**Supplementary Material Title Page**

**Title:** Comparisons of landings to scientific advice indicates overshooting within the common TAC for skates and rays in the Northeast Atlantic.

**Authors:** Jurgen Batsleer1, Christopher A. Griffiths2, Katinka Bleeker1, Graham Johnston3, Massimiliano Cardinale2, Pascal Lorance4

1Wageningen Marine Research, Wageningen University and Research, P.O. Box 68, 1970 AB, IJmuiden, the Netherlands.

2Swedish University of Agricultural Sciences, Department of Aquatic Resources, Institute of Marine Research, Turistgatan 5, SE-453 30, Lysekil, Sweden.

3Marine Institute, Rinville, Oranmore, Galway, H91 R673, Ireland.

4DECOD (Ecosystem Dynamics and Sustainability), IFREMER, INRAE, Institut Agro— Agrocampus Ouest, Nantes, France

*Corresponding author:* Jurgen Batsleer, Wageningen Marine Research – **E:** Jurgen.Batsleer@gmail.com

**Supporting Information**

For Batsleer al. 2024. Comparisons of landings to scientific advice indicates overshooting within the common TAC for skates and rays in the Northeast Atlantic.

**Table S1.** Annual estimated ICES landings (tonnes) and ICES advice (tonnes) by stock and ecoregion. Ecoregions are listed as Bay of Biscay and Iberian coast (BI), Celtic Seas (CS) and Greater North Sea (GNS). ICES Advice (detailed in Table S2) has been split based on the annual proportion of landings per ecoregion for each stock (see MS text for more details). Landings and advice have been rounded to the nearest whole number.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Stock** | **Year** | **Ecoregion** | **ICES landings****(tonnes)** | **ICES advice****(tonnes)** |
| rjc.27.3a47d | 2016 | GNS | 1807 | 2110 |
| rjc.27.3a47d | 2017 | GNS | 1789 | 2110 |
| rjc.27.3a47d | 2018 | GNS | 2218 | 2574 |
| rjc.27.3a47d | 2019 | GNS | 2213 | 2574 |
| rjc.27.3a47d | 2020 | GNS | 2241 | 2237 |
| rjc.27.3a47d | 2021 | GNS | 2238 | 2237 |
| rjc.27.3a47d | 2022 | GNS | 1964 | 2446 |
| rjc.27.6 | 2016 | CS | 260 | 205 |
| rjc.27.6 | 2017 | CS | 284 | 145 |
| rjc.27.6 | 2018 | CS | 328 | 145 |
| rjc.27.6 | 2019 | CS | 396 | 174 |
| rjc.27.6 | 2020 | CS | 261 | 174 |
| rjc.27.6 | 2021 | CS | 242 | 137 |
| rjc.27.6 | 2022 | CS | 205 | 137 |
| rjc.27.7afg | 2016 | CS | 861 | 1235 |
| rjc.27.7afg | 2017 | CS | 878 | 1386 |
| rjc.27.7afg | 2018 | CS | 840 | 1386 |
| rjc.27.7afg | 2019 | CS | 960 | 1663 |
| rjc.27.7afg | 2020 | CS | 909 | 1663 |
| rjc.27.7afg | 2021 | CS | 972 | 1596 |
| rjc.27.7afg | 2022 | CS | 1005 | 1596 |
| rjc.27.7e | 2016 | CS | 423 | 260 |
| rjc.27.7e | 2017 | CS | 372 | 212 |
| rjc.27.7e | 2018 | CS | 438 | 212 |
| rjc.27.7e | 2019 | CS | 490 | 212 |
| rjc.27.7e | 2020 | CS | 464 | 212 |
| rjc.27.7e | 2021 | CS | 541 | 170 |
| rjc.27.7e | 2022 | CS | 566 | 170 |
| rjc.27.8 | 2016 | BI | 373 | 238 |
| rjc.27.8 | 2017 | BI | 369 | 434 |
| rjc.27.8 | 2018 | BI | 529 | 434 |
| rjc.27.8 | 2019 | BI | 513 | 276 |
| rjc.27.8 | 2020 | BI | 523 | 276 |
| rjc.27.8 | 2021 | BI | 538 | 389 |
| rjc.27.8 | 2022 | BI | 794 | 389 |
| rjc.27.9a | 2016 | BI | 682 | 911 |
| rjc.27.9a | 2017 | BI | 744 | 1203 |
| rjc.27.9a | 2018 | BI | 806 | 1203 |
| rjc.27.9a | 2019 | BI | 802 | 1431 |
| rjc.27.9a | 2020 | BI | 848 | 1431 |
| rjc.27.9a | 2021 | BI | 942 | 1717 |
| rjc.27.9a | 2022 | BI | 1090 | 1717 |
| rje.27.7de | 2016 | GNS | 22 | 26 |
| rje.27.7de | 2016 | CS | 14 | 17 |
| rje.27.7de | 2017 | GNS | 22 | 22 |
| rje.27.7de | 2017 | CS | 15 | 14 |
| rje.27.7de | 2018 | GNS | 23 | 22 |
| rje.27.7de | 2018 | CS | 15 | 14 |
| rje.27.7de | 2019 | CS | 15 | 12 |
| rje.27.7de | 2019 | GNS | 35 | 28 |
| rje.27.7de | 2020 | GNS | 36 | 28 |
| rje.27.7de | 2020 | CS | 16 | 12 |
| rje.27.7de | 2021 | CS | 31 | 24 |
| rje.27.7de | 2021 | GNS | 20 | 16 |
| rje.27.7de | 2022 | GNS | 25 | 15 |
| rje.27.7de | 2022 | CS | 41 | 25 |
| rje.27.7fg | 2016 | CS | 198 | 188 |
| rje.27.7fg | 2017 | CS | 201 | 154 |
| rje.27.7fg | 2018 | CS | 245 | 154 |
| rje.27.7fg | 2019 | CS | 313 | 192 |
| rje.27.7fg | 2020 | CS | 230 | 192 |
| rje.27.7fg | 2021 | CS | 110 | 123 |
| rje.27.7fg | 2022 | CS | 151 | 123 |
| rjf.27.67 | 2016 | CS | 185 | 186 |
| rjf.27.67 | 2017 | CS | 200 | 210 |
| rjf.27.67 | 2017 | GNS | 0 | 0 |
| rjf.27.67 | 2018 | CS | 203 | 210 |
| rjf.27.67 | 2018 | GNS | 0 | 0 |
| rjf.27.67 | 2019 | CS | 194 | 168 |
| rjf.27.67 | 2020 | CS | 181 | 168 |
| rjf.27.67 | 2020 | GNS | 0 | 0 |
| rjf.27.67 | 2021 | CS | 182 | 168 |
| rjf.27.67 | 2022 | CS | 208 | 168 |
| rjh.27.4a6 | 2016 | CS | 14 | 6 |
| rjh.27.4a6 | 2016 | GNS | 0 | 0 |
| rjh.27.4a6 | 2017 | CS | 6 | 6 |
| rjh.27.4a6 | 2018 | GNS | 0 | 0 |
| rjh.27.4a6 | 2018 | CS | 26 | 6 |
| rjh.27.4a6 | 2019 | CS | 35 | 9 |
| rjh.27.4a6 | 2019 | GNS | 1 | 0 |
| rjh.27.4a6 | 2020 | CS | 21 | 9 |
| rjh.27.4a6 | 2020 | GNS | 0 | 0 |
| rjh.27.4a6 | 2021 | CS | 14 | 9 |
| rjh.27.4a6 | 2021 | GNS | 0 | 0 |
| rjh.27.4a6 | 2022 | CS | 5 | 6 |
| rjh.27.4a6 | 2022 | GNS | 1 | 1 |
| rjh.27.4bc7d | 2016 | GNS | 183 | 162 |
| rjh.27.4bc7d | 2017 | GNS | 241 | 162 |
| rjh.27.4bc7d | 2018 | GNS | 255 | 195 |
| rjh.27.4bc7d | 2019 | GNS | 253 | 195 |
| rjh.27.4bc7d | 2020 | GNS | 243 | 164 |
| rjh.27.4bc7d | 2021 | GNS | 299 | 164 |
| rjh.27.4bc7d | 2022 | GNS | 328 | 191 |
| rjh.27.7afg | 2016 | CS | 1004 | 897 |
| rjh.27.7afg | 2017 | CS | 1020 | 895 |
| rjh.27.7afg | 2018 | CS | 1077 | 895 |
| rjh.27.7afg | 2019 | CS | 1616 | 716 |
| rjh.27.7afg | 2020 | CS | 1703 | 716 |
| rjh.27.7afg | 2021 | CS | 1467 | 716 |
| rjh.27.7afg | 2022 | CS | 1342 | 716 |
| rjh.27.7e | 2016 | CS | 587 | 310 |
| rjh.27.7e | 2017 | CS | 504 | 333 |
| rjh.27.7e | 2018 | CS | 735 | 333 |
| rjh.27.7e | 2019 | CS | 896 | 266 |
| rjh.27.7e | 2020 | CS | 1014 | 266 |
| rjh.27.7e | 2021 | CS | 992 | 266 |
| rjh.27.7e | 2022 | CS | 1080 | 266 |
| rjh.27.9a | 2016 | BI | 222 | 200 |
| rjh.27.9a | 2017 | BI | 236 | 177 |
| rjh.27.9a | 2018 | BI | 195 | 177 |
| rjh.27.9a | 2019 | BI | 263 | 212 |
| rjh.27.9a | 2020 | BI | 347 | 212 |
| rjh.27.9a | 2021 | BI | 278 | 254 |
| rjh.27.9a | 2022 | BI | 311 | 254 |
| rji.27.67 | 2016 | CS | 75 | 39 |
| rji.27.67 | 2017 | CS | 68 | 42 |
| rji.27.67 | 2018 | CS | 77 | 42 |
| rji.27.67 | 2019 | CS | 36 | 34 |
| rji.27.67 | 2020 | CS | 30 | 34 |
| rji.27.67 | 2021 | CS | 50 | 34 |
| rji.27.67 | 2022 | CS | 57 | 34 |
| rjm.27.3a47d | 2016 | GNS | 224 | 292 |
| rjm.27.3a47d | 2017 | GNS | 260 | 292 |
| rjm.27.3a47d | 2018 | GNS | 356 | 291 |
| rjm.27.3a47d | 2019 | GNS | 339 | 291 |
| rjm.27.3a47d | 2020 | GNS | 256 | 301 |
| rjm.27.3a47d | 2021 | GNS | 275 | 301 |
| rjm.27.3a47d | 2022 | GNS | 239 | 232 |
| rjm.27.67bj | 2016 | CS | 116 | 53 |
| rjm.27.67bj | 2017 | CS | 95 | 67 |
| rjm.27.67bj | 2018 | CS | 104 | 67 |
| rjm.27.67bj | 2019 | CS | 77 | 80 |
| rjm.27.67bj | 2020 | CS | 5 | 80 |
| rjm.27.67bj | 2021 | CS | 34 | 51 |
| rjm.27.67bj | 2022 | CS | 19 | 51 |
| rjm.27.7ae-h | 2016 | CS | 947 | 1118 |
| rjm.27.7ae-h | 2017 | CS | 762 | 1197 |
| rjm.27.7ae-h | 2018 | CS | 1001 | 1197 |
| rjm.27.7ae-h | 2019 | CS | 1012 | 1296 |
| rjm.27.7ae-h | 2020 | CS | 741 | 1296 |
| rjm.27.7ae-h | 2021 | CS | 822 | 1041 |
| rjm.27.7ae-h | 2022 | CS | 602 | 1041 |
| rjm.27.8 | 2016 | BI | 159 | 94 |
| rjm.27.8 | 2017 | BI | 180 | 115 |
| rjm.27.8 | 2018 | BI | 215 | 115 |
| rjm.27.8 | 2019 | BI | 267 | 108 |
| rjm.27.8 | 2020 | BI | 231 | 108 |
| rjm.27.8 | 2021 | BI | 220 | 129 |
| rjm.27.8 | 2022 | BI | 135 | 129 |
| rjm.27.9a | 2016 | BI | 73 | 106 |
| rjm.27.9a | 2017 | BI | 99 | 112 |
| rjm.27.9a | 2018 | BI | 62 | 112 |
| rjm.27.9a | 2019 | BI | 90 | 108 |
| rjm.27.9a | 2020 | BI | 69 | 108 |
| rjm.27.9a | 2021 | BI | 113 | 108 |
| rjm.27.9a | 2022 | BI | 87 | 108 |
| rjn.27.3a4 | 2016 | GNS | 169 | 128 |
| rjn.27.3a4 | 2017 | GNS | 155 | 128 |
| rjn.27.3a4 | 2018 | GNS | 180 | 116 |
| rjn.27.3a4 | 2019 | GNS | 203 | 116 |
| rjn.27.3a4 | 2020 | GNS | 177 | 139 |
| rjn.27.3a4 | 2021 | GNS | 169 | 139 |
| rjn.27.3a4 | 2022 | GNS | 136 | 89 |
| rjn.27.678abd | 2016 | BI | 996 | 674 |
| rjn.27.678abd | 2016 | CS | 1955 | 1322 |
| rjn.27.678abd | 2016 | GNS | 3 | 2 |
| rjn.27.678abd | 2017 | GNS | 3 | 3 |
| rjn.27.678abd | 2017 | BI | 915 | 893 |
| rjn.27.678abd | 2017 | CS | 1886 | 1838 |
| rjn.27.678abd | 2018 | GNS | 3 | 3 |
| rjn.27.678abd | 2018 | BI | 1043 | 939 |
| rjn.27.678abd | 2018 | CS | 1992 | 1793 |
| rjn.27.678abd | 2019 | CS | 2183 | 2305 |
| rjn.27.678abd | 2019 | BI | 923 | 975 |
| rjn.27.678abd | 2019 | GNS | 1 | 1 |
| rjn.27.678abd | 2020 | BI | 761 | 1019 |
| rjn.27.678abd | 2020 | CS | 1690 | 2261 |
| rjn.27.678abd | 2020 | GNS | 1 | 1 |
| rjn.27.678abd | 2021 | CS | 1740 | 2179 |
| rjn.27.678abd | 2021 | GNS | 2 | 2 |
| rjn.27.678abd | 2021 | BI | 773 | 968 |
| rjn.27.678abd | 2022 | BI | 658 | 908 |
| rjn.27.678abd | 2022 | CS | 1624 | 2242 |
| rjn.27.8c | 2016 | BI | 13 | 347 |
| rjn.27.8c | 2017 | BI | 15 | 27 |
| rjn.27.8c | 2018 | BI | 23 | 27 |
| rjn.27.8c | 2019 | BI | 13 | 26 |
| rjn.27.8c | 2020 | BI | 9 | 26 |
| rjn.27.8c | 2021 | BI | 7 | 31 |
| rjn.27.8c | 2022 | BI | 16 | 31 |
| rjn.27.9a | 2016 | BI | 59 | 46 |
| rjn.27.9a | 2017 | BI | 41 | 58 |
| rjn.27.9a | 2018 | BI | 25 | 58 |
| rjn.27.9a | 2019 | BI | 38 | 70 |
| rjn.27.9a | 2020 | BI | 23 | 70 |
| rjn.27.9a | 2021 | BI | 23 | 84 |
| rjn.27.9a | 2022 | BI | 39 | 84 |
| rju.27.7bj | 2016 | CS | 1 | 0 |
| rju.27.7bj | 2017 | CS | 1 | 0 |
| rju.27.7bj | 2018 | CS | 3 | 0 |
| rju.27.7bj | 2019 | CS | 0 | 0 |
| rju.27.7bj | 2020 | CS | 0 | 0 |
| rju.27.7de | 2016 | GNS | 14 | 0 |
| rju.27.7de | 2016 | CS | 70 | 0 |
| rju.27.7de | 2017 | GNS | 22 | 10 |
| rju.27.7de | 2017 | CS | 117 | 55 |
| rju.27.7de | 2018 | GNS | 20 | 16 |
| rju.27.7de | 2018 | CS | 123 | 99 |
| rju.27.7de | 2019 | GNS | 58 | 27 |
| rju.27.7de | 2019 | CS | 186 | 88 |
| rju.27.7de | 2020 | GNS | 55 | 28 |
| rju.27.7de | 2020 | CS | 170 | 87 |
| rju.27.7de | 2021 | GNS | 33 | 30 |
| rju.27.7de | 2021 | CS | 172 | 153 |
| rju.27.7de | 2022 | CS | 196 | 154 |

**Table S2.** ICES divisions assigned to each of the three ecoregions. Ecoregions are listed as Bay of Biscay and Iberian coast (BI), Celtic Seas (CS) and Greater North Sea (GNS).

|  |  |
| --- | --- |
| **Ecoregion** | **ICES divisions** |
| GNS | 27.2.b, 27.3.a.20, 27.3.a.21, 27.4.a, 27.4.b, 27.4.c, 27.2.a, 27.7.d, 27.4 |
| CS | 27.6.a, 27.6.b, 27.7.a, 27.7.b, 27.7.c, 27.7.e, 27.7.f, 27.7.g, 27.7.h, 27.7.j, 27.7.k, 27.7, 27.6, 27.7.c.2, 27.7.j.2, 27.7.k.2, 27.6.b.1 |
| BI | 27.8.a, 27.8.b, 27.8.c, 27.8.d, 27.9.a, 27.8.e, 27.9.b, 27.8.abd, 27.8.ce, 27.8.d.2 |

**Table S3.** Annual ICES advice (tonnes) by stock.

|  |  |  |
| --- | --- | --- |
| **Stock** | **Year** | **ICES advice****(tonnes)** |
| rjc.27.3a47d | 2016 | 2110 |
| rjc.27.3a47d | 2017 | 2110 |
| rjc.27.3a47d | 2018 | 2574 |
| rjc.27.3a47d | 2019 | 2574 |
| rjc.27.3a47d | 2020 | 2237 |
| rjc.27.3a47d | 2021 | 2237 |
| rjc.27.3a47d | 2022 | 2446 |
| rjc.27.6 | 2016 | 205 |
| rjc.27.6 | 2017 | 145 |
| rjc.27.6 | 2018 | 145 |
| rjc.27.6 | 2019 | 174 |
| rjc.27.6 | 2020 | 174 |
| rjc.27.6 | 2021 | 137 |
| rjc.27.6 | 2022 | 137 |
| rjc.27.7afg | 2016 | 1235 |
| rjc.27.7afg | 2017 | 1386 |
| rjc.27.7afg | 2018 | 1386 |
| rjc.27.7afg | 2019 | 1663 |
| rjc.27.7afg | 2020 | 1663 |
| rjc.27.7afg | 2021 | 1596 |
| rjc.27.7afg | 2022 | 1596 |
| rjc.27.7e | 2016 | 260 |
| rjc.27.7e | 2017 | 212 |
| rjc.27.7e | 2018 | 212 |
| rjc.27.7e | 2019 | 212 |
| rjc.27.7e | 2020 | 212 |
| rjc.27.7e | 2021 | 170 |
| rjc.27.7e | 2022 | 170 |
| rjc.27.8 | 2016 | 238 |
| rjc.27.8 | 2017 | 434 |
| rjc.27.8 | 2018 | 434 |
| rjc.27.8 | 2019 | 276 |
| rjc.27.8 | 2020 | 276 |
| rjc.27.8 | 2021 | 389 |
| rjc.27.8 | 2022 | 389 |
| rjc.27.9a | 2016 | 911 |
| rjc.27.9a | 2017 | 1203 |
| rjc.27.9a | 2018 | 1203 |
| rjc.27.9a | 2019 | 1431 |
| rjc.27.9a | 2020 | 1431 |
| rjc.27.9a | 2021 | 1717 |
| rjc.27.9a | 2022 | 1717 |
| rje.27.7de | 2016 | 43 |
| rje.27.7de | 2017 | 36 |
| rje.27.7de | 2018 | 36 |
| rje.27.7de | 2019 | 40 |
| rje.27.7de | 2020 | 40 |
| rje.27.7de | 2021 | 40 |
| rje.27.7de | 2022 | 40 |
| rje.27.7fg | 2016 | 188 |
| rje.27.7fg | 2017 | 154 |
| rje.27.7fg | 2018 | 154 |
| rje.27.7fg | 2019 | 192 |
| rje.27.7fg | 2020 | 192 |
| rje.27.7fg | 2021 | 123 |
| rje.27.7fg | 2022 | 123 |
| rjf.27.67 | 2016 | 186 |
| rjf.27.67 | 2017 | 210 |
| rjf.27.67 | 2018 | 210 |
| rjf.27.67 | 2019 | 168 |
| rjf.27.67 | 2020 | 168 |
| rjf.27.67 | 2021 | 168 |
| rjf.27.67 | 2022 | 168 |
| rjh.27.4a6 | 2016 | 6 |
| rjh.27.4a6 | 2017 | 6 |
| rjh.27.4a6 | 2018 | 6 |
| rjh.27.4a6 | 2019 | 9 |
| rjh.27.4a6 | 2020 | 9 |
| rjh.27.4a6 | 2021 | 9 |
| rjh.27.4a6 | 2022 | 7 |
| rjh.27.4bc7d | 2016 | 162 |
| rjh.27.4bc7d | 2017 | 162 |
| rjh.27.4bc7d | 2018 | 195 |
| rjh.27.4bc7d | 2019 | 195 |
| rjh.27.4bc7d | 2020 | 164 |
| rjh.27.4bc7d | 2021 | 164 |
| rjh.27.4bc7d | 2022 | 191 |
| rjh.27.7afg | 2016 | 897 |
| rjh.27.7afg | 2017 | 895 |
| rjh.27.7afg | 2018 | 895 |
| rjh.27.7afg | 2019 | 716 |
| rjh.27.7afg | 2020 | 716 |
| rjh.27.7afg | 2021 | 716 |
| rjh.27.7afg | 2022 | 716 |
| rjh.27.7e | 2016 | 310 |
| rjh.27.7e | 2017 | 333 |
| rjh.27.7e | 2018 | 333 |
| rjh.27.7e | 2019 | 266 |
| rjh.27.7e | 2020 | 266 |
| rjh.27.7e | 2021 | 266 |
| rjh.27.7e | 2022 | 266 |
| rjh.27.9a | 2016 | 200 |
| rjh.27.9a | 2017 | 177 |
| rjh.27.9a | 2018 | 177 |
| rjh.27.9a | 2019 | 212 |
| rjh.27.9a | 2020 | 212 |
| rjh.27.9a | 2021 | 254 |
| rjh.27.9a | 2022 | 254 |
| rji.27.67 | 2016 | 39 |
| rji.27.67 | 2017 | 42 |
| rji.27.67 | 2018 | 42 |
| rji.27.67 | 2019 | 34 |
| rji.27.67 | 2020 | 34 |
| rji.27.67 | 2021 | 34 |
| rji.27.67 | 2022 | 34 |
| rjm.27.3a47d | 2016 | 292 |
| rjm.27.3a47d | 2017 | 292 |
| rjm.27.3a47d | 2018 | 291 |
| rjm.27.3a47d | 2019 | 291 |
| rjm.27.3a47d | 2020 | 301 |
| rjm.27.3a47d | 2021 | 301 |
| rjm.27.3a47d | 2022 | 232 |
| rjm.27.67bj | 2016 | 53 |
| rjm.27.67bj | 2017 | 67 |
| rjm.27.67bj | 2018 | 67 |
| rjm.27.67bj | 2019 | 80 |
| rjm.27.67bj | 2020 | 80 |
| rjm.27.67bj | 2021 | 51 |
| rjm.27.67bj | 2022 | 51 |
| rjm.27.7ae-h | 2016 | 1118 |
| rjm.27.7ae-h | 2017 | 1197 |
| rjm.27.7ae-h | 2018 | 1197 |
| rjm.27.7ae-h | 2019 | 1296 |
| rjm.27.7ae-h | 2020 | 1296 |
| rjm.27.7ae-h | 2021 | 1041 |
| rjm.27.7ae-h | 2022 | 1041 |
| rjm.27.8 | 2016 | 94 |
| rjm.27.8 | 2017 | 115 |
| rjm.27.8 | 2018 | 115 |
| rjm.27.8 | 2019 | 108 |
| rjm.27.8 | 2020 | 108 |
| rjm.27.8 | 2021 | 129 |
| rjm.27.8 | 2022 | 129 |
| rjm.27.9a | 2016 | 106 |
| rjm.27.9a | 2017 | 112 |
| rjm.27.9a | 2018 | 112 |
| rjm.27.9a | 2019 | 108 |
| rjm.27.9a | 2020 | 108 |
| rjm.27.9a | 2021 | 108 |
| rjm.27.9a | 2022 | 108 |
| rjn.27.3a4 | 2016 | 128 |
| rjn.27.3a4 | 2017 | 128 |
| rjn.27.3a4 | 2018 | 116 |
| rjn.27.3a4 | 2019 | 116 |
| rjn.27.3a4 | 2020 | 139 |
| rjn.27.3a4 | 2021 | 139 |
| rjn.27.3a4 | 2022 | 89 |
| rjn.27.678abd | 2016 | 1998 |
| rjn.27.678abd | 2017 | 2734 |
| rjn.27.678abd | 2018 | 2734 |
| rjn.27.678abd | 2019 | 3281 |
| rjn.27.678abd | 2020 | 3281 |
| rjn.27.678abd | 2021 | 3150 |
| rjn.27.678abd | 2022 | 3150 |
| rjn.27.8c | 2016 | 347 |
| rjn.27.8c | 2017 | 27 |
| rjn.27.8c | 2018 | 27 |
| rjn.27.8c | 2019 | 26 |
| rjn.27.8c | 2020 | 26 |
| rjn.27.8c | 2021 | 31 |
| rjn.27.8c | 2022 | 31 |
| rjn.27.9a | 2016 | 46 |
| rjn.27.9a | 2017 | 58 |
| rjn.27.9a | 2018 | 58 |
| rjn.27.9a | 2019 | 70 |
| rjn.27.9a | 2020 | 70 |
| rjn.27.9a | 2021 | 84 |
| rjn.27.9a | 2022 | 84 |
| rju.27.7bj | 2016 | 0 |
| rju.27.7bj | 2017 | 0 |
| rju.27.7bj | 2018 | 0 |
| rju.27.7bj | 2019 | 0 |
| rju.27.7bj | 2020 | 0 |
| rju.27.7bj | 2021 | 0 |
| rju.27.7bj | 2022 | 0 |
| rju.27.7de | 2016 | 0 |
| rju.27.7de | 2017 | 65 |
| rju.27.7de | 2018 | 115 |
| rju.27.7de | 2019 | 115 |
| rju.27.7de | 2020 | 115 |
| rju.27.7de | 2021 | 183 |
| rju.27.7de | 2022 | 183 |

**Table S4.** List of EU regulations used to derive the annual Total Allowable Catch (TAC) per ecoregion and year.

|  |  |
| --- | --- |
| **Year** | **Regulation** |
| 2016 | Council Regulation (EC) No 2016/72 |
| 2017 | Council Regulation (EC) No 2017/127 |
| 2018 | Council Regulation (EC) No 2018/120 |
| 2019 | Council Regulation (EC) No 2019/124 |
| 2020 | Council Regulation (EC) No 2020/123 |
| 2021 | Council Regulation (EC) No 2021/1239 |
| 2022 | Council Regulation (EC) No 2022/515 |

**Table S5.** Annual Total Allowable Catch (TAC; tonnes) by ecoregion. Ecoregions are listed as Bay of Biscay and Iberian coast (BI), Celtic Seas (CS) and Greater North Sea (GNS).

|  |  |  |
| --- | --- | --- |
| **Ecoregion** | **Year** | **TAC****(tonnes)** |
| BI | 2016 | 3420 |
| BI | 2017 | 3762 |
| BI | 2018 | 4326 |
| BI | 2019 | 4759 |
| BI | 2020 | 4759 |
| BI | 2021 | 5129 |
| BI | 2022 | 5140 |
| CS | 2016 | 8032 |
| CS | 2017 | 8434 |
| CS | 2018 | 9699 |
| CS | 2019 | 10184 |
| CS | 2020 | 10184 |
| CS | 2021 | 9675 |
| CS | 2022 | 9482 |
| GNS | 2016 | 2326 |
| GNS | 2017 | 2488 |
| GNS | 2018 | 2977 |
| GNS | 2019 | 3105 |
| GNS | 2020 | 3258 |
| GNS | 2021 | 3095 |
| GNS | 2022 | 3309 |



**Figure S1.** Comparison between ICES advice and TAC (left), landings and TAC (middle), and landings and ICES advice (right) by ecoregion and year. All values are in tonnes and are reported above in Tables S1 and S5. ICES advice are summed by ecoregion, as are landings. ICES advice has been split into ecoregions based on the annual proportion of landings per ecoregion for each stock (see Tables S1 and S3, and MS text for more details). The dashed grey line at zero signifies equivalence as we have used the relative scale and subtracted 1 in all instances. Trends show that ICES advice are comparable to the TAC in all three ecoregions, albeit slightly lower in the Celtic Seas and Bay of Biscay and Iberian coast. Landings are comparable to the TAC in the Greater North Sea and lower than the TAC in the other two ecoregions. Landings are comparable to ICES advice in all three ecoregions.



**Figure S2.** Estimated average landing price (euros per kilogram) per year and species for skates and rays in the Northeast Atlantic. Data on landing prices were sourced from the European Commission’s Fisheries Dependent Information database and are provided by country, year, quarter and métier. Only data from stocks listed in Table S1 and ICES divisions listed in Table S2 were considered.