Commission (‘European Commission’),

and mandates

the coordinator to submit and sign in its name and on its behalf any **amendments** to the Agreement, in accordance with Article 39.

By signing this accession form, the beneficiary accepts the grant and agrees to implement it in accordance with the Agreement, with all the obligations and terms and conditions it sets out.

SIGNATURE

For the beneficiary

ANNEX 3

ACCESSION FORM FOR BENEFICIARIES

STICHTING LANDSCHAP OVERIJSEL (LO), PIC 889118782, established in POPPENALLEE 39, DALFSEN 7722 KW, Netherlands,

hereby agrees

to become beneficiary

in Agreement No 101113605 — LIFE22-NAT-NL-LIFE CrossBorderBog (‘the Agreement’)

between OVERIJSEL (PO) and the European Climate, Infrastructure and Environment Executive Agency (CINEA) (‘EU executive agency’ or ‘granting authority’), under the powers delegated by the European Commission (‘European Commission’),

and mandates

the coordinator to submit and sign in its name and on its behalf any **amendments** to the Agreement, in accordance with Article 39.

By signing this accession form, the beneficiary accepts the grant and agrees to implement it in accordance with the Agreement, with all the obligations and terms and conditions it sets out.

SIGNATURE

For the beneficiary

ANNEX 3

ACCESSION FORM FOR BENEFICIARIES

Ministerium für Umwelt, Landwirtschaft, Natur- und Verbraucherschutz des Landes Nordrhein-Westfalen (MUNV NRW), PIC 994567870, established in Schwannstr. 3, Düsseldorf 40476, Germany,

hereby agrees

to become beneficiary

in Agreement No 101113605 — LIFE22-NAT-NL-LIFE CrossBorderBog ('the Agreement')

between OVERIJSEL (PO) and the European Climate, Infrastructure and Environment Executive Agency (CINEA) ('EU executive agency' or 'granting authority'), under the powers delegated by the European Commission ('European Commission'),

and mandates

the coordinator to submit and sign in its name and on its behalf any **amendments** to the Agreement, in accordance with Article 39.

By signing this accession form, the beneficiary accepts the grant and agrees to implement it in accordance with the Agreement, with all the obligations and terms and conditions it sets out.

SIGNATURE

For the beneficiary

ANNEX 4 LIFE MGA — MULTI + MONO

FINANCIAL STATEMENT FOR [PARTICIPANT NAME] FOR REPORTING PERIOD [NUMBER]

Eligible ¹ costs (per budget category)											EU contribution ²				Revenues	
Direct costs										Indirect costs	Total costs	EU contribution to eligible costs			Total requested EU contribution	Income generated by the action
A. Personnel costs			B. Subcontracting costs	C. Purchase costs			D. Other cost categories		E. Indirect costs ²	Funding rate % ³		Maximum EU contribution ⁴	Requested EU contribution			
A.1 Employees (or equivalent)	A.4 SME owners and natural person beneficiaries	A.5 Volunteers	B. Subcontracting	C.1 Travel and subsistence	C.2 Equipment	C.3 Other goods, works and services	D.X Financial support to third parties	D.2 Land purchase	E. Indirect costs							
A.2 Natural persons under direct contract																
A.3 Seconded persons																
Forms of funding	Actual costs	Unit costs ⁵	Unit costs ⁵	Actual costs	Actual costs	Actual costs	Actual costs	Actual costs	Actual costs	Flat-rate costs ⁶						
	a1	a3	a4	b	c1	c2	c3	d1a	d2	e = flat-rate * (a1 + a3 + b + c1 + c2 + c3 + d1a)	f = a+b+c+d+e	U	g = f*U%	h	m	n
XX – [short name beneficiary/affiliated entity]																

The beneficiary/affiliated entity hereby confirms that:
 The information provided is complete, reliable and true.
 The costs and contributions declared are eligible (see Article 6).
 The costs and contributions can be substantiated by adequate records and supporting documentation that will be produced upon request or in the context of checks, reviews, audits and investigations (see Articles 19, 20 and 25).
 For the last reporting period: that all the revenues have been declared (see Article 22).

¹ Please declare all eligible costs and contributions, even if they exceed the amounts indicated in the estimated budget (see Annex 2). Only amounts that were declared in your individual financial statements can be taken into account lateron, in order to replace costs/contributions that are found to be ineligible.

¹ See Article 6 for the eligibility conditions. All amounts must be expressed in EUR (see Article 21 for the conversion rules).

² If you have also received an EU operating grant during this reporting period, you cannot claim indirect costs - unless you can demonstrate that the operating grant does not cover any costs of the action. This requires specific accounting tools. Please contact us immediately via the Funding & Tenders Portal for details.

³ See Data Sheet for the reimbursement rate(s).

⁴ This is the *theoretical* amount of EU contribution to costs that the system calculates automatically (by multiplying the reimbursement rates by the costs declared). The amount you request (in the column 'requested EU contribution') may be less.

⁵ See Annex 2a 'Additional information on the estimated budget' for the details (units, cost per unit).

⁶ See Data Sheet for the flat-rate.

ANNEX 5

SPECIFIC RULES

INTELLECTUAL PROPERTY RIGHTS (IPR) — BACKGROUND AND RESULTS — ACCESS RIGHTS AND RIGHTS OF USE (— ARTICLE 16)

Rights of use of the granting authority on results for information, communication, dissemination and publicity purposes

The granting authority also has the right to exploit non-sensitive results of the action for information, communication, dissemination and publicity purposes, using any of the following modes:

- **use for its own purposes** (in particular, making them available to persons working for the granting authority or any other EU service (including institutions, bodies, offices, agencies, etc.) or EU Member State institution or body; copying or reproducing them in whole or in part, in unlimited numbers; and communication through press information services)
- **distribution to the public** in hard copies, in electronic or digital format, on the internet including social networks, as a downloadable or non-downloadable file
- **editing** or **redrafting** (including shortening, summarising, changing, correcting, cutting, inserting elements (e.g. meta-data, legends or other graphic, visual, audio or text elements extracting parts (e.g. audio or video files), dividing into parts or use in a compilation
- **translation** (including inserting subtitles/dubbing) in all official languages of EU
- **storage** in paper, electronic or other form
- **archiving** in line with applicable document-management rules
- the right to authorise **third parties** to act on its behalf or sub-license to third parties, including if there is licensed background, any of the rights or modes of exploitation set out in this provision
- **processing**, analysing, aggregating the results and **producing derivative works**
- **disseminating** the results in widely accessible databases or indexes (such as through ‘open access’ or ‘open data’ portals or similar repositories, whether free of charge or not.

The beneficiaries must ensure these rights of use for the whole duration they are protected by industrial or intellectual property rights.

If results are subject to moral rights or third party rights (including intellectual property rights or rights of natural persons on their image and voice), the beneficiaries must ensure that they

comply with their obligations under this Agreement (in particular, by obtaining the necessary licences and authorisations from the rights holders concerned).

COMMUNICATION, DISSEMINATION AND VISIBILITY (— ARTICLE 17)

Communication and dissemination plan

The beneficiaries must provide a detailed communication and dissemination plan, setting out the objectives, key messaging, target audiences, communication channels, social media plan, planned budget and relevant indicators for monitoring and evaluation.

Additional communication and dissemination activities

The beneficiaries must engage in the following additional communication and dissemination activities:

- **present the project** (including project summary, coordinator contact details, list of participants, European flag and funding statement and special logo and project results) on the beneficiaries' **websites** or **social media accounts**
- for actions involving equipment, infrastructure or works, display as soon as the work on the action starts a **printed or electronic sign** of appropriate size, with European flag and funding statement and special logo
- upload the public **project results** to the LIFE Project Results platform, available through the Funding & Tenders Portal .

Special logos

Communication activities and infrastructure, equipment or major results funded by the grant must moreover display the following logo:

- the LIFE Programme logo



and

- for projects in Natura 2000 sites or contributing to the integrity of Natura 2000 network: the Natura 2000 logo



SPECIFIC RULES FOR CARRYING OUT THE ACTION (— ARTICLE 18)

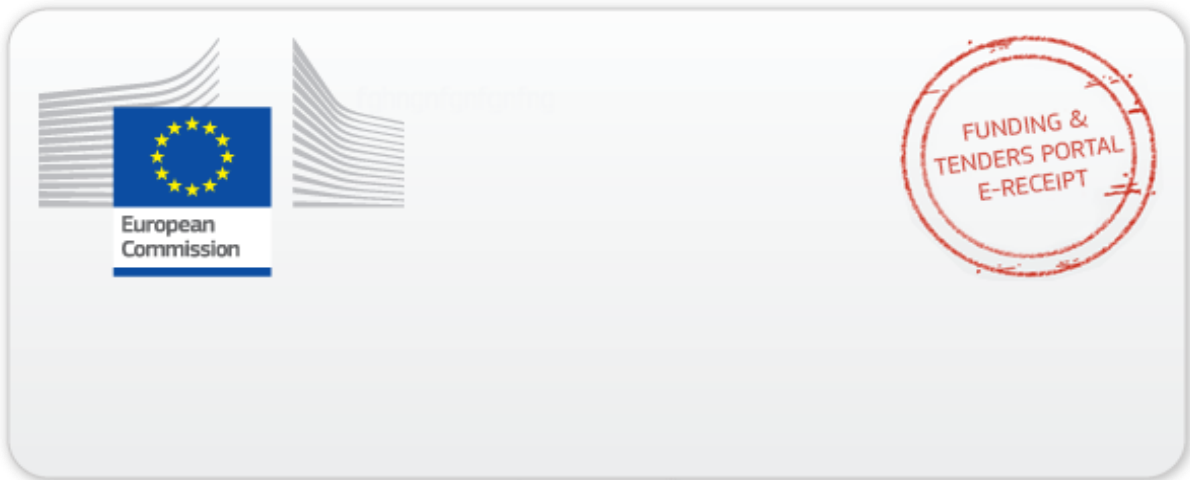
Durability

Unless exempted by the granting authority, beneficiaries of Standard Action Projects, Strategic Nature Projects and Strategic Integrated Projects must commit to continue to use and maintain after the end of the action equipment bought and eligible at full costs, for activities pursuing the action's objectives. Such equipment must be used for these purposes — for at least five years after the end of the action (see Data Sheet, Point 1) or until the end of its economic lifespan (i.e. until it has been fully depreciated) — whichever is earlier.

Specific rules for blending operations

When implementing blending operations, the beneficiaries acknowledge and accept that:

- the grant depends on the approved financing from the Implementing Partner and/or public or private investors for the project
- they must inform the granting authority both about the approval for financing and the financial close — within 15 days
- the payment deadline for the first prefinancing is automatically suspended until the granting authority is informed about the approval for financing
- both actions will be managed and monitored in parallel and in close coordination with the Implementing Partner, in particular:
 - all information, data and documents (including the due diligence by the Implementing Partner and the signed agreement) may be exchanged and may be relied on for the management of the other action (if needed)
 - issues in one action may impact the other (e.g. suspension or termination in one action may lead to suspension also of the other action; termination of the grant will normally suspend and exit from further financing and vice versa, etc.)
- the granting authority may disclose confidential information also to the Implementing Partner.



This electronic receipt is a digitally signed version of the document submitted by your organisation. Both the content of the document and a set of metadata have been digitally sealed.

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