



Saltmarsh restoration Baltic Sea/Germany

Win-win-win for people, nature and climate



Role of Saltmarshes for biodiversity and carbon sequestration

- Atlantic salt marshes are priority EU Natura 2000 habitat
- 98% have been lost since 70 years
- Vital role for migrating and breeding birds
- They host diverse specialized plant communities
- Regularly flooded they have accumulated thick layers of peat (carbon)
- They can act as natural coastal defence against storm tides





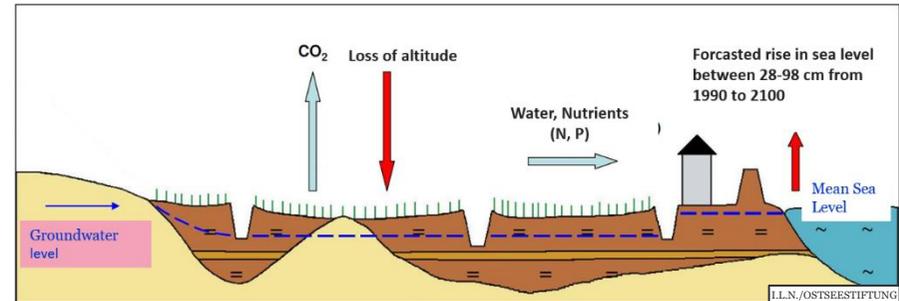
Rewetting stops carbon sequestration

- In the coastal area of the project region there exist 67 polders (app. 15.000 ha).
- 2 polders selected for rewetting (200 ha)
- **200 ha of restored polders can result in 5.000 tons of CO₂ annually that are stored in the soil instead of being emitted.**

In the two drained polders the layer of peat **shrinks by 1cm/year**. By oxidation the peat decomposes and emits CO₂.

CO ₂ Emission:	
Arable land :	40 t/a/ha
Drained grassland:	31 t/a/ha
Rewetted peat/ fen:	5,5 t/a/ha

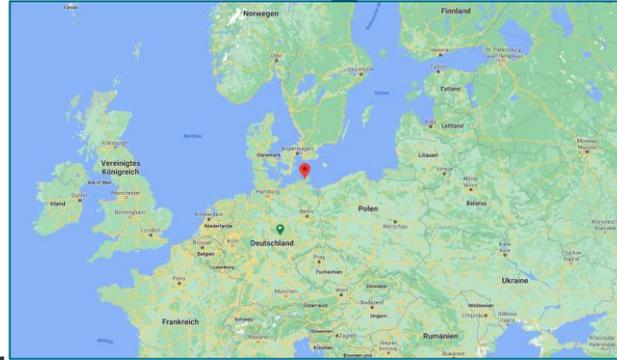
Moor Protection Strategy, German Government,
Discussion Paper Nov. 2020





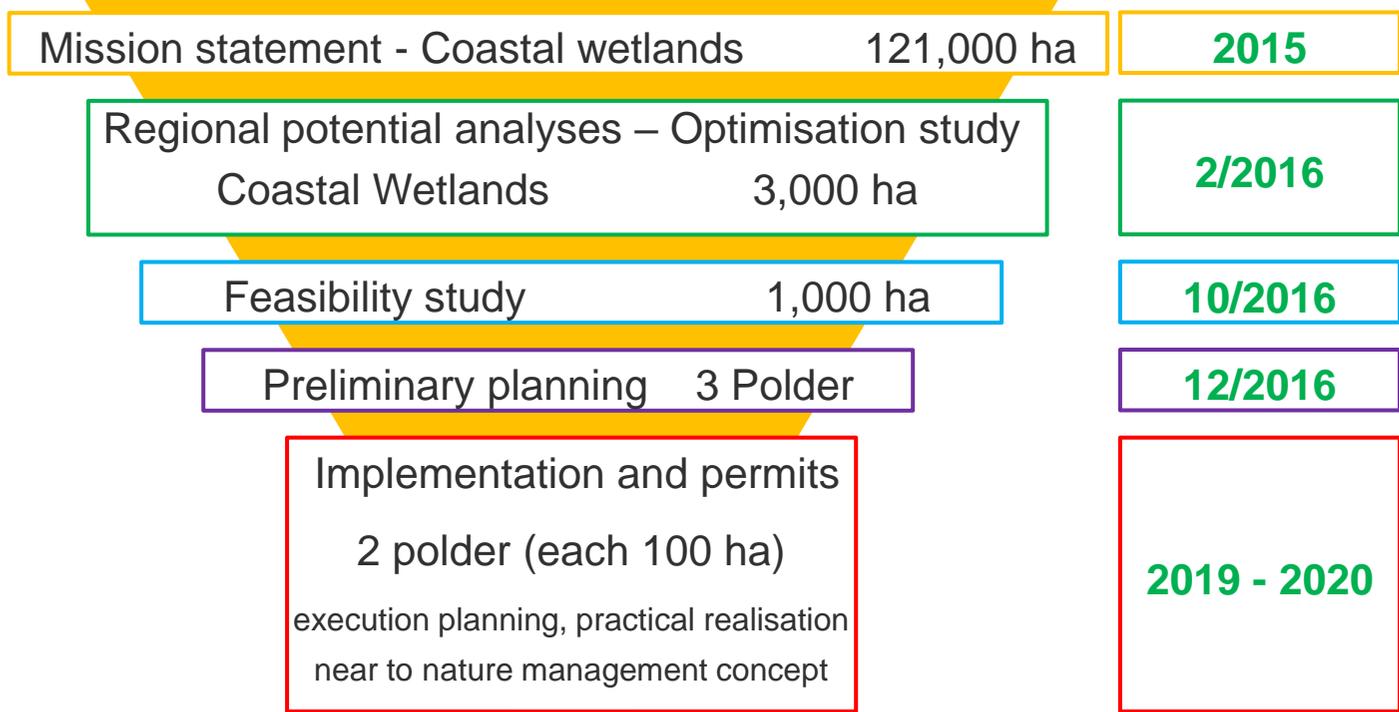
Project area and outline

- 2 coastal polders of app. 100 ha each
- Removal of dikes and organize coastal defence in the hinterland
- Securing consent with landowners, land users and municipalities
- Within a financing scheme of the federal and state ministries for the environment (app. 3,5 Mio €, Hot spots for Biodiversity)
- 6 years from start to finalization





Approach





Criteria in potential analyses and feasibility study



37 Polders

8 assessment criteria

Terrain heights in the polder
Substrate ratio in the polder
Water network in the polder
Forest share in the polder
Arable share in the polder
Occurrence of target species
Ownership of the polder
Pumping volume of the connected pumping stations

Occurrence species flora conservation concept	☺
Higher-level planning	☺
Location in protected areas	☺
Deviation legal biotope protection	☹
Deviation national park objectives	☹
Infrastructure in the area of the polders	☹
Contaminated sites in the area of the polders	☹

Valuation class	Valuation
5	utmost suitability
4	
3	
2	
1	minimal suitability

- ✓ 7 additional criteria
- ✓ Differentiation of polders with identical total number of points **but!!!**
- ✓ **Terrain heights** = relevant for decision-making

9 Polders



Approval processes



12.03.2019

**Landkreis Vorpommern-Rügen
Der Landrat**

Landkreis Vorpommern-Rügen, Carl-Heymann-Ring 67, 18467 Stralsund

Plangenehmigung
für die
Renaturierung des Polders Bresewitz
(EU-Vogelschutzgebiet)
(FFH - Gebiet)
PG / 13073 / 96539 / 069 / 003 / 19

Polder Bresewitz: Gräben Oie1 und Oie2 mit Vorflut zum Schöpfwerk Bresewitz

12. März 2019

21.12.2018

**Landkreis Vorpommern-Rügen
Der Landrat**

Landkreis Vorpommern-Rügen, Carl-Heymann-Ring 67, 18467 Stralsund

Plangenehmigung
für die
Renaturierung des Polders Drammendorf
(EU-Vogelschutzgebiet)
(FFH - Gebiet)
PG / 13073 / 96779 / 073 / 088 / 18

Polder Drammendorf: Gräben L 5 mit Vorflut zum Schöpfwerk Drammendorf

21. Dezember 2018



Before and after flooding

11.07.2019



17.04.2020





The result : win - win - win for people, biodiversity and climate

- **People:**

farmers can use the rewetted saltmarshes with cattle herds and as tourist attraction

- **Biodiversity:**

the area has already now developed into a bird watchers hot spot – specialized plants are recolonizing the area

- **Climate:**

5000 t of CO₂ emissions annually stopped

22.09.2020

+25 cm above meanwater level





Factors of success

- Early and sustainable involvement of stakeholders: land owner, users, municipalities, legal/state authorities
- Professional planning : Steering and handling/adaptation
- Cascading approach
- Agreement of mission statement (stakeholder process)
- Availability of land/property (land owner, financ. compensation)
- Practical near to nature management concept with farmers
- Experienced and qualified construction company
- Secured funding
- Soft skills





Hampering setting

- Missing Availability of land/property (land owner, financ. compensation)
- Contd. Framework for subsidies that are harmful for climate and nature
- unnecessary and impractical (funding-)regulations and shortage of funds
- Missing personnel capacities and resources @ project leader, planning bureaus and approval authorities
- Failed projects



Summary



- Opening of coastal polder = effective and multifunctional measure for biodiversity, conservation of peatland, climate protection and/or adaptation to climate change (balancing sea level rise)
- Cost effective measure
- Regional potential analyses indicates all coastal polders in M-V have high potential : more good practices to come -> significant area
- Prerequisites for successful implementation and permits have to be optimised: availability of land, funding and personnel has to increase; cut contradicting measures (e.g., subsidies, ...)



Acknowledgements

Thank you for your attention !!

funded and supported by:

