RELEASE DATA FOR JAPANESE SALMON TAGGING EXPERIMENTS IN 1991 AND RECOVERY DATA UP TO AUGUST, 1991

by

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THIS PAPER MAY BE CITED IN THE FOLLOWING MANNER:
ABSTRACT

In 1991, Japan conducted 218 longline and purse seine operations in the North Pacific Ocean, Bering Sea, and Gulf of Alaska, caught 14,875 salmon, and of those 9,806 were tagged and released.

A total of 84 salmonids, 3 sockeye, 37 chum, 29 pink, 14 coho, and 1 chinook were recovered up to August 1991.

New findings on offshore distribution of the following three stocks were obtained from the recoveries available at this time.

- Immature chum salmon originating from the Okhotsk Sea coast and Shelekhova Bay, extension toward the south.
- Pink salmon salmon originating from the Okhotsk Sea coast and Shelekhova Bay, extension toward the east.
- Coho salmon originating from the Okhotsk Sea coast and Shelekhova Bay, extension toward the south.
INTRODUCTION

This report mainly describes the salmon tagging experiments conducted by Japan in 1991. The report also includes recoveries in the period since the submission of Doc. 3512 to the 1990 Annual Meeting to 1991 August, of salmonids tagged before and during 1991. Data obtained from these research activities are being analyzed and preliminary figures are included in this report.

RELEASE OF TAGGED FISH

The tagging operations were conducted by seven research vessels from June 9 to August 4, 1991. The long-lining and purse seining locations are shown in Fig. 1, the numbers of fish caught and releases by research vessels are shown in Table 1, and summarized in Summary Tables A and B. A total of 180 (178; hereafter in this report, the numbers in parentheses indicate the comparable figures for 1990) longline and 38 purse seine operations were conducted in 1991 and 9,806 (11,749) salmon of the 14,875 (17,607) caught were tagged and released. In addition, according to the discussion held by the Salmon Subcommittee at the 1989 Annual Meeting, except for dead fish, all fish including damaged were released after their condition was recorded.

Five of the seven research vessels were engaged in tagging activities in waters south of 46°N and between 160°E and 175°W to determine the continental origin of salmon which migrate to waters south of 46°N as prescribed in Article III 1-(d) of the International Convention for the High Seas Fisheries of the North Pacific Ocean and the Memorandum of Understanding on Scientific Research and 7,623 (8,854) salmon were tagged and released.

RECOVERY OF TAGGED FISH

To date, a total of 5 high seas recoveries of tagged fish (2 chum, 1 pink, and 2 coho) have been reported. Of those 5, 3 fish were caught and released during longline operations in the evening and recovered by driftnet operations next morning at the same location of North Pacific (Table 2-1, Fig. 2). For coastal recoveries in 1991, 2 sockeye, 1 chum, 2 pink, 2 coho, and 1 chinook released in 1990 have been reported (Table 2-1, Fig. 3 and 4).
A total of 71 salmon, sockeye 1 (Table 2-2, Fig. 3), chum 34 (Table 2-2, Fig. 4), pink 26 (Table 2-2, Fig. 5), and coho 10 (Table 2-2 and 2-3, Fig. 3) have been recovered in addition to those previously reported for 1985, 1989, and 1990.

NEW INFORMATION OBTAINED FROM RECOVERIES OF TAGGED SALMONIDS

New information on salmonid distribution on the high seas was extracted from the results of recoveries of tagged fish and in summarized follows:

1) An Immature Chum Salmon Originating from the Okhotsk Sea coast and Shelekhova Bay DD5569 (Fig. 4) Release position of 43°30'N, 175°30'E extended the known southern limit (45°27'N, 167°32'E).

2) A Pink Salmon Originating from the Okhotsk Sea coast and Shelekhova Bay EE0572 (Fig. 5) Release position of 43°30'N, 171°30'E extended the known southern limit (44°11'N, 167°32'E).

3) A Coho Salmon Originating from the Okhotsk Sea coast and Shelekhova Bay CC3031 (Fig. 3) Release position of 41°33'N, 162°46'E extended the known southern limit (43°30'N, 166°30'E).

EXTERNAL TAG RECOVERIES FROM FISH RELEASED IN WATERS PRESCRIBED BY THE MEMORANDUM OF UNDERSTANDING ON SCIENTIFIC RESEARCH

Of the coastal recoveries presented in this report, the fish released from the area south of 46°N prescribed by the above Memorandum of Understanding were 4 chum (3 recovered in Japan and 1 in U.S.S.R.), 19 pink (all recovered in U.S.S.R.), and 4 coho (all recovered in U.S.S.R.). Table 3 shows the recovery information of fish externally tagged and released in this area. (Concerning fish tagged by Canada, U.S., and U.S.S.R., information up to the last Annual Meeting, as reported in Doc. 3501, is included.)
### Summary table A. Catch and release data by research vessels in Japanese salmon tagging in 1991

<table>
<thead>
<tr>
<th>Research vessel</th>
<th>Area and Period</th>
<th>Number of effort operations (hachi)</th>
<th>Number of fish caught</th>
<th>Steel</th>
<th>Number of fish released</th>
<th>Steel</th>
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</thead>
<tbody>
<tr>
<td>Wakashio maru (R-01)</td>
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<td>43*</td>
<td>5  13  599  2  0  0  619</td>
<td>3  1</td>
<td>301  0  0  0  0  305</td>
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<tr>
<td>Oshoro maru (R-05)</td>
<td>N. Pacific &amp; G. Alaska 8.10~ 7.11</td>
<td>12</td>
<td>120</td>
<td>24  9  29  16  0  1  79</td>
<td>24  9  29  16  0  1  79</td>
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<tr>
<td>Hokko maru (R-08)</td>
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<td>7  7  0  0  0  17</td>
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<tr>
<td>Hokuto maru (R-23)</td>
<td>N. Pacific 6.11~7.14</td>
<td>61  1820</td>
<td>17  1059  1555  597  44</td>
<td>76  3348</td>
<td>15  882  1096  487  31</td>
<td>58  2569</td>
</tr>
<tr>
<td>Wakatake maru (R-32)</td>
<td>N. Pacific &amp; Bering Sea 6.12~7.12</td>
<td>31</td>
<td>99  1037  1114  189  33</td>
<td>15</td>
<td>2487</td>
<td>3  74  211  5  0  0  293</td>
</tr>
<tr>
<td>Shin-Riasu maru (R-34)</td>
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<td></td>
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<tr>
<td>Etsuzu maru (R-36)</td>
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<td>70  6480</td>
<td>10  859  3514  638  17  44</td>
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</tr>
<tr>
<td>Total</td>
<td></td>
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<td>218  5164  222  4078  8494  1737  177  167  14875</td>
<td>112  2546  5608  1280  93  107  9806</td>
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</table>

* 5 longline operations and 38 purse seine operations

### Summary table B. Release data by area in Japanese salmon tagging in 1991

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<tr>
<th>Area</th>
<th>Number of Operations</th>
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<tr>
<td></td>
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<td>Chum</td>
</tr>
<tr>
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<td>7( 5)</td>
<td>70( 50)</td>
<td>24( 16) 9( 30) 29( 6) 16( 8) 0( 0) 0( 0) 1( 3) 79( 63)</td>
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<tr>
<td>Bering sea</td>
<td>24( 24)</td>
<td>720( 606)</td>
<td>51( 22) 577( 704) 492( 54) 0( 0) 0( 0) 35(17) 0( 0) 1155( 797)</td>
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<td>North Pacific</td>
<td>187(149)</td>
<td>4374(4813)</td>
<td>37(167) 1960(3819) 5157(5686) 1284(1089) 58(36) 106(62) 8582(10889)</td>
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<td>North of 46N</td>
<td>34( 38)</td>
<td>1070(1178)</td>
<td>4(169) 77(690) 408(766) 141(385) 3( 8) 21(17) 654(2035)</td>
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<tr>
<td>South of 46N</td>
<td>152(111)</td>
<td>3304(3635)</td>
<td>33( 28) 1883(3129) 4749(4920) 1123(704) 55(28) 85(45) 7928(8854)</td>
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<td>West of 160E</td>
<td>43*( 0)</td>
<td>76( 0)</td>
<td>3( 0) 1( 0) 301( 0) 0( 0) 0( 0) 0( 0) 305( 0)</td>
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<td>East of 175W</td>
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<td>0( 0)</td>
<td>0( 0) 0( 0) 0( 0) 0( 0) 0( 0) 0( 0) 0( 0)</td>
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<td>160E-175W</td>
<td>110(111)</td>
<td>1070(3635)</td>
<td>30( 28) 1882(3129) 4448(4920) 1123(704) 55(28) 85(45) 7623(8854)</td>
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* 5 longline operations and 38 purse seine operations
Table 1. Detailed catch and release data for Japanese salmon tagging in 1991

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<th>Number of fish caught</th>
<th>Number of fish released</th>
<th>Type of tag &amp; Steel tag No.</th>
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<td>14719E</td>
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<td>30</td>
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* Conducted with a purse seine
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<tr>
<th>Vessel name</th>
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<th>Position</th>
<th>Number of fish caught</th>
<th>Number of fish released</th>
<th>Type of tag &amp; tag No.</th>
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<td>Sock Chum Pink Coho Chin head Total</td>
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<tr>
<td>shio</td>
<td>37</td>
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Total 76 5 13 599 2 0 0 619 3 1 301 0 0 0 305

* Conducted with a purse seine
<table>
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<th>Vessel</th>
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<th>Number of fish released</th>
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<td>7</td>
<td>7.03 5110N 15900W</td>
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Table 1. Continued
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<th>Date</th>
<th>Position (Hachi)</th>
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<th>Steel</th>
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Total 1738 13 1061 4503 782 51 70 6480 10 859 3514 638 17 44 5082
Table 2. Recoveries of salmonids released by Japan

Table 2-1. Recoveries in 1991

<table>
<thead>
<tr>
<th>Tag No.</th>
<th>Species</th>
<th>Sex</th>
<th>Date</th>
<th>Position</th>
<th>Rec. Area</th>
<th>Gear</th>
<th>F.L. (mm)</th>
<th>B.W. (g)</th>
<th>G.W. (g)</th>
<th>Age</th>
<th>Remarks and area of recovery</th>
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<td>-</td>
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<td>58-25N,177-24W</td>
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<td>550</td>
<td>2100</td>
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Table 2-2 Additional tag recoveries in 1990

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<th>Rec. Area</th>
<th>Gear</th>
<th>F.L. (mm)</th>
<th>D.W. (g)</th>
<th>G.W. (g)</th>
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<td>550</td>
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<td>57-57N,162-02E</td>
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<td>62-30N,165-40E</td>
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<td>L.L. Trapnet</td>
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### Table 2-2. Additional tag recoveries in 1985 and 1989

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<tr>
<th>Tag No.</th>
<th>Species</th>
<th>Sex</th>
<th>Date</th>
<th>Position</th>
<th>Rec. Area</th>
<th>Gear</th>
<th>F.L. (mm)</th>
<th>B.W. (g)</th>
<th>G.W. (g)</th>
<th>Age</th>
<th>Remarks and area of recovery</th>
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<tbody>
<tr>
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<td>L.L.</td>
<td>472 450</td>
<td>930</td>
<td>0.1</td>
<td>--</td>
<td>South-western Kamchatka</td>
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<td>CCO550</td>
<td>Pink</td>
<td>F</td>
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<td>L.L.</td>
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<td>L.L.</td>
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<td>L.L.</td>
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<td>1100</td>
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<td>Zhupanova R., Released with a longline hook</td>
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<tr>
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<td>535 535</td>
<td>2500</td>
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<td>M</td>
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<td>L.L.</td>
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<td>Ust-Bolshertsk, Bleeding at released</td>
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<td>2.1</td>
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### Table 2-3. Additional tag recoveries in 1985 and 1989

<table>
<thead>
<tr>
<th>Tag No.</th>
<th>Species</th>
<th>Sex</th>
<th>Date</th>
<th>Position</th>
<th>Rec. Area</th>
<th>Gear</th>
<th>F.L. (mm)</th>
<th>B.W. (g)</th>
<th>G.W. (g)</th>
<th>Age</th>
<th>Remarks and area of recovery</th>
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<td>L.L.</td>
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Table 3. Number of tag recoveries released in MOU area

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<th>Release area (South of 46°N)</th>
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<th>Chum</th>
<th>Pink</th>
<th>Coho</th>
<th>Chinook</th>
<th>Steelhead</th>
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<td></td>
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<td>J USSR</td>
<td>N.A.</td>
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<td>0 4 1</td>
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<td>0 45 1</td>
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<tr>
<td>160°E-175°E</td>
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<td>17 27 0</td>
<td>24 26 0</td>
<td>0 7 0</td>
<td>0 0 0</td>
<td>0 0 0 0</td>
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Remarks:
J: Japan, N.A.: North America
Fig 1. Longline locations and area of purse seine operations of Japanese salmon research vessels from June to August, 1991.
Fig 2. 1991 offshore tag recoveries of 1 chum, 1 pink and 3 coho salmon released in 1991.
Fig 3. 1991 tag recoveries of 2 sockeye, 2 coho and 1 chinook salmon, and additional tag recoveries of 1 sockeye and 10 coho salmon in 1985, 1989 and 1990.
Fig 4. 1991 tag recovery of 1 chum salmon, and additional tag recoveries of 34 chum salmon recovered in 1990.
Fig. 5. Additional tag recoveries of 26 pink salmon recovered in 1990.