Supplementary Material.

**Supplementary Tables**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **2+3K** | | **Allocations (in tons)** | | | | | | |
| **Nunatsiavut**  **Government**  **Communal** | | **2013** | **2014** | **2015** | **2016** | **2017** | **2018** | **2019** |
| 132 | 131 | 132 | 119 | 126 | 140 | 140 |
| Vessels under 100’ | Fixed Gear<65' | 2,271 | 2,580 | 2,312 | 2,169 | 1,901 | 2,119 | 2,122 |
| Mobile Gear<65' | 80 | 91 | 82 | 77 | 67 | 75 | 75 |
| Fixed Gear 65'-100' | 288 | 327 | 293 | 275 | 241 | 268 | 269 |
| Mobile Gear 65'-100' | 8 | 9 | 8 | 7 | 6 | 7 | 7 |
| Vessels over 100’ | Offshore Enterprise Allocation Holders |  |  |  |  | 1,194 | 1,332 | 1,333 |
| Scandinavian Long Liners |  |  |  |  | 183 | 204 | 205 |
| **Canadian Quota** | | **4,442** | **5,048** | **4,523** | **4,244** | **3,718** | **4,145** | **4,151** |
| French Quota | |  |  |  |  | 115 | 128 | 128 |
| **TAC** | |  |  |  |  | **3,833** | **4,274** | **4,279** |

Table 1 Turbot TAC and Canadian Allocations/Fleet sharing arrangements in area 2+3K[[1]](#footnote-1)

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **3LMNO** | **Allocations (in tons)** | | | | | | |
|  |  | **2013** | **2014** | **2015** | **2016** | **2017** | **2018** | **2019** |
|  | **Nunatsiavut Government Communal** | 59 | 58 | 59 | 52 | 56 | 62 | 62 |
| Vessels under 100’ | Fixed Gear<65' | 1,168 | 1,327 | 1,189 | 1,116 | 977 | 1,090 | 1,091 |
| Mobile Gear<65' | 30 | 35 | 31 | 29 | 25 | 28 | 28 |
| Fixed Gear 65'-100' | 51 | 58 | 52 | 49 | 43 | 48 | 48 |
| Mobile Gear 65'-100' | 4 | 4 | 4 | 4 | 3 | 4 | 4 |
| Vessels over 100’ | Offshore Enterprise Allocation Holders |  |  |  |  | 485 | 540 | 541 |
| Scandinavian Long Liners |  |  |  |  | 56 | 62 | 62 |
|  | **Canadian Quota** | **1,965** | **2,233** | **2,001** | **1,877** | **1,645** | **1,834** | **1,836** |
|  | Other NAFO members |  |  |  |  | 9,321 | 10,393 | 10,406 |
|  | **TAC** |  |  |  |  | **10,966** | **12,227** | **12,242** |

Table 2 Turbot TAC Canadian Allocations/Fleet sharing arrangements in area 3LMNO1

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **SFA 4** | **Allocations (in tons)** | | | | | | |
| **2013** | **2014** | **2015/16** | **2016/17\*** | **2017/18** | **2018/19** | **2019/20** |
| Offshore License Holders | 10,394 | 10,394 | 10,394 | 10,769 | 10,687 | 10,687 | 7,121 |
| Inshore | 702 | 702 | 702 | 702 | 743 | 743 | 495 |
| Innu | 750 | 750 | 750 | 1,125 | 1,192 | 1,192 | 794 |
| Scientific/Offshore Competitive | 1,125 | 1,125 | 1,125 | 0 | 0 | 0 | 0 |
| **Nunatsiavut Government** | **300** | **300** | **300** | **675** | **1403** | **1,403** | **935** |
| NSRF Survey (Northern Shrimp Research Foundation) | 1,700 | 1,700 | 1,700 | 1,700 | 1,700 | 1,700 | 1,500 |
| **Total** | **14,971** | **14,971** | **14,971** | **14,971** | **15,725** | **15,725** | **10,845** |

Table 3 Northern Shrimp Allocations/Fleet sharing arrangements in SFA 4

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **SFA 5** | **Allocations (in tons)** | | | | | | |
| **2013** | **2014** | **2015/16** | **2016/17\*** | **2017/18** | **2018/19** | **2019/20** |
| Offshore License Holders | 7,650 | 7,650 | 7,650 | 9,750 | 8,369 | 9,750 | 8,407 |
| Northern Coalition | 6,120 | 6,120 | 6,120 | 7,176 | 6,160 | 7,176 | 6,188 |
| Innu | 510 | 510 | 510 | 1,330 | 1,142 | 1,330 | 1,147 |
| **Nunatsiavut Government** | **1,260** | **1,043** | **1,260** | **2,537** | **2,178** | **2,537** | **2,188** |
| NCC (NunatuKavut Community Council)\* | 750 | 533 | 750 | 1,594 | 1,368 | 1,594 | 1,374 |
| Cartwright (Imakpick) | 710 | 652 | 710 | 710 | 609 | 710 | 612 |
| Inshore Affected Fisher (South Labrador) | 3,400 | 2,409 | 3,400 | 2,266 | 1,945 | 2,266 | 1,954 |
| Inshore Affected Fishers (N. Peninsula North 50-30) | 400 | 283 | 400 | 267 | 229 | 267 | 230 |
| Scientific/Offshore Competitive | 2,500 | 1,770 | 2,500 | 0 | 0 | 0 |  |
| **Total** | **23,300** | **20,970** | **23,300** | **25,630** | **22,000** | **25,630** | **22,100** |

Table 4 Northern Shrimp Allocations/Fleet sharing arrangements in SFA 5

*\* referred to as LMN (Labrador Métis Nation) up until 2015/16*

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Formulas** | **Turbot**  **2+3K, 3LMNO** | **Northern Shrimp**  **SFA 4, SFA 5** |
| **GE(1), a = 1, Theil’s T** |  | 0.701 | 0.558 |
| **GE(0), a = 0, Theil’s L**  **Mean Log Deviation** |  | 1.148 | 0.484 |
| **GE(2), a = 2** | General Formula | 0.781 | 0.553 |

Table 5 Generalized Entropy (GE) index metrics to distributions of allocations for the turbot fishery and northern shrimp fisheries in 2019. The GE indexes have been calculated for a = 0, 1 and 2. The parameter a represents the weight given to distances between measures of incomes (y) at different parts of the distribution of these income measures. In this case allocations to number of stakeholder groups (N) have been used as an income measure to estimate the GE index metrics collectively for areas 2+3K and 3LMNO (turbot fishery) and for SFA 4[[2]](#footnote-2) and SFA 5 (northern shrimp fishery) respectively.

## Supplementary Figures

# Figure 1 Lorenz Curve and Gini Coefficient for the regional distribution of turbot allocations in area 2+3K

# Figure 2 Lorenz Curves and Gini Coefficients for the regional distribution of turbot allocations in area 3LMNO

# Figure 3 Lorenz Curves and Gini Coefficients for the regional distribution of N.shrimp allocations in area SFA 4[[3]](#footnote-3) (2019)

# Figure 4 Lorenz Curve and Gini Coefficient for the regional distribution of N.shrimp allocations in area SFA 5 (2019)

1. Data for 2017-2019 were provided by the Torngat Secretariat. Data for the 2013-2016 NG communal access for 2+3KLMNO were provided by the NG and were split for areas 2+3K and 3LMNO accounting for shares of 69.33% and 30.67% for each area respectively. Data for the 2013-2016 Canadian Quota were obtained from total landings reported in the IFMP (2019) which were then split for areas 2+3K and 3LMNO accounting for shares of 69.33% and 30.67% for each area respectively. The shares for rest of the fleet sectors were obtained from IFMP (2013) and are as follows for 2+3K and 3LMNO respectively fg<65' (51.12%, 59.42%), mg<65' (1.81%, 1.55%), fg 65'-100' (6.48%, 2.61%), mg 65'-100' (0.17%, 0.19%) and vessels over 100' (37.04%, 32.84%). [↑](#footnote-ref-1)
2. The SFA 4 allocation to the NSRF Survey (Northern Shrimp Research Foundation) has not been included in these estimates [↑](#footnote-ref-2)
3. The SFA 4 allocation to the NSRF Survey (Northern Shrimp Research Foundation) has not been included in these estimates [↑](#footnote-ref-3)