



Event: IBBI Webinar

Date: 11th Feb 2026

Title: Risk Management
– a British (EA) Perspective

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Who manages the water infrastructure in GB?

England

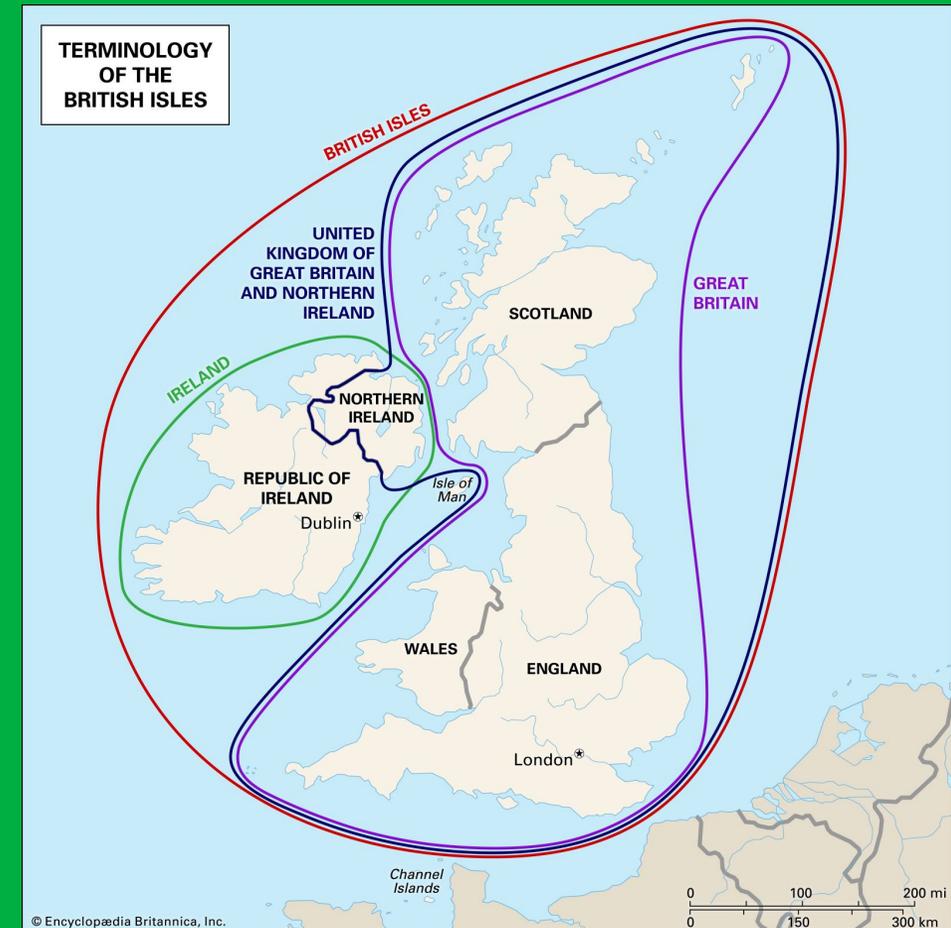
- Main rivers - Environment Agency
- Ordinary watercourses - local authorities & IDBs
- Others - water companies, Highways England, Network Rail

Scotland

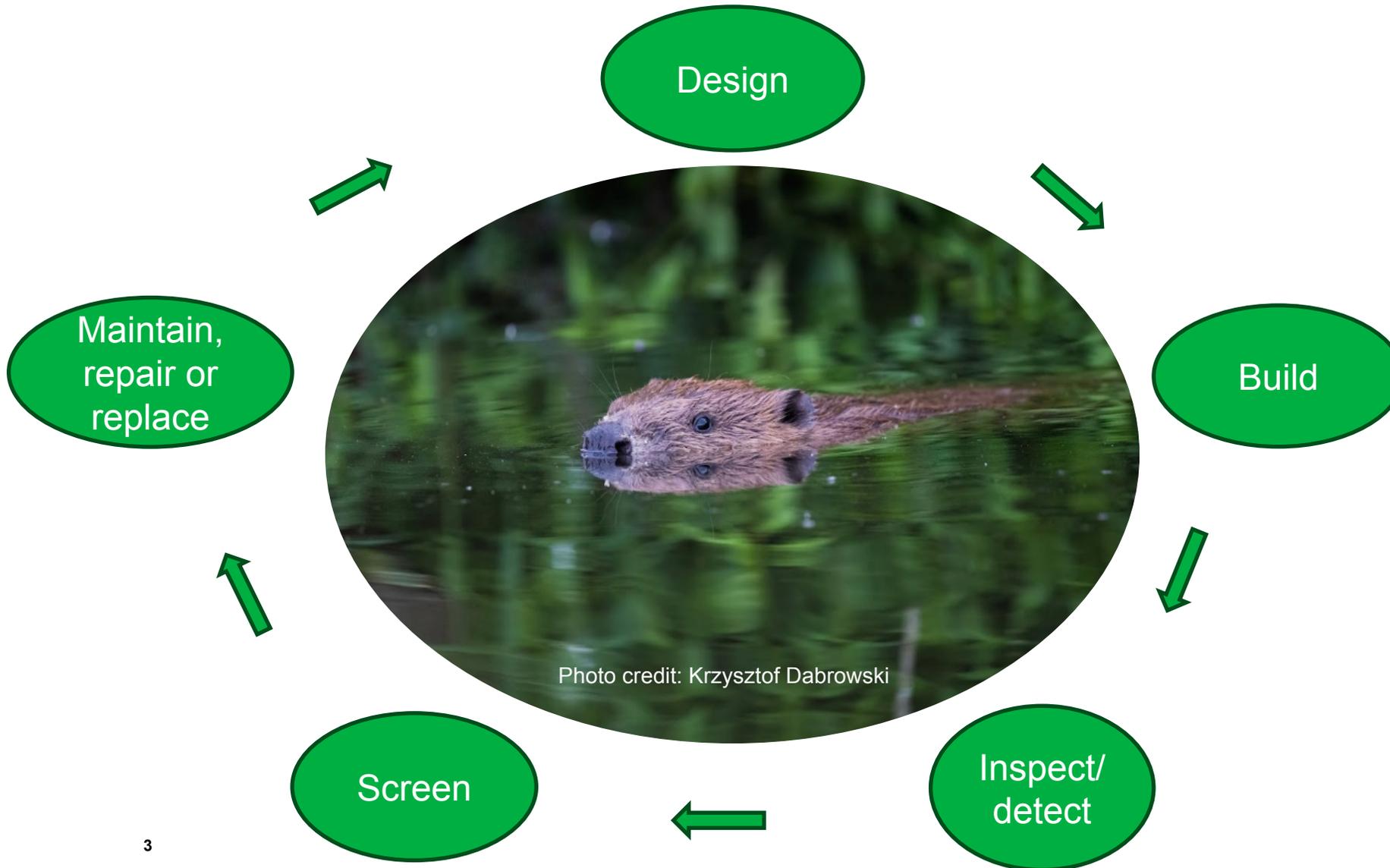
- Rural context – landowners responsible for river and flood banks
- Communities with flood risk – Local authorities
- Scottish Environmental Protection Agency - Regulators and strategic flood risk management
- Others - Scottish Water, SSE (hydro), Network Rail, Transport Scotland or local authorities (roads)

Wales

- Natural Resources Wales
- Local Authority



Asset management approach



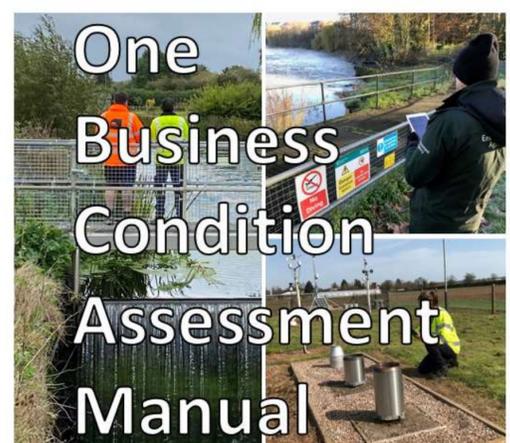
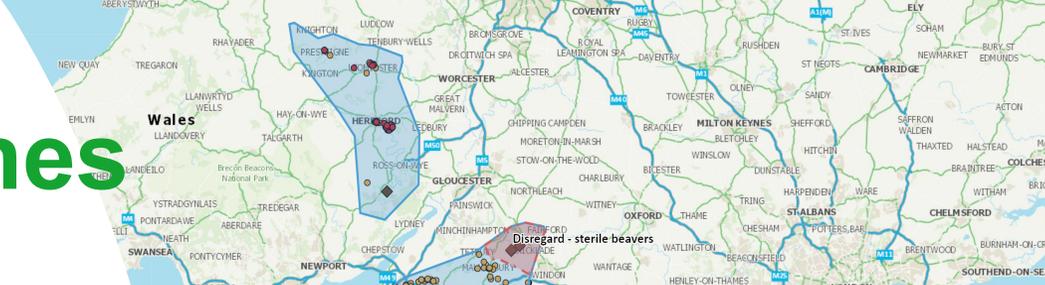
Understanding the different risks at the different stages

Proportionate & appropriate response

Risk management approaches

EA assessment methodology created for:

- Maintenance programme
- Capital programme
- Asset by asset 'vulnerability'



Environment Agency

JBA consulting

One Business Condition Assessment Manual

January 2023

Version: 1

One Business Condition Assessment Manual
Appendix 1: Asset Pages

Asset - Embankment

Description

Also known as a levee or dike. An artificially raised, earthen ridge that maybe strengthened to perform its function, e.g. with surface protection or an impermeable core. Used for flood defence, erosion protection or channel containment. May also be used for other primary purposes such as transport embankments.

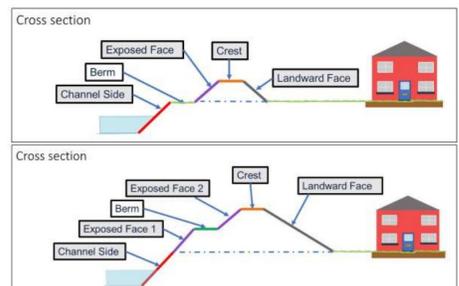
Embankment lengths should be separated where the elements in elevated profile change significantly in type, form, material and/or geometry.

For Embankments the Exposed Face element only refers to the engineered face raised above normal ground level

Berm elements should be ignored where flood embankments are distant from watercourse e.g. ring banks.

This is a 'soft' Asset. Consider increased erosion risk or deterioration at an Asset Transition.

Illustrations



Cross section

Exposed Face

Crest

Landward Face

Berm

Channel Side

Cross section

Exposed Face 2

Crest

Landward Face

Berm

Exposed Face 1

Channel Side



Asset vulnerability assessment

Chosen assets

- Embankments
- Debris screens
- Culverts
- Gauging stations



Asset vulnerability assessment

Data sources and tools

Easimap

- Limited data and often poor quality (missing data)
- Limited functions but easy to use

AIMS (Asset Inventory Management System)

- Not all areas use the system the same

SEAL (Surveillance of Embankment Assets with LIDAR)

- Doesn't have width data, needs to be processed
- Polygon of embankments, available in ~6 months

Highlight embankment BFI

The screenshot displays the ArcGIS Desktop interface. The ribbon at the top includes tabs for Project, Map, Insert, Analysis, View, Edit, Imagery, Share, Help, Feature Layer, Labeling, and Data. The Contents pane on the left shows the following layers:

- Beaver_DamCapacity_2
Beaver Dam Capacity category
 - Frequent
 - None
 - Occasional
 - Pervasive
 - Rare
 - <all other values>
- BFI_Select_Query_High_1
Beaver Foraging Index (suitability category)
 - <Null>
 - High
 - Low
 - Moderate
 - Preferred
 - Unsuitable
 - <all other values>
- Spatial_Flood_GraphicBuffer
- Spatial_Flood_Defence_Buffer

The map shows a network of water features with various colored buffers and highlights. The BFI layer is highlighted in green, indicating high suitability. The scale is 1:24,414 and the coordinates are 0.1325102°W 52.3205259°N.

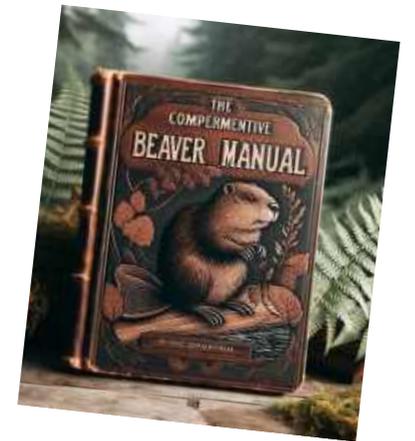
The data table at the bottom shows the following columns:

FID	Shape	asset_id	asset_name	asset_sub_	primary_pu	alternativ	alternat_1	asset_leng	toe_level	protection
Click to add new row.										

Developing guidance for all RMAs

Beaver manual of engineering techniques

- To avoid ad-hoc and disjointed guidance and develop inconsistent engineering techniques
- Support risk management authorities and the wider engineering community
- Reduce the risk of 'heavy-handed' hard engineering being implemented as standard
- Encourage soft engineering or setting back assets to give space for the river and beavers
- **Working with international colleagues... you!**



How we learn, share and embed



- English National Beaver Management Forum - infrastructure subgroup
- Scottish Beaver Advisory Group - Beaver mitigation subgroup.
- International website + UK Beaver Management website
- Beaver Management Groups / Beaver Practitioner Group



Questions?
Send us an email