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SCIENTIFIC COUNCIL MEETING – JUNE 2016**ESTONIAN RESEARCH REPORT FOR 2015**

by

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This Report contains information for Estonian fishing vessels which operated in NAFO RA in 2015. Vessels targeting shrimp were excluded. Fishery took place only in SA 3. Catch, effort and length distribution information in sub-area 3 is from onboard NAFO observers. In Estonia, NAFO observers are employed by the Estonian Marine Institute, and they are also specially trained to collect basic scientific data.

Sub-area 3**A. Status of the Fishery**

Two vessels were involved in finfish fishery in 2006. There has been mainly one vessel involved in finfish fishery from 2007 to 2012. There were four vessels involved in finfish fishery of which two targeted mainly shrimp and switched to finfish when shrimp catch was poor in 2013. Two vessels were involved in finfish fishery in 2014 but one of them targeted mainly shrimp. In 2015 two vessels were fishing only finfish and no fishing for shrimp was carried out.

Total effort has decreased in 2015 but was still higher than the average of 2007 to 2012. Fishing effort has been fluctuating from 2006 to 2015 (Tables 1-2). According to observer estimated catch and discard data, main target species were RED, GHL and COD, followed by YEL and HKS in 2015 (Table 3).

In addition to effort and discard information, specifically trained NAFO observers collected length, age and sex data. The list of collected data is in Table 4. All lengths are TL and length group (LG) 10 means lengths from 10.0 to 10.9 cm. Mesh size of trawls for finfish fishery in codend was 139-145 mm, for skates 286 mm. Length distributions are presented as sampled number of fish (Tables 5-9, figures 1-5).

Table 1. Fishing effort (hours) of Estonian fleet targeting finfish in NAFO area in 2015 by division and month.

| 2015 Month | Division | | | | Grand Total |
|----------------------|----------|-----|-----|-----|----------------|
| | 3L | 3M | 3N | 3O | |
| 1 | 376 | 206 | 4 | 0 | 586 |
| 2 | 121 | 76 | 136 | 0 | 333 |
| 3 | 0 | 0 | 204 | 85 | 289 |
| 4 | 0 | 0 | 40 | 15 | 55 |
| 5 | 62 | 0 | 33 | 68 | 163 |
| 6 | 62 | 0 | 142 | 137 | 341 |
| 7 | 121 | 231 | 18 | 45 | 415 |
| 8 | 44 | 0 | 19 | 61 | 124 |
| 9 | 75 | 66 | 63 | 38 | 242 |
| 10 | 1 | 74 | 255 | 97 | 427 |
| 11 | 118 | 163 | 85 | 32 | 398 |
| 12 | 0 | 0 | 0 | 0 | 0 |
| Total effort, hrs | 980 | 816 | 999 | 578 | 3373 |

Table 2. Fishing effort (hours) of Estonian fleet targeting finfish in NAFO area in 2006-2015 by division.

| | <u>2006</u> | <u>2007</u> | <u>2008</u> | <u>2009</u> | <u>2010</u> | <u>2011</u> | <u>2012</u> | <u>2013</u> | <u>2014</u> | <u>2015</u> |
|-------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| 3L | 1621 | 1705 | 1527 | 916 | 1785 | 1240 | 531 | 1413 | 1425 | 980 |
| 3M | 1649 | 367 | 324 | 580 | 1107 | 1550 | 243 | 2534 | 1260 | 816 |
| 3N | 567 | 388 | 230 | 20 | 152 | 98 | 796 | 937 | 856 | 999 |
| 3O | 0 | 172 | 8 | 41 | 49 | 50 | 48 | 92 | 423 | 578 |
| Total effort, hrs | 3843 | 2652 | 2089 | 1556 | 3093 | 2938 | 1619 | 4976 | 3965 | 3373 |

Table 3. Observer estimated catch and discard (ton) of Estonia in NAFO areas in 2015 by division.

| 2015 | English name | Latin name | 3L | | | 3M | | | 3N | | | 3O | | | All areas |
|------|-------------------------------|------------------------------|---------|-------|---------|---------|-------|---------|---------|-------|---------|---------|-------|---------|-----------|
| | | | kept | disc | total | kept | disc | total | kept | disc | total | kept | disc | total | total |
| RED | Atlantic redfishes nei | Sebastes spp | 142,138 | 0,09 | 142,228 | 485,278 | 0,32 | 485,598 | 63,484 | 0,011 | 63,495 | 800,918 | 0,679 | 801,597 | 1492,918 |
| GHL | Greenland halibut | Reinhardtius hippoglossoides | 490,229 | 0 | 490,229 | 26,863 | 0 | 26,863 | 179,744 | 0 | 179,744 | 0 | 0 | 0 | 696,836 |
| COD | Atlantic Cod | Gadus morhua | 4,512 | 0 | 4,512 | 646,162 | 0,135 | 646,297 | 18,34 | 0,005 | 18,345 | 18,307 | 0 | 18,307 | 687,461 |
| YEL | Yellowtail flounder | Limanda ferruginea | 0 | 0 | 0 | 0 | 0 | 0 | 324, | 0,412 | 325,01 | 22,4 | 0,017 | 22,42 | 347,439 |
| HKS | Silver hake | Merluccius bilinearis | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 115,20 | 0,398 | 115,60 | 115,603 |
| PLA | Amer. plaice(=Long rough dab) | Hippoglossoides platessoides | 5,4 | 0 | 5,4 | 19,02 | 0 | 19,02 | 49,95 | 0,005 | 49,97 | 20,64 | 0 | 20,64 | 95,03 |
| SKA | Raja rays nei | Raja spp | 2,7 | 0,005 | 2,705 | 8,025 | 0 | 8,025 | 29,925 | 0 | 29,925 | 5,175 | 0,005 | 5,18 | 45,835 |
| HAD | Haddock | Melanogrammus aeglefinus | 0 | 0 | 0 | 2,341 | 0 | 2,341 | 0,03 | 0 | 0,03 | 26,38 | 0 | 26,38 | 28,76 |
| RHG | Roughhead grenadier | Macrourus berglax | 17,058 | 0,92 | 17,978 | 2,784 | 0,41 | 3,194 | 5,85 | 0,505 | 6,36 | 0 | 0 | 0 | 27,533 |
| WIT | Witch flounder | Glyptocephalus cynoglossus | 0,78 | 0 | 0,78 | 2,82 | 0 | 2,82 | 6,15 | 0 | 6,15 | 12,48 | 0 | 12,48 | 22,23 |
| HAL | Atlantic halibut | Hippoglossus | 3,583 | 0 | 3,583 | 3,434 | 0 | 3,434 | 5,23 | 0 | 5,23 | 9,77 | 0 | 9,77 | 22,02 |
| CAS | Spotted wolffish | Anarhichas minor | 0,24 | 0 | 0,24 | 0,96 | 0 | 0,96 | 0,96 | 0 | 0,96 | 0 | 0 | 0 | 2,16 |
| ANG | American angler (=Goosefish) | Lophius americanus | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1,7 | 0 | 1,7 | 1,7 |
| CAA | Atlantic wolffish | Anarhichas lupus | 0,981 | 0 | 0,981 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0,981 |
| GSK | Boreal (Greenland) shark | Somnousus microcephalus | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0,8 | 0,8 | 0 | 0 | 0 | 0,8 |
| HKW | White hake | Urophycis tenuis | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0,1 | 0,1 | 0 | 0,3 | 0,3 | 0,4 |
| CAP | Capelin | Mallotus villosus | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0,08 | 0,08 | 0 | 0 | 0 | 0,08 |
| MZZ | Marine fishes nei | Osteichthyes | 0 | 2,245 | 2,245 | 0 | 3,135 | 3,135 | 0 | 3,127 | 3,127 | 0 | 2,31 | 2,31 | 10,817 |

Table 4. Biological sampling list for Estonia in 2015. *Number of sexed fish; **Only age structures collected, fish not aged yet.

| Country | Species Code | NAFO Division | Gear | Month | Type of Sample | Directed/ Bycatch/ Discard | No. of samples | No. Measured | No. Sexed* | No. Aged* * | No. Weighed |
|---------|--------------|---------------|------|-------|----------------|----------------------------------|----------------|--------------|------------|----------------|-------------|
| EST | COD | 3L | OTB | 2 | OC | Kept | 1 | 30 | 30 | | 30 |
| EST | COD | 3M | OTB | 1 | OC | Kept | 1 | 30 | 30 | 30 | 30 |
| EST | COD | 3M | OTB | 2 | OC | Kept | 1 | 30 | 30 | 30 | 30 |
| EST | COD | 3M | OTB | 7 | OC | Kept | 3 | 195 | 195 | | 195 |
| EST | COD | 3M | OTB | 10 | OC | Kept | 2 | 48 | 43 | 48 | 48 |
| EST | COD | 3N | OTB | 2 | OC | Kept | 1 | 30 | 30 | | 30 |
| EST | COD | 3N | OTB | 3 | OC | Kept | 4 | 60 | 50 | 30 | 60 |
| EST | COD | 3N | OTB | 4 | OC | Kept | 1 | 9 | 9 | 10 | 9 |
| EST | COD | 3N | OTB | 11 | OC | Kept | 1 | 1 | 1 | 1 | 1 |
| EST | GHL | 3L | OTB | 1 | OC | Kept | 19 | 1018 | 136 | 420 | 974 |
| EST | GHL | 3L | OTB | 2 | OC | Kept | 4 | 307 | 60 | 120 | 307 |
| EST | GHL | 3L | OTB | 5 | OC | Kept | 2 | 125 | 125 | 43 | 125 |
| EST | GHL | 3L | OTB | 6 | OC | Kept | 2 | 114 | 114 | 21 | 114 |
| EST | GHL | 3L | OTB | 7 | OC | Kept | 2 | 108 | 108 | 42 | 108 |
| EST | GHL | 3L | OTB | 11 | OC | Kept | 2 | 37 | 34 | 37 | 37 |
| EST | GHL | 3M | OTB | 1 | OC | Kept | 2 | 60 | 41 | 30 | 41 |
| EST | GHL | 3M | OTB | 2 | OC | Kept | 3 | 90 | 90 | 30 | 90 |
| EST | GHL | 3M | OTB | 7 | OC | Kept | 1 | 62 | 62 | | 62 |
| EST | GHL | 3M | OTB | 10 | OC | Kept | 1 | 1 | 1 | 1 | 1 |
| EST | GHL | 3M | OTB | 11 | OC | Kept | 1 | 12 | 11 | 12 | 12 |
| EST | GHL | 3N | OTB | 3 | OC | Kept | 1 | 30 | 30 | 30 | 30 |
| EST | GHL | 3N | OTB | 5 | OC | Kept | 1 | 63 | 63 | 21 | 63 |
| EST | GHL | 3N | OTB | 6 | OC | Kept | 4 | 233 | 233 | 63 | 233 |
| EST | GHL | 3N | OTB | 8 | OC | Kept | 1 | 61 | 61 | 21 | 61 |
| EST | GHL | 3N | OTB | 10 | OC | Kept | 8 | 178 | 169 | 178 | 178 |
| EST | PLA | 3N | OTB | 2 | OC | Kept | 4 | 100 | 100 | 40 | 100 |
| EST | PLA | 3N | OTB | 3 | OC | Kept | 4 | 170 | 170 | 30 | 170 |
| EST | PLA | 3O | OTB | 3 | OC | Kept | 2 | 50 | 50 | 30 | 50 |
| EST | RED | 3L | OTB | 7 | OC | Kept | 3 | 654 | 654 | 63 | 65 |
| EST | RED | 3L | OTB | 8 | OC | Kept | 2 | 280 | 280 | | |
| EST | RED | 3L | OTB | 11 | OC | Kept | 1 | 25 | 25 | 25 | 25 |
| EST | RED | 3M | OTB | 1 | OC | Kept | 7 | 210 | 210 | | 210 |
| EST | RED | 3M | OTB | 2 | OC | Kept | 1 | 30 | 30 | | 30 |
| EST | RED | 3M | OTB | 7 | OC | Kept | 4 | 424 | 424 | 64 | 275 |
| EST | RED | 3N | OTB | 2 | OC | Kept | 5 | 150 | 150 | 60 | 150 |
| EST | RED | 3N | OTB | 3 | OC | Kept | 3 | 90 | 90 | 62 | 90 |
| EST | RED | 3N | OTB | 4 | OC | Kept | 1 | 30 | 30 | 1 | 30 |
| EST | RED | 3N | OTB | 6 | OC | Kept | 1 | 218 | 218 | 21 | 28 |
| EST | RED | 3N | OTB | 9 | OC | Kept | 1 | 21 | 21 | 21 | 21 |
| EST | RED | 3N | OTB | 11 | OC | Kept | 1 | 25 | 25 | 25 | 25 |
| EST | RED | 3O | OTB | 3 | OC | Kept | 3 | 90 | 90 | 90 | 90 |

| | | | | | | | | | | | |
|-----|-----|----|-----|----|----|------|---|------|------|----|-----|
| EST | RED | 30 | OTB | 4 | OC | Kept | 1 | 30 | 30 | 30 | 30 |
| EST | RED | 30 | OTB | 5 | OC | Kept | 4 | 534 | 534 | 84 | 84 |
| EST | RED | 30 | OTB | 6 | OC | Kept | 7 | 1375 | 1373 | 42 | 43 |
| EST | RED | 30 | OTB | 7 | OC | Kept | 2 | 372 | 372 | | |
| EST | RED | 30 | OTB | 8 | OC | Kept | 2 | 360 | 360 | 21 | 21 |
| EST | RED | 30 | OTB | 9 | OC | Kept | 2 | 29 | 29 | 29 | 29 |
| EST | RED | 30 | OTB | 10 | OC | Kept | 1 | 18 | 18 | 18 | 18 |
| EST | RED | 30 | OTB | 11 | OC | Kept | 1 | 22 | 22 | 22 | 22 |
| EST | RNG | 3L | OTB | 2 | OC | Kept | 1 | | | 30 | 30 |
| EST | YEL | 3N | OTB | 2 | OC | Kept | 6 | 170 | 170 | 81 | 170 |
| EST | YEL | 3N | OTB | 3 | OC | Kept | 6 | 220 | 220 | 30 | 220 |
| EST | YEL | 30 | OTB | 3 | OC | Kept | 2 | 50 | 50 | 30 | 50 |

| | | | | | | |
|-------|-----|-----|-----|----|----|-----|
| 73 | 1 | 1 | 2 | 1 | 1 | |
| 74 | 1 | 1 | 2 | | | |
| 75 | 3 | | 3 | | | |
| 76 | | | | | | |
| 77 | 1 | | 1 | | | |
| 78 | | | | 1 | 1 | |
| 79 | 1 | 1 | 2 | | | |
| 80 | 1 | | 1 | | | |
| 81 | | | | | | |
| 82 | | | | | | |
| 83 | | | | | | |
| 84 | 1 | | 1 | | | |
| 85 | | | | | | |
| 86 | | 1 | 1 | | | |
| 87 | | 1 | 1 | | | |
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| 106 | | | | | | |
| 107 | | | | | | |
| 108 | | | | | | |
| 109 | 1 | | 1 | | | |
| Total | 151 | 147 | 298 | 44 | 46 | 101 |

Table 6. Length distribution (sampled number of fish) of Greenland halibut in 2015 Estonian fisheries in NAFO area. 0-female and 1-male.

| LG, cm | 3L | | 3L Total | 3M | | 3M | 3N | | 3N |
|--------|----|----|----------|----|----|----|----|----|----|
| | 0 | 1 | | 0 | 1 | | 0 | 1 | |
| 32 | | | | | | | 2 | | 2 |
| 33 | | | 0 | | | | 1 | | 1 |
| 34 | | 1 | 1 | | | 0 | | | |
| 35 | | | 0 | | | | | | 0 |
| 36 | | | 0 | | | | 2 | | 2 |
| 37 | | 1 | 1 | | | 0 | 2 | | 2 |
| 38 | | 2 | 2 | | | | 1 | 6 | 7 |
| 39 | 2 | 2 | 4 | | | 0 | 1 | 4 | 5 |
| 40 | 5 | 5 | 10 | | 1 | 1 | | 1 | 1 |
| 41 | 12 | 9 | 21 | | | | 2 | 7 | 9 |
| 42 | 9 | 6 | 15 | 4 | 1 | 5 | 3 | 7 | 10 |
| 43 | 7 | 8 | 15 | 2 | 5 | 7 | 10 | 8 | 18 |
| 44 | 13 | 12 | 25 | 6 | 3 | 9 | 13 | 8 | 21 |
| 45 | 13 | 14 | 27 | 4 | 9 | 13 | 14 | 4 | 18 |
| 46 | 5 | 11 | 16 | 8 | 5 | 13 | 23 | 19 | 42 |
| 47 | 17 | 21 | 38 | 4 | 15 | 19 | 19 | 19 | 38 |
| 48 | 22 | 20 | 42 | 15 | 8 | 23 | 24 | 13 | 37 |
| 49 | 25 | 14 | 39 | 7 | 4 | 11 | 32 | 14 | 46 |
| 50 | 22 | 16 | 38 | 14 | 10 | 24 | 24 | 17 | 41 |
| 51 | 34 | 14 | 48 | 11 | 4 | 15 | 39 | 25 | 64 |
| 52 | 33 | 15 | 48 | 5 | 8 | 13 | 28 | 10 | 38 |
| 53 | 20 | 12 | 32 | 12 | 4 | 16 | 20 | 10 | 30 |
| 54 | 39 | 5 | 44 | 9 | 4 | 13 | 30 | 6 | 36 |
| 55 | 25 | 7 | 32 | 5 | 1 | 6 | 12 | 8 | 20 |
| 56 | 12 | 2 | 14 | 3 | | 3 | 11 | 3 | 14 |
| 57 | 15 | 4 | 19 | 3 | | 3 | 14 | 5 | 19 |
| 58 | 13 | 1 | 14 | 2 | | 2 | 12 | 2 | 14 |
| 59 | 7 | 2 | 9 | 1 | | 1 | 7 | 1 | 8 |
| 60 | 4 | 2 | 6 | 1 | | 1 | 2 | 1 | 3 |
| 61 | 2 | 1 | 3 | | | | 1 | | 1 |
| 62 | | | 0 | | | | 1 | | 1 |
| 63 | 6 | | 6 | | | | 3 | | 3 |
| 64 | 2 | | 2 | | | | 1 | | 1 |
| 65 | | | | | | | 1 | | 1 |
| 66 | 2 | | 2 | 2 | | 2 | | | |
| 67 | | | | | | | 1 | | 1 |
| 68 | | | | | | | | | |
| 69 | | 1 | 1 | | | | | | |
| 70 | | | | | | | | | |
| 71 | | | | 1 | | 1 | | | |

| | | | | | | | | | | |
|-------|-----|----------|--|----------|---------------|----|-----|------------|------------|-----|
| 72 | | | | | | | | | | |
| 73 | | | | | | | | | | |
| 74 | | | | | | | | | | |
| 75 | | | | | | | | | | |
| 76 | | | | | | | | | | |
| 77 | 1 | | | 1 | | | | | | |
| 78 | | | | | | | | | | |
| 79 | 1 | | | 1 | | | 1 | | 1 | |
| 80 | | | | | | | | | | |
| 81 | | | | | | | | | | |
| 82 | | | | | | | | | | |
| 83 | | <u>1</u> | | <u>1</u> | <u> </u> | | | | | |
| Total | 368 | 209 | | 577 | 119 | 82 | 201 | <u>349</u> | <u>206</u> | 555 |

Table 7. Length distribution (sampled number of fish) of redfish in 2015 Estonian fisheries in NAFO area. 0-female and 1-male.

| LG, cm | 3L | | 3L Total | 3M | | 3M Total | 3N | | 3N Total | 3O | | 3O Total |
|--------|----------------|----------------|----------------|----------|-----|----------|-----|-----|----------|------|------|-------------|
| | 0 | 1 | | 0 | 1 | | 0 | 1 | | 0 | 1 | |
| 15 | | | | | | | | | | 1 | 1 | |
| 16 | | | | | | | | | | | | |
| 17 | | | | | | | | | | | | |
| 18 | | | | | | | | | | 3 | 3 | |
| 19 | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 8 | 16 | |
| 20 | | | | | | | 4 | 3 | 7 | 22 | 70 | |
| 21 | 2 | 6 | 8 | 2 | 4 | 6 | 8 | 18 | 26 | 106 | 349 | |
| 22 | 11 | 11 | 22 | 6 | 2 | 8 | 18 | 36 | 54 | 256 | 663 | |
| 23 | 17 | 52 | 69 | 14 | 9 | 23 | 42 | 47 | 89 | 342 | 667 | |
| 24 | 47 | 83 | 130 | 11 | 14 | 25 | 51 | 31 | 82 | 330 | 456 | |
| 25 | 89 | 62 | 151 | 15 | 13 | 28 | 52 | 28 | 80 | 247 | 301 | |
| 26 | 144 | 34 | 178 | 15 | 33 | 48 | 57 | 12 | 69 | 100 | 121 | |
| 27 | 123 | 28 | 151 | 20 | 31 | 51 | 34 | 11 | 45 | 86 | 93 | |
| 28 | 86 | 13 | 99 | 30 | 40 | 70 | 17 | 6 | 23 | 41 | 46 | |
| 29 | 50 | 7 | 57 | 51 | 38 | 89 | 13 | 2 | 15 | 22 | 22 | |
| 30 | 32 | 4 | 36 | 37 | 12 | 49 | 10 | 1 | 11 | 12 | 12 | |
| 31 | 20 | 1 | 21 | 33 | 12 | 45 | 11 | | 11 | 3 | 3 | |
| 32 | 15 | | 15 | 30 | 7 | 37 | 6 | 1 | 7 | 3 | 3 | |
| 33 | 6 | | 6 | 15 | 6 | 21 | 5 | | 5 | 2 | 2 | |
| 34 | 6 | | 6 | 11 | 9 | 20 | 1 | | 1 | | | |
| 35 | 6 | | 6 | 9 | 5 | 14 | 3 | | 3 | | | |
| 36 | 1 | 1 | 2 | 7 | 11 | 18 | | | | | | |
| 37 | 1 | | 1 | 12 | 4 | 16 | | | | | | |
| 38 | | | | 5 | 11 | 16 | | | | | | |
| 39 | | | | 8 | 5 | 13 | | | | | | |
| 40 | | | | 13 | 7 | 20 | | | | | | |
| 41 | | | | 9 | 1 | 10 | 1 | | 1 | | | |
| 42 | | | | 4 | 3 | 7 | | | | | | |
| 43 | | | | 5 | 1 | 6 | | | | | | |
| 44 | | | | 4 | 1 | 5 | | | | | | |
| 45 | | | | 6 | 1 | 7 | | | | | | |
| 46 | | | | 4 | | 4 | | | | | | |
| 47 | | | | 3 | | 3 | | | | | | |
| 48 | | | | 2 | | 2 | | | | | | |
| 49 | | | | 1 | | 1 | | | | | | |
| 50 | | | | | | | | | | | | |
| 51 | | | | | | | | | | | | |
| 52 | | | | | | | | | | | | |
| 53 | | | | | | | | | | | | |
| 54 | | | | <u>1</u> | | <u>1</u> | | | | | | |
| Total | 656 | 303 | 959 | 383 | 281 | 664 | 334 | 197 | 531 | 1583 | 1245 | 2828 |

Table 8. Length distribution (sampled number of fish) of American plaice in 2015 Estonian fisheries in NAFO area. 0-female and 1-male.

| LG, | 3N | | 3N Total | 3 | | 30 Total |
|-------|----------|----------|----------|----|----|----------|
| | 0 | 1 | | 0 | 1 | |
| 30 | 2 | | 2 | | | |
| 31 | 1 | 3 | 4 | | 1 | 1 |
| 32 | 4 | 5 | 9 | 1 | 2 | 3 |
| 33 | 6 | 13 | 19 | 1 | 5 | 6 |
| 34 | 2 | 10 | 12 | 1 | 2 | 3 |
| 35 | 3 | 7 | 10 | 1 | 5 | 6 |
| 36 | 6 | 12 | 18 | 2 | 3 | 5 |
| 37 | 8 | 16 | 24 | 5 | 3 | 8 |
| 38 | 16 | 15 | 31 | 4 | 1 | 5 |
| 39 | 9 | 11 | 20 | 3 | | 3 |
| 40 | 15 | 7 | 22 | 2 | | 2 |
| 41 | 15 | 11 | 26 | 2 | | 2 |
| 42 | 14 | 7 | 21 | 1 | | 1 |
| 43 | 1 | 1 | 2 | 2 | | 2 |
| 44 | 10 | | 10 | 3 | | 3 |
| 45 | 6 | 1 | 7 | | | |
| 46 | 5 | | 5 | | | |
| 47 | 7 | | 7 | | | |
| 48 | 3 | | 3 | | | |
| 49 | 4 | | 4 | | | |
| 50 | 9 | | 9 | | | |
| 51 | <u>4</u> | <u>1</u> | <u>5</u> | | | |
| Total | 15 | 120 | 270 | 28 | 22 | 50 |

Table 9. Length distribution (sampled number of fish) of yellowtail flounder in 2015 Estonian fisheries in NAFO area 0-female and 1-male.

| LG, cm | 3N | | 3N Total | 3 | | 3O Total |
|--------|----------|-----|----------|----|----|----------|
| | 0 | 1 | | 0 | 1 | |
| 21 | | | | 1 | 1 | |
| 22 | | | | | | |
| 23 | | | | | | |
| 24 | | | | | | |
| 25 | | | | | | |
| 26 | | 2 | 2 | | | |
| 27 | 2 | 5 | 7 | | | |
| 28 | 1 | 13 | 14 | | | |
| 29 | 7 | 11 | 18 | | 1 | |
| 30 | 8 | 11 | 19 | 1 | 3 | |
| 31 | 12 | 24 | 36 | 1 | 4 | |
| 32 | 18 | 32 | 50 | 5 | 6 | |
| 33 | 12 | 12 | 24 | 5 | 2 | |
| 34 | 15 | 31 | 46 | 3 | 3 | |
| 35 | 18 | 9 | 27 | 2 | 2 | |
| 36 | 22 | 10 | 32 | 3 | 1 | |
| 37 | 24 | 8 | 32 | 5 | | |
| 38 | 9 | 3 | 12 | 1 | | |
| 39 | 21 | 6 | 27 | 1 | | |
| 40 | 5 | 2 | 7 | | | |
| 41 | 6 | | 6 | | | |
| 42 | 7 | 1 | 8 | | | |
| 43 | 7 | 2 | 9 | | | |
| 44 | 5 | 1 | 6 | | | |
| 45 | 3 | 1 | 4 | | | |
| 46 | | | | | | |
| 47 | <u>1</u> | | <u>1</u> | | | |
| Total | 20 | 184 | 387 | 27 | 23 | |

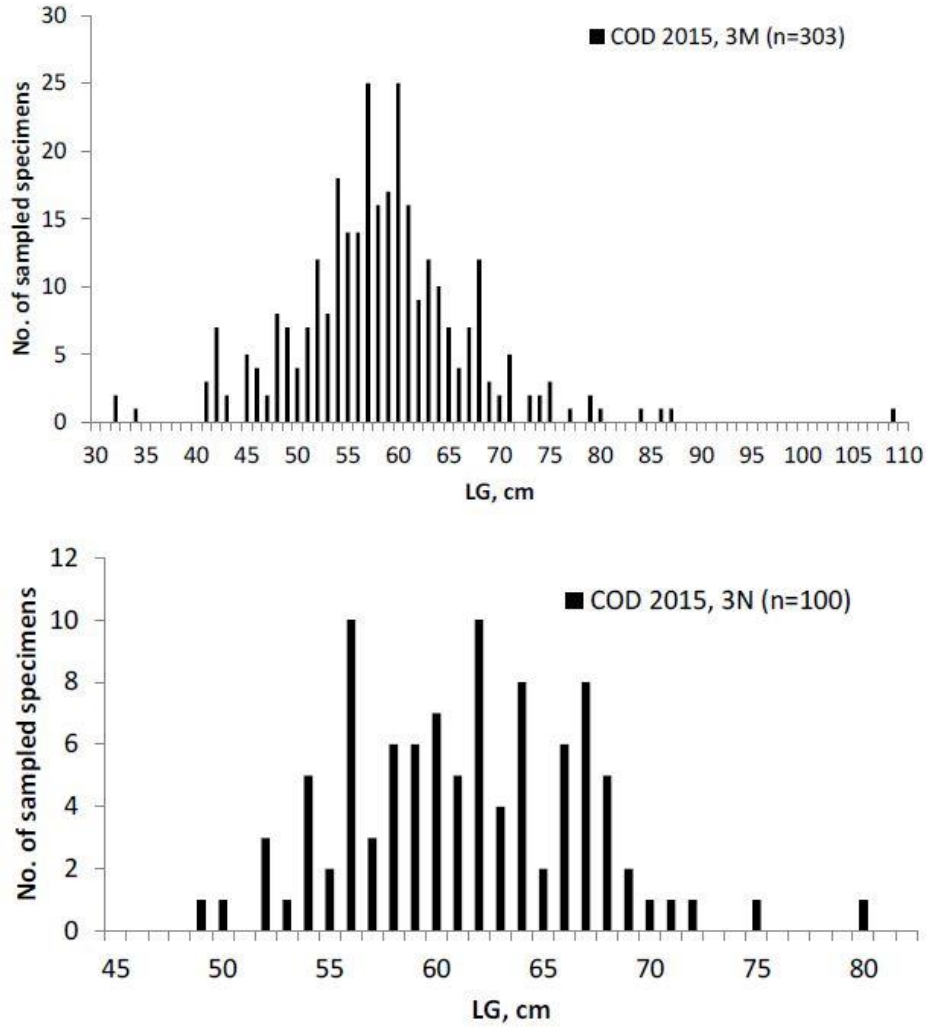


Fig. 1. Length distribution (number of sampled specimens) of cod in Div. 3M and 3N Estonian fisheries in 2015.

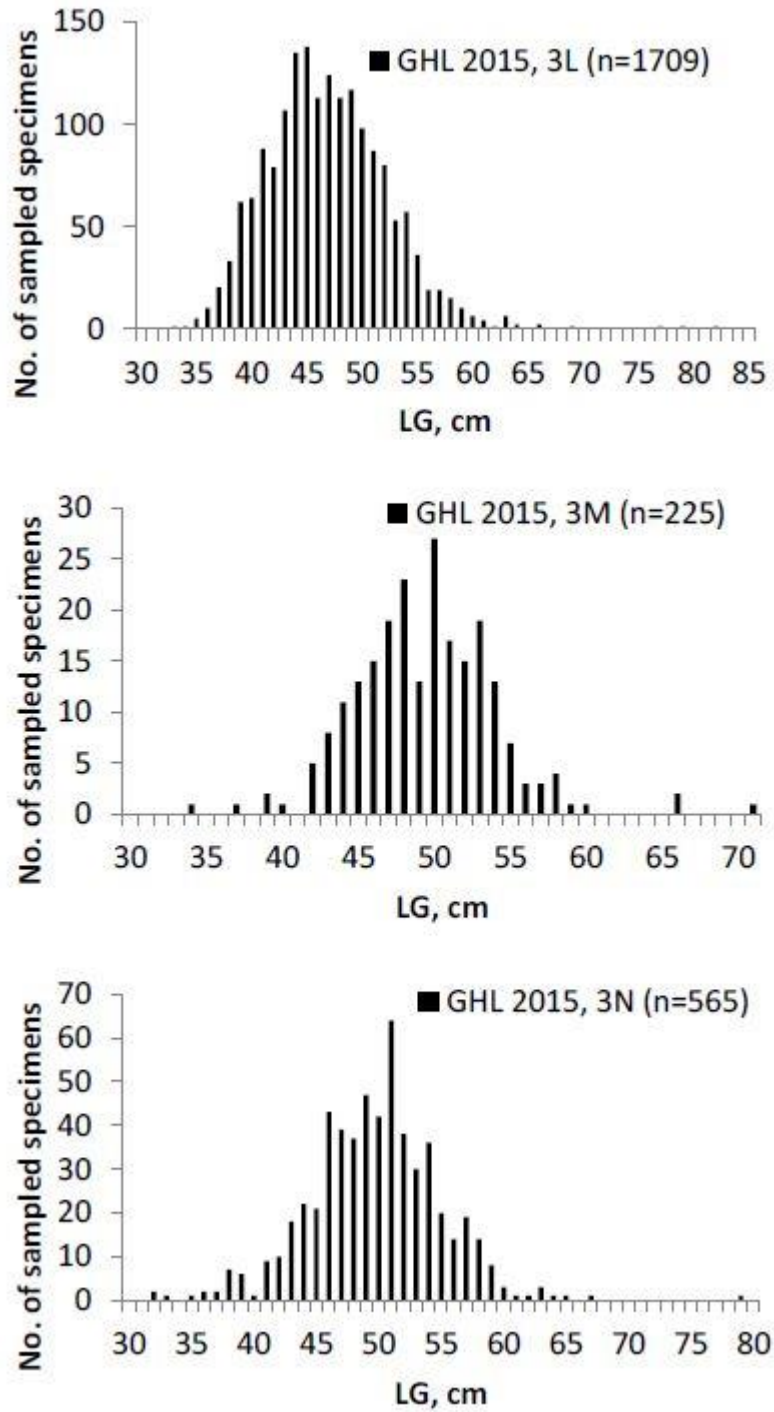


Fig.2. Length distribution (number of sampled specimens) of Greenland halibut in Div. 3L 3M and 3N Estonian fisheries in 2015.

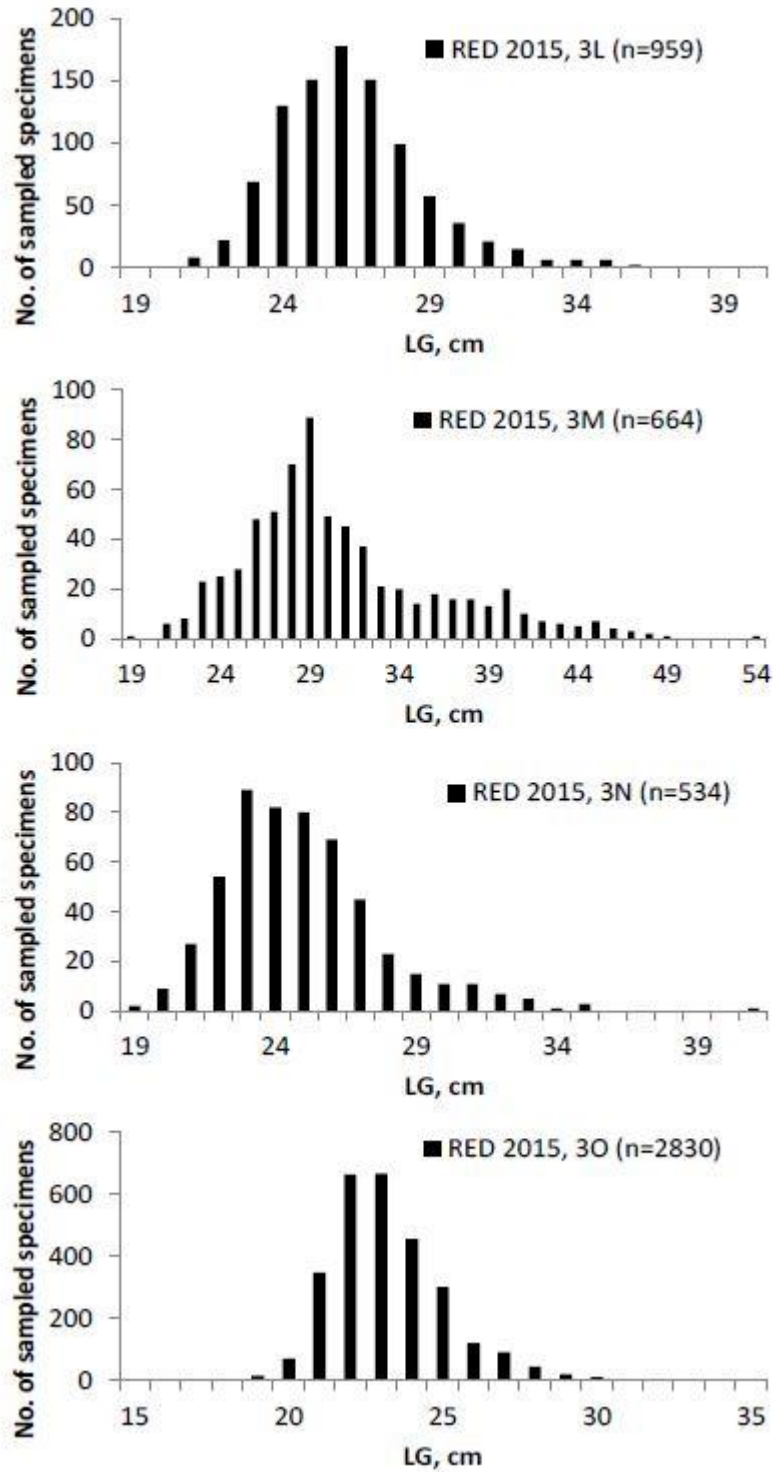


Fig. 3. Length distribution (number of sampled specimens) of redfish in Div. 3L, 3M, 3N and 3O Estonian fisheries in 2015.

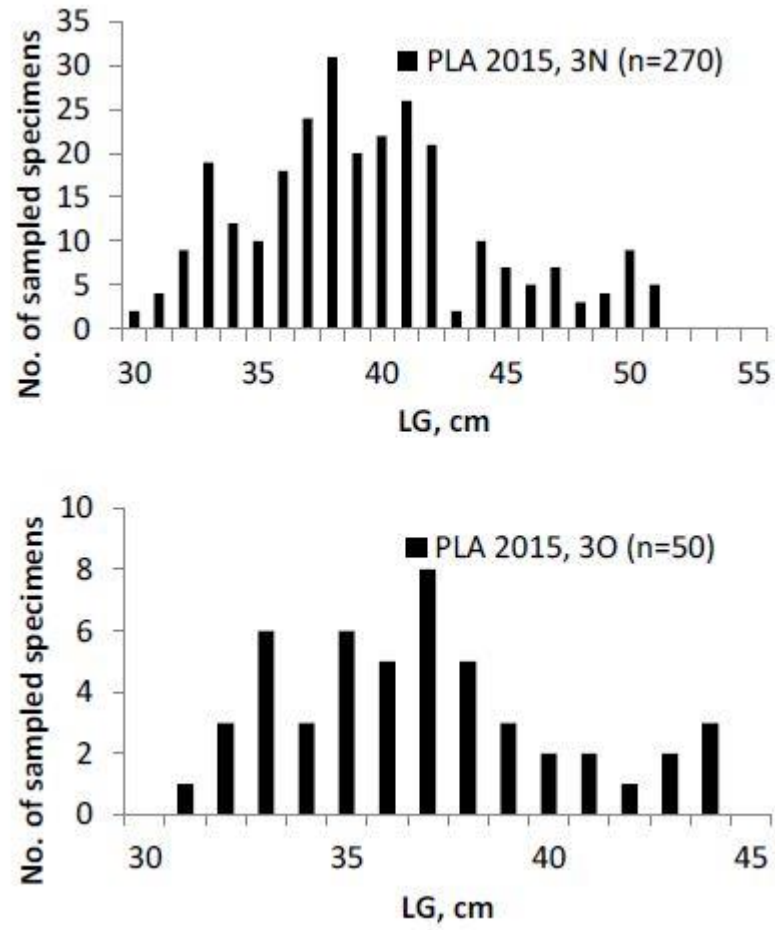


Fig. 4. Length distribution (sampled number of fish) of American plaice in Div. 3N and 3O Estonian fisheries in 2015.

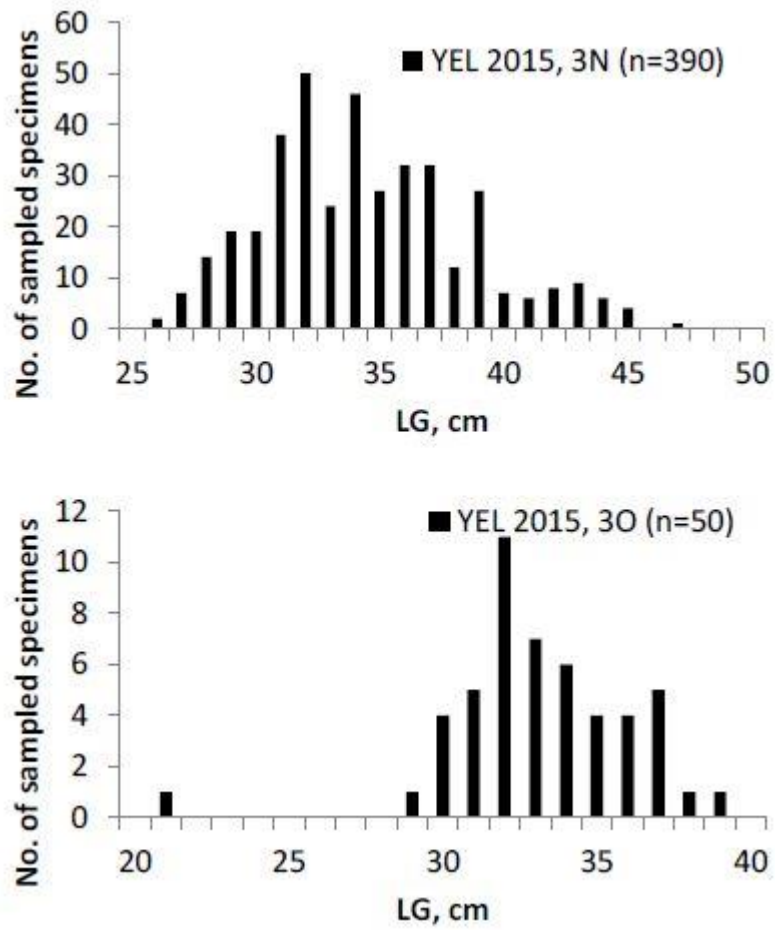


Fig. 5. Length distribution (sampled number of fish) of yellowtail flounder in Div. 3N and 30 Estonian fisheries in 2015.