



# Arctic wetlands ecosystem services: overview

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# Wetlands in Arctic: Cinderella syndrome

How to recognise the great job wetlands are doing

## The goal:

To promote the input of wetlands to the maintenance of ecosystem services in Arctic

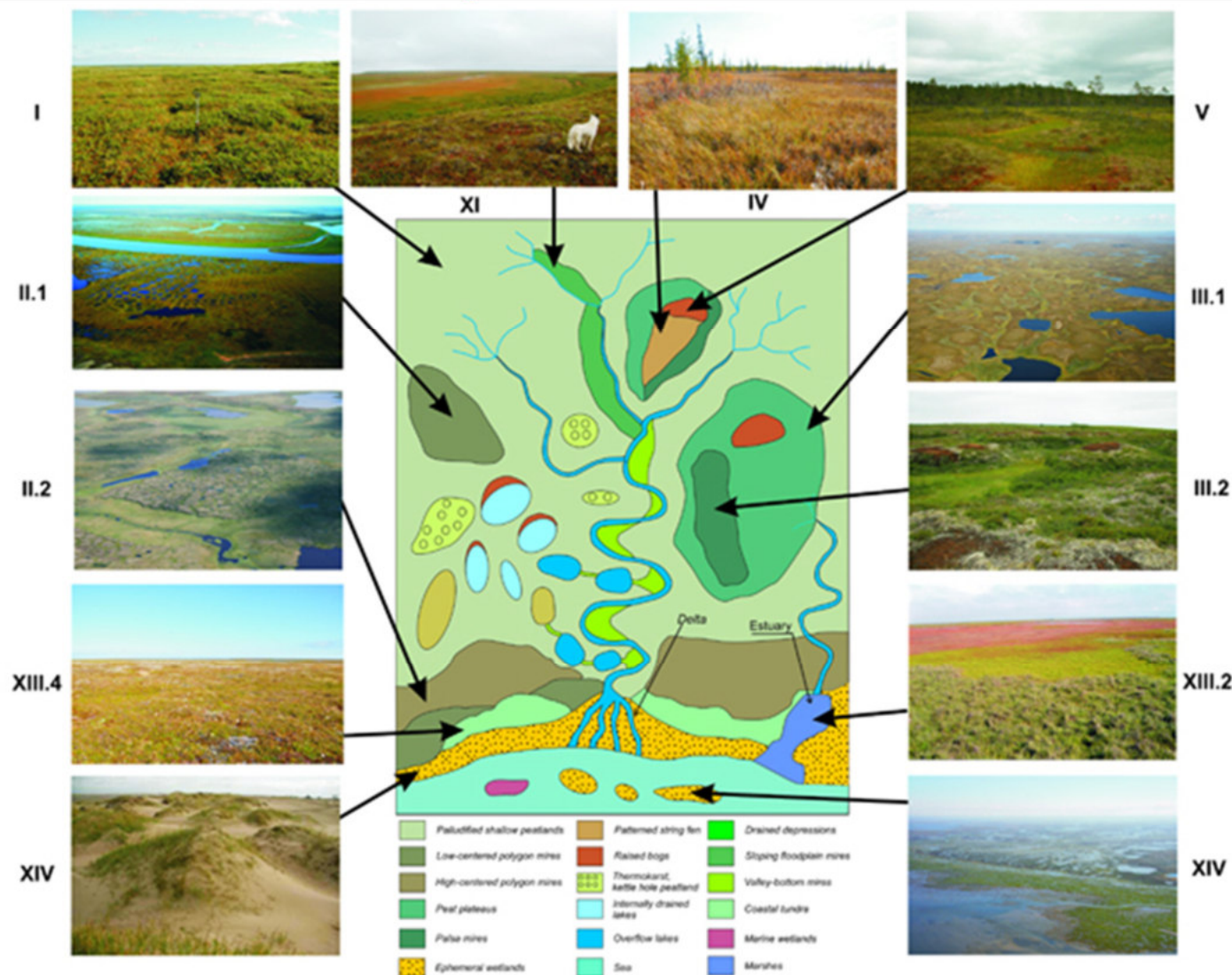
## Objectives:

- To identify and outreach the scope of ecosystems in the Arctic which are considered as wetlands
- To identify the scope of potential ecosystem services provided by Arctic wetlands
- To suggest the simple methodology for ecosystem services mapping as background of the decision making
- And to demonstrate that it is not a rocket science at all!

# Wetlands in Arctic: where they are?

Everywhere!

- Permafrost peatlands
- Shallow peat tundra
- Raised bogs
- Shallow lakes
- Rivers and deltas
- Periodically flooded lands
- Coastal wetlands
- Shallow sea waters



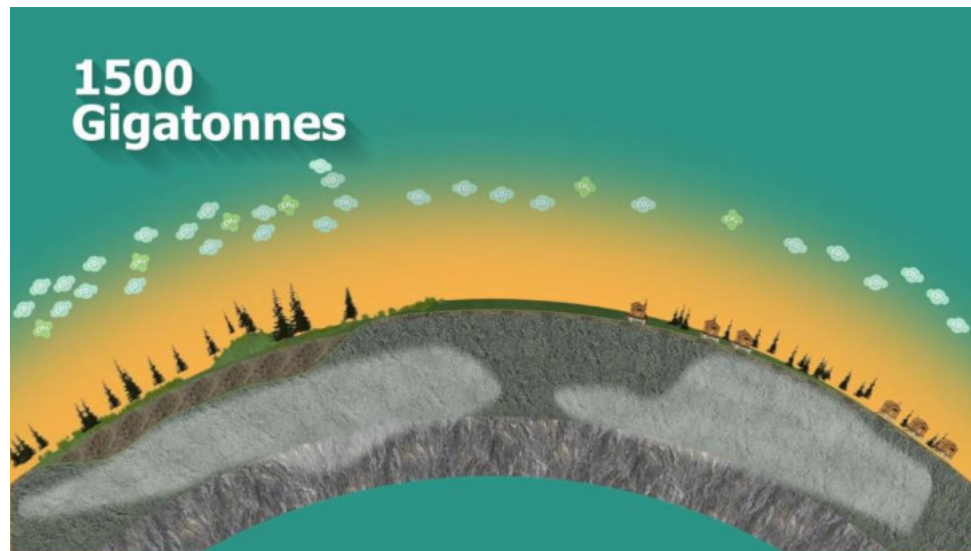


# Wetlands in Arctic: Cinderella syndrome

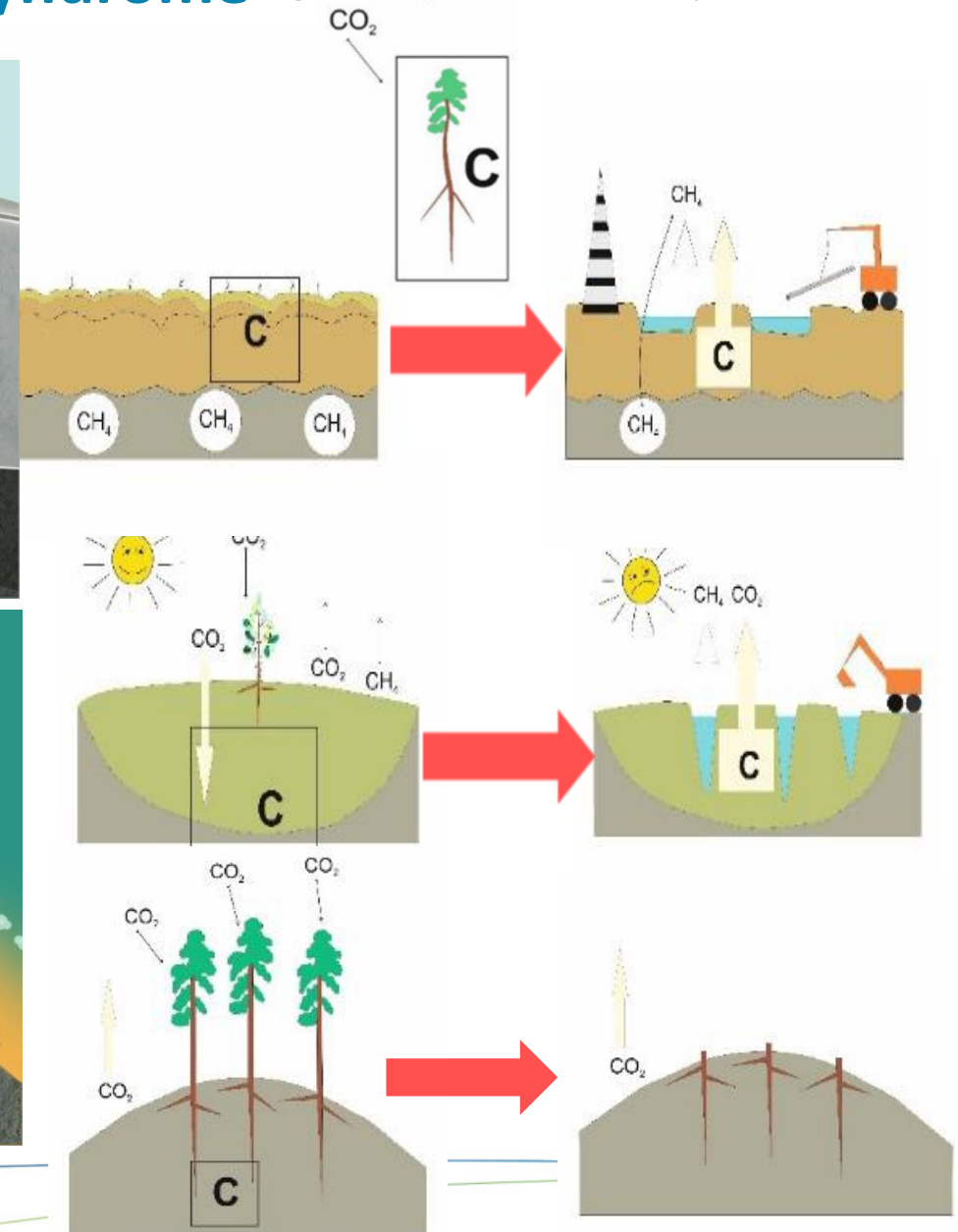
Is carbon storage and permafrost protection global, regional or local ecosystem service?



**65 % of area of Russia**  
**25 % of global terrestrial area**

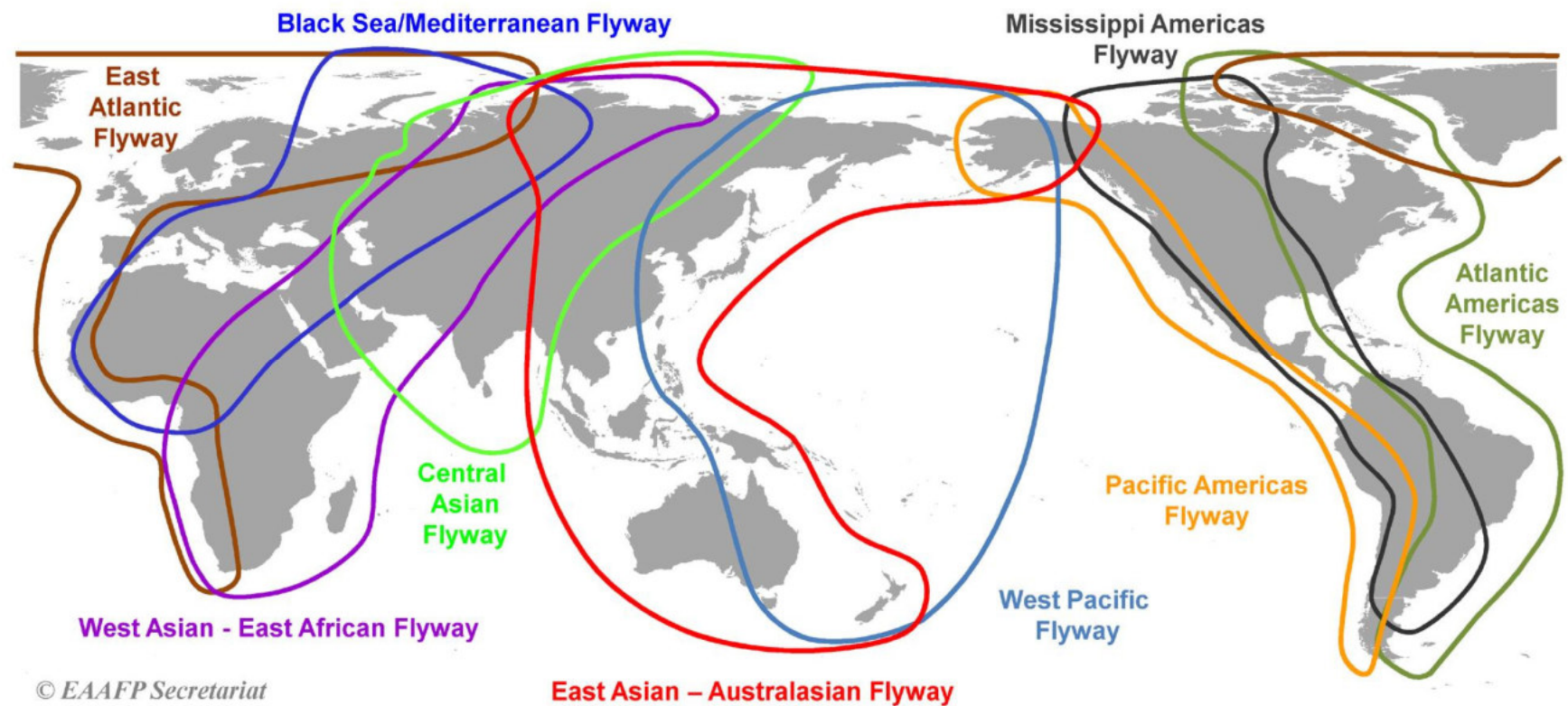
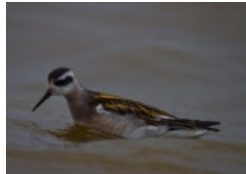


# 1500 Gigatonnes



# Wetlands in Arctic: Cinderella syndrome

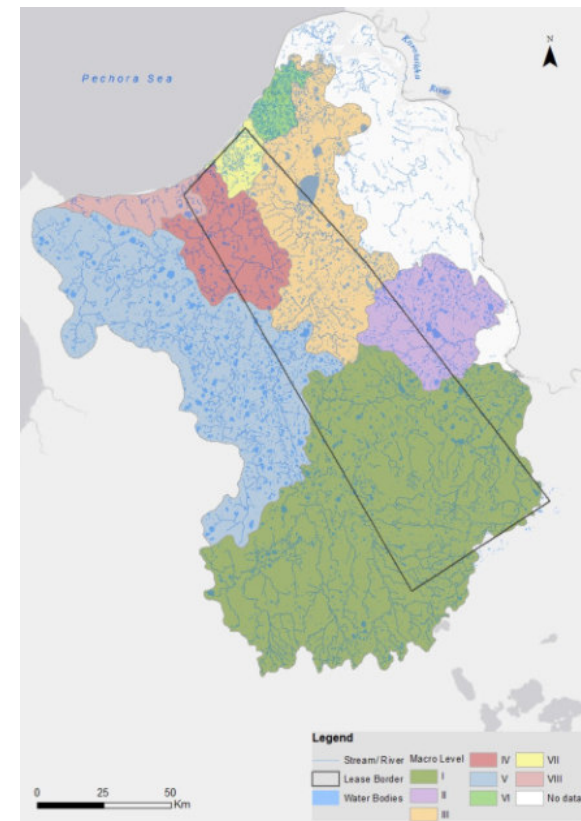
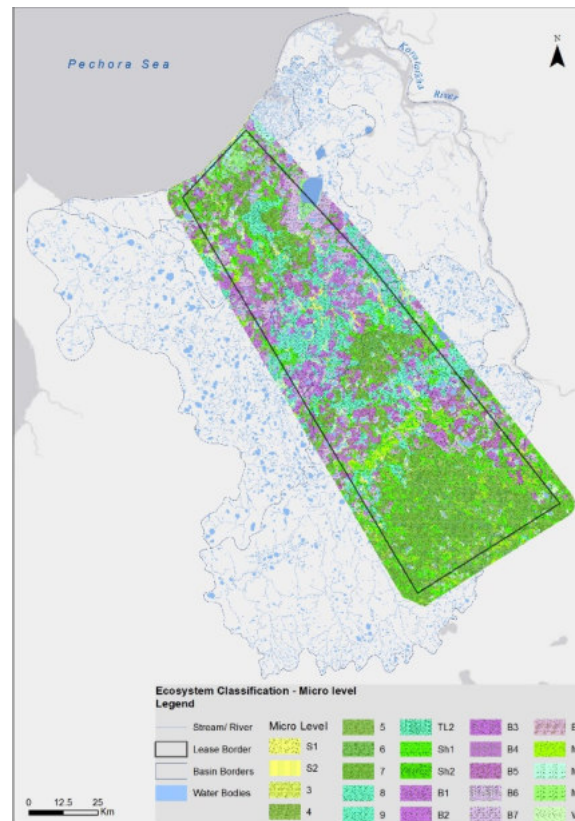
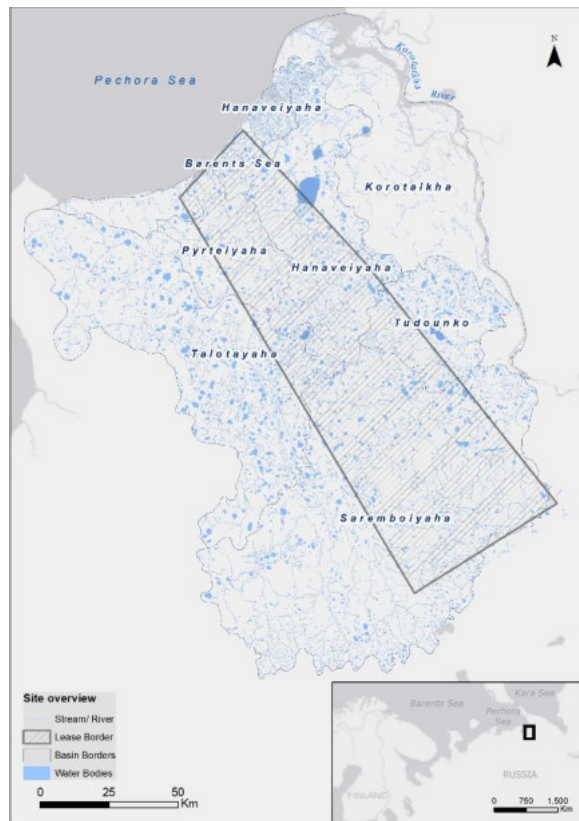
Is connecting flyways global, regional and local ecosystem service?





# Wetlands in Arctic: Cinderella syndrome

Is water regulation global, regional or local ecosystem service?



# Wetlands in Arctic: Cinderella syndrome

Are we loosing ecosystem services?

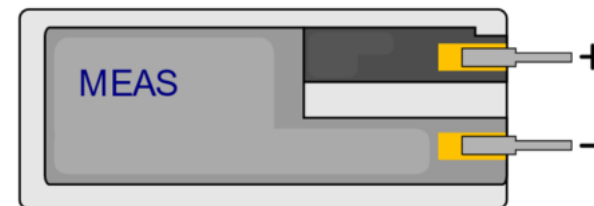
Wetlands are the subject of the interest to wide scope of very different stakeholders.

Use without knowledge – is the main threat.

Desert in Arctic – why not?

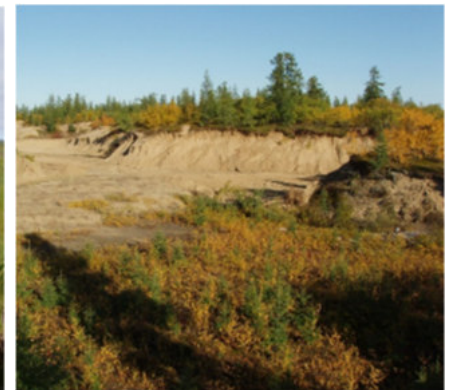


CAFF! Synergy?





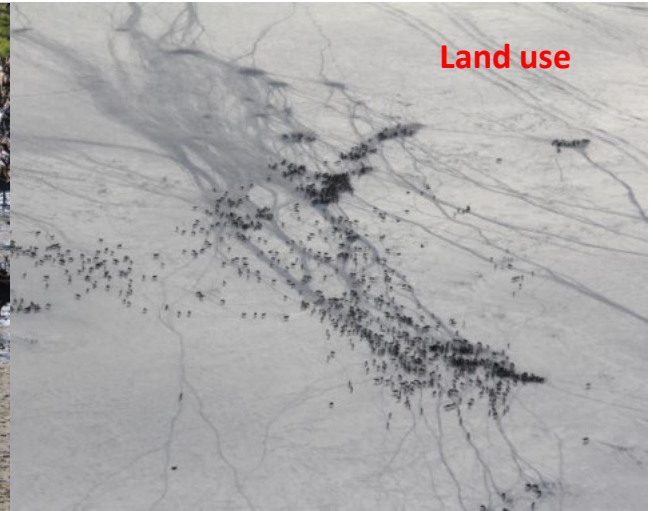
*Land use induced hazards to climate in the Arctic: losses of surface organic material (vegetation, peat), and frozen carbon from permafrost.*



**Industry?**





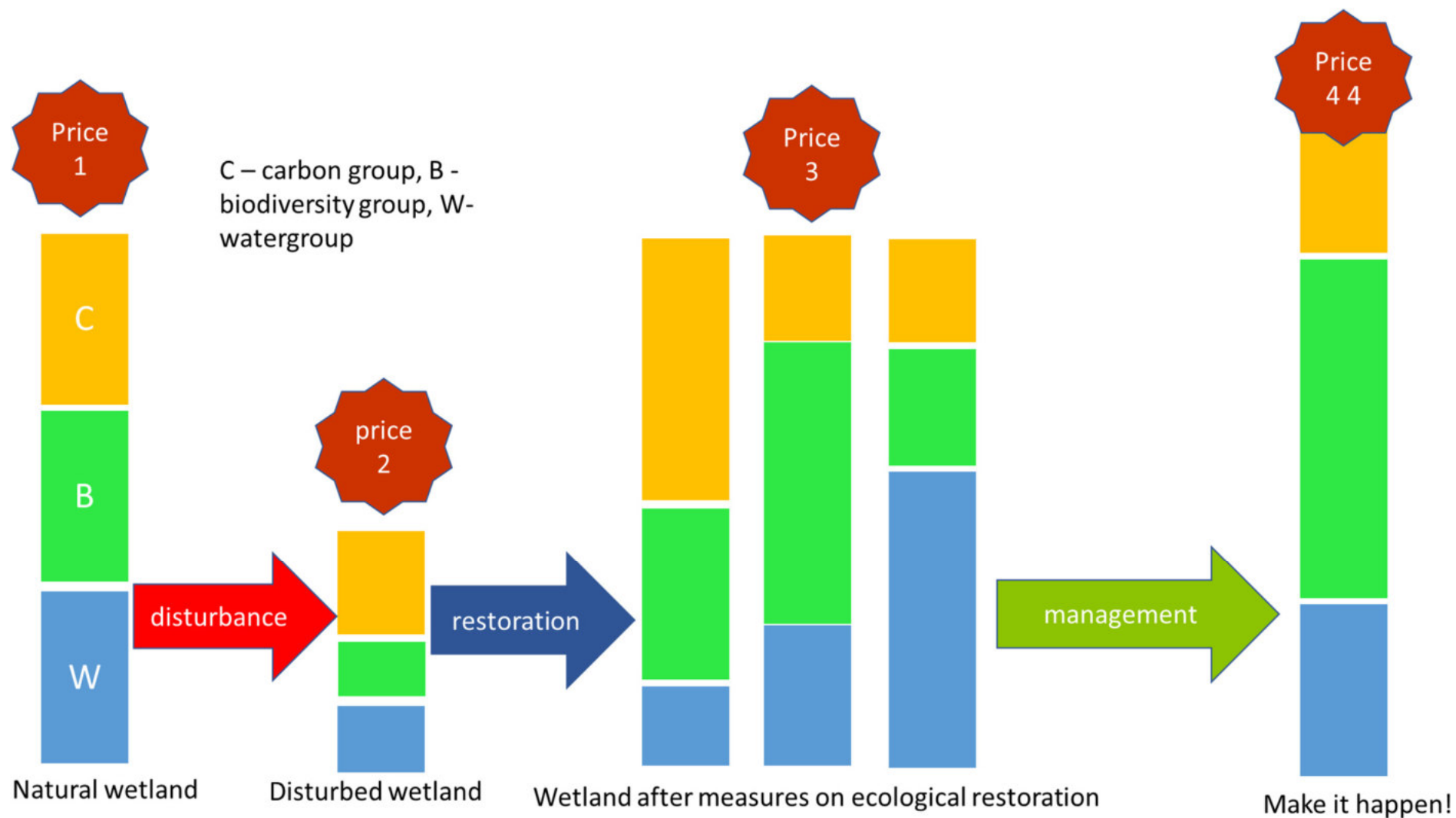


Industry?



# Wetlands in Arctic: treatment of the Cinderella syndrome

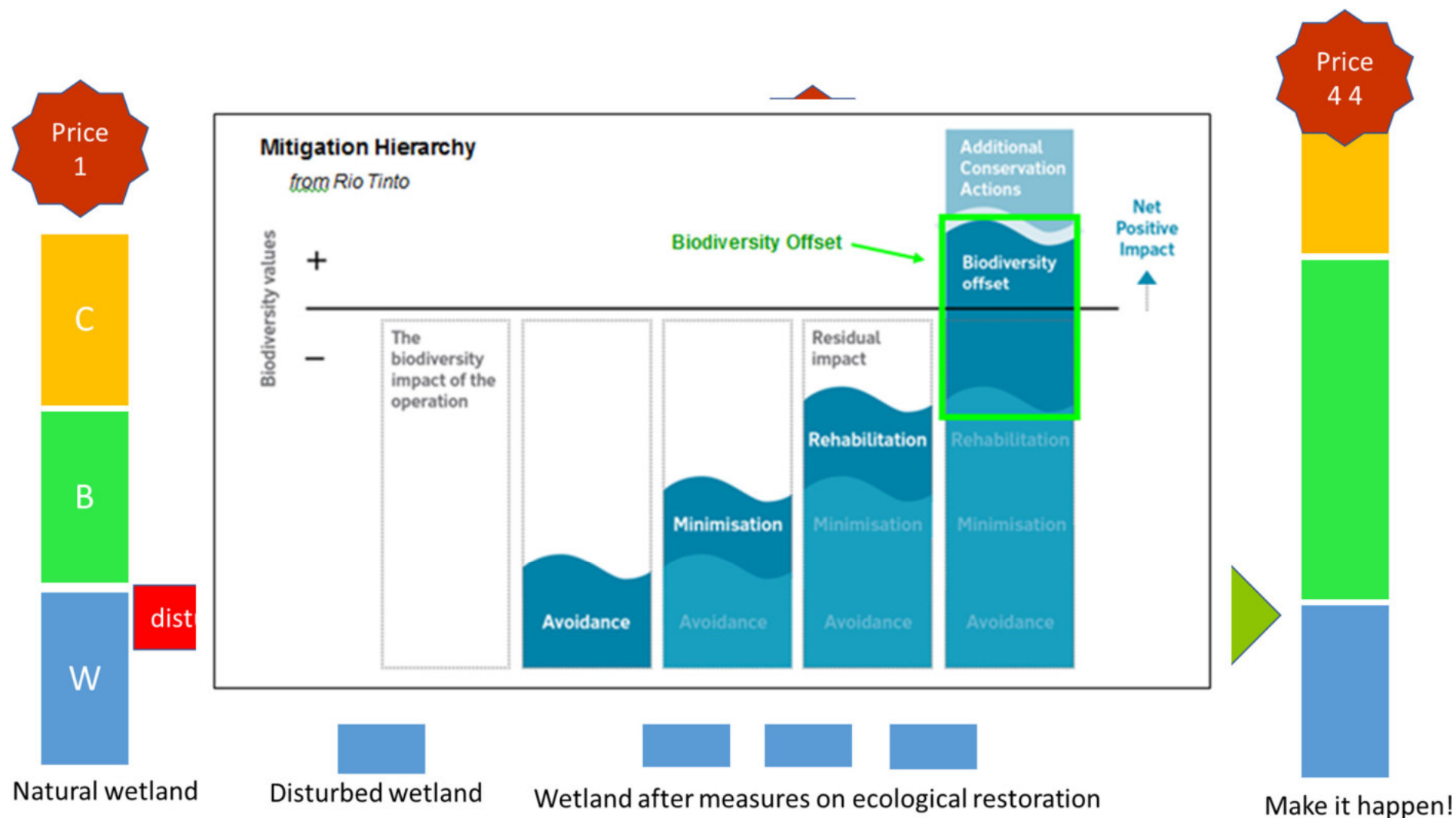
How to sell the great job wetlands are doing in Arctic





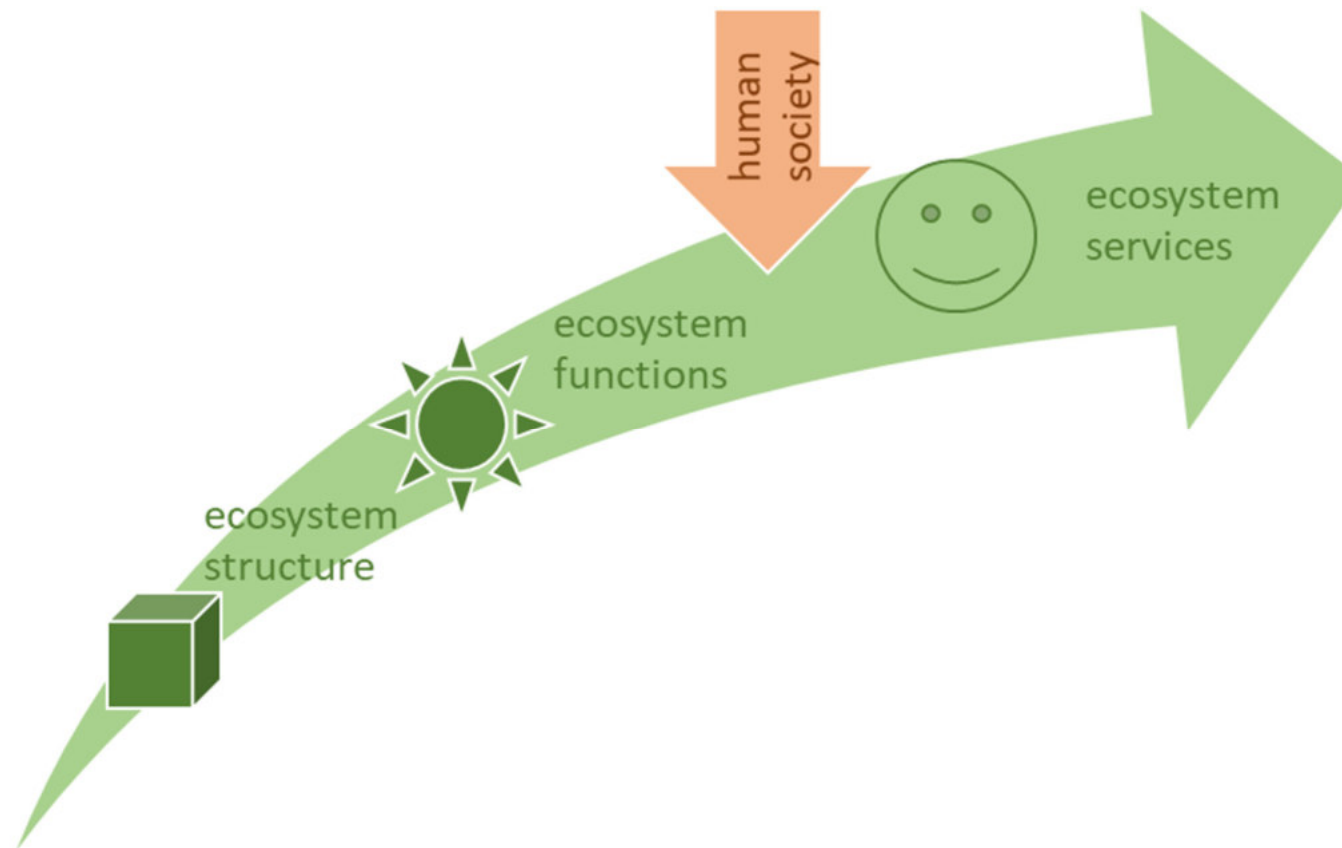
# Wetlands in Arctic: treatment of the Cinderella syndrome

How to sell the great job wetlands are doing in Arctic



# Wetlands in Arctic: Cinderella syndrome

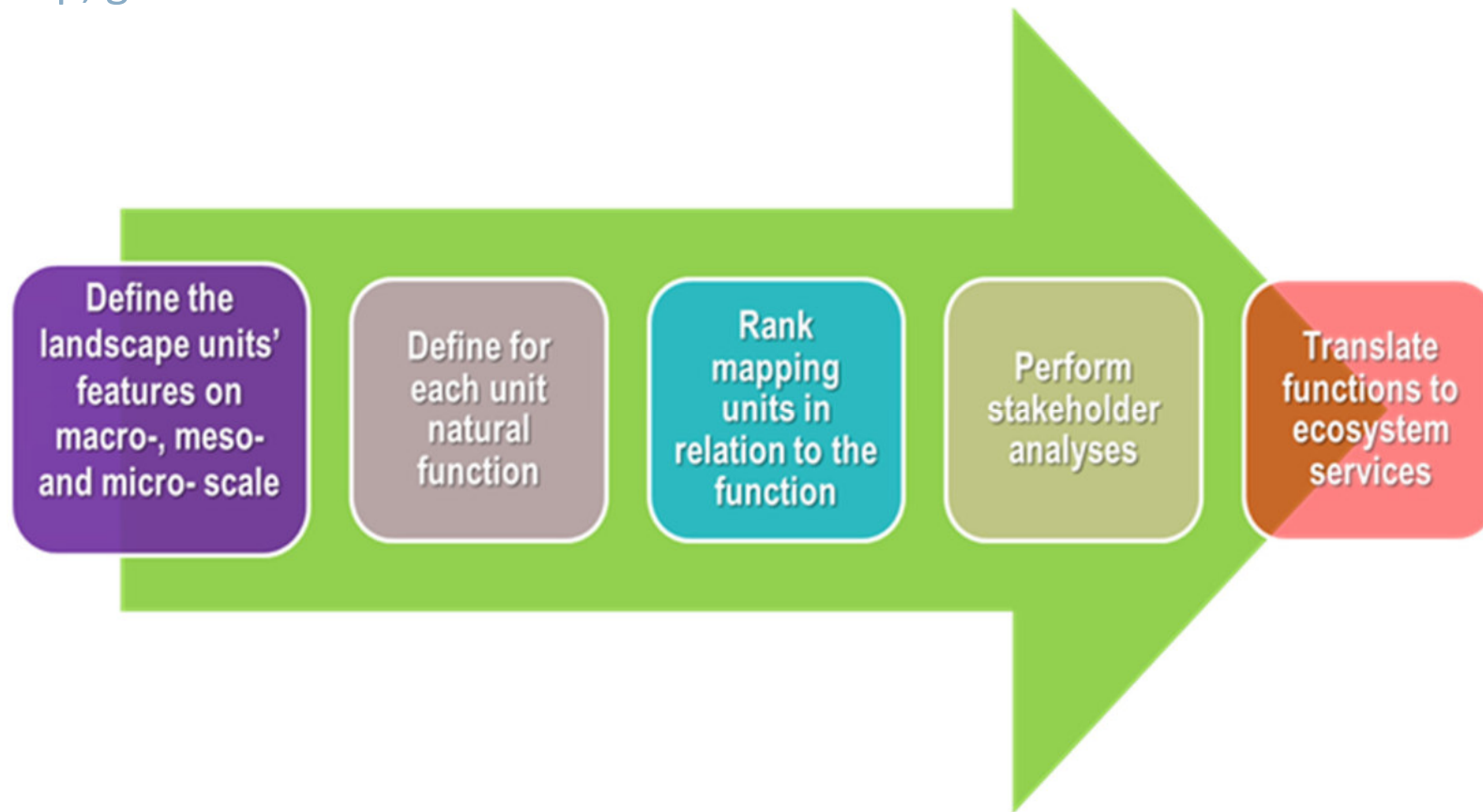
How to measure the great job wetlands are doing? Predictive mapping.  
Useful concept





# Wetlands in Arctic: Cinderella syndrome

How to measure the great job wetlands are doing? Predictive mapping.  
Map, go and claim



# Terminology: concepts and definitions

## Assessing the useful characteristics of Arctic wetlands

- **Value:** inherent indicator of an ecosystem of habitat based on e.g. number of species, endangered species, endemics, vegetation types
- Ecosystem services – natural functions demanded by the stakeholders.
- **Stability:** natural feature of an ecosystem reflecting its capacity to stay unchanged under the pressure of an impact or stress (resistance), and the capacity to return to the initial status after impact is over (resilience)
- **Sensitivity:** combination of the value and the stability of an ecosystem, and is a measure of how sensitive it will be to induced changes. It is in this context the natural/inherent sensitivity.
- **Vulnerability:** Resistance of an ecosystem function/feature or habitat to a human induced stress factor, for example oil spill.



Most of questions in front of which CAFF is puzzled have simple as truth answer:

**TRY ECOSYSTEM APPROACH!  
IF NOT NOW – WILL BE TOO LATE!  
SEE YOU LATER? HAVE DOUBTS...**