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The Latvian Redfish Fishery in NAFO Regulatory Area in 2006

by

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**Abstract**

Redfish (*Sebastes mentella*) is one of the main fishery objects at Northern Atlantic, both Eastern and Western<sup>1</sup>. Datum on catch, effort, CPUE and size distribution of redfish by periods and divisions are presented.

**Material and Methods**

Author has fulfilled duties of NAFO Observer at Latvian fishing ship in June-August 2006. Measurements of redfish (total length and weight) were made. Ship used mid-water trawl "Gloria" with mesh size in cod end 130mm. Redfish was caught at Divisions 1F, 2G and 2H from 06/06/29 till 06/08/11. Depths of trawling changed between 214 and 359 m. Main and only fish at hauls was redfish; by-catch was practically absent.

**Results**

Total catch of redfish in NRA was 353 710 t (see Table 1). 71.4% of total catch was taken in Div. 1F, 21.8% in Div. 2J and 6.7% - in Div. 2H. Most part of fish was taken in Div. 1F, while CPUE was higher in Div. 2J and 2H, but only on short period at the end of July.

Length distribution of redfish by Division and sex are shown at Table 2, and mean length and weight characteristics are shown at Tables 3 and 4. Biggest fish was caught at Div. 2H division, and smallest – at Div. 2J. Males predominated over females at all divisions and at all months. Females were bigger than males approximately at 1cm and 30-40 g.

Tables 5 and 6 show changes of length and weight both males and females of redfish for last 4 years. Maximum weight and length both males and females both Div. 1F and 2J were in 2005. It is necessary to emphasize that CPUE and total catch in NRA were lowest also in 2005.

The fish in Div. 1F was bigger (by length and by weight) then the one in Div. 2J in all years.

German Research Report<sup>2</sup> shown similar values of mean length of redfish for the same periods.

**References**

<sup>1</sup> Chepel, L. I. 2001. Redfish stocks in the North Atlantic. *Redfish W.G. Working Paper*, No. 1, 12 p.

<sup>2</sup> German Research Report for 2005, 2006. *NAFO SCS Doc.*, No. 06/17, 3 p.

Table 1. Catch, effort and CPUE of Latvian fishing vessel in NRA in 2006.

| Division | Catch, kg | Fishing days | Fishing hours | CPUE, t/day | CPUE, kg/hour |
|----------|-----------|--------------|---------------|-------------|---------------|
| 1F       | 252630    | 31           | 523,00        | 8,15        | 0.48          |
| 2J       | 77280     | 6            | 110,17        | 12.88       | 0.70          |
| 2H       | 23800     | 2            | 26,50         | 11.90       | 0.90          |
| Total    | 353710    | 39           | 659,67        | 9.07        | 0.54          |

Table 2. Length distribution of redfish at percentage from sampled Latvian catch in NAFO Div. 1F, 2J and 2H in 2006.

| Length, cm                  | 1F     |        | 2J    |        | 2H    |        | Total  |        |
|-----------------------------|--------|--------|-------|--------|-------|--------|--------|--------|
|                             | Male   | Female | Male  | Female | Male  | Female | Male   | Female |
| 25                          |        | 0.14   |       |        |       |        |        | 0.11   |
| 26                          |        |        |       |        |       |        |        |        |
| 27                          |        |        | 1.41  |        |       |        | 0.16   |        |
| 28                          | 0.10   | 0.42   | 0.70  | 1.85   |       |        | 0.16   | 0.57   |
| 29                          | 0.29   | 0.97   | 0.70  | 3.70   |       |        | 0.33   | 1.26   |
| 30                          | 0.97   | 0.83   | 0.70  | 5.56   |       | 2.17   | 0.90   | 1.49   |
| 31                          | 2.43   | 1.67   | 2.81  | 1.85   | 3.70  |        | 2.53   | 1.60   |
| 32                          | 3.01   | 3.47   | 4.93  | 6.48   | 1.85  | 4.35   | 3.18   | 3.89   |
| 33                          | 5.44   | 4.44   | 7.04  | 4.63   | 14.81 | 2.17   | 6.04   | 4.35   |
| 34                          | 10.39  | 10.56  | 11.27 | 9.26   | 11.11 | 15.22  | 10.52  | 10.64  |
| 35                          | 20.29  | 9.31   | 16.91 | 10.19  | 12.96 | 4.35   | 19.58  | 9.15   |
| 36                          | 23.88  | 13.06  | 23.95 | 6.48   | 20.38 | 6.52   | 23.73  | 11.90  |
| 37                          | 15.44  | 18.60  | 12.68 | 8.33   | 16.67 | 26.09  | 15.17  | 17.74  |
| 38                          | 9.90   | 14.86  | 7.75  | 23.15  | 16.67 | 10.87  | 9.95   | 15.68  |
| 39                          | 4.17   | 10.97  | 4.93  | 8.33   |       | 17.39  | 4.08   | 10.98  |
| 40                          | 2.62   | 7.78   | 3.52  | 6.48   | 1.85  | 8.70   | 2.69   | 7.67   |
| 41                          | 0.97   | 2.50   | 0.70  | 2.78   |       |        | 0.90   | 2.40   |
| 42                          | 0.10   | 0.42   |       | 0.93   |       |        | 0.08   | 0.46   |
| 43                          |        |        |       |        |       |        |        |        |
| 44                          |        |        |       |        |       |        |        |        |
| 45                          |        |        |       |        |       | 2.17   |        | 0.11   |
| No samples                  | 18     |        | 3     |        | 1     |        | 22     |        |
| No sampled                  | 1030   | 720    | 142   | 108    | 54    | 46     | 1226   | 874    |
| Total weight of sampled, kg | 550430 | 407345 | 73400 | 58675  | 27870 | 26720  | 651700 | 492740 |

Table 3. Main length and weight characteristics of male of redfish in NRA in 2006.

| Month  | Division | Length of male, cm |         |       | Weight of male, g |         |
|--------|----------|--------------------|---------|-------|-------------------|---------|
|        |          | Change             | Average | Bulk  | Change            | Average |
| June   | 1F       | 30-40              | 35,75   | 36-38 | 315-760           | 547,12  |
| July   | 1F       | 29-42              | 35,67   | 35-36 | 265-885           | 531,40  |
| July   | 2J       | 27-41              | 35,44   | 35-36 | 225-820           | 516,90  |
| July   | 2H       | 31-40              | 35,57   | 36-38 | 325-715           | 516,11  |
| August | 1F       | 28-41              | 36,01   | 35-37 | 260-805           | 537,49  |

Table 4. Main length and weight characteristics of female of redfish in NRA in 2006.

| Month  | Division | Length of female, cm |         |        | Weight of female, g |         |
|--------|----------|----------------------|---------|--------|---------------------|---------|
|        |          | Change               | Average | Bulk   | Change              | Average |
| June   | 1F       | 29-39                | 36,17   | 36-38  | 260-740             | 561,18  |
| July   | 1F       | 28-42                | 36,50   | 37-36  | 255-870             | 567,03  |
| July   | 2J       | 28-42                | 35,78   | 37-39  | 260-820             | 543,29  |
| July   | 2H       | 30-45                | 36,88   | 37, 39 | 280-1040            | 580,87  |
| August | 1F       | 25-42                | 36,54   | 36-39  | 175-830             | 563,66  |

Table 5. Change of average length and weight of redfish in Div. 1F in 2003-2006.

| Year | Male   |        | Female |        |
|------|--------|--------|--------|--------|
|      | Length | Weight | Length | Weight |
| 2003 | 35,08  | 498,72 | 36,20  | 553,78 |
| 2004 | 35,36  | 525,32 | 35,99  | 564,11 |
| 2005 | 35,89  | 537,64 | 36,63  | 580,44 |
| 2006 | 35,78  | 534,40 | 36,50  | 565,76 |

Table 6. Change of average length and weight of redfish in Div. 2J in 2003-2006.

| Year | Male   |        | Female |        |
|------|--------|--------|--------|--------|
|      | Length | Weight | Length | Weight |
| 2003 | 34,65  | 479,81 | 35,42  | 521,47 |
| 2004 | 34,85  | 500,60 | 35,59  | 553,44 |
| 2005 | 35,78  | 536,49 | 36,37  | 566,93 |
| 2006 | 35,44  | 516,90 | 35,78  | 543,29 |