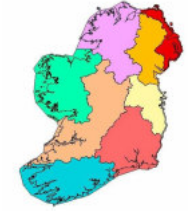


Article 5 Characterisation

WFD & Irish Ports,
Dublin

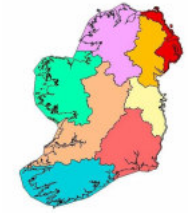
13 December 2007



Characterisation

The characterisation process means:

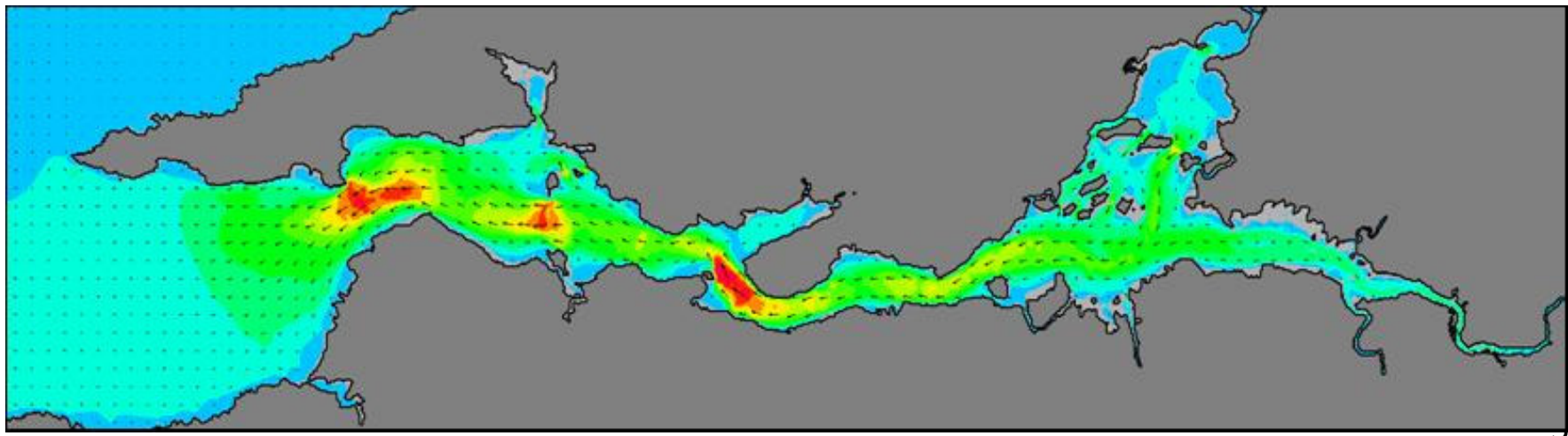
- Delineating water bodies and protected areas
- Undertaking risk assessment to identify water bodies that may not achieve the WFD's good status objective by 2015
- Providing economic baseline information
- Provisionally identifying heavily modified water bodies and artificial water bodies



Typology

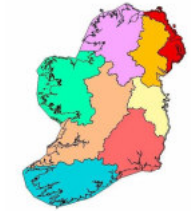
Based on broad features of the physical environment:

- Wave exposure
- Tidal range
- Salinity
- Mixing characteristics
- Composition of seabed
- Extent of intertidal area





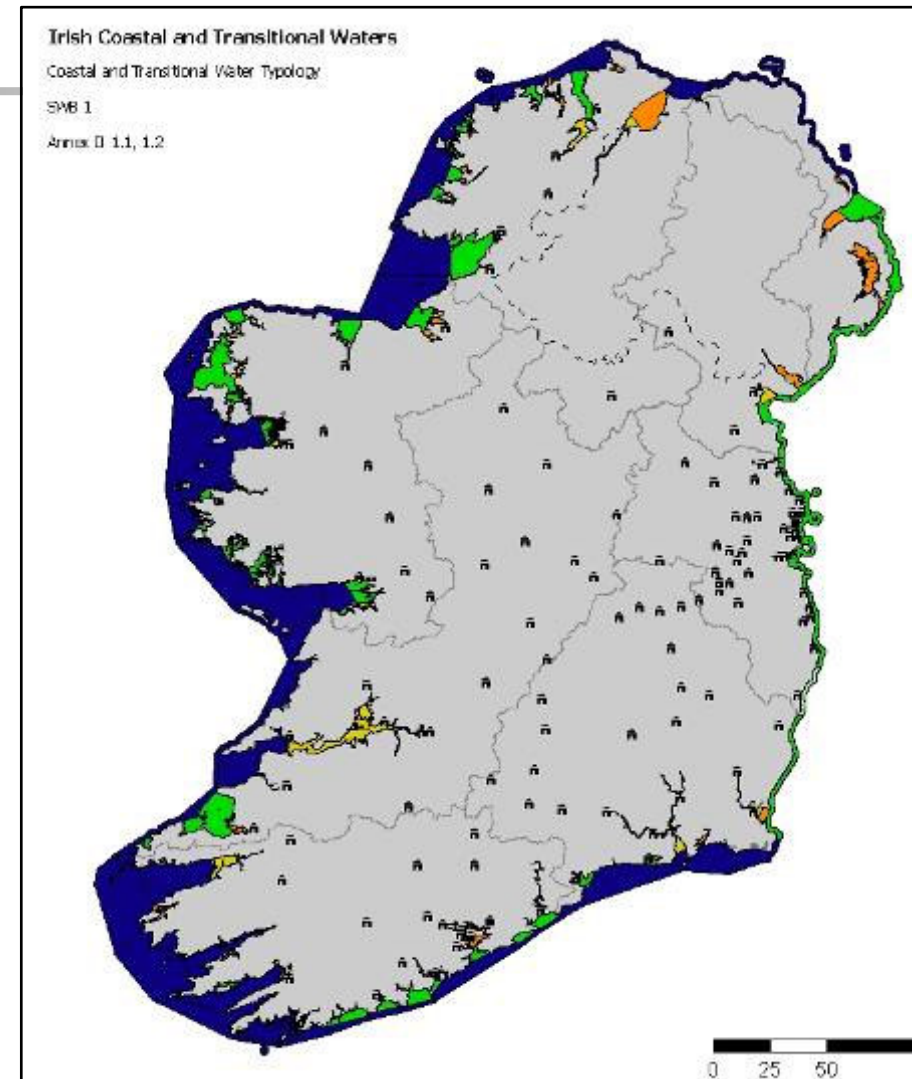
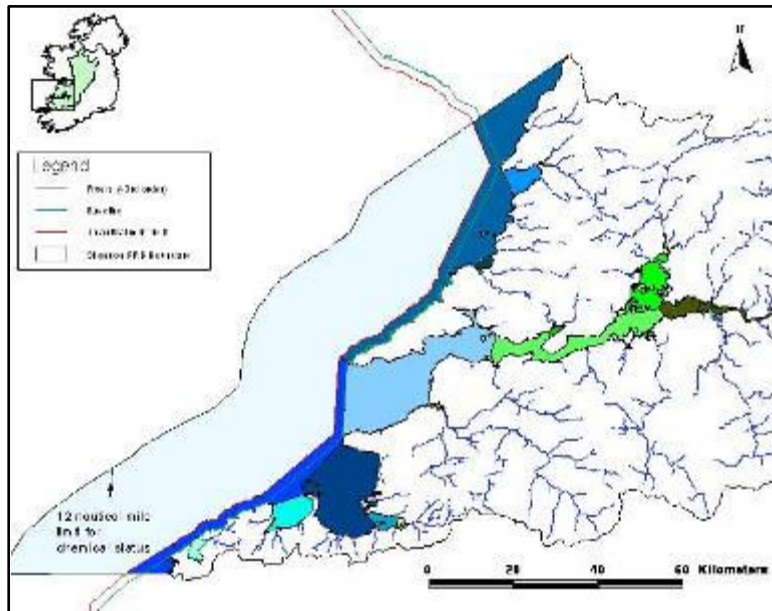
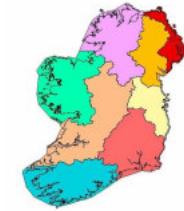
Typology



Coastal Water Types			
CW1	Euhaline, Macrotidal, Exposed	CW7	Euhaline, Macrotidal, Sheltered
CW2	Euhaline, Mesotidal, Exposed	CW8	Euhaline, Mesotidal, Sheltered
CW3	Euhaline, Microtidal, Exposed	CW9	Euhaline, Microtidal, Sheltered
CW4	Euhaline, Macrotidal, Moderately Exposed	CW10	Coastal Lagoon
CW5	Euhaline, Mesotidal, Moderately Exposed	CW11	Sea Lochs (Shallow)
CW6	Euhaline, Microtidal, Moderately Exposed	CW12	Sea Lochs (Deep)
Transitional Water Types			
TW1	Meso or Polyhaline, Macrotidal, Sheltered		
TW2	Meso or Polyhaline, Strongly Mesotidal, Sheltered		
TW3	Polyhaline, Macrotidal, Sheltered		
TW4	Poly or Euhaline, Mesotidal, Sheltered		
TW5	Transitional Sea Lochs		
TW6	Transitional lagoons: Oligo or Polyhaline, Mesotidal, Sheltered		

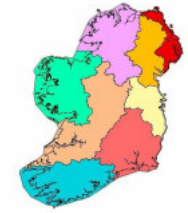
Water Bodies

Irish & UK coastal waters – Ecoregion 1

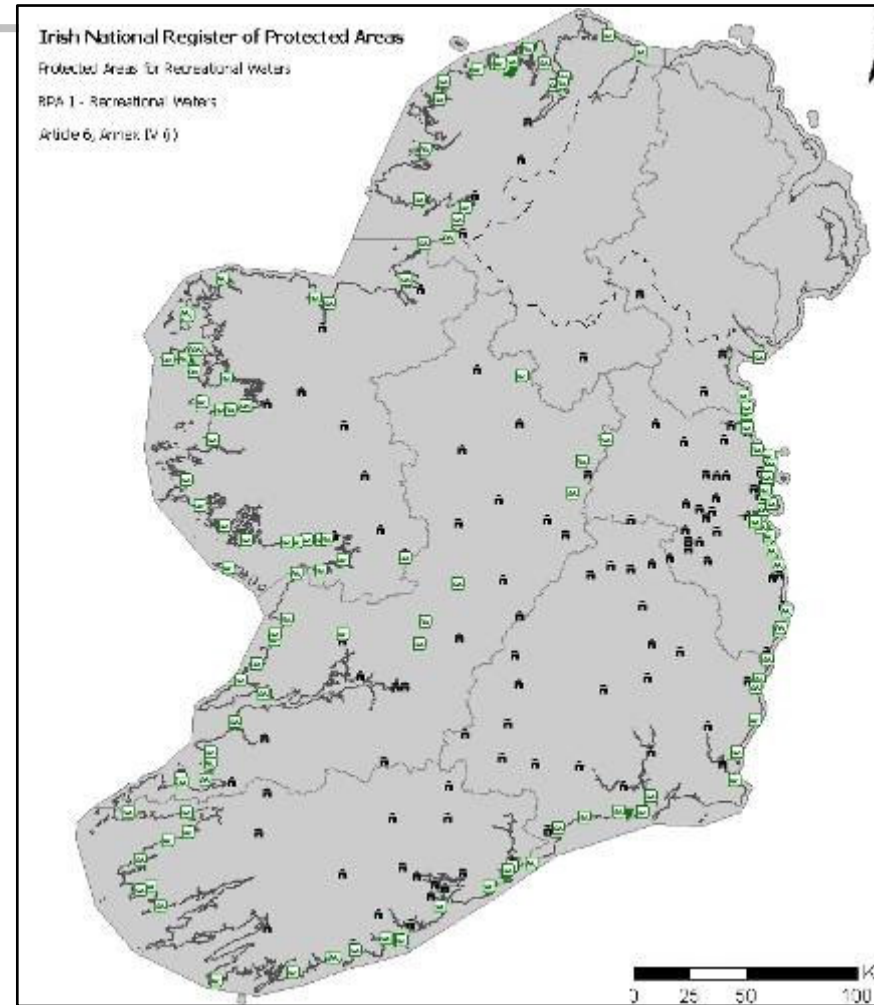


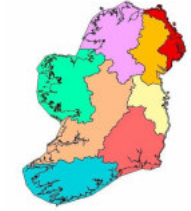


Protected Areas



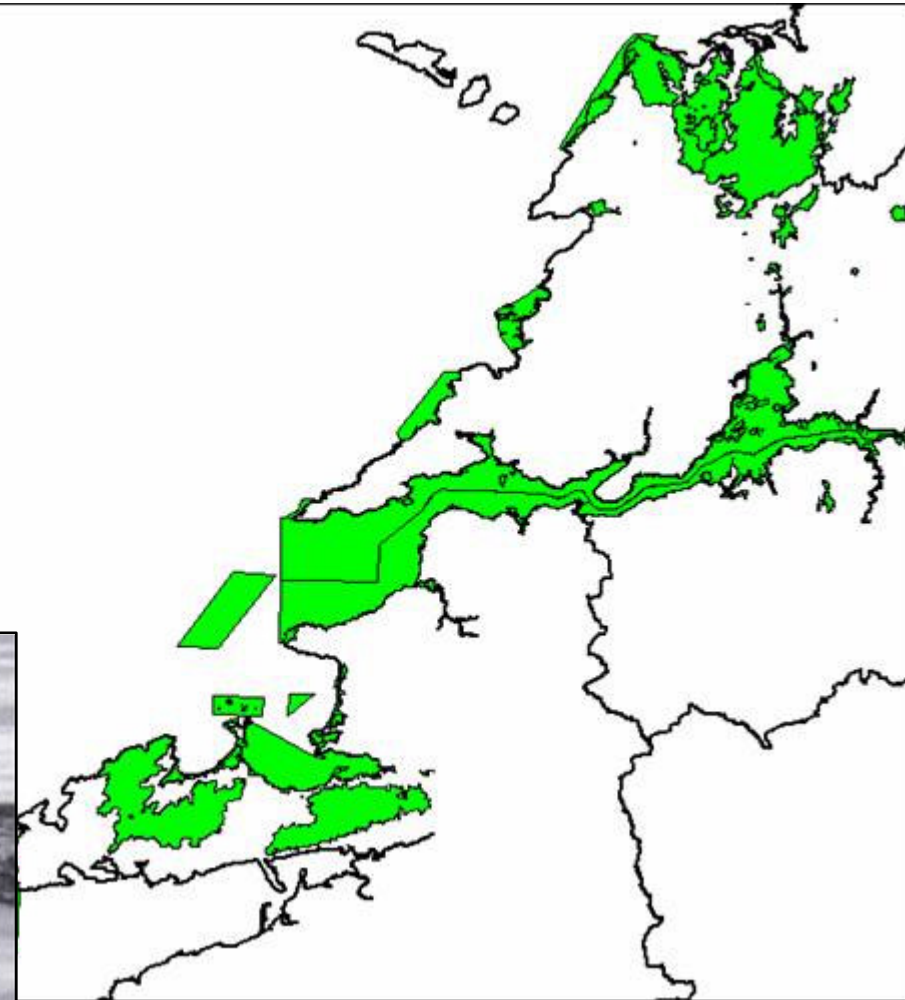
Recreational Areas

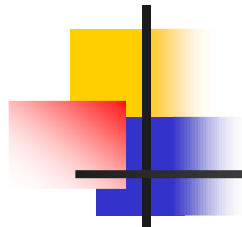




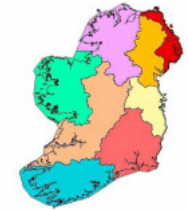
Protected Areas

Candidate Special
Areas of
Conservation (SAC)
& Special Protection
Areas (SPA)

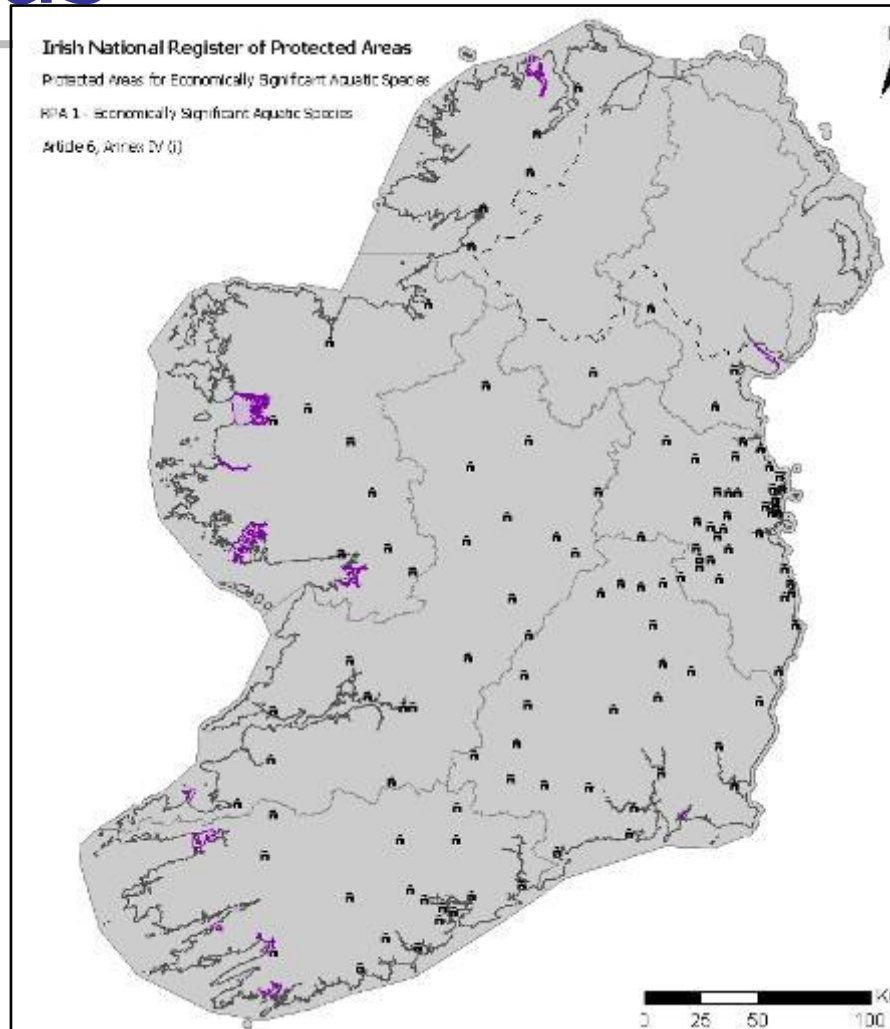




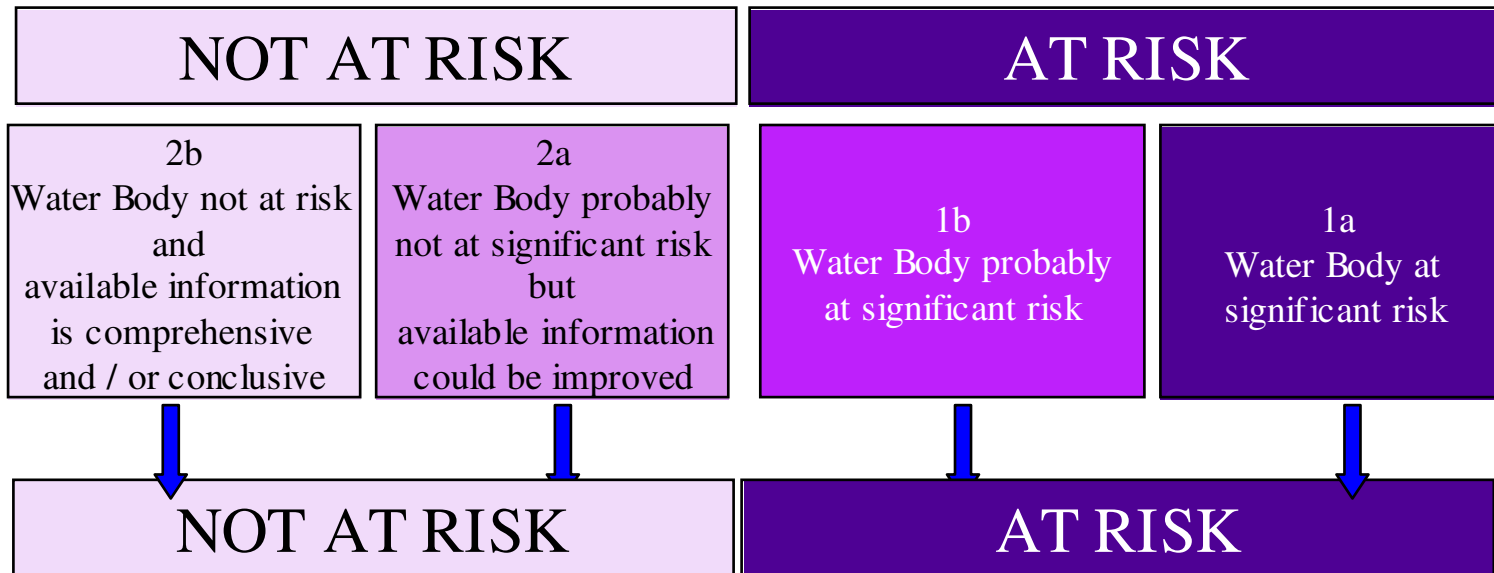
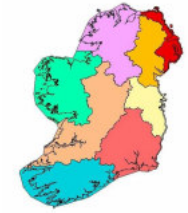
Protected Areas

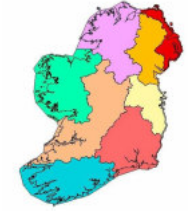


Economically Significant Aquatic Species



Risk Assessment



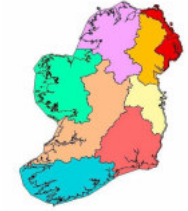


Pressures & Impacts

Morphological Alterations:

- Dredging Activities
- Deposition of Dredge Spoil



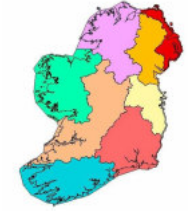


Pressures & Impacts

Morphological Alterations:

- Coastal Defences
- Tidal Barrages



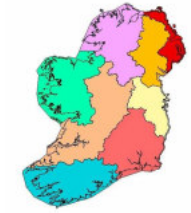


Pressures & Impacts

Morphological Alterations:

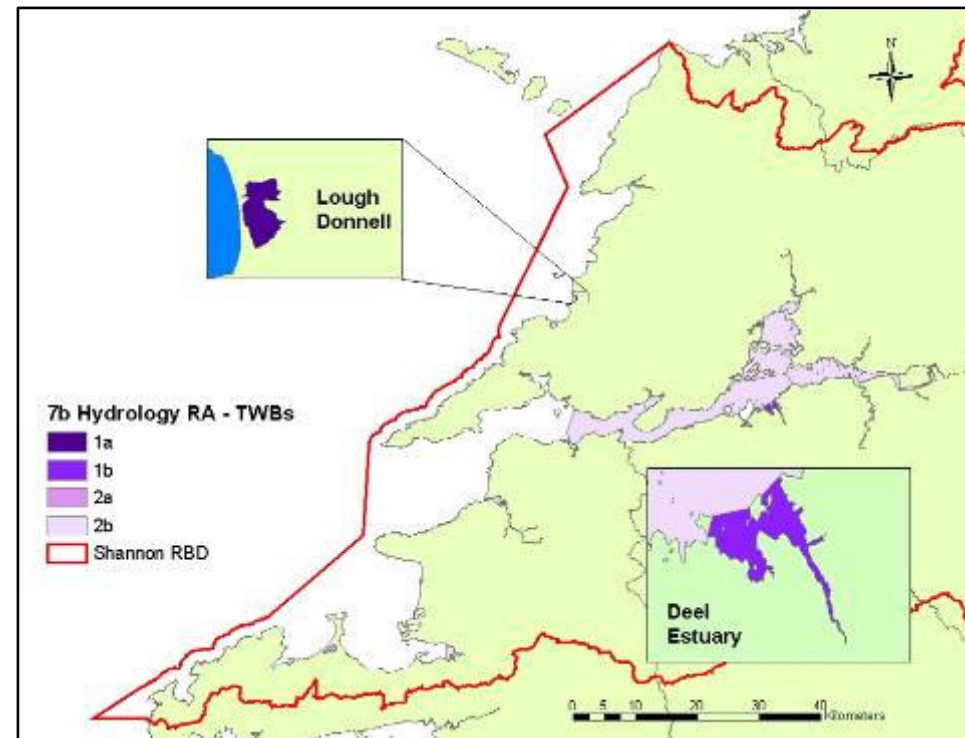
- Built Structures
- Intensive Land Use

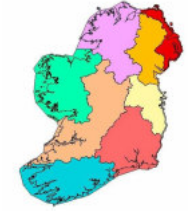




Pressures & Impacts

Abstraction & Flow Regulation





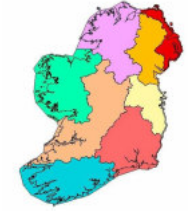
Pressures & Impacts

Point and Diffuse Pollution:

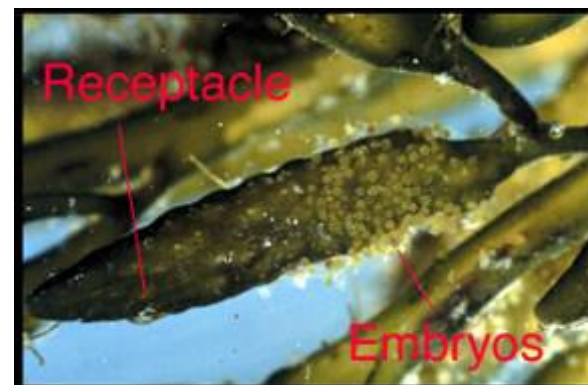
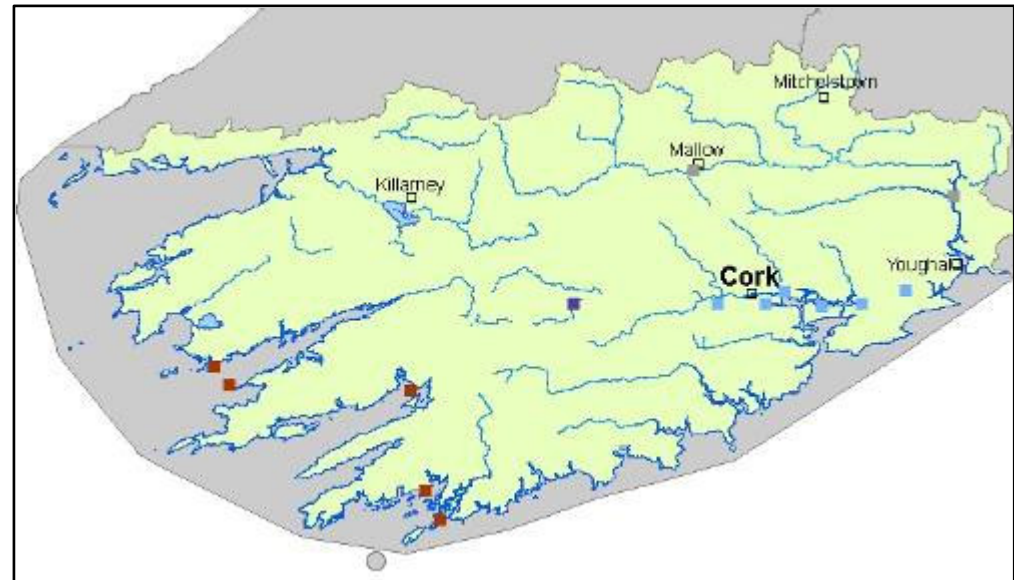
- Outfalls
- Intakes
- Riverine inputs
- Diffuse runoff

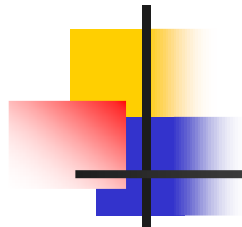


Pressures & Impacts

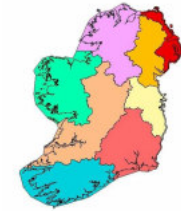


Alien Species
Sargassum muticum
(Japanese weed or wireweed)

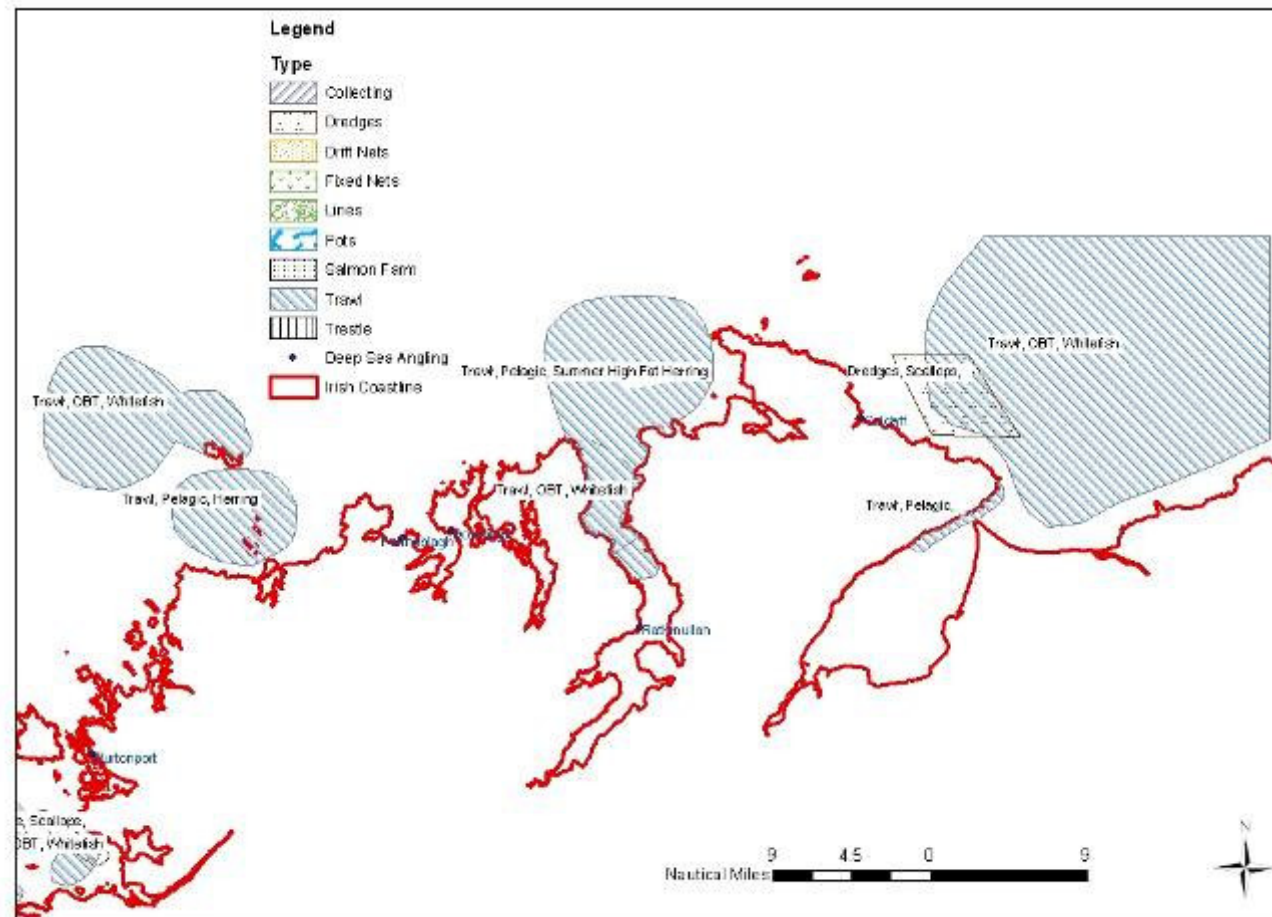


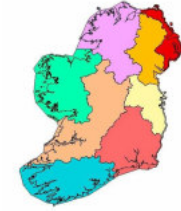


Pressures & Impacts



Commercial Fishing

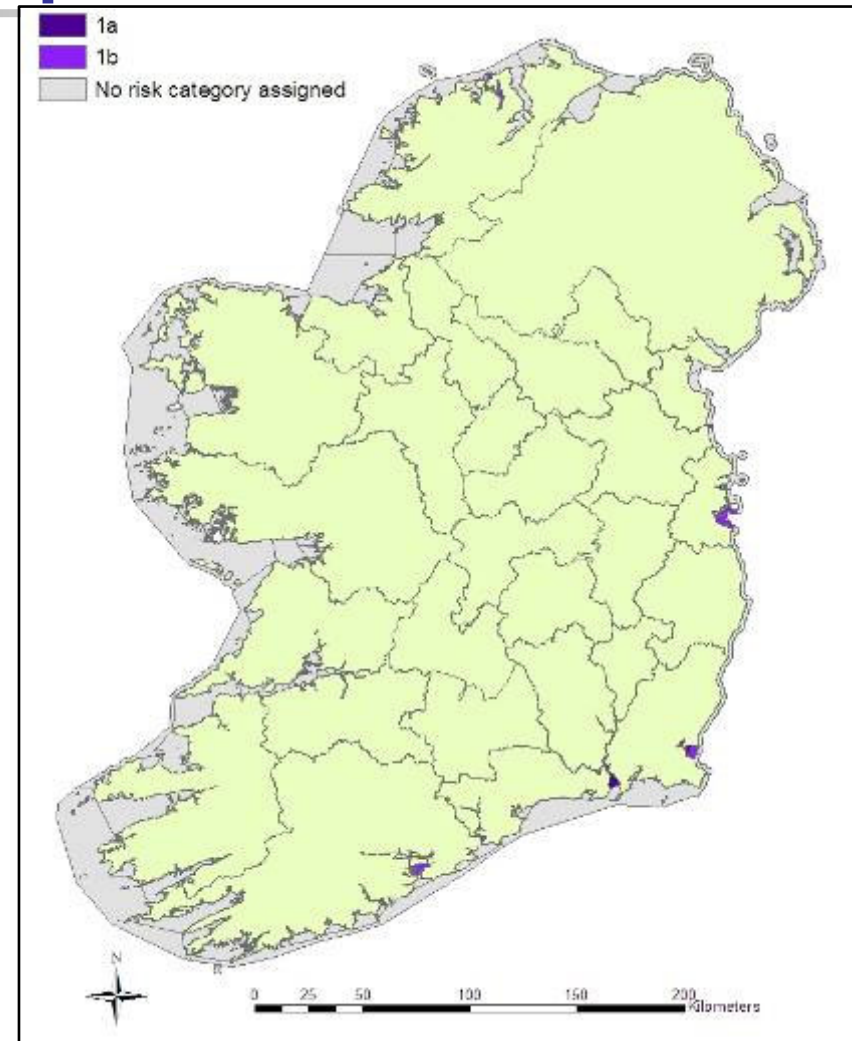


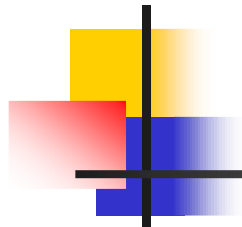


Nutrients/Eutrophication

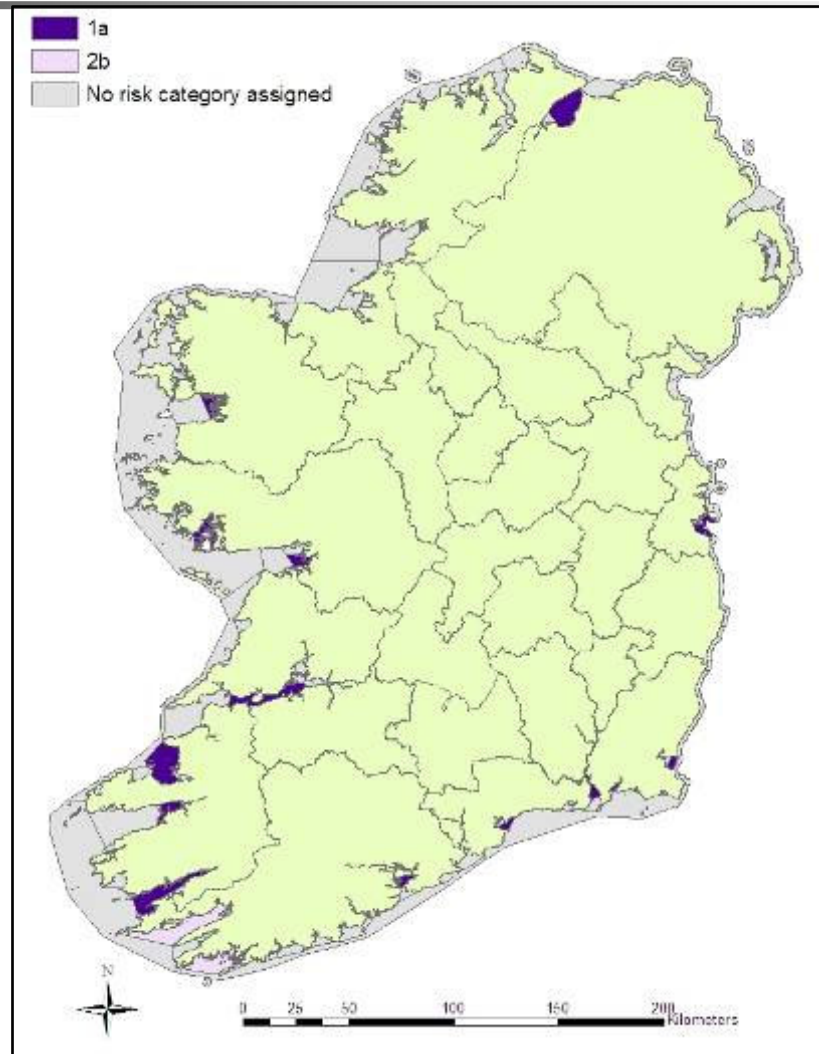
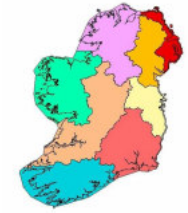
Problem Areas - OSPAR

Castletown, Boyne,
Broadmeadow,
Liffey/Tolka/Dodder,
Avoca, Slaney,
Barrow/Nore/Suir,
Blackwater, Lee, Bandon,
Cashen/Feale, Deel,
Maigue, Garavoge,
Dublin, Cork, Killybegs,
Mulroy



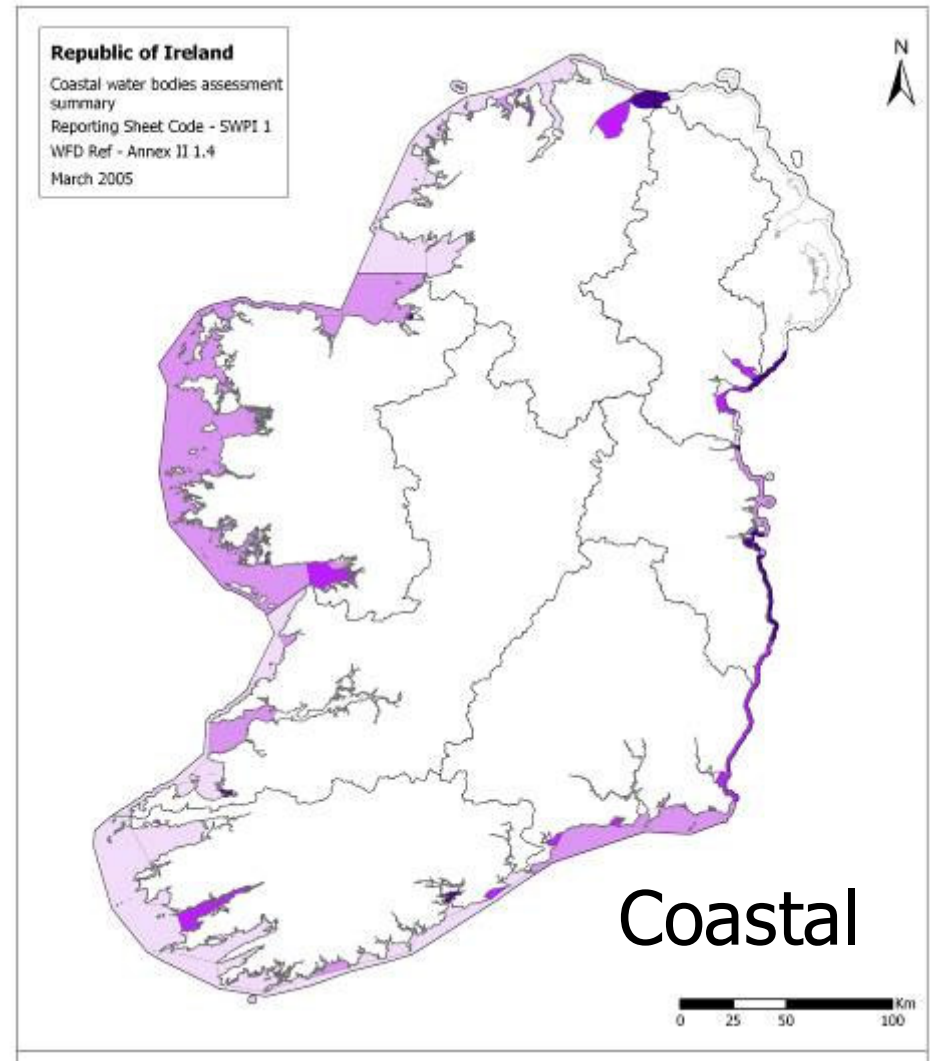
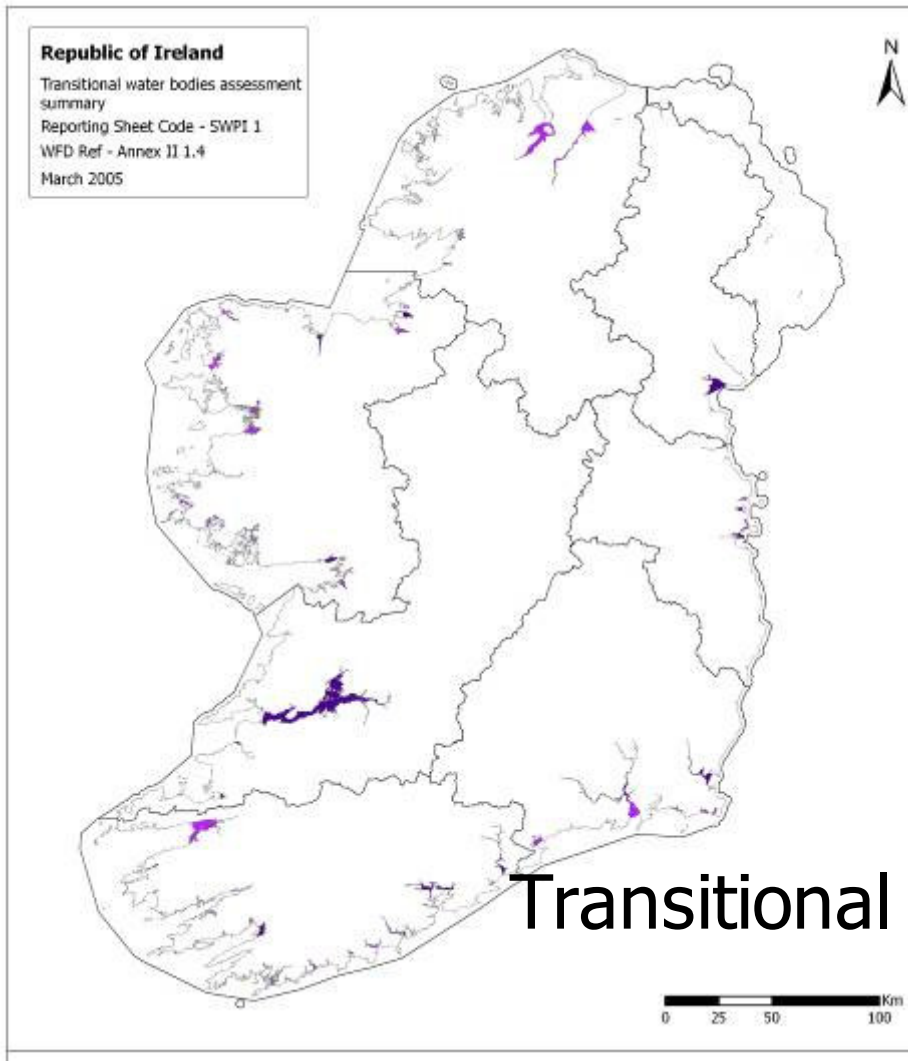
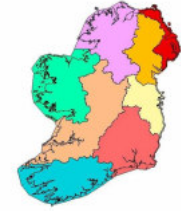


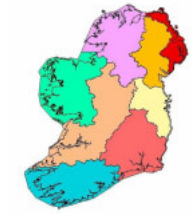
Hazardous Substances





Summary of Assessments





Summary of Assessments

Risk category	Transitional water bodies % (by number)	Coastal water bodies % (by number)
(1a) At risk <i>Main pressures</i>	21% <i>Morphological alterations (15%)</i> <i>Pollution impacts (12%)</i>	17% <i>Morphological alterations (8%)</i> <i>Pollution impacts (12%)</i>
(1b) Probably at risk <i>Main pressures</i>	18% <i>Morphological alterations (16%)</i> <i>Pollution impacts (6%)</i>	7% <i>Morphological alterations (16%)</i> <i>Pollution impacts (6%)</i>
(1a+1b) Total at risk	39%	24%
(2a) Probably not at risk	19%	8%
(2b) Not at risk	42%	65%



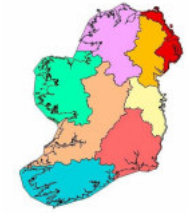
Heavily Modified Water Body

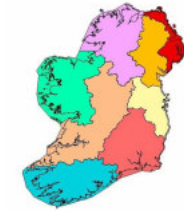
- A Heavily Modified Water Body (HMWB) is substantially changed in character as a result of physical alterations by human activity



Beneficial Uses

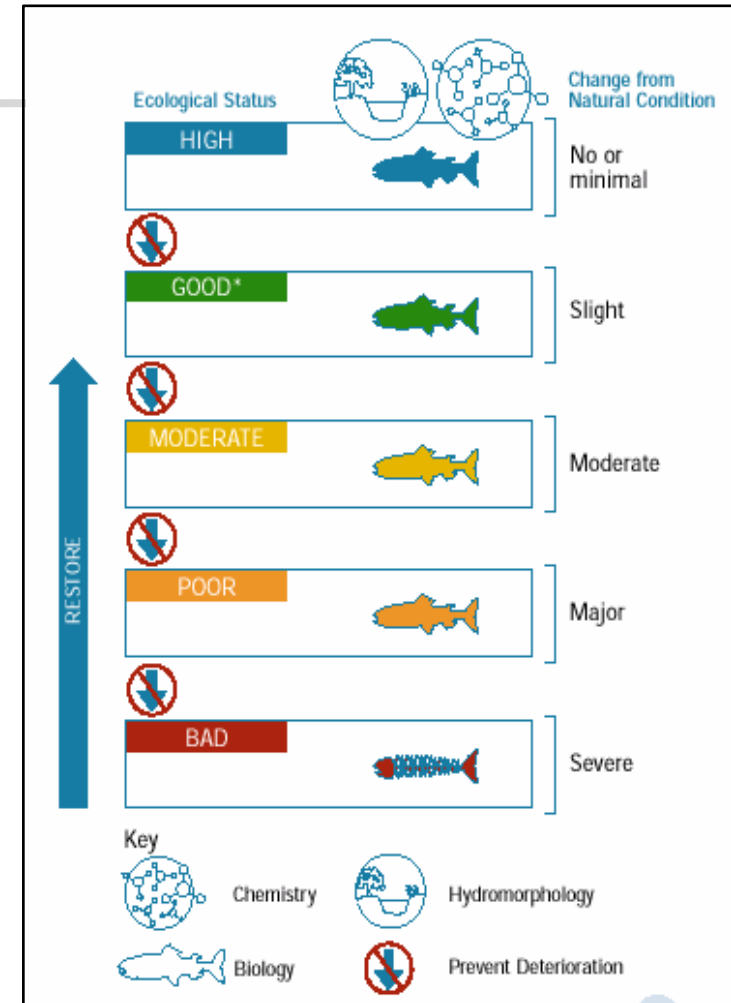
- Hydrological – water abstraction and regulation
- Morphological – flood protection, navigation and land drainage





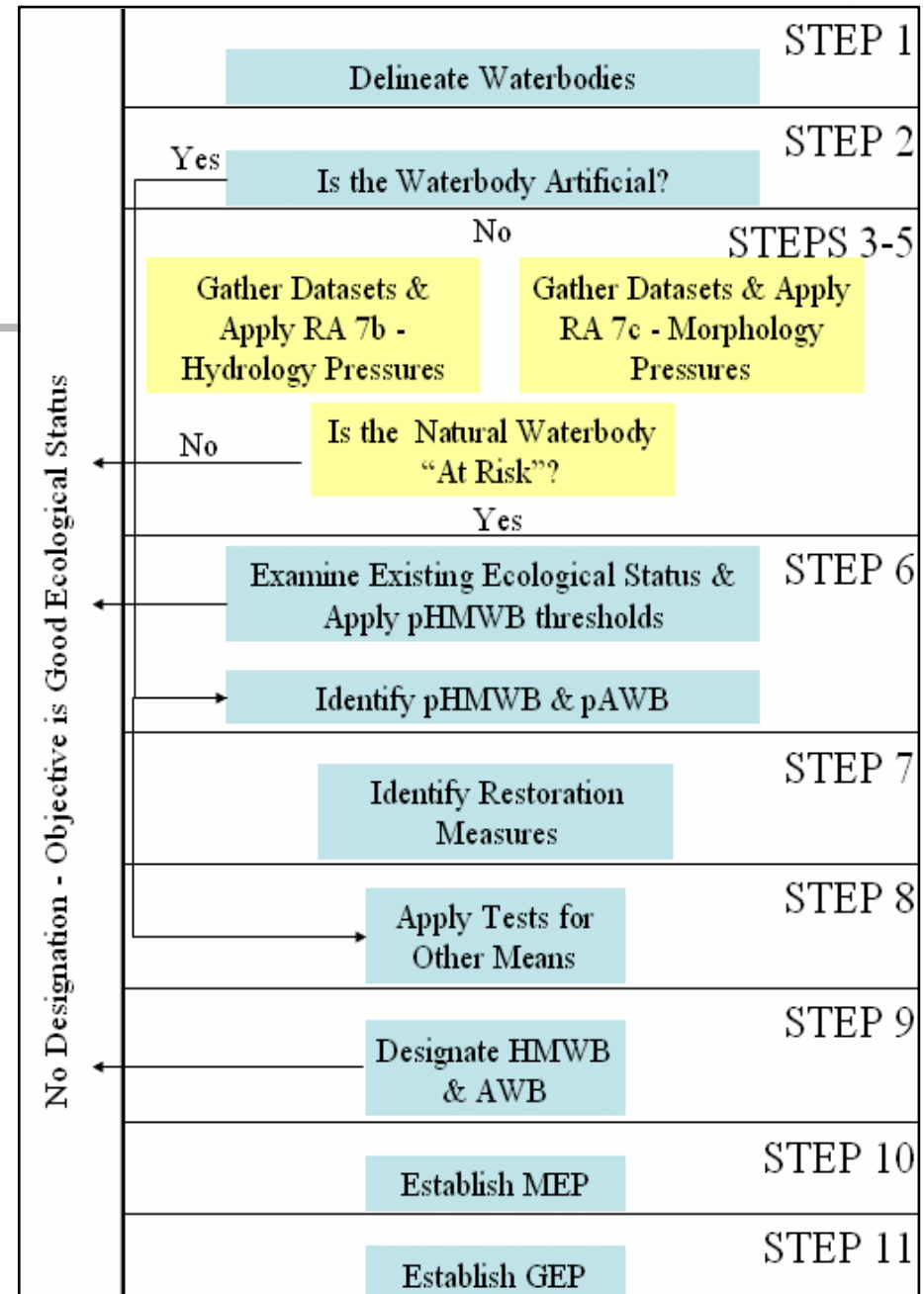
Beneficial Uses

- Designation enables realistic objectives to be set that allow the benefits of use whilst managing pressures
- AWB & HMWB objective is good ecological potential

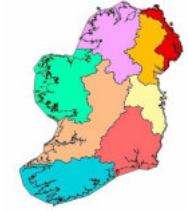


11 Steps

- Steps 1-6 identify Ireland's provisional AWB & provisional HMWB
- If not designated the objective for a natural water body must be achieved

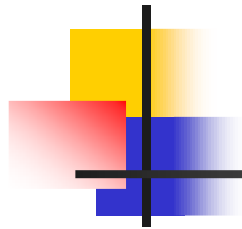


Steps 1&2 Water Bodies

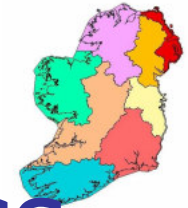


- Process applies to rivers, lakes, transitional & coastal water bodies
- Artificial and natural water bodies which have been physically altered are identified





Steps 3-5 Screening Process



- Over 200 “at risk” water bodies were considered nationally for pHMWB designation

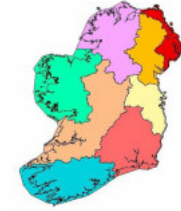
At Risk Water Bodies Identified by Hydrological & Morphological Risk Assessments

Rivers & Lakes

Channelisation & Dredging
Flood Protection & Embankments
Impounding (dams)
Water Regulation (locks & weirs)
Intensive Land Use
Abstractions

Coastal & Transitional

Dredging
Dumping of Dredge Spoil
Coastal Defence & Embankments
Built Structures (ports, industrial intakes)
Intensive Land Use
Abstractions



Step 6 Identification

- Experts from the EPA reviewed the history and details of each water body
- Water bodies capable of achieving good ecological status are not designated
- Provisional water body identification

