Proposal for Atlantic and North Sea Fishing Opportunities 2019:

Calculation Tables for 2019 Discard Plan Exemptions and Deductions

07 November 2018
Generalised Exemption Wording and Structure

\( n \% \text{ of } \sum \text{ annual catches in area } x \text{ of species } y \text{ of size } z \text{ of Vessels (Generic type } a \text{) of segment } b \text{ of mesh size } c \text{ with device } d \)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Legend</th>
<th>Data Source (if available) for deduction</th>
<th>Size of deduction</th>
</tr>
</thead>
<tbody>
<tr>
<td>( n )</td>
<td>% de minimis amount</td>
<td>JR / Delegated act</td>
<td></td>
</tr>
<tr>
<td>( \sum )</td>
<td>only relevent in combined deminimis (sum annual catches of several species)</td>
<td>ICES or STECF</td>
<td></td>
</tr>
<tr>
<td>( x )</td>
<td>Area or ICES division</td>
<td>ICES advice</td>
<td></td>
</tr>
<tr>
<td>( y )</td>
<td>Species (or group of species)</td>
<td>ICES advice</td>
<td></td>
</tr>
<tr>
<td>( z )</td>
<td>(&lt; \text{ or } &gt; \text{ MCRS? Or all sizes} )</td>
<td>ICES advice</td>
<td></td>
</tr>
<tr>
<td>( a )</td>
<td>&quot;Trawlers&quot; or &quot;Beam Trawlers&quot; or &quot;Gill netters&quot; etc...</td>
<td>ICES advice</td>
<td></td>
</tr>
<tr>
<td>( b )</td>
<td>TR1 or BT2 etc...</td>
<td>FDI/STECF (if useable)</td>
<td></td>
</tr>
<tr>
<td>( c )</td>
<td>80-100mm or &gt;110mm etc...</td>
<td>FDI/STECF (if useable)</td>
<td></td>
</tr>
<tr>
<td>( d )</td>
<td>using Grid or other special sorting device</td>
<td>? SEPCON Used?</td>
<td></td>
</tr>
<tr>
<td>Discard Plan</td>
<td>Article</td>
<td>Type</td>
<td>Species</td>
</tr>
<tr>
<td>--------------</td>
<td>--------</td>
<td>------</td>
<td>---------</td>
</tr>
<tr>
<td>NWW</td>
<td>6c</td>
<td>Surv</td>
<td>Plaice</td>
</tr>
<tr>
<td></td>
<td>6d</td>
<td>Surv</td>
<td>Plaice</td>
</tr>
<tr>
<td></td>
<td>8c</td>
<td>de remin</td>
<td>Sole</td>
</tr>
<tr>
<td></td>
<td>8d</td>
<td>de remin</td>
<td>Sole</td>
</tr>
<tr>
<td></td>
<td>8e</td>
<td>de remin</td>
<td>Haddock</td>
</tr>
<tr>
<td></td>
<td>8f</td>
<td>de remin</td>
<td>Horse Mackerel</td>
</tr>
<tr>
<td></td>
<td>9a</td>
<td>de remin</td>
<td>Sole</td>
</tr>
<tr>
<td></td>
<td>9b</td>
<td>de remin</td>
<td>Sole</td>
</tr>
<tr>
<td></td>
<td>9c</td>
<td>de remin</td>
<td>Sole</td>
</tr>
<tr>
<td></td>
<td>9d</td>
<td>de remin</td>
<td>Sole</td>
</tr>
<tr>
<td></td>
<td>9e</td>
<td>de remin</td>
<td>Sole</td>
</tr>
<tr>
<td></td>
<td>9f</td>
<td>de remin</td>
<td>Horse Mackerel</td>
</tr>
<tr>
<td></td>
<td>9g</td>
<td>de remin</td>
<td>Horse Mackerel</td>
</tr>
<tr>
<td></td>
<td>9h</td>
<td>de remin</td>
<td>Horse Mackerel</td>
</tr>
<tr>
<td></td>
<td>9i</td>
<td>de remin</td>
<td>Anchovy</td>
</tr>
<tr>
<td></td>
<td>9j</td>
<td>de remin</td>
<td>Anchovy</td>
</tr>
<tr>
<td></td>
<td>9k</td>
<td>de remin</td>
<td>Boarfish</td>
</tr>
<tr>
<td></td>
<td>9l</td>
<td>de remin</td>
<td>Megrim</td>
</tr>
<tr>
<td></td>
<td>9m</td>
<td>de remin</td>
<td>Megrim</td>
</tr>
<tr>
<td></td>
<td>9n</td>
<td>de remin</td>
<td>Anglerfish</td>
</tr>
<tr>
<td></td>
<td>9p</td>
<td>de remin</td>
<td>Anglerfish</td>
</tr>
<tr>
<td></td>
<td>9q</td>
<td>de remin</td>
<td>Anglerfish</td>
</tr>
<tr>
<td>Species</td>
<td>TAC</td>
<td>ICES MSY Total Catch</td>
<td>COM Proposal pre-deduction</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>------</td>
<td>----------------------</td>
<td>----------------------------</td>
</tr>
<tr>
<td>Plaice PLE/07A.</td>
<td>3503</td>
<td>3503</td>
<td>-12.23%</td>
</tr>
<tr>
<td>Plaice PLE/7DE.</td>
<td>12508</td>
<td>12508</td>
<td>-19.12%</td>
</tr>
<tr>
<td>Plaice PLE/7FG.</td>
<td>2160</td>
<td>2160</td>
<td>-25.57%</td>
</tr>
<tr>
<td>COD/03AS</td>
<td>494</td>
<td>494</td>
<td>-3.61%</td>
</tr>
<tr>
<td>Sole SOL/24-C.</td>
<td>12801</td>
<td>12801</td>
<td>-4.33%</td>
</tr>
<tr>
<td>Sole 7D</td>
<td>2571</td>
<td>2571</td>
<td>-2.46%</td>
</tr>
<tr>
<td>Sole 7E</td>
<td>1272</td>
<td>1272</td>
<td>-2.32%</td>
</tr>
<tr>
<td>Sole 7FG</td>
<td>864</td>
<td>864</td>
<td>-2.70%</td>
</tr>
<tr>
<td>Sole Bay of Biscay 8AB</td>
<td>3967</td>
<td>3967</td>
<td>-3.64%</td>
</tr>
<tr>
<td>Haddock HAD/7X7A34</td>
<td>6317</td>
<td>6317</td>
<td>-6.02%</td>
</tr>
<tr>
<td>Northern Hake HKE/8ABDE</td>
<td>53198</td>
<td>53198</td>
<td>-2.03%</td>
</tr>
<tr>
<td>Southern Hake HKE/8C3411</td>
<td>8281</td>
<td>8281</td>
<td>-3.84%</td>
</tr>
<tr>
<td>Mergrims LEZ/8ABDE</td>
<td>1793</td>
<td>1793</td>
<td>-4.99%</td>
</tr>
<tr>
<td>Mergrims LEZ/8C3411</td>
<td>1970</td>
<td>1970</td>
<td>-4.95%</td>
</tr>
<tr>
<td>Anglerfish ANF/8ABDE</td>
<td>8787</td>
<td>8787</td>
<td>-4.73%</td>
</tr>
<tr>
<td>Anglerfish ANF/8C3411</td>
<td>4215</td>
<td>4215</td>
<td>-4.55%</td>
</tr>
<tr>
<td>Ling LIN/04-C.</td>
<td>3843</td>
<td>3843</td>
<td>-2.72%</td>
</tr>
<tr>
<td>Horse Mackerel JAX/4BC7D</td>
<td>17517</td>
<td>17517</td>
<td>-13.35%</td>
</tr>
<tr>
<td>Horse Mackerel JAX08c</td>
<td>19850</td>
<td>19850</td>
<td>-5.00%</td>
</tr>
<tr>
<td>Horse Mackerel JAX2A-14</td>
<td>125387</td>
<td>125387</td>
<td>-5.00%</td>
</tr>
</tbody>
</table>
### ICES data

<table>
<thead>
<tr>
<th>Plaice PLE/07A.</th>
</tr>
</thead>
<tbody>
<tr>
<td>ICES Total catch TAC*</td>
</tr>
<tr>
<td>ICES Wanted TAC</td>
</tr>
<tr>
<td>ICES Unwanted</td>
</tr>
<tr>
<td>Not like nephrops, not higher</td>
</tr>
<tr>
<td>CD+DD Together</td>
</tr>
</tbody>
</table>

*2018 TAC of 1793t

### Step 1: Deduct dead discards from ICES total catch figure

<table>
<thead>
<tr>
<th>ICES Total catch advice 2019</th>
<th>3503</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Discard rate</strong></td>
<td>39%</td>
</tr>
<tr>
<td><strong>Contribution</strong></td>
<td>52.0%</td>
</tr>
<tr>
<td><strong>Dead discards</strong></td>
<td>60%</td>
</tr>
<tr>
<td><strong>Contr. to total dead discards</strong></td>
<td>12.23%</td>
</tr>
<tr>
<td><strong>Dead discard deduction</strong></td>
<td>428.4</td>
</tr>
</tbody>
</table>

| Total deduction | 428 |
| New catch TAC | 3075 |
| TAC deduction % relative to ICES catch TAC | -12.23%

### Comments

Discard values available from 2004. Estimates of modelled discards for 1981–2003 (WKIRISH3; ICES, 2017). Only the dead fraction of discards (estimated to be 0.6) is accounted for in the model. In the forecast discard values are raised to include the live portion.

<table>
<thead>
<tr>
<th>landings</th>
<th>discards</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017</td>
<td>586</td>
</tr>
<tr>
<td></td>
<td>816</td>
</tr>
<tr>
<td>2018</td>
<td>57%</td>
</tr>
<tr>
<td></td>
<td>816</td>
</tr>
<tr>
<td>dead discards</td>
<td>69%</td>
</tr>
</tbody>
</table>

|          | 816      | 364.8 |

From ICES
<table>
<thead>
<tr>
<th>Step 1</th>
<th>Deduct dead discards from ICES total catch figure</th>
<th>ICES Total catch advice 2019</th>
<th>12508</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Discard rate ICES*</td>
<td>36%</td>
<td></td>
<td>*STECF was 49%</td>
</tr>
<tr>
<td></td>
<td>Contribution</td>
<td>55.3%</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>dead discards</td>
<td>96%</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Contr. to total dead discards</td>
<td>19.12%</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>dead discard deduction</td>
<td>2390.9</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Total deduction | 2391 |
| New catch TAC  | 10117 |
| TAC deduction % relative to ICES catch TAC | -19.12% |

<table>
<thead>
<tr>
<th>ICES data</th>
<th>Plaice PLE/7DE.</th>
</tr>
</thead>
<tbody>
<tr>
<td>ICES Total catch TAC*</td>
<td>12508</td>
</tr>
<tr>
<td>ICES Wanted TAC</td>
<td>7987</td>
</tr>
<tr>
<td>ICES Unwanted</td>
<td>4521</td>
</tr>
</tbody>
</table>

* 2018 TAC of 10360t

** ILVO report shows 20% survival for tows of 81-121 mins
Improves to 40% for tows <81 mins
unable to break down contribution of KW threshold
in exemption therefor precautionary STECF 18-06
of 96% mortality as tows of >221 KW not limited in time

<table>
<thead>
<tr>
<th>7d</th>
<th>7e</th>
</tr>
</thead>
<tbody>
<tr>
<td>total</td>
<td>wanted</td>
</tr>
<tr>
<td>7d</td>
<td>9225.00</td>
</tr>
<tr>
<td>7e</td>
<td>3283.00</td>
</tr>
<tr>
<td>12508.00</td>
<td>7987.00</td>
</tr>
</tbody>
</table>

7d assumptions 7114.00 4521.00 2593.00
ave 2015-2017 beam = 56% of landings
% of discards unknown - assume same as landings
7e beam = 71% of landings and 53% of discards

| 56*0.77 | 43.12 |
| 53*0.23 | 12.19 |
| 55.31   |

| 36*0.77 | 27.72 |
| 53*0.23 | 12.19 |
| 39.91   |
### ICES data

<table>
<thead>
<tr>
<th>Plaice Plz/7Fg.</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>ICES Total catch TAC*</td>
<td>2160</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ICES Wanted TAC</td>
<td>613</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ICES Unwanted</td>
<td>1547</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>2018 TAC of 511t</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Comments

- **Step 1**
  - **Deduct dead discards from ICES total catch figure**
  - **ICES Total catch advice 2019** 2160

<table>
<thead>
<tr>
<th>Description</th>
<th>Rate</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discard rate</td>
<td>72%</td>
<td>Discard rate ICES advice</td>
</tr>
<tr>
<td>Contribution dead discards</td>
<td>37.2%</td>
<td>Beam trawl ICES max dead discards 96% STECF**</td>
</tr>
<tr>
<td>Contr. to dead discards</td>
<td>25.57%</td>
<td></td>
</tr>
<tr>
<td>Contribution dead discards</td>
<td>&lt;1%</td>
<td>Trammel nets*** Not significant</td>
</tr>
<tr>
<td>Contr. to total dead discards</td>
<td>25.57%</td>
<td></td>
</tr>
<tr>
<td>Total deduction</td>
<td>552</td>
<td></td>
</tr>
<tr>
<td>New catch TAC</td>
<td>1608</td>
<td></td>
</tr>
</tbody>
</table>
| TAC deduction % relative to ICES catch TAC | -25.57% | ** ILVO report shows 20% survival for tows of 81-121 mins improves to 40% for tows <81 mins unable to break down contribution of KW threshold in exemption therefor precautionary STECF 18-06 of 96% mortality as tows of >221 KW not limited in time

** Catchpole 2015 CEFAS paper was Beam trawl 7e (inside 12nm) ***not in ICES advice so used FDI 2017 but GT1 <1%
<table>
<thead>
<tr>
<th><strong>Steps</strong></th>
<th><strong>Deduct de minimis from ICES total catch figure</strong></th>
<th><strong>ICES Total catch advice 2019</strong></th>
<th><strong>Comments</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Step 1</strong></td>
<td>Deduct de minimis A from ICES total catch figure</td>
<td>494</td>
<td></td>
</tr>
<tr>
<td><strong>de minimis A</strong></td>
<td>Contribution</td>
<td>4%</td>
<td>Nephrops trawls* (OTB TBN)</td>
</tr>
<tr>
<td><strong>Contribution</strong></td>
<td></td>
<td>84%</td>
<td>16.6 t</td>
</tr>
<tr>
<td><strong>de minimis B</strong></td>
<td>Contribution</td>
<td>5%</td>
<td>Northern Prawn trawls** (OTB)</td>
</tr>
<tr>
<td><strong>Contribution</strong></td>
<td></td>
<td>5%</td>
<td>1.2 t</td>
</tr>
<tr>
<td><strong>Contr. to total catches</strong></td>
<td></td>
<td>3.6%</td>
<td></td>
</tr>
<tr>
<td><strong>de minimis deduction</strong></td>
<td></td>
<td>17.8</td>
<td></td>
</tr>
</tbody>
</table>

| **Total deduction** | 17.8 |
| **New catch TAC** | **476** |
| **TAC deduction % relative to ICES catch TAC** | -3.61% |

STECF 18-03 accepted data and tonnages
### ICES data

<table>
<thead>
<tr>
<th></th>
<th>Sole SOL/24-C.</th>
</tr>
</thead>
<tbody>
<tr>
<td>ICES Total catch TAC</td>
<td>12801</td>
</tr>
<tr>
<td>ICES Wanted TAC</td>
<td></td>
</tr>
<tr>
<td>ICES Unwanted</td>
<td></td>
</tr>
</tbody>
</table>

### Table

<table>
<thead>
<tr>
<th>Step 1</th>
<th><strong>Deduct de minimis from ICES total catch figure</strong></th>
<th>ICES Total catch advice 2019</th>
<th>12801</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>de minimis A</td>
<td></td>
<td>6%</td>
<td>de minimis amount</td>
</tr>
<tr>
<td></td>
<td>Contribution</td>
<td></td>
<td>68.7%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>de minimis B</td>
<td></td>
<td>3%</td>
<td>de minimis amount</td>
</tr>
<tr>
<td></td>
<td>Contribution</td>
<td></td>
<td>7.1%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Contr. to total catches</td>
<td></td>
<td>4.33%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>de minimis deduction</td>
<td></td>
<td>554.4</td>
<td></td>
</tr>
</tbody>
</table>

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total deduction</strong></td>
<td>554</td>
</tr>
<tr>
<td><strong>New catch TAC</strong></td>
<td>12247</td>
</tr>
<tr>
<td><strong>TAC deduction % relative to ICES catch TAC</strong></td>
<td>-4.33%</td>
</tr>
</tbody>
</table>

2017 Fdi? Yes as ICES does not provide discards by gear, which are significant

No Area 2 or 2a data in FDI

IIA 3B2 = Division 4  codes: BT2

BT 2 Beam Trawls, 68.66% of 2013-16 average catches

Gill nets and Trammels 7.05% of 2013-16 average catches  codes GN1, GT1
<table>
<thead>
<tr>
<th>ICES data</th>
<th>Sole 7D</th>
</tr>
</thead>
<tbody>
<tr>
<td>ICES Total catch TAC</td>
<td>2571</td>
</tr>
<tr>
<td>ICES Wanted TAC</td>
<td>2266</td>
</tr>
<tr>
<td>ICES Unwanted</td>
<td>305</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Step 1</th>
<th>Deduct <em>de minimis</em> from ICES total catch figure</th>
<th>ICES Total catch advice 2019</th>
<th>2571</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><em>de minimis A</em></td>
<td></td>
<td>3%</td>
<td><em>de minimis amount</em></td>
</tr>
<tr>
<td></td>
<td>Contribution</td>
<td></td>
<td>43%</td>
<td>trammel and gillnet contribution ICES 43%</td>
</tr>
<tr>
<td></td>
<td><em>de minimis B</em></td>
<td></td>
<td>3%</td>
<td><em>de minimis amount</em></td>
</tr>
<tr>
<td></td>
<td>Contribution</td>
<td></td>
<td>39%</td>
<td>Beam Trawls contribution ICES 39%</td>
</tr>
<tr>
<td></td>
<td>Contr. to total catches</td>
<td></td>
<td>2.46%</td>
<td></td>
</tr>
<tr>
<td></td>
<td><em>de minimis</em> deduction</td>
<td></td>
<td>63.2</td>
<td></td>
</tr>
</tbody>
</table>

| Total deduction               | 63      |
| New catch TAC                 | 2508    |
| TAC deduction % relative to ICES catch TAC | -2.46%  |

2017 FDI?
not available at 7d level of aggregation
<table>
<thead>
<tr>
<th>ICES data</th>
<th>Sole 7E</th>
</tr>
</thead>
<tbody>
<tr>
<td>ICES Total catch TAC</td>
<td>1272</td>
</tr>
<tr>
<td>ICES Wanted TAC</td>
<td>1237</td>
</tr>
<tr>
<td>ICES Unwanted</td>
<td>35</td>
</tr>
</tbody>
</table>

**Step 1:** Deduct *de minimis* from ICES total catch figure

<table>
<thead>
<tr>
<th><strong>ICES Total catch advice 2019</strong></th>
<th>1272</th>
<th><strong>Comments</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><em>de minimis A</em></td>
<td>3%</td>
<td><em>de minimis amount</em></td>
</tr>
<tr>
<td>Contribution</td>
<td>11%</td>
<td>gillnet contribution ICES 11.2%</td>
</tr>
<tr>
<td><em>de minimis B</em></td>
<td>3%</td>
<td><em>de minimis amount</em></td>
</tr>
<tr>
<td>Contribution</td>
<td>66%</td>
<td>Beam Trawls contribution ICES 66%</td>
</tr>
<tr>
<td>Contr. to total catches</td>
<td>2.32%</td>
<td></td>
</tr>
<tr>
<td><em>de minimis deduction</em></td>
<td></td>
<td>29.5</td>
</tr>
</tbody>
</table>

| **Total deduction**               |      | 29           |
| **New catch TAC**                 |      | 1243         |
| **TAC deduction % relative to ICES catch TAC** |      | -2.32%       |

2017 FDI?
not available at 7e level of aggregation
<table>
<thead>
<tr>
<th>ICES data</th>
<th>Sole 7FG</th>
</tr>
</thead>
<tbody>
<tr>
<td>ICES Total catch TAC</td>
<td>864</td>
</tr>
<tr>
<td>ICES Wanted TAC</td>
<td>820</td>
</tr>
<tr>
<td>ICES Unwanted</td>
<td>44</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Step 1</th>
<th>Deduct <em>de minimis</em> from ICES total catch figure</th>
<th>ICES Total catch advice 2019</th>
<th>864</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><em>de minimis A</em></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><em>Contribution</em> A</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>3%</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>5%</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>5%</td>
<td></td>
</tr>
<tr>
<td></td>
<td><em>de minimis B</em></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><em>Contribution</em> B</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>3%</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>85%</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Contr. to total catches</th>
<th>2.70%</th>
<th><em>de minimis deduction</em></th>
<th>23.3</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Total deduction</th>
<th>23</th>
</tr>
</thead>
<tbody>
<tr>
<td>New catch TAC</td>
<td>841</td>
</tr>
<tr>
<td>TAC deduction % relative to ICES catch TAC</td>
<td>-2.70%</td>
</tr>
<tr>
<td>ICES data</td>
<td>Sole Bay of Biscay 8AB</td>
</tr>
<tr>
<td>-----------</td>
<td>------------------------</td>
</tr>
<tr>
<td>ICES Total catch TAC</td>
<td>3967</td>
</tr>
<tr>
<td>ICES Wanted TAC</td>
<td>3872</td>
</tr>
<tr>
<td>ICES Unwanted</td>
<td>95</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Step 1 Deduct de minimis from ICES total catch figure</th>
<th>ICES Total catch advice 2019</th>
<th>3967</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>de minimis A Contribution</td>
<td>3%</td>
<td>de minimis amount</td>
<td></td>
</tr>
<tr>
<td>Contribution</td>
<td>68%</td>
<td>trammel and gillnet contribution ICES 68%</td>
<td></td>
</tr>
<tr>
<td>de minimis B Contribution</td>
<td>5%</td>
<td>de minimis amount</td>
<td></td>
</tr>
<tr>
<td>Contribution</td>
<td>32%</td>
<td>Beam Trawls and Bottom Trawls contribution ICES 32%</td>
<td></td>
</tr>
<tr>
<td>Contr. to total catches</td>
<td>3.64%</td>
<td>144.4</td>
<td></td>
</tr>
<tr>
<td>de minimis deduction</td>
<td>144.4</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<p>| Total deduction | 144 |
| New catch TAC | 3823 |
| TAC deduction % relative to ICES catch TAC | -3.64% |</p>
<table>
<thead>
<tr>
<th>Step 1</th>
<th>Deduct de minimis from ICES total catch figure</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ICES Total catch advice 2019</td>
<td>6317</td>
</tr>
<tr>
<td>de minimis A</td>
<td>Contribution</td>
<td>7% de minimis amount</td>
</tr>
<tr>
<td>de minimis B</td>
<td>Contribution</td>
<td>7% de minimis amount</td>
</tr>
<tr>
<td>Contr. to total catches</td>
<td>de minimis deduction</td>
<td>6.02%</td>
</tr>
<tr>
<td>Total deduction</td>
<td></td>
<td>380.3</td>
</tr>
</tbody>
</table>

**ICES 2017 catches = 16072 t**

<table>
<thead>
<tr>
<th></th>
<th>landings</th>
<th>Discards</th>
<th>total</th>
<th>as % of catches</th>
</tr>
</thead>
<tbody>
<tr>
<td>Otter</td>
<td>6477.6</td>
<td>6459.75</td>
<td>12937.35</td>
<td>80%</td>
</tr>
<tr>
<td>Beam</td>
<td>404.85</td>
<td>638</td>
<td>1042.85</td>
<td>6%</td>
</tr>
</tbody>
</table>

**New catch TAC**

5937

**TAC deduction % relative to ICES catch TAC**

-6.02%

---

2017 Fdi?
CEC 1 all areas
similar % contrib to catches as ICES

NB. 80mm problem for aggregation = all TR2 +TR1
checked TR 3 = not significant
### ICES data

<table>
<thead>
<tr>
<th>Northern Hake HKE/8ABDE</th>
</tr>
</thead>
<tbody>
<tr>
<td>ICES Total catch TAC</td>
</tr>
<tr>
<td>ICES Wanted TAC</td>
</tr>
<tr>
<td>ICES Unwanted</td>
</tr>
</tbody>
</table>

### Step 1: Deduct de minimis from ICES total catch figure

<table>
<thead>
<tr>
<th>ICES Total catch advice 2019</th>
<th>53198</th>
</tr>
</thead>
<tbody>
<tr>
<td>de minimis A</td>
<td>6%</td>
</tr>
<tr>
<td>Contribution</td>
<td>34%</td>
</tr>
</tbody>
</table>

Contr. to total catches: 2.03%

| de minimis deduction | 1080.1 |

Total deduction: 1080

New catch TAC: 52118

TAC deduction % relative to ICES catch TAC: -2.03%

### Comments

**2017 Fdi?** Yes as ICES does not provide gear by area 8 (Just N Stock as whole)

**DS = area 8 EU**
Trawls, beams seines 33.84 % of 2013-16 average catches
codes: BEAM, BOTTOM TRAWLS
(no Seines recorded)
<table>
<thead>
<tr>
<th>ICES data</th>
<th>Southern Hake HKE/8C3411</th>
</tr>
</thead>
<tbody>
<tr>
<td>ICES Total catch TAC</td>
<td>8281</td>
</tr>
<tr>
<td>ICES Wanted TAC</td>
<td>7220</td>
</tr>
<tr>
<td>ICES Unwanted</td>
<td>1061</td>
</tr>
</tbody>
</table>

### Step 1: Deduct de minimis from ICES total catch figure

<table>
<thead>
<tr>
<th>ICES Total catch advice 2019</th>
<th>8281</th>
</tr>
</thead>
<tbody>
<tr>
<td>de minimis A</td>
<td>6%</td>
</tr>
<tr>
<td>Contribution</td>
<td>64%</td>
</tr>
<tr>
<td>de minimis amount</td>
<td></td>
</tr>
<tr>
<td>Trawls and seines FDI</td>
<td></td>
</tr>
<tr>
<td>Average = 64% catches</td>
<td></td>
</tr>
<tr>
<td>Contr. to total catches</td>
<td>3.84%</td>
</tr>
<tr>
<td>de minimis deduction</td>
<td>318.0</td>
</tr>
</tbody>
</table>

| Total deduction            | 318  |
| New catch TAC              | 7963 |
| TAC deduction % relative to ICES catch TAC | -3.84% |

2017 Fdi? Yes as ICES does not provide Seines

IIB = 8c-9a

Trawls, beams seines 64% of 2013-16 average catches

Codes: 3A, BEAM, DEM_SEINE, OTTER
### ICES data

<table>
<thead>
<tr>
<th>Mergrims LEZ/8ABDE</th>
</tr>
</thead>
<tbody>
<tr>
<td>ICES Total catch TAC</td>
</tr>
<tr>
<td>ICES Wanted TAC</td>
</tr>
<tr>
<td>ICES Unwanted</td>
</tr>
</tbody>
</table>

### Step 1: Deduct de minimis from ICES total catch figure

<table>
<thead>
<tr>
<th></th>
<th>ICES Total catch advice 2019</th>
<th>1793</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>de minimis A</td>
<td></td>
<td>5%</td>
<td>de minimis amount</td>
</tr>
<tr>
<td>Contribution</td>
<td></td>
<td>99%</td>
<td>beam trawl, bottom trawls and seines</td>
</tr>
<tr>
<td>de minimis B</td>
<td></td>
<td>4%</td>
<td>de minimis amount</td>
</tr>
<tr>
<td>Contribution</td>
<td></td>
<td>1%</td>
<td>gillnets and trammels</td>
</tr>
<tr>
<td>Contr. to total catches</td>
<td></td>
<td>4.99%</td>
<td></td>
</tr>
<tr>
<td>de minimis deduction</td>
<td></td>
<td>89.5</td>
<td></td>
</tr>
</tbody>
</table>

### Total deduction

89

### New catch TAC

1704

### TAC deduction % relative to ICES catch TAC

-4.99%

---

2017 Fdi? Yes as ICES 7 and 8 combined

DS = area 8 EU

Trawls, beams seines 99 % of 2013-16 average catches codes: BEAM, BOTTOM TRAWLS (no Seines recorded)
### Step 1 | Deduct de minimis from ICES total catch figure

<table>
<thead>
<tr>
<th>ICES Total catch advice 2019</th>
<th>1970</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>de minimis A</td>
<td>5%</td>
<td>de minimis amount</td>
</tr>
<tr>
<td>Contribution</td>
<td>97.0%</td>
<td>beam trawl, bottom trawls and seines FDI = 97%</td>
</tr>
<tr>
<td>de minimis B</td>
<td>4%</td>
<td>de minimis amount</td>
</tr>
<tr>
<td>Contribution</td>
<td>2.5%</td>
<td>gillnets and trammels FDI = 2.5%</td>
</tr>
<tr>
<td>Contr. to total catches</td>
<td>4.95%</td>
<td></td>
</tr>
<tr>
<td>de minimis deduction</td>
<td>97.5</td>
<td></td>
</tr>
</tbody>
</table>

**Total deduction** 98

**New catch TAC** 1872

**TAC deduction % relative to ICES catch TAC** -4.95%

---

**2017 Fdi? Yes as ICES does not provide gear by area**

**IIB = 8c-9A**

Trawls, beams seines 96.4% of 2013-16 average catches  
Ave total catch (all gears) = 1090 t  
DS = area 9 EU

Trawls, beams seines 99% of 2013-16 average catches  
Ave total catch (all gears) = 413 t  
(no Seines recorded)

Relative ratios of IIB vs DS catches

\[
\begin{align*}
96.4\% & : 70.372 \\
99\% & : 26.73 \\
\text{sum} & : 97.102
\end{align*}
\]

**IIB = 8c-9A**

Gillnets and trammels 3.48% of 2013-16 average catches  
Codes: GILL, 3B, 3T

Relative ratios of IIB vs DS catches

\[
\begin{align*}
3.48\% & : 2.5404 \\
\text{area 9 EU <1%} & : n/a
\end{align*}
\]
<table>
<thead>
<tr>
<th>ICES data</th>
<th>Anglerfish ANF/8ABDE</th>
</tr>
</thead>
<tbody>
<tr>
<td>ICES Total catch TAC</td>
<td>8787</td>
</tr>
<tr>
<td>ICES Wanted TAC</td>
<td></td>
</tr>
<tr>
<td>ICES Unwanted</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Step 1</th>
<th>Deduct de minimis from ICES total catch figure</th>
<th>ICES Total catch advice 2019</th>
<th>8787</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>de minimis A</strong></td>
<td></td>
<td>5%</td>
<td>de minimis amount</td>
</tr>
<tr>
<td></td>
<td>Contribution</td>
<td></td>
<td>74%</td>
<td>beam trawl, bottom trawls and seines FDI</td>
</tr>
<tr>
<td></td>
<td><strong>de minimis B</strong></td>
<td></td>
<td>4%</td>
<td>de minimis amount</td>
</tr>
<tr>
<td></td>
<td>Contribution</td>
<td></td>
<td>25%</td>
<td>gillnets and trammels FDI</td>
</tr>
<tr>
<td></td>
<td>Contr. to total catches</td>
<td>4.73%</td>
<td>415.7</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>de minimis deduction</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Total deduction           | 416                                      |
| New catch TAC            | **8371**                                 |
| TAC deduction % relative to ICES catch TAC | -4.73%                                  |

2017 Fdi? Yes as ICES 7 and 8 combined

DS = area 8 EU
Trawls, beams seines 74.37% of 2013-16 average catches codes: BEAM, BOTTOM TRAWLS (no Seines recorded)

Gillnets and Trammels 25.32% of 2013-16 average catches Codes GILL, TRAMMEL
<table>
<thead>
<tr>
<th>Step</th>
<th>Deduct de minimis from ICES total catch figure</th>
<th>ICES Total catch advice 2019</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>de minimis A</td>
<td>5%</td>
<td>de minimis amount</td>
</tr>
<tr>
<td></td>
<td>Contribution</td>
<td>48.7%</td>
<td>Beam trawl, bottom trawls and seines</td>
</tr>
<tr>
<td></td>
<td>de minimis B</td>
<td>4%</td>
<td>de minimis amount</td>
</tr>
<tr>
<td></td>
<td>Contribution</td>
<td>53.0%</td>
<td>Gillnets and trammels FDI</td>
</tr>
<tr>
<td></td>
<td>Contr. to total catches</td>
<td>4.55%</td>
<td>191.9</td>
</tr>
</tbody>
</table>

|                  | Total deduction                              | 191                      |
|                  | New catch TAC                                 | 4023                     |
|                  | TAC deduction % relative to ICES catch TAC    | -4.55%                   |

2017 Fdi?  Yes as ICES does not provide gear by area

**IIB = 8c-9A**

- Trawls, beams seines 46.54% of 2013-16 average catches
- Ave total catch (all gears) = 2066t (no seines)
- DS = area 9 EU
- Trawls, beams seines 54.89 % of 2013-16 average catches
- Ave total catch (all gears) =720 t (no Seines recorded)
- Relative ratios of IIB vs DS catches
  - 46.54*0.74 = 34.4196
  - 54.89*0.26 = 14.2714
  - sum = 48.711

**DS = area 9 EU**

- Gillnets and trammels 52.27% of 2013-16 average catches
- Codes GILL, 3B, 3T
- Relative ratios of IIB vs DS catches
  - 52.27*0.74 = 38.6798
  - 54.89*0.26 = 14.2714
  - sum = 52.9512
## Union Waters of 4

<table>
<thead>
<tr>
<th>ICES data</th>
<th>Ling LIN/04-C.</th>
</tr>
</thead>
<tbody>
<tr>
<td>ICES Total catch TAC</td>
<td>3843</td>
</tr>
<tr>
<td>ICES Wanted TAC</td>
<td></td>
</tr>
<tr>
<td>ICES Unwanted</td>
<td></td>
</tr>
</tbody>
</table>

### Step 1: Deduct de minimis from ICES total catch figure

<table>
<thead>
<tr>
<th>ICES Total catch advice 2019</th>
<th>3843</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>de minimis A</td>
<td>3%</td>
<td>de minimis amount</td>
</tr>
<tr>
<td>Contribution</td>
<td>90.8%</td>
<td>trawls OTB OTT PTB = FDI</td>
</tr>
<tr>
<td>Contr. to total catches</td>
<td>2.72%</td>
<td></td>
</tr>
<tr>
<td>de minimis deduction</td>
<td>104.6</td>
<td></td>
</tr>
</tbody>
</table>

| Total deduction | 105 |
| New catch TAC   | 3738 |
| TAC deduction % relative to ICES catch TAC | -2.72% |

2017 Fdi?   Yes as ICES does not provide gear by area

IIA 3B2 = Division 4
Trawls, 90.75% of 2013-16 average catches

codes: TR 1
**Steps 1 Deduct de minimis from ICES total catch figure**

<table>
<thead>
<tr>
<th>Step</th>
<th>Deduct de minimis from ICES total catch figure</th>
<th>ICES Total catch advice 2019</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>NW (7d)</td>
<td>de minimis A Contribution</td>
<td>7% de minimis amount bottom trawls and seines and beam trawls FDI**</td>
<td></td>
</tr>
<tr>
<td>NS (4)</td>
<td>de minimis B Contribution</td>
<td>1% de minimis amount TR 2 bottom trawls (OTB, OTT, PTB, TRB) FDI**</td>
<td></td>
</tr>
<tr>
<td>Pelagic (7d+4bc)</td>
<td>de minimis C Contribution</td>
<td>err! de minimis amount ≤25m Pelagic Trawlers OTM/PTM FDI***</td>
<td></td>
</tr>
</tbody>
</table>

Contr. to total catches de minimis deduction 13.35% 2.58

Total deduction 2338 451.2

New catch TAC 15179

TAC deduction % relative to ICES catch TAC -13.35%

---

**2017 FDI** Yes as ICES does not provide gear mesh

* IIA 3B3 = Division 7d
  Trawls, beams seines 41.34% of 2013-16 average catches Codes: BT2, DEM, SEINE, OTTER, TR1, TR2, TR3
  ICES % of 4b-c vs 7d average 2013-16 11:89 41.34*0.89 = 36.7926

** IIA 3B2 = Division 4
  Codes: TR2
  TR2 bottom Trawls % of 2013-16 average catches average 1477.5 11906.25 573
  <1% not sig. not include in calcs

---

*** 7d 1% of mackerel, horse mackerel, herring and whiting in pelagic vessels of <25m, using OTM and PTM
4b and c 1% of mackerel, horse mackerel herring and whiting OTM/PTM <25m LOA
This level of aggregation not available in FDI
Generates >5000 t deduction! Therefore deduction capped at ICES discard rate
### ICES data

<table>
<thead>
<tr>
<th>Horse Mackerel JAX08c</th>
</tr>
</thead>
<tbody>
<tr>
<td>ICES Total catch TAC 8c only</td>
</tr>
<tr>
<td>ICES Wanted TAC</td>
</tr>
<tr>
<td>ICES Unwanted</td>
</tr>
</tbody>
</table>

4% discards for 2017 in advice

#### Step 1: Deduct de minimis from ICES total catch figure

<table>
<thead>
<tr>
<th>ICES Total catch advice 2019</th>
<th>19850</th>
</tr>
</thead>
<tbody>
<tr>
<td>de minimis A</td>
<td>7% de minimis amount, beam trawl, bottom trawls and seines FDI 2013-16, Average</td>
</tr>
<tr>
<td>de minimis B</td>
<td>3% de minimis amount, Gill nets FDI 2013-16 Average</td>
</tr>
<tr>
<td>de minimis C</td>
<td>Err! de minimis amount, Pelagic discard plans</td>
</tr>
<tr>
<td>Contrib. to total catches</td>
<td>5.00%</td>
</tr>
<tr>
<td>de minimis deduction</td>
<td>992.0</td>
</tr>
</tbody>
</table>

- Total deduction: 992
- New catch TAC: 18858
- TAC deduction % relative to ICES catch TAC: -5.00%

### Comments

- **2017 Fdi?** Yes as ICES not separating trawl and gillnet
- **IIB = 8c-9a**
- **Gill nets 2.65% of 2013-16 average catches**
- **Trawls, beams seines 49 % of 2013-16 average catches**

### Codes

- Gill: GILL, 3B, 3T
- Beam: BEAM, DEM_SEINE, OTTER

### Data

- 4% anchovy, mackerel, horse mackerel catches in area 8 using OTM
- **IIB=8c-9a**
- Data is incomplete

### Discards

- 4% of horse mackerel, jack mackerel and mackerel in 8, 9 and 10 CECAF 34.1.1, 34.1.2, 34.2.0 Purse Seines (PS)
- **IIB=8c-9a**
  - **2013-2016 average for PEL_SEINE = 1016 t**
  - However this is incomplete on discards
**ICES data**

<table>
<thead>
<tr>
<th>Horse Mackerel JAX2A-14</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ICES Total catch</strong></td>
</tr>
<tr>
<td><strong>ICES Wanted TAC</strong></td>
</tr>
<tr>
<td><strong>ICES Unwanted</strong></td>
</tr>
</tbody>
</table>

- **5% in ICES advice**

### Step 1 SWW

**Deduct de minimis from ICES total catch figure**

<table>
<thead>
<tr>
<th>ICES Total catch advice 2019</th>
<th>125387</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comments</td>
<td></td>
</tr>
</tbody>
</table>

- **De minimis A**
  - Contribution: 7%
  - De minimis amount: beam trawl, bottom trawls and seines FDI 2013-16 Balb = 33.6°*0.0817 = 2.75

- **De minimis B**
  - Contribution: 3%
  - De minimis amount: Gill nets FDI 2013-16 Average Balb = 3.16°*0.0817

**Contr. to total catches**

- De minimis deduction: 0.204 / 250.8

### Step 2 NWW

**Deduct de minimis from ICES total catch figure**

<table>
<thead>
<tr>
<th>ICES Total catch advice 2019</th>
<th>0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comments</td>
<td></td>
</tr>
</tbody>
</table>

- **De minimis A**
  - Contribution: 7%
  - De minimis amount: beam trawl, bottom trawls and seines FDI 2013-16

**Contr. to total catches**

- De minimis deduction: 0.53% / 250.8

### Step 3 NS

**Deduct de minimis from ICES total catch figure**

<table>
<thead>
<tr>
<th>ICES Total catch advice 2019</th>
<th>0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comments</td>
<td></td>
</tr>
</tbody>
</table>

- **De minimis A**
  - Contribution: 7%
  - De minimis amount: Trawls only

**Contr. to total catches**

- De minimis deduction: 0.00% / 250.8

---

**Total deduction**

- 6269

**New catch TAC**

- 125387

**TAC deduction % relative to ICES catch TAC**

- -5.00%

---

**New Mackerel JAX2A-14**

- **ICES Total catch**
  - 125387

- **ICES Wanted TAC**
  - 119118

- **ICES Unwanted**
  - 6269

---

**orbital catch 2013**

- Before Pelagic
  - 2013: 83644, 165258
  - 2016: 35032, 98811

**New TAC deduction 2016**

- 5% in ICES advice

---

**4% anchovy, mackerel, horse mackerel catches in area 8 using OTM**

- BOB = 8A and 8B PEL_Trawl

- 4% of Ave 2013-16 catches = 615 t

---

**For DS EU**

- **4% of ave catches 13-16 for Pelagic Trawls >6773 t**

---

**4% of horse mackerel, jack mackerel and mackerel in 8, 9 and 10 CECAF 34.1.1, 34.1.2, 34.2.0 Purse Seines (PS)**

- BOB = 8A and 8B

- PEL_SEINE

- **4% of Ave 2013-16 catches = 186 t**

---

**For DS EU Seine unavailable**