Prioritisation of Eel Screening at Abstraction Points

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The Brief:
Prioritise ~29,000 licensed water abstractions for Screening Requirements under the Eel Regulations

Do it……

➤ ……Crudely
➤ ……With no resource allocation
➤ ……Now!
➤ ……in a way that’s defendable
The Approach

Stage 1. Filter 29,863 down to a useable number
  - Score and Rank approach
  - Using Nationally managed and maintained Datasets and GIS tools

Stage 2. Local consultation and input on the result of stage 1.
Stage 1. Development of a filtering tool

Based on:

- Flow path distance to river mouth
- Size of abstraction
- Predicted presence of Eel from Fisheries Classification Scheme (FCS2)
- Water body abstraction “Sensitivity” (from CAMS)
All Abstractions
Surface Water Abstractions: 12,416
Flow path distance to river mouth
Flow path distance to river mouth

Flow Path Distance from River Mouth in England and Wales Rivers.

Distance broken down into 4 categories:

From Green to Red:

• Up to 30km
• 30 – 60km
• 60 – 100km
• >100km
Flow path distance to river mouth

The scores can then be classified and read out onto each abstraction point.

- Up to 30km: 30
- 30 – 60km: 20
- 60 – 100km: 10
- >100km: not prioritised

NALD Distance To Mouth Score

- Low Priority
- 10
- 20
- 30
Size of Abstraction
Size of abstraction

Relative size of licensed daily abstraction amount by percentiles.

From Green to red:
- Largest 5%
- 5-10%
- 10-50%
- 50-100%

Max Daily Abstraction Score
- 0
- 1
- 5
- 10

Environment Agency
Predicted presence of Eel from Fisheries Classification Scheme (FCS2)
FCS2 predictive model only gives a probability value for eel being present under reference conditions for 40% of water bodies.
Applying an inverse distance weighting to those scores produced a value for the remaining 60%
The England and Wales estimated probability scores shown by 3 categories.

From red to green:
0 – 0.2
0.2 – 0.6
0.6 - 1
FCS2 predicted (EP) values for eel

The scores can then be classified and read out onto each abstraction point.

Abstraction points with an associated EP score below 0.2 were removed from the process.

<table>
<thead>
<tr>
<th>Eel EP score</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low Priority</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td></td>
</tr>
</tbody>
</table>
Water body abstraction Sensitivity: Abstraction Sensitivity Bands
Cams Water Bodies by Sensitivity Bands

1 – Green    - 5
2 – Amber    - 10
3 – Red      - 15
<table>
<thead>
<tr>
<th>Total score</th>
<th>Priority</th>
</tr>
</thead>
<tbody>
<tr>
<td>61 – 75</td>
<td>High</td>
</tr>
<tr>
<td>55 – 60</td>
<td>Medium Upper</td>
</tr>
<tr>
<td>41 – 54</td>
<td>Medium Lower</td>
</tr>
<tr>
<td>0 – 40</td>
<td>Low</td>
</tr>
<tr>
<td>Minus score</td>
<td>No Priority</td>
</tr>
</tbody>
</table>
Potential
Priority

Legend

PRIORITY
- High - 328
- Medium Upper - 1238
- Medium Lower - 3000
- Low - 4047
- No Priority - 3796
Potential High Priority abstractions
Potential High and Medium upper Priority abstractions
Stage 2:
Local consultation and input
The Consultation

Priority Correct?

Change to:

Reasons for change

Changed by

General Comments

Does it have screens already?

Size

Life Stage needing protection: Glass/Elver

Life Stage needing protection: Yellow

Life Stage needing protection: Silver

Other Species Requiring Protection through Screening

Evidence of eel entrainment?

Comments on Entrainment

Periodicity of Abstraction: Start Month

Periodicity of Abstraction: End Month

Intake Location