

WFD pCEA Workshop

12th July 2007

Fisheries and Alien Species

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Evolution of chapter

- Fisheries, Alien Species and Biodiversity Benefits (FAB) working group established late April
- Biodiversity Benefits workstrand played cross-cutting role. Met twice and developed consensus predominantly on tackling morphology pressures
- Findings fed into morphology chapter
- Draft chapter to be loaded on workshop website in next few days

Fisheries

- FAB group identified morphology and direct biological pressures as key impacts caused by fisheries
- Morphology: trawled gear (dredges and demersal trawls eg. Scallop dredging) in repeatedly fished areas can damage benthic habitats/communities and productivity.
- Most fisheries heavily regulated. Need to be WFD proofed
- Morph fisheries measures to go in morph chapter

Fisheries (cont)

- Recreational fishing (angling) can have localised morphological impacts eg cutting of bankside vegetation for access
- Direct biological pressure from overstocking and species/habitat manipulation – impacts and measures likely to be localised
- Non-native fish species – intentional and unintentional releases.
- Indicative costs of control measures varies by species/site eg. Topmouth Gudgeon (capital cost £20k; manpower costs over £20k)

Alien Species

- No explicit mention of alien species in the WFD although commonly recognised by MS that the achievement of the ecological status will be affected/influenced by the presence of invasive non-native species.
- Ongoing EU discussion on role of alien species under WFD.
- UKTAG are developing way of classifying waters affected by alien species in the UK in terms of their impact on native habitats and biota.
- Species are classified as:
 - **high impact** (alien species known to be invasive and documented as causing harm);
 - **low impact** (a low probability of becoming invasive and field observations over many years have indicated low impact) or
 - **unknown impact** (probability of becoming invasive is unknown and a full risk assessment is required).

Reference: “Revised classification of alien species according to their level of impact”, UKTAG, May 2007 www.wfduk.org

Extent of environmental gap – Article 5

- 10 priority aquatic alien species were risk assessed for Article 5:

- Australian swamp stonecrop
- Floating pennywort
- Water fern
- Parrot's feather
- Common cord-grass
- Japanese Weed
- North American signal crayfish
- Zebra mussel
- Chinese Mitten Crab
- Slipper limpet

E&W	% WBs at risk
rivers	21
lakes	9
estuaries	37
coasts	46

Alien Species – priorities for action

- Key objectives are “no deterioration” particularly in high status sites
- Impacts of some extant alien species on GES/GEP is clear for others it is less so
- Measures to manage established alien species on-site tend to be only locally effective (if at all) and need to be maintained

Suggested UKTAG approach:

- **High status:** no established species from high and unknown impact lists;
- **Good status:** no demonstrable and damaging ecological impacts from any alien species

Cost-effective measures - assumptions

- Recognise that many prevention and control mechanisms already exist (baseline)
- GB Invasive Non-Native Strategy should act as framework for any action under WFD
- Prevention and monitoring (and reactive management) to protect high status sites (if any) and good status sites from deterioration
- R&D to define species causing deterioration of GES/GEP - many uncertainties
- Uncertainty over unit cost estimates which need to relate to site and species specific characteristics

Action in context of GB Strategy

- Prevention;
- Early Detection, Surveillance, Monitoring and Rapid Response;
- Mitigation, Control and Eradication;
- Building Awareness and Understanding;
- Legislative Framework;
- Research.

Most cost-effective measures

- Bans/restrictions £to be estimated
- Early detection £ 50k pa
- Rapid response (eradication) £ 5k – 100k
- Forums £100k pa
- Awareness campaigns £ 5k each
- R&D £ 250k pa

Measures likely to be disproportionately costly

- Taking control and restorative action everywhere in the first planning cycle!

Alien Species - 4 scenarios

- **Scenario 1**- all measures applied in first cycle (most esp preventative measures highly effective). Over programming of control/eradication measures that are known to work with little trialling of innovative approaches. Risk of unintended consequences (would not benefit from R&D).
- **Scenario 2** – Prevention remains priority for 1st cycle. Control/eradication measures phased over planning cycles. Most important sites (eg n2k, SSSI, BAP) rather for control measures in first cycle + implementation of control measures that are known to work. R&D and piloting in first cycle for less understood approaches for use in subsequent cycles. Important role for forums and information campaigns. Where control measures are known to work act since we expect climate change to make situation worse and its more cost-effective to act sooner rather than later

Alien Species – scenarios [cont]

- **Scenario 3** – As in scenario 1 but with the roll out of innovative approaches to the control of species where effective mechanisms are not well understood. Greater uncertainty of outcome (would not benefit from pilots and R&D) and perhaps loss of goodwill from partners where extensive measures put in during 1st cycle have failed.
- **Scenario 4** – similar to scenario 2 in many ways (phasing) but adopting a more experimental approach. Only take control action where it is essential to act, wait for concrete evidence from R&D before taking action, many pilots gathering evidence. Could be more costly overall since no blitz of control and eradication measures (slower pace, gathering concrete evidence first) and reliance on baseline trends (eg action under the Habitats Directive; GB strategy to deal with problem other than WFD)

Alien species - summary

- Prevention measures, establishment of forums, R&D and information campaigns would all feature in each of the 4 scenarios
- Pace and extent of control/eradication measures is the variable between the 4 scenarios
- Views on which is the most suitable?

Biodiversity Benefits

- Cross cutting look across emerging pCEA outputs to ensure potentially cost-effective measures that are particularly beneficial to biodiversity are identified
- Separate workstream within FAB WG. Working consensus on potential measures
- Measures focused predominantly on morphology
- Therefore built into morphology chapter of synthesis report

Freshwater physical habitat: cost-effective approaches

- Reducing maintenance where this allows a degree of natural recovery and does not jeopardise the use.
- Protection of the riparian zone including the use of anti-livestock fencing to allow the natural recovery of streams and lakes damaged by overgrazing. NB Trees & shading in the context of climate change
- Removal or lowering of impoundments or obstructions to fish migration and works to make them passable.
- Screening of water intakes to prevent the ingress of fish
- Removal of unnatural deposits of silt from selected shallow lakes

Cost-effective approaches (cont)

- Blocking grips and drains to restore upland wetland source areas
- Natura 2000 measures (attributable to WFD where 2015 deadline introduced?)
- Consider selected restoration measures on low energy channels
- R&D to investigate the efficacy of these methods in delivering GES or GEP

Ineffective measures/needs further examination

- Instream improvement devices and artificial riffles needs further exploration
- Reforming straightened channels into sinuous but inactive channels
- Re-connection of lowland wetlands as a method of delivering GES in the receiving water (although this should be investigated through R&D)

Biodiversity Benefits: other proposals

- **Catchment Restoration Fund** - use of any such funds should be more cost-effective if applied through community partnerships
- **River Basin Biodiversity Frameworks in England** – mechanism to maximise the benefits of WFD measures for biodiversity. GIS being developed that will allow river basin planners to take account of opportunities especially if there is a choice between more than 1 option
- Links with **Wetlands Vision** work