What Next?

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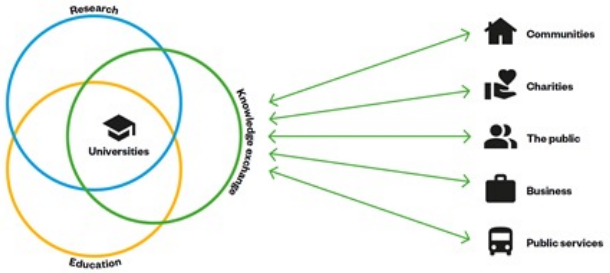
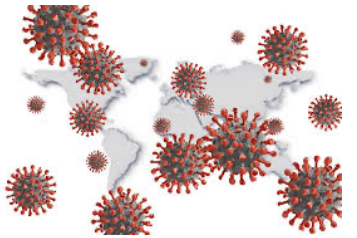


1. Emergence: New ideas and concepts continuously emerge in response to societal contexts & pressures

2017

2. Launch: New concepts articulated and disseminated as policy-relevant constructs

2019



3. Diffusion: Concept is communicated through various societal and political channels

2019-2024

4. Institutional embedding: New concepts embedded in societal institutions and become more influential

5. Practical impacts: New concepts taken up in diverse contexts and have real-world impacts & effects

Concepts continually contested, reinterpreted and adapted depending on interests of multiple users. Alternative understanding continues to evolve alongside dominant understanding

Low Hanging Fruit (maximise current investment)

Research Project Legacy & Monitoring?

1. What happens to the demonstration sites or to instrumented sites?

Legacy of funded projects

2. The importance of long-term studies

More data=(more) confidence

Instrument existing schemes

SLoWaterS

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1. Instrument existing NbS-F measures

Inishowen Rivers Trust

Installed 65 log leaky dams upstream of Clonmany.
Not monitored at present.

NATURAL LOG DAM	MATERIALS
Natural log dams use existing vegetation on the river which is cut and hinged across the width of the channel. The tree is not fully cut through so it can continue to grow and is pinned into place on the opposite bank.	Willow or alder trees growing on banks rebar and washers.

LOG LEAKY DAM	MATERIALS
Long trunks are placed across the width of the channel and embedded into the banks on either side. The trunks are wired and secured into place.	Larch or spruce trunks, wire. Need a digger to install.

BOARDED DAM	MATERIALS
Wood cut into 2 inch boards and embedded into the banks of drains and very small channels. These work in the same way as the other dams holding water temporarily and allowing it to leak out through the gaps.	Larch or spruce boards cut 2 inches thick.

STONE CHECK DAM	MATERIALS
Gravel heaped in piles on drains that run into a river channel. Gravel is com pacted with a digger bucket. Heavy rainfall in the channel is slowed down as it trickles through the stone.	Gravel/stone chip of two differen grades. Compacted with digger bucket.

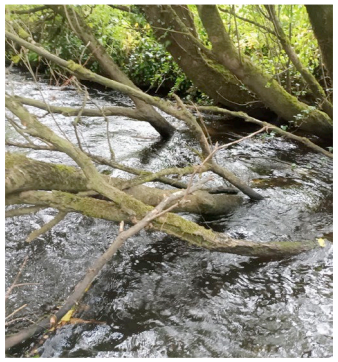
GULLY STUFFING	MATERIALS
Drainage gullies are stuffed with brash and pieces of wood that slow down the water that accumulates in drains after heavy rainfall. Forest gullies are easily stuffed.	Brash compacted into bundles and wedge into place across drains.

1. Instrument existing water quality measures

Duhallow Farming for Blue Dot Catchments EIP

HABITATS AND BUFFERS

RIPARIAN TREE PLANTING



IN-STREAM WOODY HABITAT

VEGETATED IN-DRAIN BUFFER

WET GRASSLANDS

SLOWATERS

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1. Instrument existing river restoration measures

Inland Fisheries Ireland-Arterial drainage network in-channel works

Bank protection

Paired deflectors

Sisyphean

- Scale up demonstrations
- What are the multiple benefits really?
- Policy & Practice not fit for NbS purpose

Scale up

Midleton Flood Management using NbS

Cork County Council
Comhairle Contae Chorcaí

OPW
Oifig na nOibreacha Poiblí
Office of Public Works

Climate study says Midleton 'dodged a bullet' during 2023 flood

Updated / Thursday, 29 Feb 2024 11:55

682 properties were damaged in the flooding in East Cork in October 2023 (Guileen Coast Guard)

By Oonagh Smyth
Prime Time

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Bund

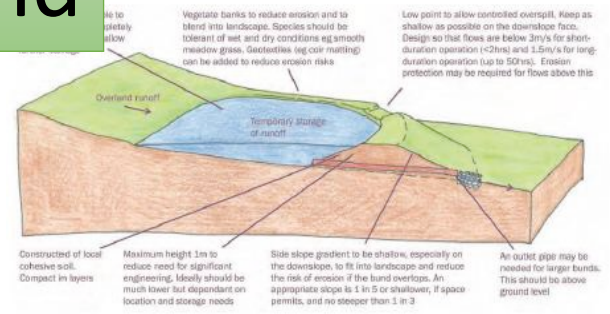


Figure 8.6 Design considerations for earth bunds (courtesy Emma Wren)

Wetland ponds

Hedgerows

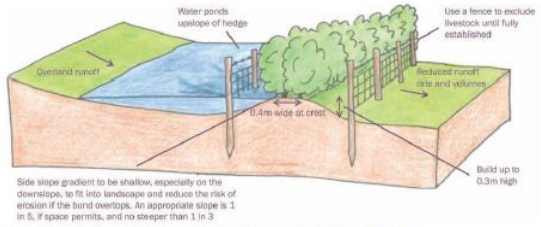
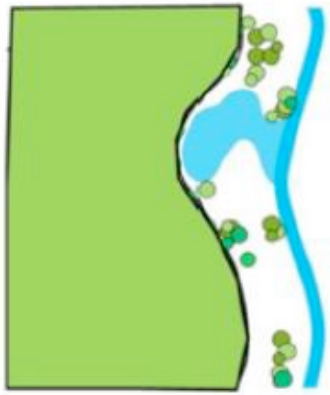


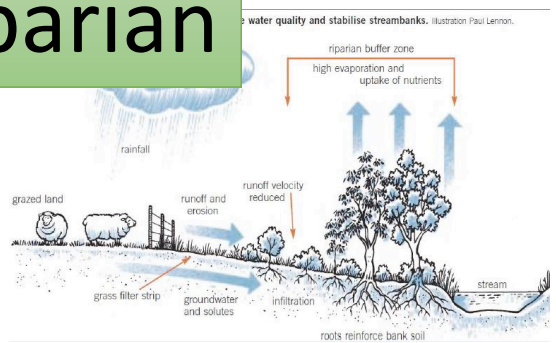
Figure 7.5 Design considerations for banked hedgerows (courtesy Emma Wren)

Tree planting



Swale

Riparian



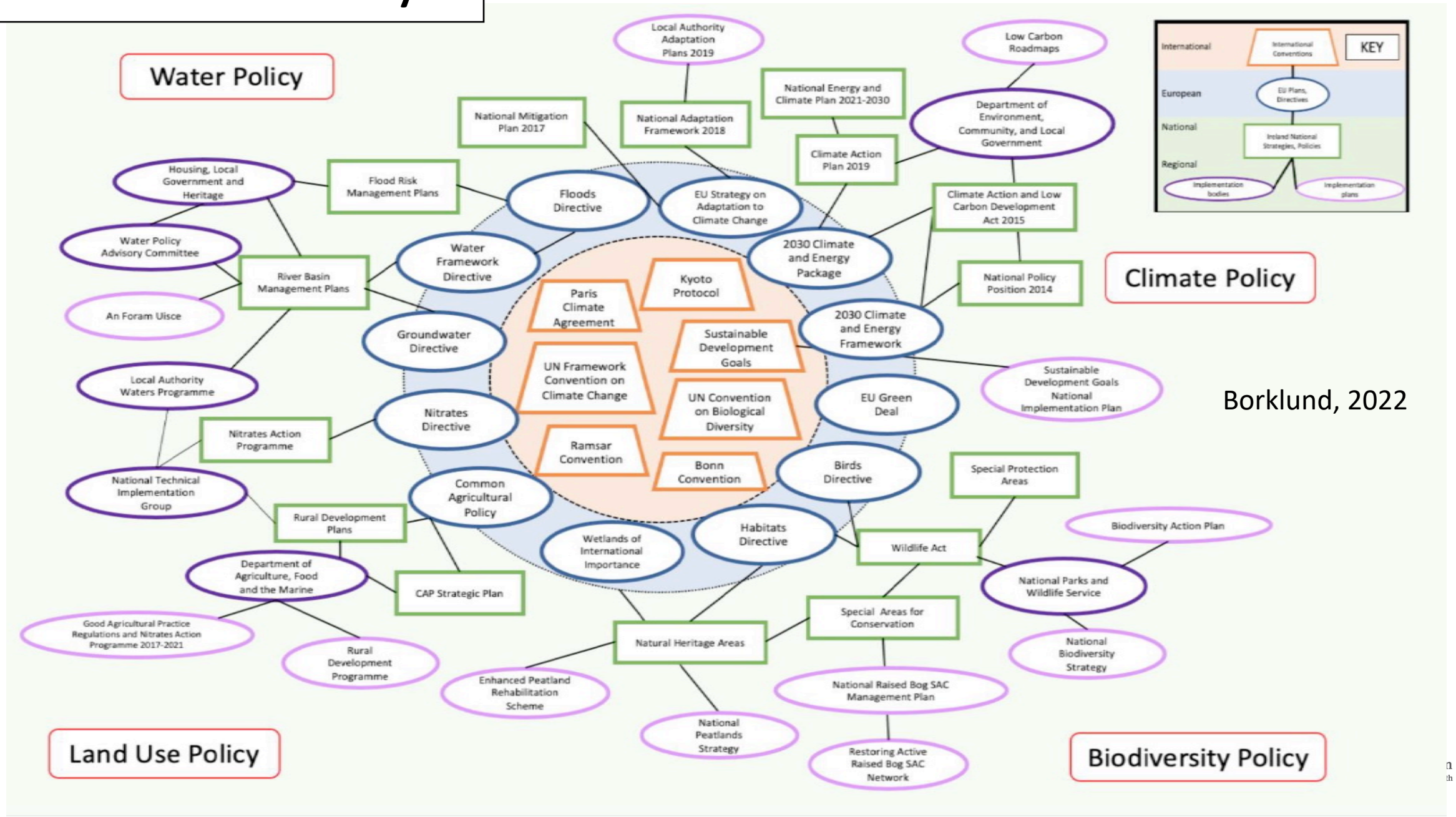
Build for multiple benefits

FARMING for WATER
Water European Innovation Partnership - AGRI

Research Hub
Build and monitor for flood benefits too.

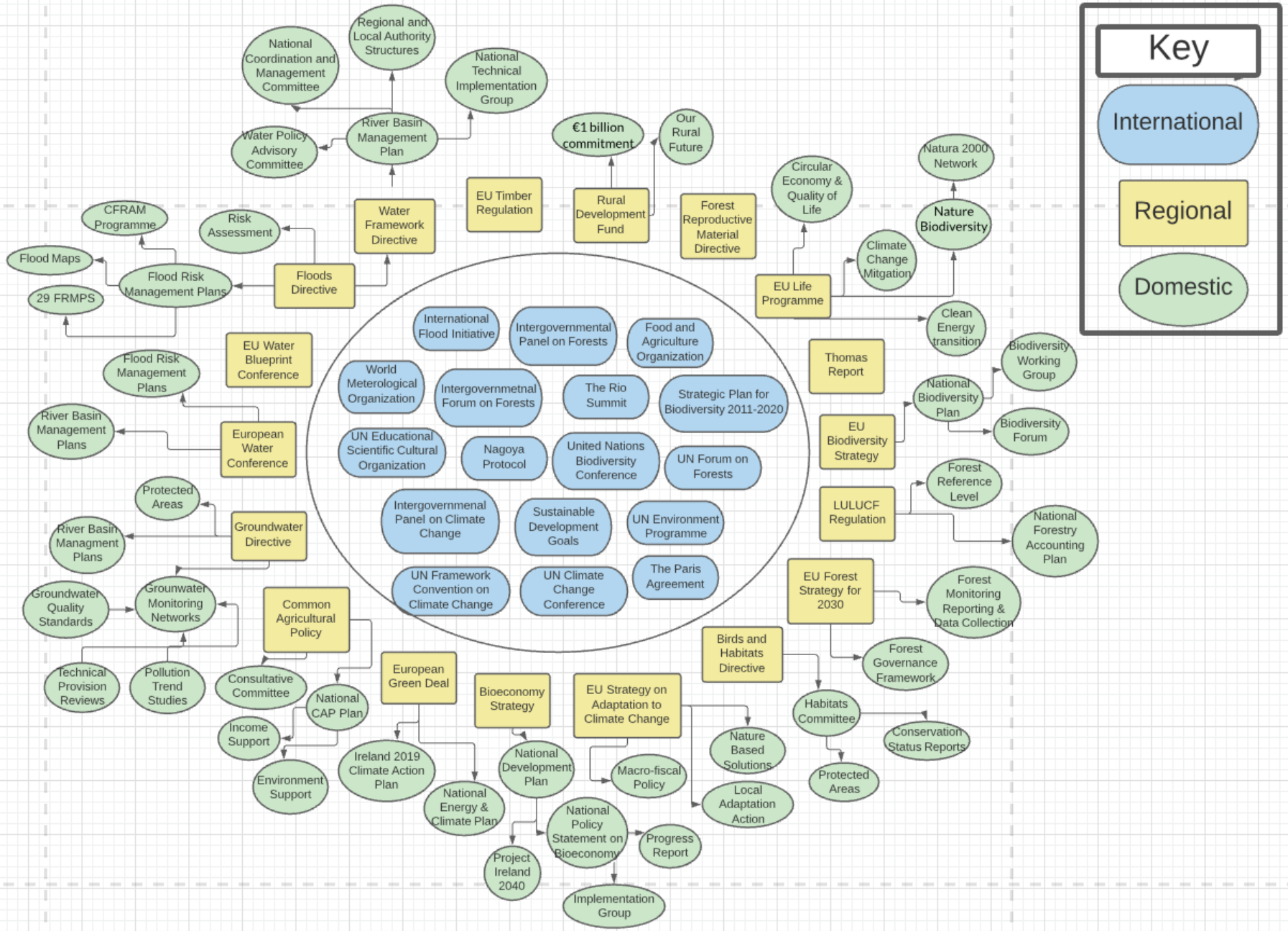
Policy & Practice:
Complex, contradictory & impede progress

Peatlands Policy



Borklund, 2022

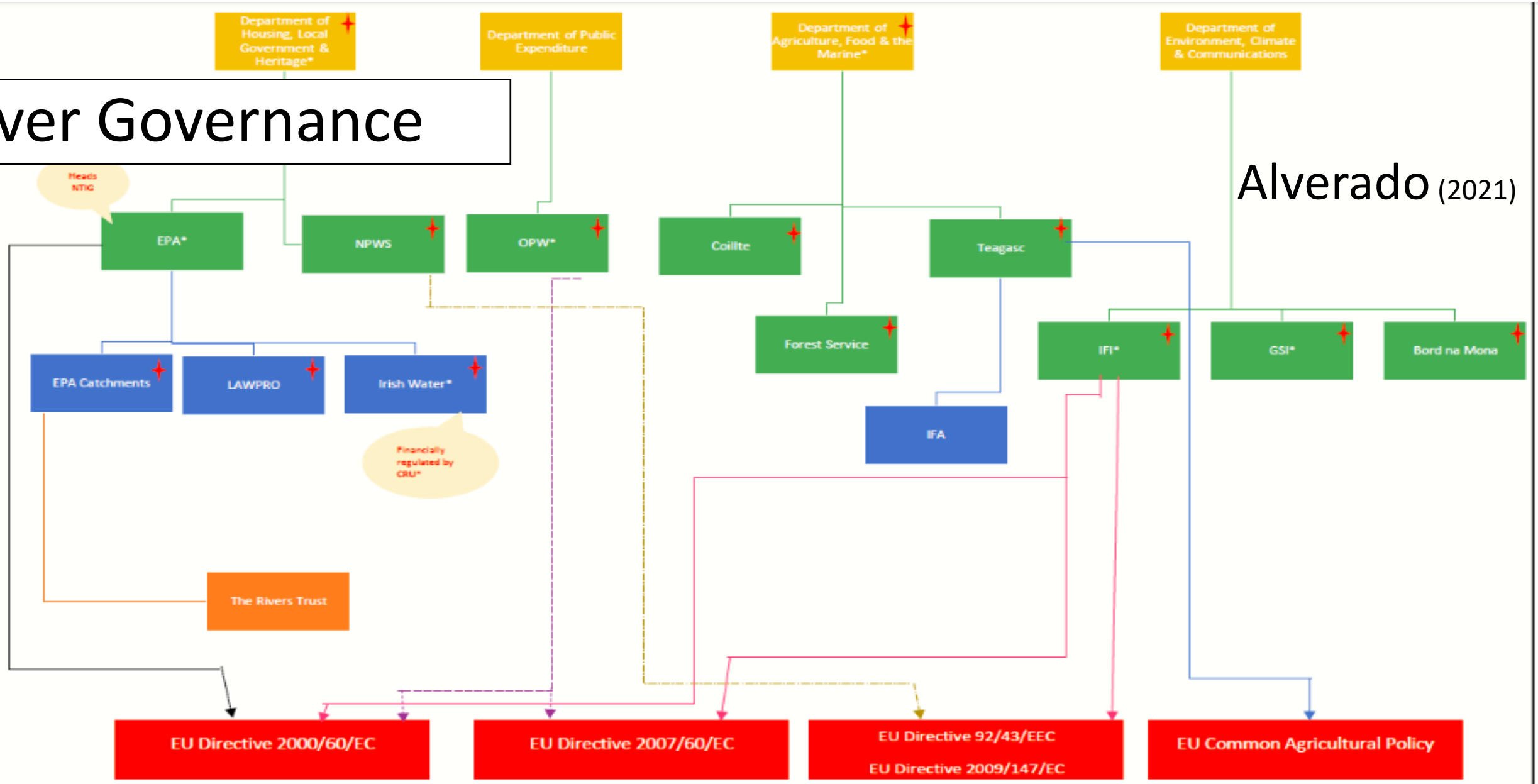
Forest policy



Leromonahos (2022)

River Governance

Alverado (2021)



Members of the NWRM Working Group along with local authorities

*Members of WPAC linked to NCMC through NTIG for implementation of RBMP along w/ Dept. of Health, Dept. of Tourism, Culture, Arts, the Gaeltacht, Sports & Media, CCMA and the HSE

Policy & Practice:
Complex,
contradictory & impede progress

- WFD – Water Quality – EPA
- FD -1-in 100/200 yr floods – OPW (limited to few locations, length of time, cost,
- Memorandum of Understanding

- Arterial drainage network >11,000 km of rivers dredged.
- IFI are working with them

Lack of…..

- Funding: small pockets, WFD priority, but FD may qualify

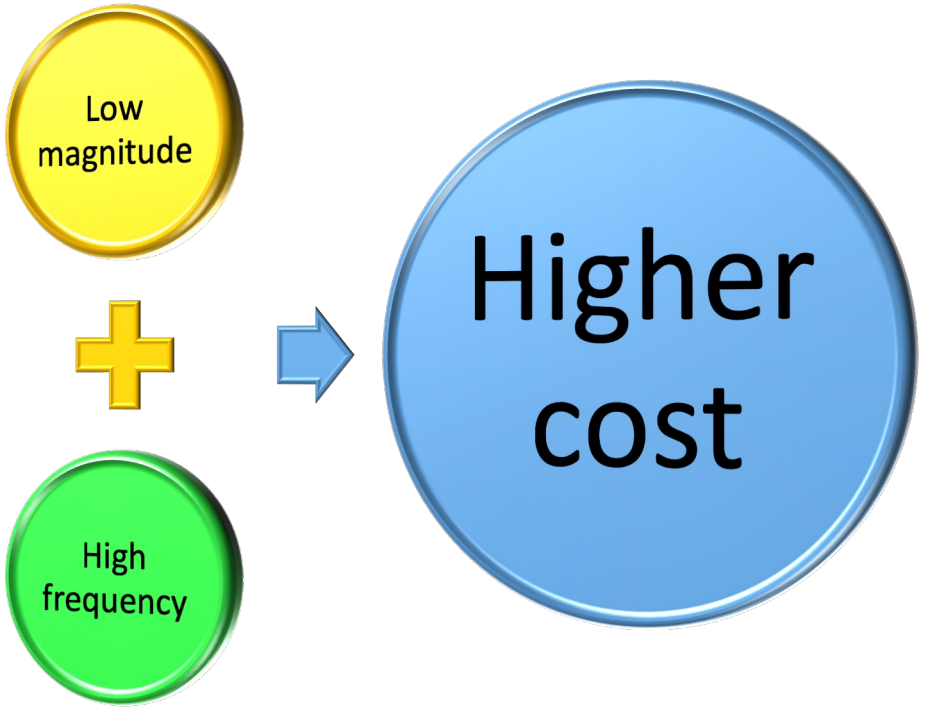
- Lack of knowledge, generally
- Expertise by institutional actors
- Communication with private landowners

- Support in statements from the OPW

Direct, bespoke finance options

Size does matter: NbS for 1-in 10 yr flood and below: Nuisance Floods

Leads to public inconvenience:
-road closure
-overwhelms storm drains
-compromises infrastructure



The cumulative cost of frequent floods over time may exceed the costs of the extreme but infrequent events for which societies typically prepare