NbS in the Nordic countries

Leonard Sandin, Isabel Seifert-Dähnn, Ingvild Skumlien Furseth
Line Barkved, Caroline Enge NIVA
Samaneh Sadat-Nickayin, Maria Wilke LBHI
Johanna Alkan-Olsson, Helena Hanson LU
Annette Baattrup-Pedersen, Dominik Zak AU
Matti Koivila LUKE

S-UMMATION

Summarizing and sharing the experiences, knowledge, barriers and advices from nature-based solutions pilot projects in the Nordics

S-ITUATION

Synthesis - Implementation of naTUre bAsed soluTIOns in Nordic countries

NCM identified needs

1) Obtain an **overview of NbS projects** that span conservation, restoration and sustainable use across different ecosystems
2) **Catalogue** the different types of NbS projects that exists
3) Summarize **cost-benefit analyses, gap analysis**
4) Collect information on **regulatory requirements** or targeted funding regarding NbS in the Nordic countries.
5) Summarize and share **experiences, knowledge, barriers** and **advice** from NbS pilot projects in the Nordic region

Use of nature varies in scope

Surface water solutions

Rehabilitated waters

Restored ecosystems

Natural ecosystems

prevent, manage

Create, imitate

Re-create, improve

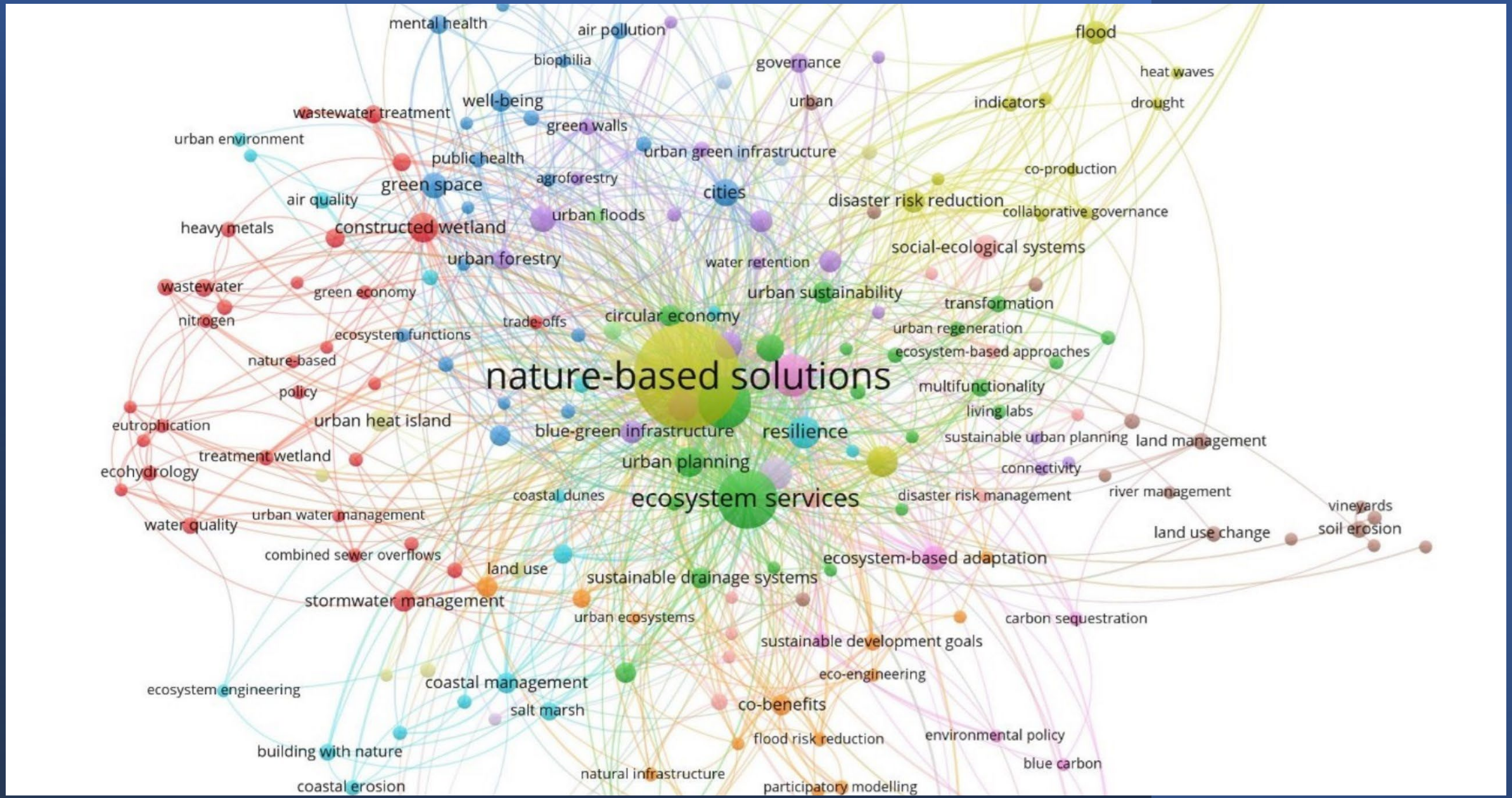
Protect, conserve

Maintainance

Self-sustained

Nature-based solutions

SABICAS



Hanson, Alkan Olson, Wall 2022

NetworkNature Nordic hub

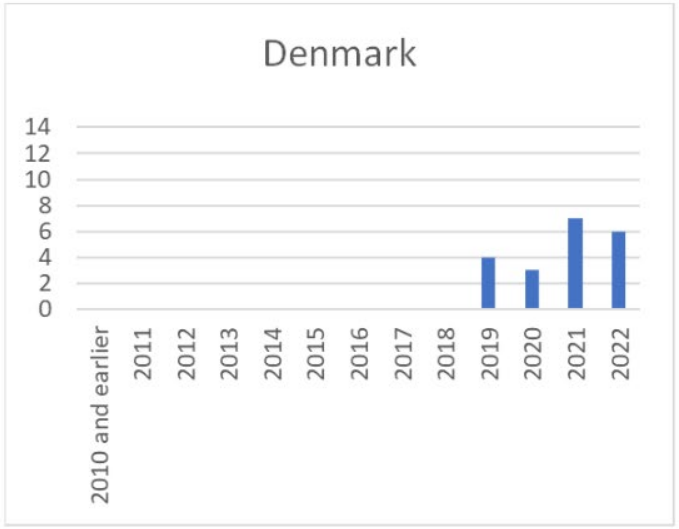
The NetworkNature Nordic hub is a gathering place for all those who work with nature-based solutions in the Nordic region. It is a platform where we exchange contacts and share the knowledge, we gain about implementing nature-based solutions in our part of the world. Also, we post Nordic cases on the Case Study Finder page, so you can see different examples of nature-based solutions in the Nordic region. Occasionally, the Nordic hub will also facilitate events and webinars. The Nordic hub is administered by Jóna Ólavsdóttir, coordinator of the Nordic Council of Ministers' Nature-based solutions programme in the Nordic region.

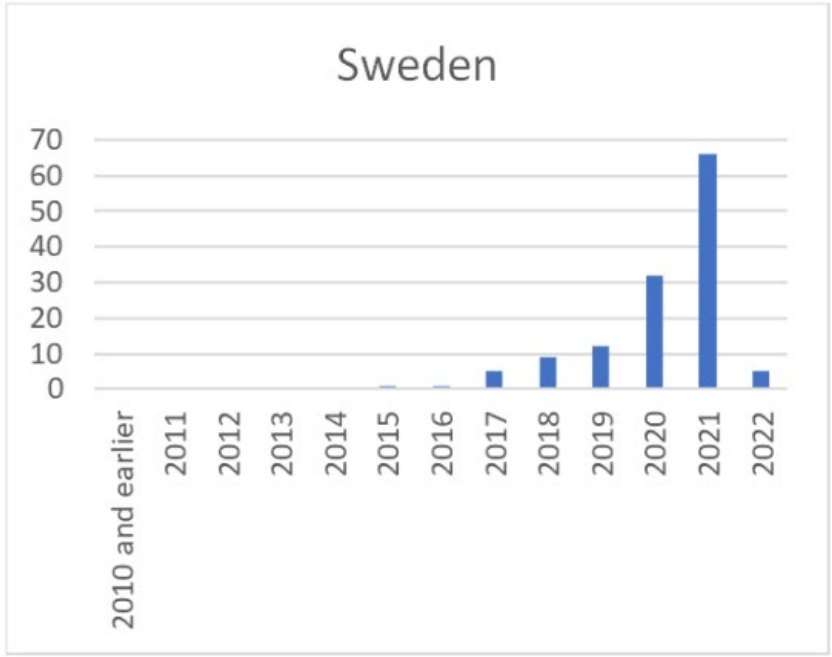
Launch event in Copenhagen 13th of October

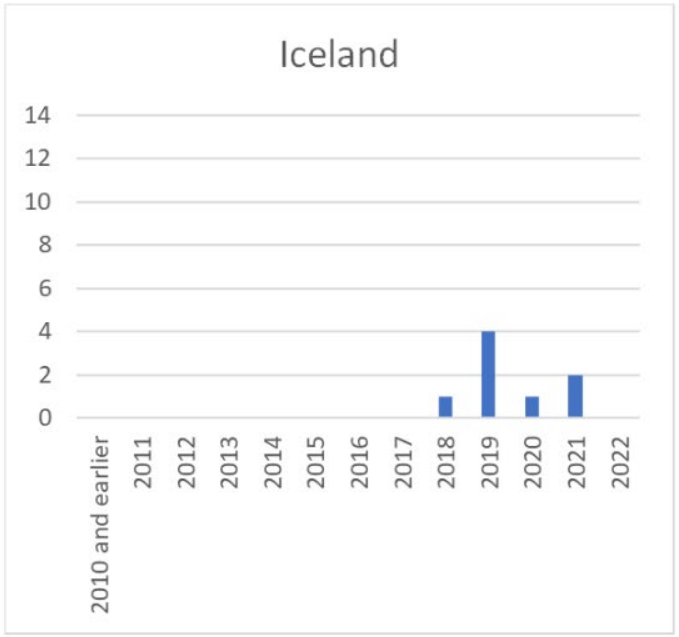
https://networknature.eu/networknature-nordic-hub

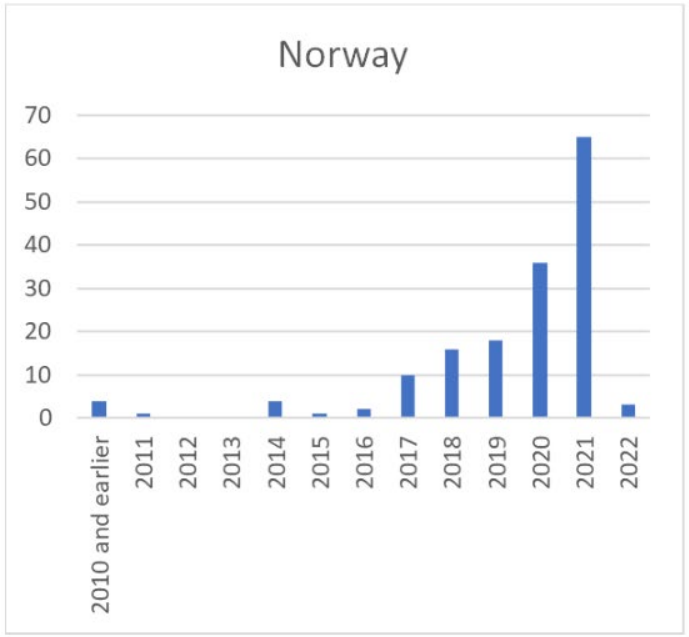
Guiding documents

Relevant grey NbS literature



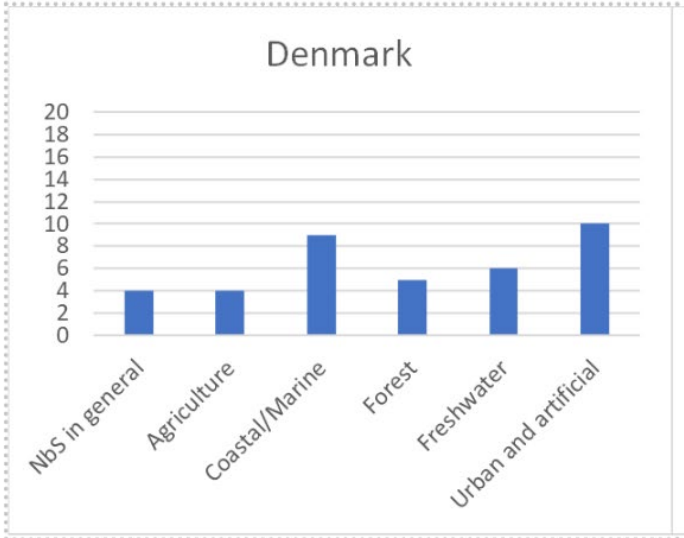


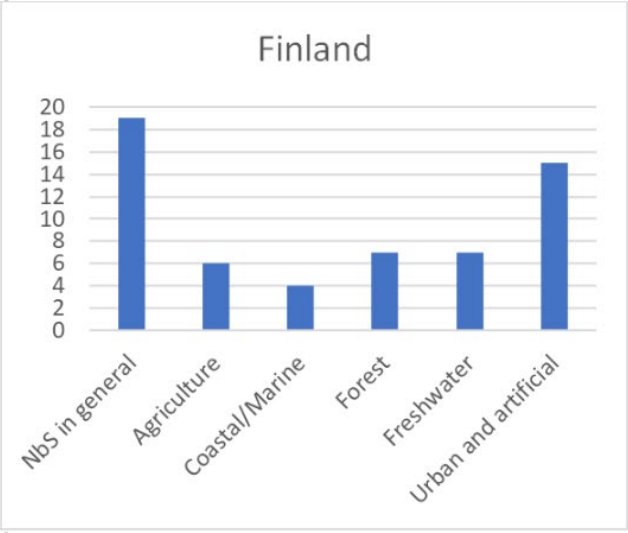


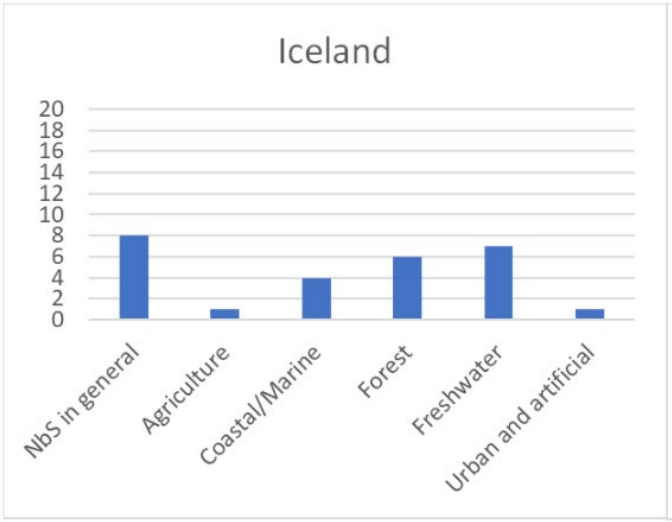


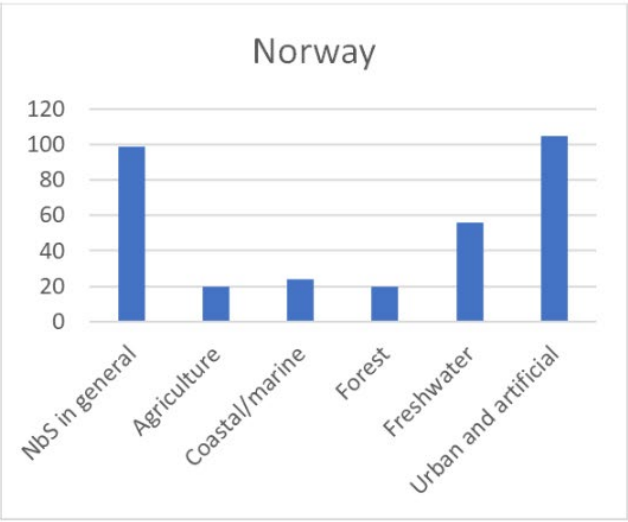
Ecosystems

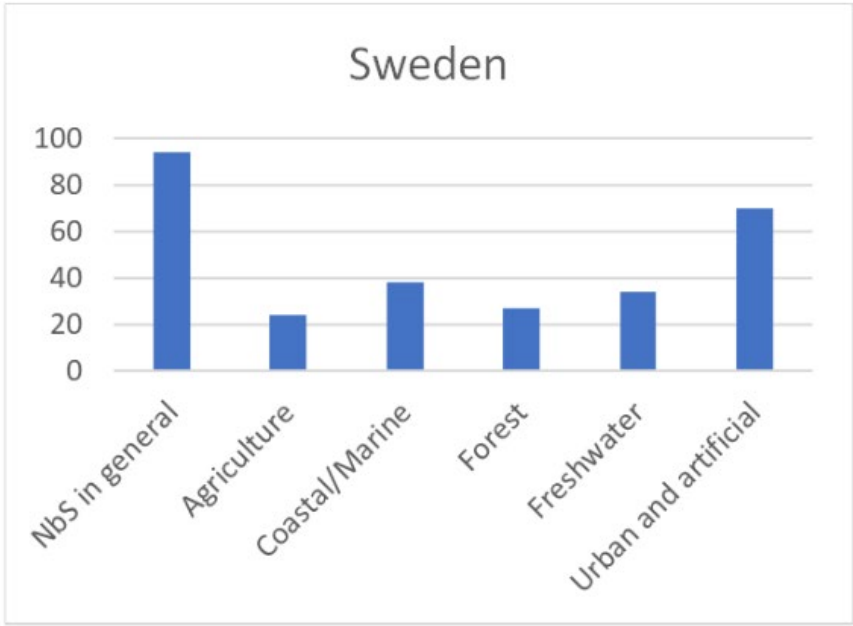
Ecosystems addressed in the relevant material



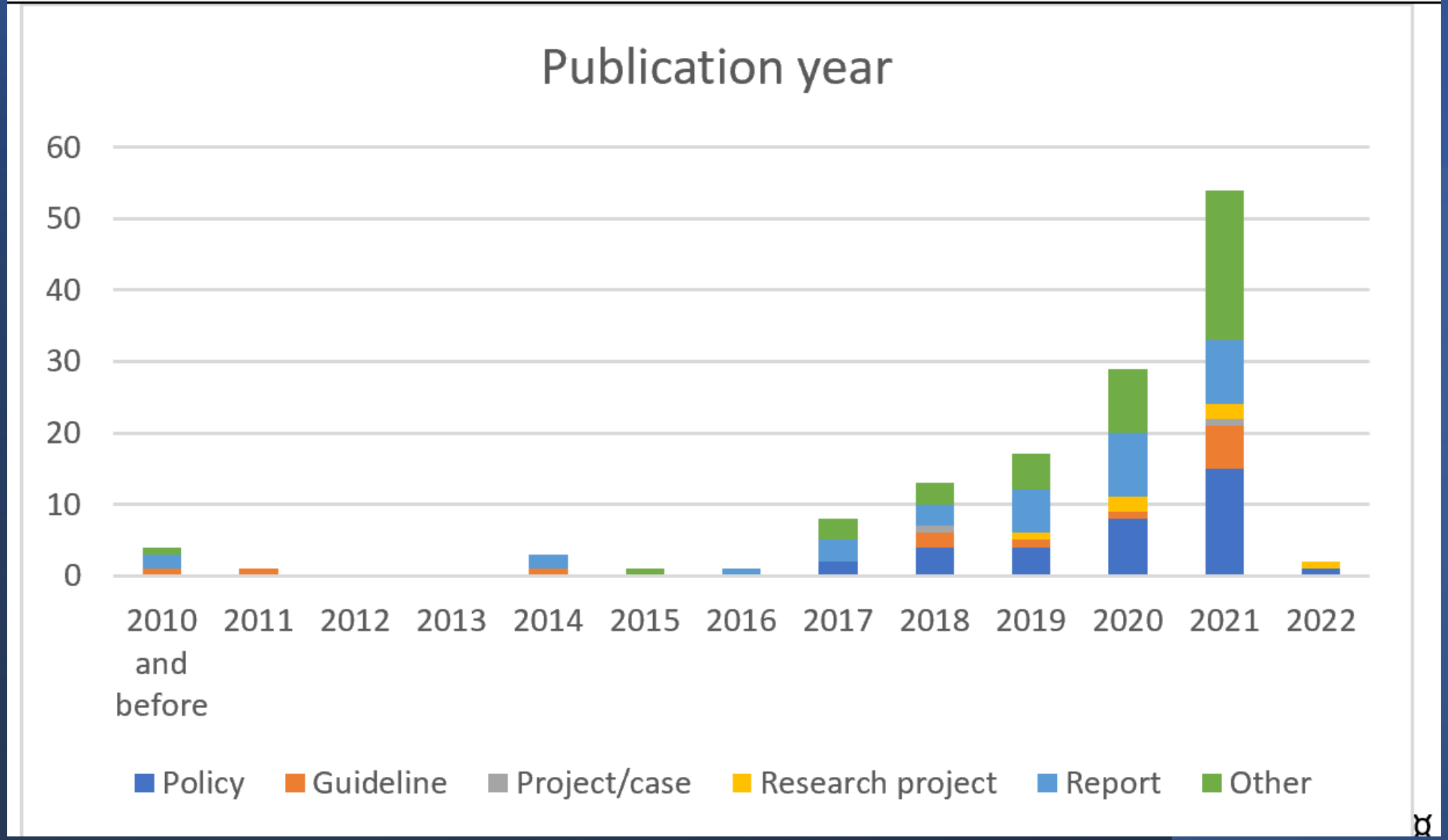




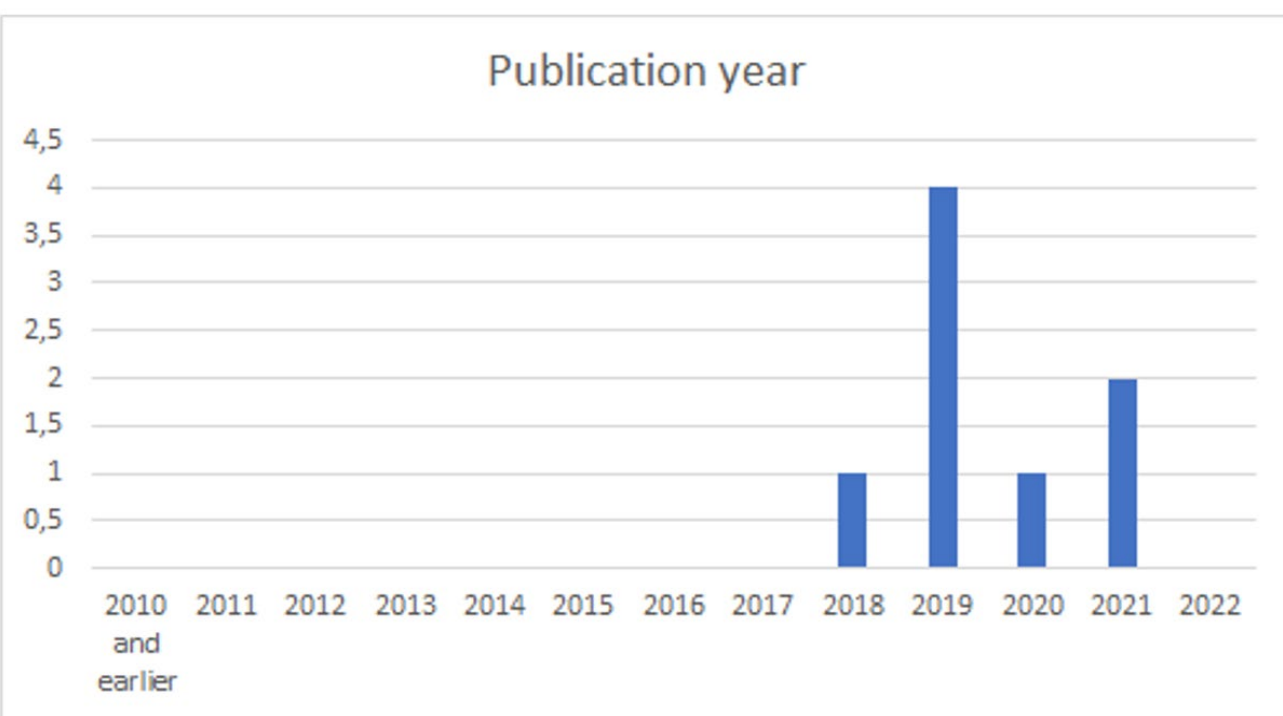


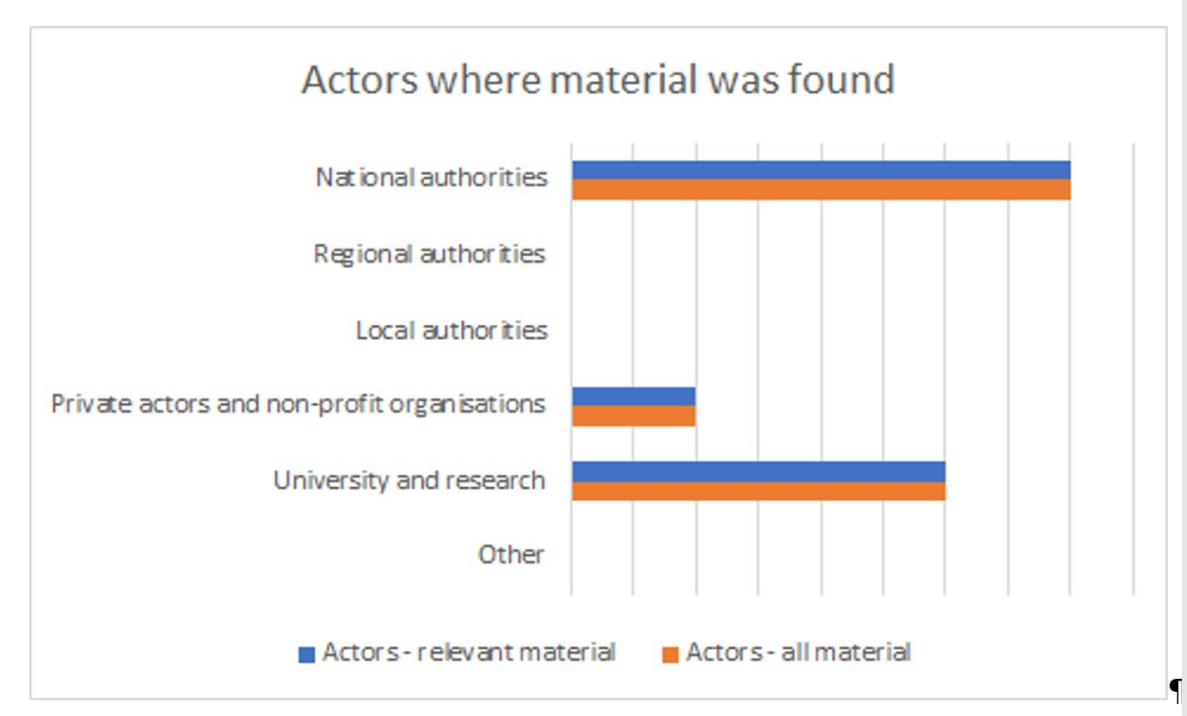


Publications·broken·down·by·type·and·year·of·publication:·examples·from·Norway

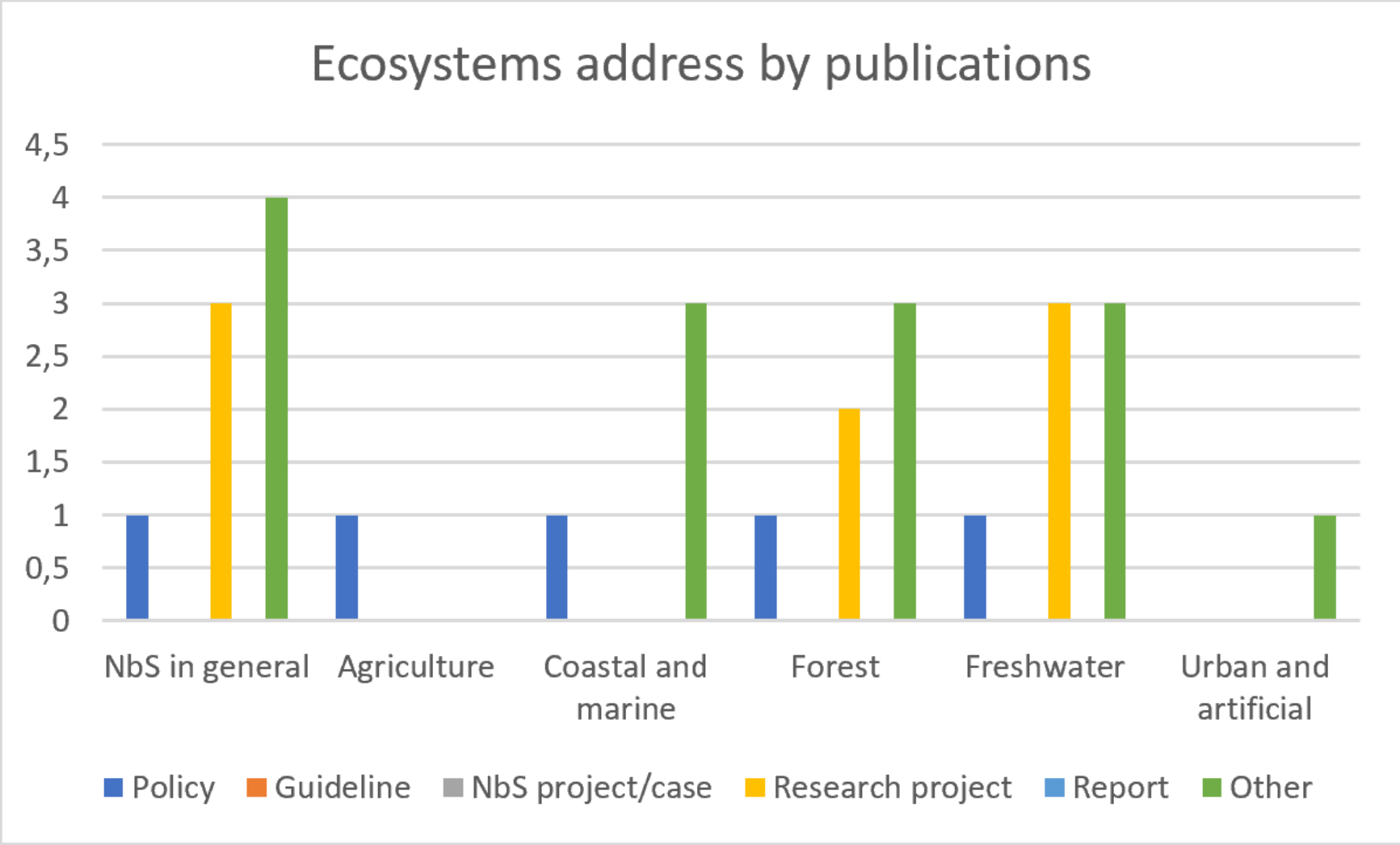


Grey literatur - Iceland





Ecosystem focus - Iceland



Norway as an example

- Climate adaptation
- Treatment of runoff from roads, agriculture and contaminated soils
- Marine protection areas
- River and wetland restoration
- Urban or artificial NbS

«Statlige planretningslinjer for klima og energiplanlegging og klimatilpasning

Ministry of Climate and Environment and Ministry of Local Government and Modernisation adopted a legally binding governmental planning guideline

"Conservation, restoration or establishment of nature-based solutions (such as existing wetlands and natural streams or new green roofs and walls, artificial streams and pools, etc.) should be considered. If other solutions are chosen, it must be justified why nature-based solutions have been chosen away". (§4.3)

National authorities	**Environment and climate**	**Primary industries**	**Land-use planning**	**Transport**
Laws and regulations		Ban on new cultivation on/in bogs[1,2]	For climate adaptation, conservation, restoration or NbS should be considered[3]	Consider road runoff treatment with NbS (instead of technical treatment options)[4]
Policies, strategies and plans	• Restoration of at least 15 % of deteriorated watercourses[5] • Continued restoration of bogs and other wetlands; development of a national strategy to prevent bog degradation.[1] • Continued establishment of marine protected areas (MPAs); national plan for MPAs; assess additional protection of rare natural values in the deep sea.[6] • Promotion of NbS via UNEA; more NbS within the water and wastewater sector[7]. • Increased focus on NbS to solve the climate crisis including carbon storage on topsoil, forests and kelp forest.[8]	• The government considers prohibition of new peat extraction.[10]	• High importance of climate change adaptation through NbS[3,9] • Assess introduction of a fee on greenhouse gas emissions from land-use changes.[1]	

Nature Restoration Regulation: structure

Overarching objective

Restoration targets

Implementation framework

National Restoration Plans

Monitoring and Reporting

Overarching objective

- By 2030 → restoration measures will cover **20%** of EU's land and sea
- By 2050 → measures in place for **ALL ecosystems in need** of restoration

Restoration targets

Protected Habitat Types (Annex I HD)

Habitats of protected species (BHD)

Marine Habitats (beyond HD)

Urban ecosystems

River connectivity

Pollinators

Agro-ecosystems

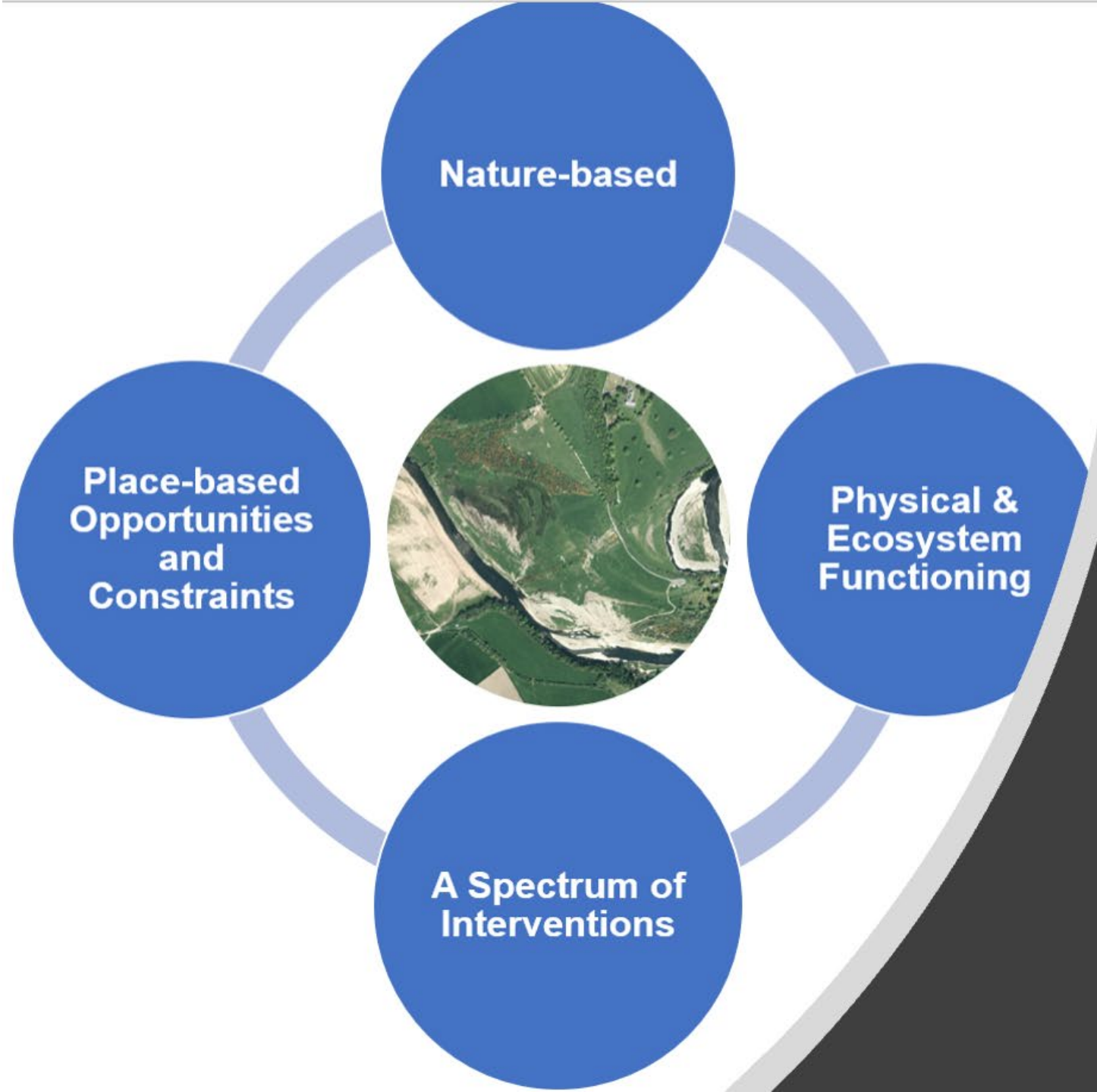
Forest ecosystems

Establishing common guidelines

- The European Committee for Standardization (CEN)
- Umbrella organisation for National Standards Bodies
- EU countries plus others
- Ongoing drafting as part of CEN Working Group (UK leading)

Scope

- Pan-European river context
- Restoration of natural processes: whole ecosystem benefits
- Inform planning and implementation: not a manual of techniques
- Monitoring and appraisal
- Relevant to organisations and individuals



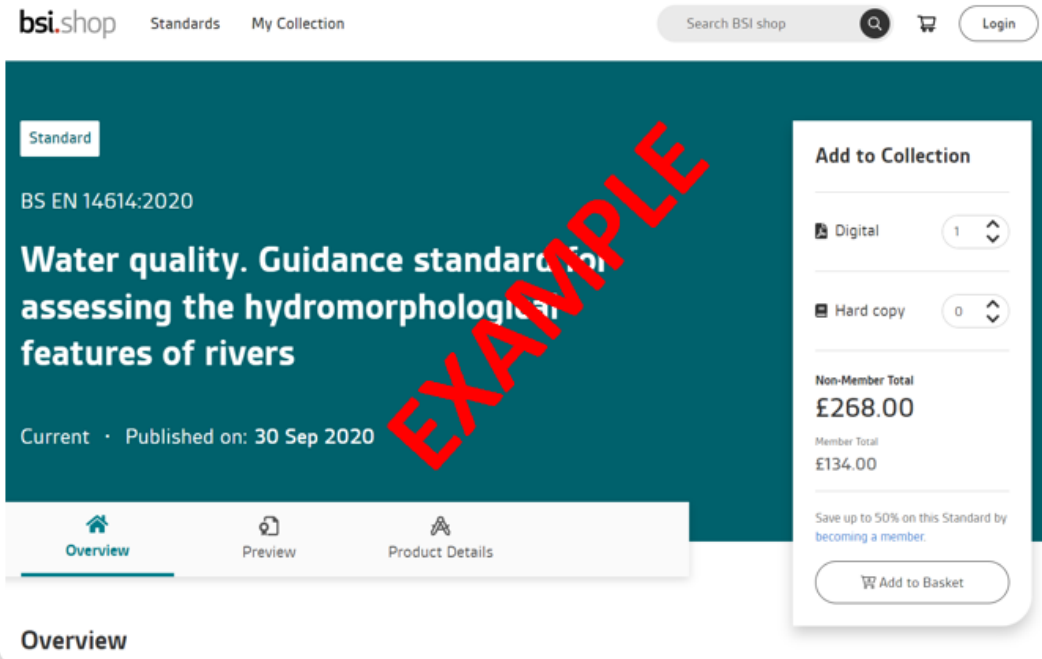
Core principles

Spectrum of intervention

- Natural energy
- Sustainability
- Extent / duration
- Unconstrained

Next steps

- Refine draft `New Work Item`
- Incl. European case studies
- Submit to CEN and National Standards Bodies (early 2023)



Examples - cases

› Home

Case studies

Displaying 1 - 224 of 224

SEARCH

Enter search terms:

SCALE

- Global
- Continental
- Sub-continental
- National
- Subnational
- Local

TYPE

- NC & ES Case Study
- NBS Project Case Study
- NBS City Overview Case Study

APPLY RESE

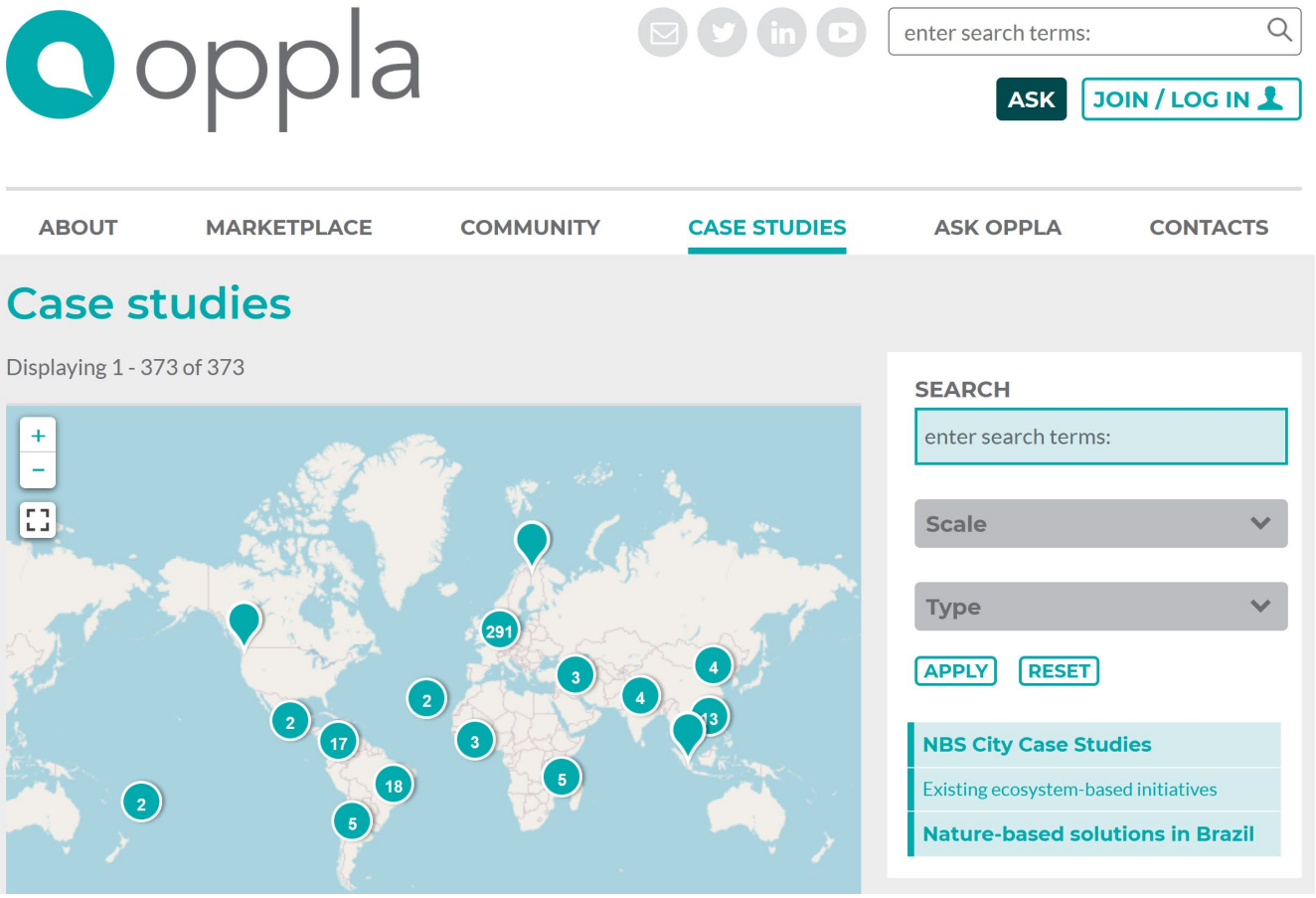
SCALE

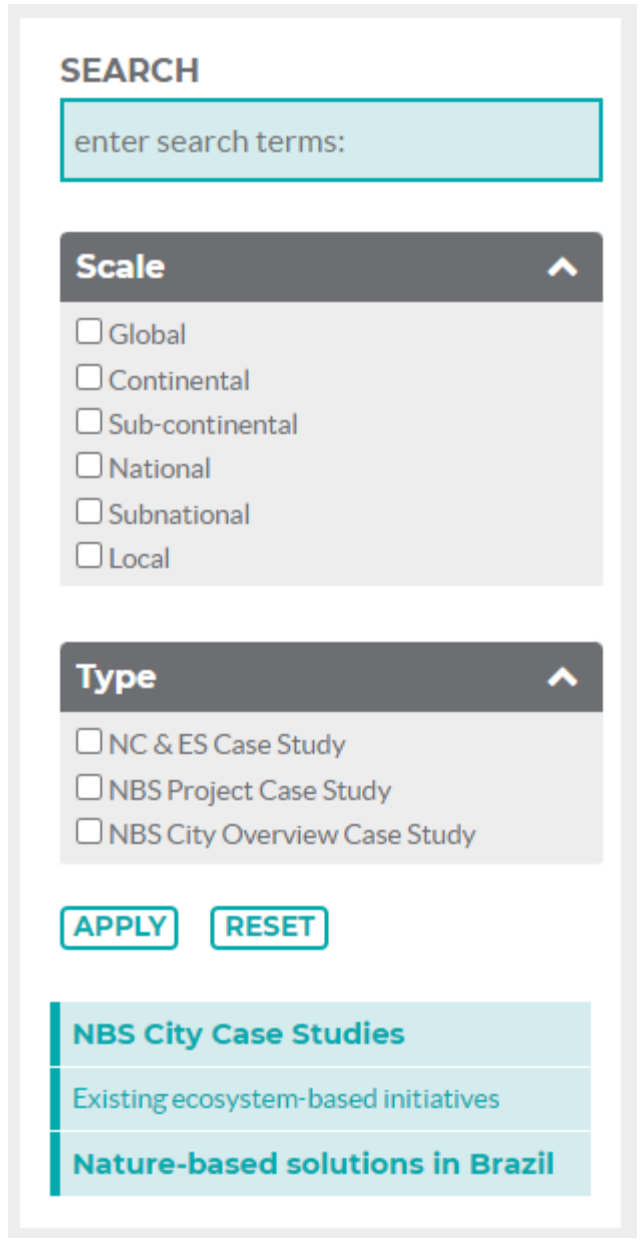
- Global
- Continental
- Sub-continental
- National
- Subnational
- Local

TYPE

- NC & ES Case Study
- NBS Project Case Study
- NBS City Overview Case Study

https://networknature.eu/network-nature-case-study-finder





https://oppla.eu/case-study-finder

Wiki navigation
Home
Search case studies
Advanced search
Create a new case study
Add new term
Top rated case studies
Recent changes
Help

Tools
What links here
Related changes
Special pages
Printable version
Permanent link
Page information
Browse properties

RESTORE partnership
European River Restoration website

Share

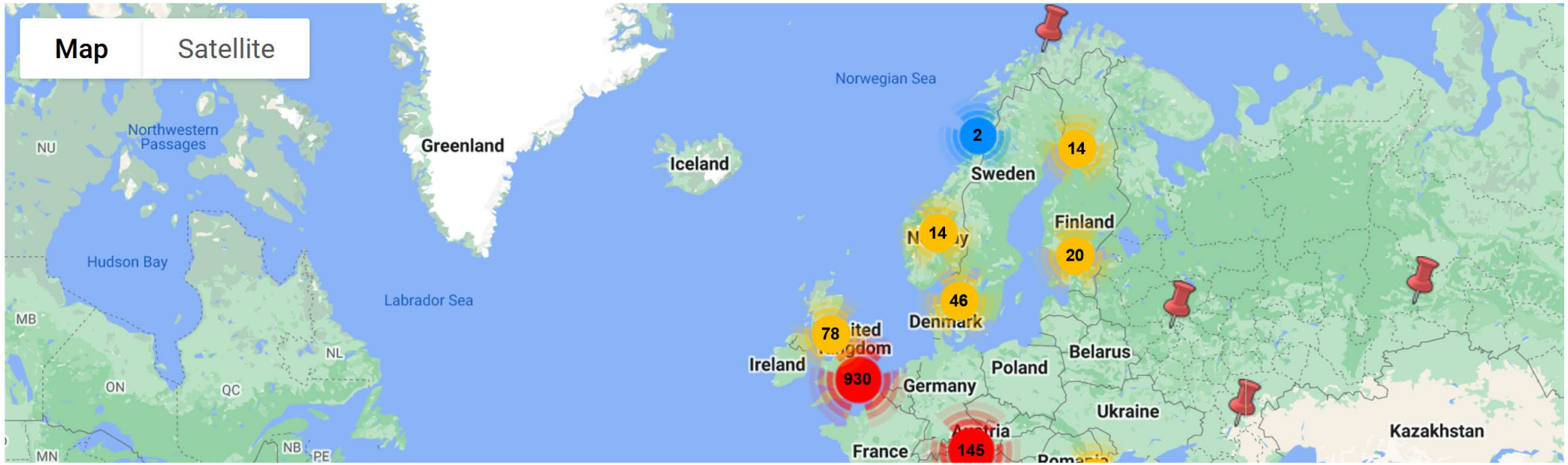
Embed link

Home

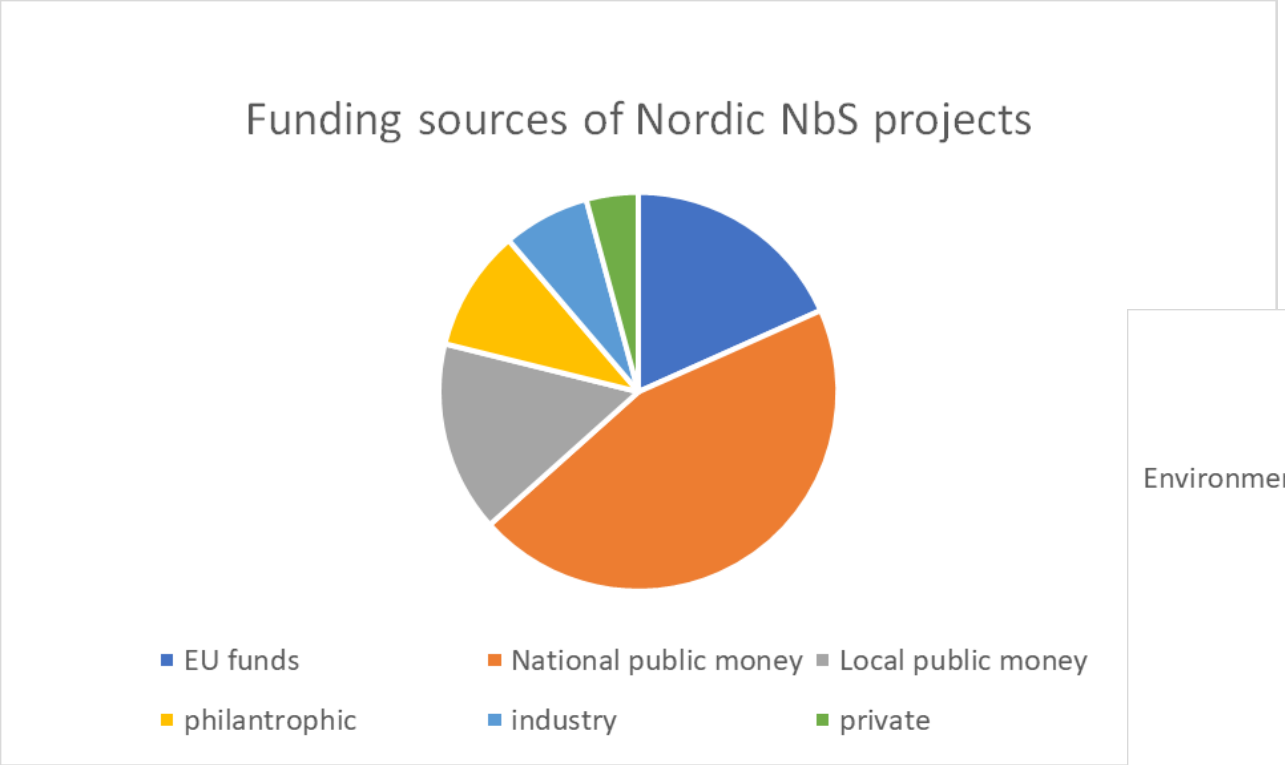
Welcome to the river restoration case studies **RiverWiki**. This site is funded through the **Environment Agency** (England) and managed by **the RRC** (UK). **This is an interactive sour from around Europe**

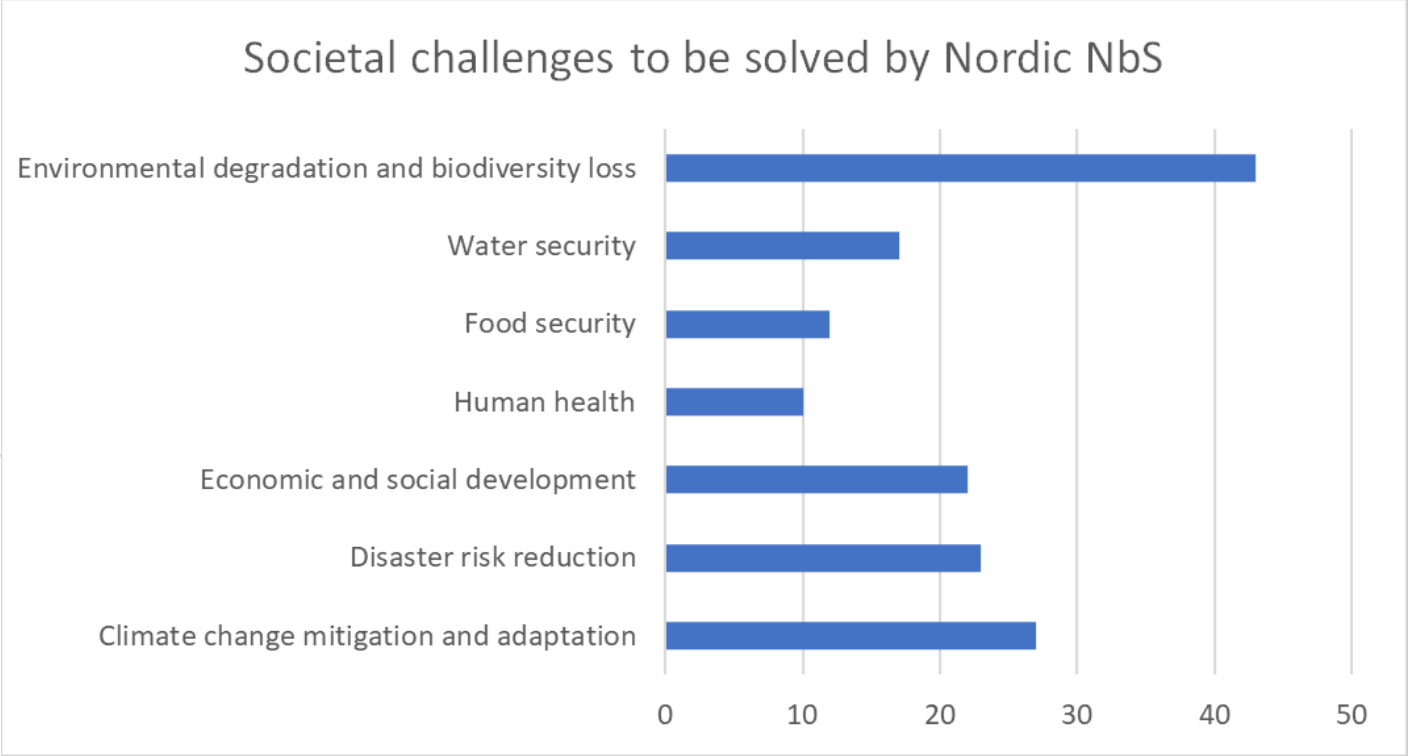
Up to now, the database holds **1430** river restoration case studies from **31** countries

Map of case studies



Summary of 54 Nordic NbS projects



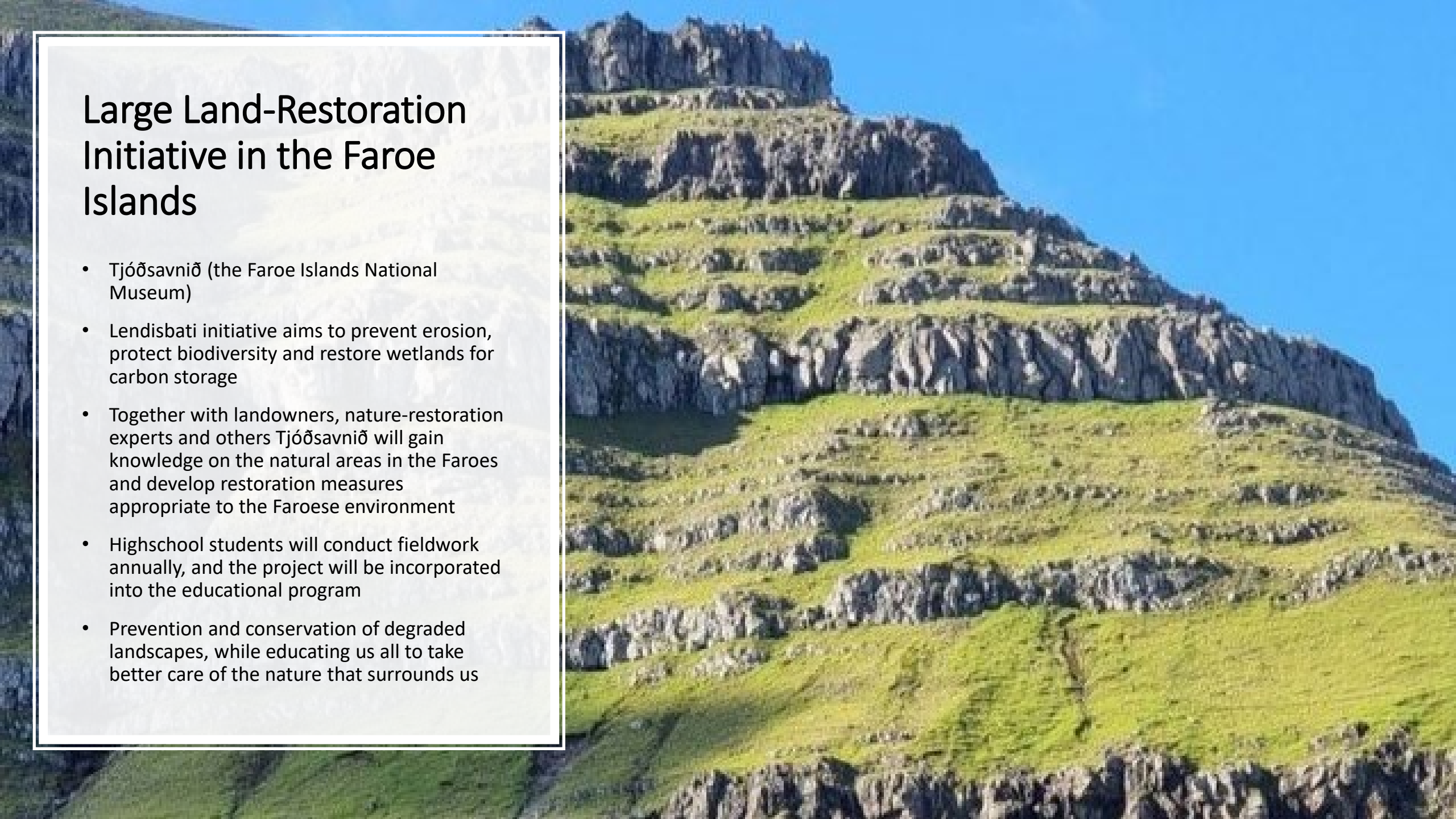


Biodiversity in Urban and Coastal Areas in Iceland

- Grasagarður Reykjavíkur – project owners
- Increase biodiversity in Reykjavík
- Outdoor collection of living plants
- Crop wild relatives can harbor traits which can be of importance for improving crops
- Traits of importance to adapt our crops to the challenges imposed by climate chance, such as drought and flooding resistance and heat stress
- Provide a toolbox for genetic plant breeders working towards a sustainable and increasingly urbanized agriculture for local food production

Large Land-Restoration Initiative in the Faroe Islands

- Tjóðsavnið (the Faroe Islands National Museum)
- Lendisbati initiative aims to prevent erosion, protect biodiversity and restore wetlands for carbon storage
- Together with landowners, nature-restoration experts and others Tjóðsavnið will gain knowledge on the natural areas in the Faroes and develop restoration measures appropriate to the Faroese environment
- Highschool students will conduct fieldwork annually, and the project will be incorporated into the educational program
- Prevention and conservation of degraded landscapes, while educating us all to take better care of the nature that surrounds us



Floating Wetland System on Utö, Sweden

- Reverse negative environmental impacts from phosphorus
- Restoring marine environments
- Create circular systems to improve conditions for humans, animals, and living organisms
- Floating system of wetlands
- Design, testing, installation and evaluation

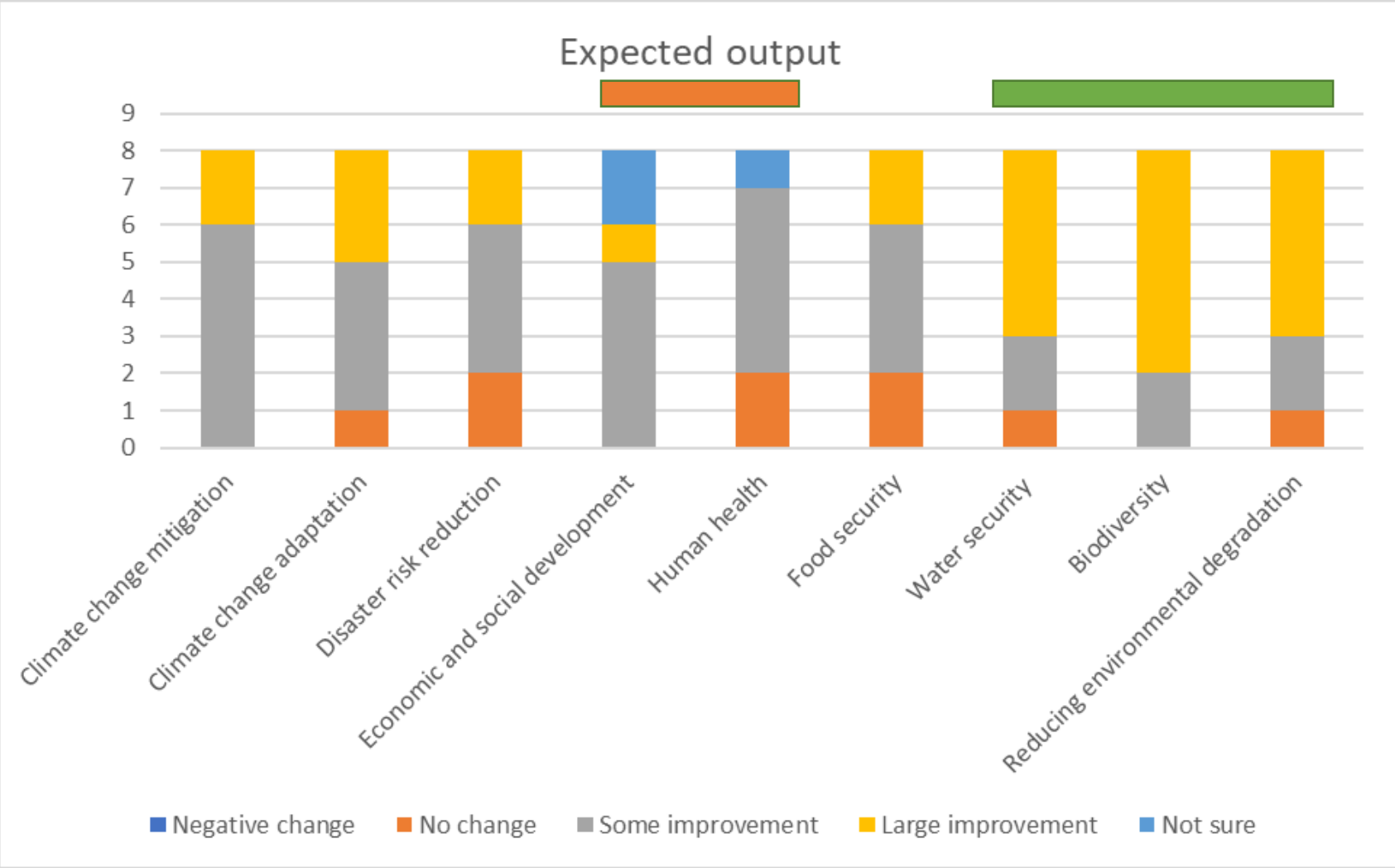
Success factors (1)

- **Cooperation**
  - Farmers/landowners and scientists
  - Stakeholders on local, regional, national and Nordic
- **Planning**
  - Implementation plan
  - Management plan
- **Implementation**
  - Project output and results

Success factors (2)

- **Knowledge production**
  - Methods development
  - Integration of results into future restoration
  - Model for future implementation
  - A new mindset
- **Communication**
  - Demonstration days
  - Raising awareness of state of nature
  - Publications
  - Outreach activities

Expected output



Leonard Sandin

leonard.sandin@niva.no

From November

leonard.sandin@nina.no

Norsk institutt for vannforskning
Norwegian Institute for Water Research