



# HOKKAIDO UNIVERSITY

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| Title            | 5.THE "OSHORO MARU" CRUISE 201 TO THE NORTHWEST PACIFIC OCEAN IN MAY 2009         |
| Citation         | 海洋調査漁業試験要報, 53, 31-47                                                             |
| Issue Date       | 2010-10-15                                                                        |
| Doc URL          | <a href="https://hdl.handle.net/2115/76779">https://hdl.handle.net/2115/76779</a> |
| Type             | dataset                                                                           |
| File Information | Data.Rec.Oceanogr.Obs.Expl.Fish.53.31.pdf                                         |



THE “OSHORU MARU” CRUISE 201  
TO THE NORTHWEST PACIFIC OCEAN

IN MAY 2009

## 1. Cruise Itinerary

Cruise 201

|                                        |     |    |        |
|----------------------------------------|-----|----|--------|
| Departure from Hakodate                | May | 8  | , 2009 |
| Start hydrographic research (OS09042)  |     | 9  |        |
| Start Gillnet research (OSG0901)       |     | 11 |        |
| Finish Gillnet research (OSG0903)      |     | 14 |        |
| Finish hydrographic research (OS09059) |     | 16 |        |
| Return to Hakodate                     |     | 20 |        |

Total coverage 2239.0 miles

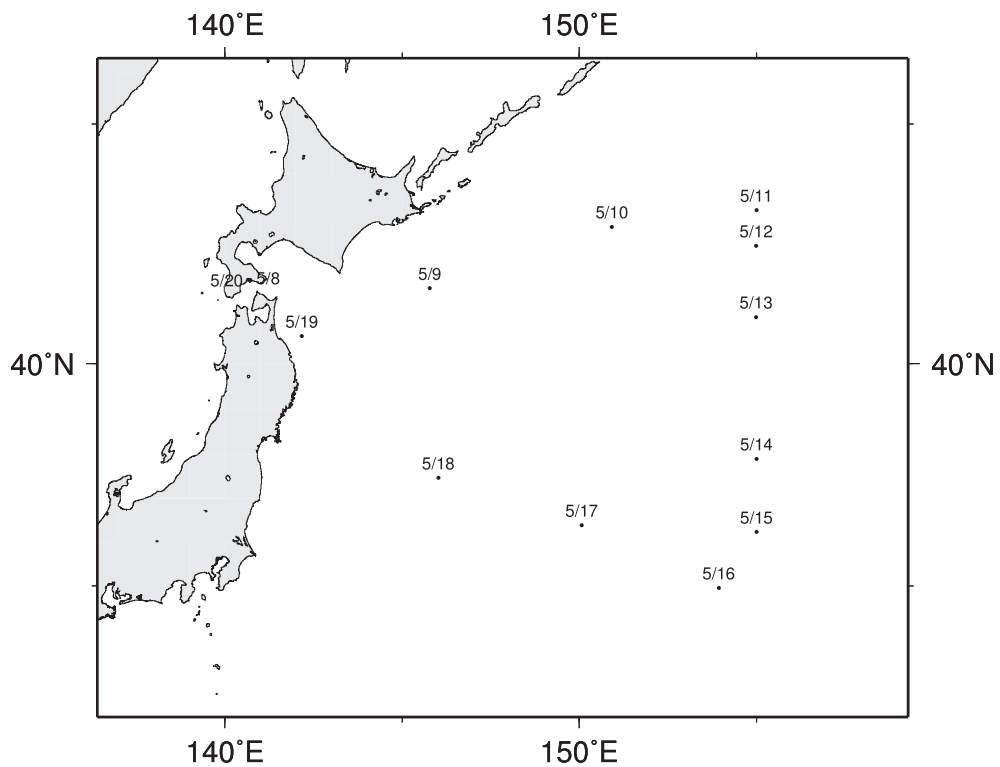


Figure 1: Noon position

## 2. Vessel Personnel

|          |                |                     |                   |
|----------|----------------|---------------------|-------------------|
| Captain: |                | Associate Professor | Shogo Takagi      |
| Crew :   | Chief Officer  | Instructor          | Yoshihiko Kamei   |
|          | Second Officer | Technical official  | Keiichiro Sakaoka |
|          | Third Officer  | Technical official  | Naoki Hoshi       |
|          | Chief Engineer | Instructor          | Jyunichi Kimura   |
|          | And 26 men     |                     |                   |

### Cruise 201

|                 |                         |                                                                                        |              |
|-----------------|-------------------------|----------------------------------------------------------------------------------------|--------------|
| Research Staff: | Associate Professor     | (Laboratory of Strategic Studies on<br>Marine Bioresource Conservation and Management) | Hideaki Kudo |
|                 | Graduate Students       |                                                                                        | 2 persons    |
|                 | Teaching Assistant      |                                                                                        | 1 persons    |
|                 | Under Graduate Students |                                                                                        | 7 persons    |
|                 | Total                   |                                                                                        | 42 persons   |

## 3. Items of Research

|                                                                               |        |             |
|-------------------------------------------------------------------------------|--------|-------------|
| Hydrographic observations:                                                    | Fig. 2 | Table 1,2   |
| Biological research for fishes caught by non-selective drift gillnets:        | Fig. 3 | Table 3-7   |
| Salmon hook-and-line research:                                                | Fig. 4 | Table 8,9   |
| Plankton sampling collected by vertical hauls with single or twin NORPAC net: | Fig. 2 | Table 10,11 |

#### 4. Data on Temperature, Salinity, and Computed Dynamic Depth Anomaly

Hydrographic work on deck and the data processing were made by the deck officers, crews, research staff and cadets of the “Oshoro Maru”.

Temperature and salinity were measured by CTD (Seabird SBE9Plus and SBE-19).

Dynamic computations were made using a desk-top computer aboard the “Oshoro Maru”.

Table 1: List of Oceanographic Stations

| Station | Lat.(*)  | Long.(*)  | Date | S.M.T | T.Z. | Depth | COL. | TR.  | S.S.T. | WR. | Remark      |
|---------|----------|-----------|------|-------|------|-------|------|------|--------|-----|-------------|
| OS09042 | 41-33.0N | 145-48.0E | 5/9  | 1440  | 9    | 6950  | 4    | 17   | 11.7   | b   | 9Plus-91588 |
| OS09043 | 44-00.0N | 155-00.0E | 5/11 | 0528  | 10   | 5298  | 6    | 9.9  | 4.8    | b   | 9Plus-91588 |
| OS09044 | 43-15.0N | 155-00.0E | 5/11 | 1044  | 10   | 5490  | 5    | 18.8 | 8      | bc  | 9Plus-91588 |
| OS09045 | 43-33.0N | 155-00.0E | 5/11 | 1526  | 10   | 5455  | 4    | 16.5 | 6.3    | bc  | 9Plus-91588 |
| OS09046 | 42-30.0N | 155-00.0E | 5/12 | 1055  | 10   | 5165  | 5    | 15.5 | 8      | o   | 9Plus-91588 |
| OS09047 | 41-46.3N | 154-58.3E | 5/12 | 1822  | 10   | 5515  | -    | -    | 8.1    | o   | 9Plus-91588 |
| OS09048 | 41-00.0N | 155-00.0E | 5/13 | 1006  | 10   | 5450  | 6    | 14.5 | 10.2   | o   | 9Plus-91588 |
| OS09049 | 40-15.0N | 155-00.0E | 5/13 | 1544  | 10   | 5550  | 5    | 11.1 | 10.2   | o   | 9Plus-91588 |
| OS09050 | 39-30.0N | 155-00.0E | 5/13 | 2129  | 10   | 5625  | -    | -    | 14.9   | o   | 9Plus-91588 |
| OS09051 | 38-45.0N | 155-00.0E | 5/14 | 0540  | 10   | 5770  | -    | -    | 15.8   | r   | XCTD2       |
| OS09052 | 38-00.0N | 155-00.0E | 5/14 | 1012  | 10   | 5975  | 5    | 12.5 | 14.5   | o   | 9Plus-91588 |
| OS09053 | 37-15.0N | 155-00.0E | 5/14 | 1523  | 10   | 5751  | 5    | 10   | 15.6   | r   | 9Plus-91588 |
| OS09054 | 37-06.6N | 155-00.0E | 5/14 | 1828  | 10   | 5800  | -    | -    | 15.6   | o   | 9Plus-91588 |
| OS09055 | 36-30.0N | 155-00.0E | 5/15 | 0851  | 10   | 5600  | 4    | 11.9 | 16.7   | r   | 9Plus-91588 |
| OS09056 | 35-45.0N | 155-00.0E | 5/15 | 1446  | 10   | 5235  | -    | -    | 16.4   | bc  | XCTD2       |
| OS09057 | 35-00.0N | 155-00.0E | 5/15 | 1900  | 10   | 5634  | -    | -    | 17     | bc  | XCTD2       |
| OS09058 | 34-17.0N | 155-00.0E | 5/16 | 0505  | 10   | 5794  | 3    | 20.5 | 19.3   | bc  | XCTD2       |
| OS09059 | 35-52.0N | 151-56.4E | 5/16 | 2212  | 10   | 6020  | -    | -    | 18.3   | b   | 9Plus-91588 |

(\*):Fixed position by Global Positioning system

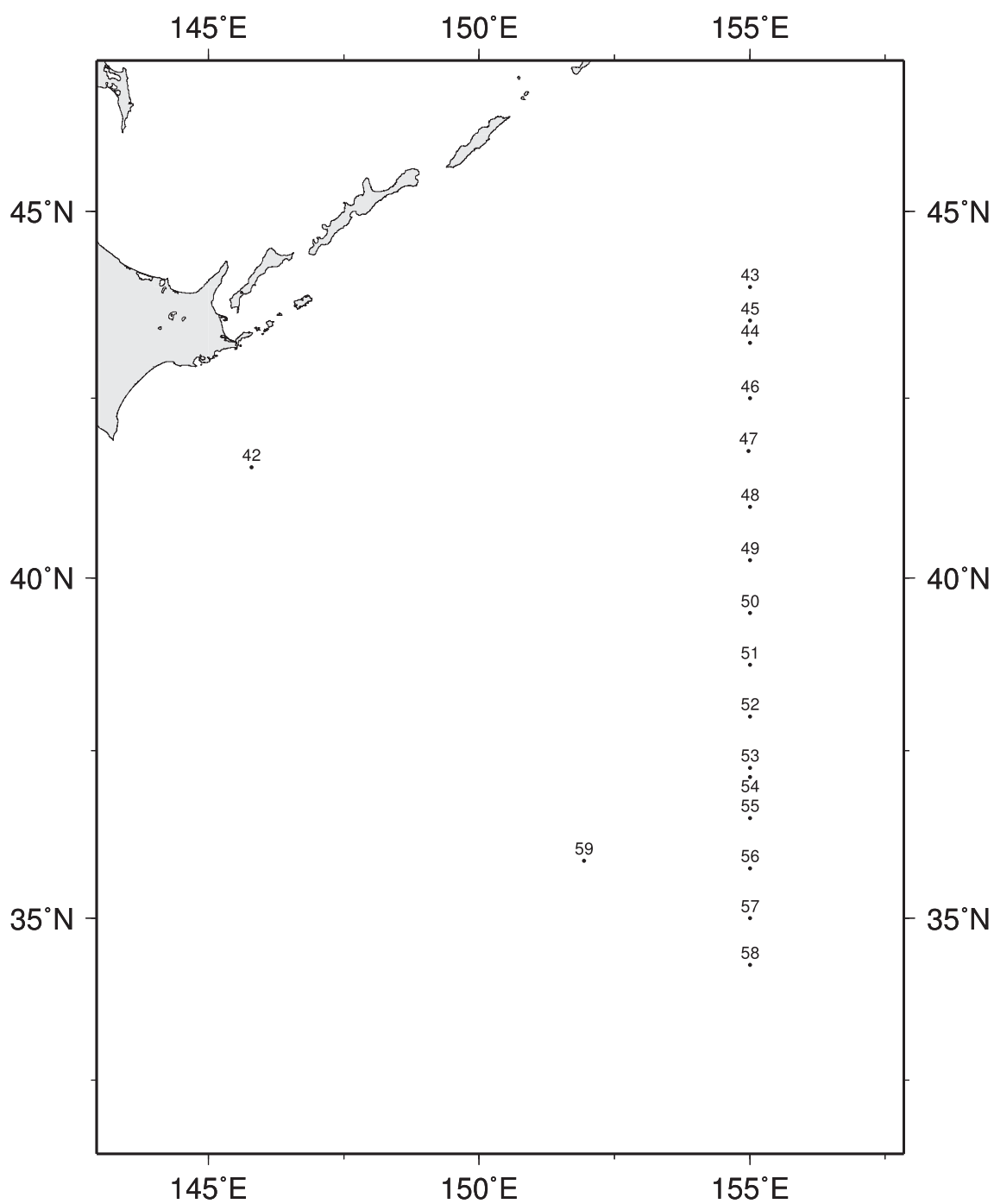


Figure 2: Oceanographic stations

Table 2: Oceanographic data

| Station   |        | OS09042   |        |
|-----------|--------|-----------|--------|
| Longitude |        | 41-33.0N  |        |
| Latitude  |        | 145-48.0E |        |
| Depth(m)  |        | 6950      |        |
| Press.    | Temp.  | Sal.      | SIG-T  |
| 5         | 11.320 | 34.251    | 26.135 |
| 10        | 11.214 | 34.240    | 26.145 |
| 20        | 10.962 | 34.199    | 26.159 |
| 30        | 9.674  | 34.022    | 26.243 |
| 40        | 9.655  | 34.086    | 26.296 |
| 50        | 9.553  | 34.080    | 26.309 |
| 75        | 9.253  | 34.043    | 26.329 |
| 100       | 9.103  | 34.028    | 26.341 |
| 125       | 7.407  | 33.827    | 26.438 |
| 150       | 6.014  | 33.675    | 26.504 |
| 200       | 5.799  | 33.688    | 26.541 |
| 250       | 5.024  | 33.657    | 26.608 |
| 300       | 3.543  | 33.530    | 26.662 |
| 400       | 3.162  | 33.629    | 26.776 |
| 500       | 3.870  | 33.861    | 26.893 |
| 600       | 3.703  | 33.974    | 27.000 |
| 700       | 3.410  | 34.060    | 27.097 |
| 800       | 3.248  | 34.150    | 27.183 |
| 900       | 3.156  | 34.253    | 27.274 |
| 1000      | 3.183  | 34.334    | 27.336 |
| 1200      | 2.757  | 34.407    | 27.433 |
| 1500      | 2.396  | 34.481    | 27.523 |

| Station   |       | OS09045   |        |
|-----------|-------|-----------|--------|
| Longitude |       | 43-33.0N  |        |
| Latitude  |       | 155-00.0E |        |
| Depth(m)  |       | 5455      |        |
| Press.    | Temp. | Sal.      | SIG-T  |
| 5         | 5.954 | 33.323    | 26.233 |
| 10        | 5.715 | 33.331    | 26.269 |
| 20        | 5.628 | 33.352    | 26.296 |
| 30        | 5.662 | 33.369    | 26.306 |
| 40        | 5.348 | 33.400    | 26.367 |
| 50        | 5.213 | 33.472    | 26.440 |
| 75        | 5.907 | 33.622    | 26.475 |
| 100       | 5.950 | 33.674    | 26.511 |
| 125       | 5.244 | 33.588    | 26.528 |
| 150       | 4.118 | 33.517    | 26.594 |
| 200       | 3.559 | 33.654    | 26.759 |
| 250       | 4.119 | 33.821    | 26.836 |
| 300       | 4.250 | 33.909    | 26.892 |
| 400       | 3.447 | 33.940    | 26.997 |
| 500       | 3.053 | 34.007    | 27.087 |
| 600       | 3.338 | 34.156    | 27.180 |
| 700       | 3.215 | 34.234    | 27.254 |
| 800       | 3.033 | 34.288    | 27.314 |
| 900       | 2.973 | 34.351    | 27.370 |
| 1000      | 2.768 | 34.385    | 27.415 |
| 1200      | 2.549 | 34.448    | 27.485 |
| 1500      | 2.224 | 34.513    | 27.563 |

| Station   |       | OS09043   |        |
|-----------|-------|-----------|--------|
| Longitude |       | 44-00.0N  |        |
| Latitude  |       | 155-00.0E |        |
| Depth(m)  |       | 5298      |        |
| Press.    | Temp. | Sal.      | SIG-T  |
| 5         | 4.887 | 33.251    | 26.301 |
| 10        | 4.856 | 33.250    | 26.304 |
| 20        | 4.229 | 33.261    | 26.379 |
| 30        | 4.187 | 33.333    | 26.441 |
| 40        | 4.254 | 33.348    | 26.447 |
| 50        | 4.319 | 33.366    | 26.454 |
| 75        | -     | -         | -      |
| 100       | 4.712 | 33.534    | 26.545 |
| 125       | -     | -         | -      |
| 150       | 3.116 | 33.553    | 26.720 |
| 200       | 3.786 | 33.736    | 26.802 |
| 250       | 2.964 | 33.717    | 26.864 |
| 300       | 3.063 | 33.803    | 26.924 |
| 400       | 3.697 | 34.026    | 27.042 |
| 500       | 3.101 | 34.048    | 27.116 |

| Station   |       | OS09044   |        |
|-----------|-------|-----------|--------|
| Longitude |       | 43-15.0N  |        |
| Latitude  |       | 155-00.0E |        |
| Depth(m)  |       | 5490      |        |
| Press.    | Temp. | Sal.      | SIG-T  |
| 5         | 7.996 | 33.836    | 26.361 |
| 10        | 7.947 | 33.833    | 26.365 |
| 20        | 7.846 | 33.833    | 26.380 |
| 30        | 7.792 | 33.841    | 26.394 |
| 40        | 7.331 | 33.848    | 26.466 |
| 50        | 7.130 | 33.840    | 26.487 |
| 75        | -     | -         | -      |
| 100       | 6.744 | 33.826    | 26.529 |
| 125       | -     | -         | -      |
| 150       | 6.384 | 33.826    | 26.576 |
| 200       | 5.014 | 33.776    | 26.703 |
| 250       | 4.401 | 33.792    | 26.784 |
| 300       | 4.230 | 33.863    | 26.858 |
| 400       | 4.130 | 34.008    | 26.984 |
| 500       | 3.929 | 34.102    | 27.079 |

| Station   |       | OS09046   |        |
|-----------|-------|-----------|--------|
| Longitude |       | 42-30.0N  |        |
| Latitude  |       | 155-00.0E |        |
| Depth(m)  |       | 5165      |        |
| Press.    | Temp. | Sal.      | SIG-T  |
| 5         | 7.900 | 33.815    | 26.358 |
| 10        | 7.847 | 33.815    | 26.366 |
| 20        | 7.805 | 33.815    | 26.372 |
| 30        | 7.444 | 33.806    | 26.417 |
| 40        | 6.668 | 33.822    | 26.536 |
| 50        | 6.649 | 33.824    | 26.539 |
| 75        | -     | -         | -      |
| 100       | 6.604 | 33.821    | 26.543 |
| 125       | -     | -         | -      |
| 150       | 6.528 | 33.824    | 26.556 |
| 200       | 6.313 | 33.823    | 26.583 |
| 250       | 5.856 | 33.808    | 26.628 |
| 300       | 4.676 | 33.769    | 26.736 |
| 400       | 4.165 | 33.888    | 26.884 |
| 500       | 3.984 | 34.007    | 26.998 |

| Station   |       | OS09047   |        |
|-----------|-------|-----------|--------|
| Longitude |       | 41-46.3N  |        |
| Latitude  |       | 154-58.3E |        |
| Depth(m)  |       | 5515      |        |
| Press.    | Temp. | Sal.      | SIG-T  |
| 5         | 7.954 | 33.747    | 26.297 |
| 10        | 7.955 | 33.751    | 26.300 |
| 20        | 7.544 | 33.719    | 26.334 |
| 30        | 6.799 | 33.671    | 26.399 |
| 40        | 6.311 | 33.641    | 26.440 |
| 50        | 6.558 | 33.770    | 26.509 |
| 75        | -     | -         | -      |
| 100       | 6.175 | 33.741    | 26.536 |
| 125       | -     | -         | -      |
| 150       | 6.107 | 33.744    | 26.547 |
| 200       | 5.824 | 33.774    | 26.606 |
| 250       | 4.686 | 33.785    | 26.747 |
| 300       | 4.181 | 33.791    | 26.806 |
| 400       | 3.991 | 33.919    | 26.927 |
| 500       | 3.951 | 34.056    | 27.041 |

| Station   |       | OS09048   |        |
|-----------|-------|-----------|--------|
| Longitude |       | 41-00.0N  |        |
| Latitude  |       | 155-00.0E |        |
| Depth(m)  |       | 5450      |        |
| Press.    | Temp. | Sal.      | SIG-T  |
| 5         | 9.894 | 34.053    | 26.231 |
| 10        | 9.874 | 34.054    | 26.235 |
| 20        | 9.843 | 34.053    | 26.239 |
| 30        | 9.324 | 34.012    | 26.292 |
| 40        | 9.104 | 34.038    | 26.348 |
| 50        | 8.575 | 33.991    | 26.395 |
| 75        | -     | -         | -      |
| 100       | 7.639 | 33.915    | 26.475 |
| 125       | -     | -         | -      |
| 150       | 6.668 | 33.842    | 26.552 |
| 200       | 5.936 | 33.826    | 26.633 |
| 250       | 4.858 | 33.798    | 26.738 |
| 300       | 4.510 | 33.864    | 26.829 |
| 400       | 3.923 | 33.937    | 26.949 |
| 500       | 3.765 | 34.055    | 27.058 |

| Station   |       | OS09049   |        |
|-----------|-------|-----------|--------|
| Longitude |       | 40-15.0N  |        |
| Latitude  |       | 155-00.0E |        |
| Depth(m)  |       | 5550      |        |
| Press.    | Temp. | Sal.      | SIG-T  |
| 5         | 9.952 | 33.988    | 26.171 |
| 10        | 9.928 | 33.989    | 26.175 |
| 20        | 9.760 | 34.005    | 26.215 |
| 30        | 9.142 | 34.003    | 26.315 |
| 40        | 8.628 | 34.008    | 26.400 |
| 50        | 8.564 | 34.009    | 26.410 |
| 75        | -     | -         | -      |
| 100       | 7.348 | 33.879    | 26.487 |
| 125       | -     | -         | -      |
| 150       | 6.502 | 33.849    | 26.579 |
| 200       | 4.907 | 33.774    | 26.714 |
| 250       | 4.364 | 33.809    | 26.801 |
| 300       | 4.326 | 33.865    | 26.849 |
| 400       | 4.191 | 33.987    | 26.960 |
| 500       | 3.903 | 34.073    | 27.059 |

| Station   |        | OS09050   |        |
|-----------|--------|-----------|--------|
| Longitude |        | 39-30.0N  |        |
| Latitude  |        | 155-00.0E |        |
| Depth(m)  |        | 5625      |        |
| Press.    | Temp.  | Sal.      | SIG-T  |
| 5         | 14.770 | 34.461    | 25.607 |
| 10        | 14.767 | 34.461    | 25.608 |
| 20        | 14.450 | 34.479    | 25.690 |
| 30        | 14.008 | 34.487    | 25.790 |
| 40        | 13.539 | 34.461    | 25.867 |
| 50        | 13.309 | 34.449    | 25.904 |
| 75        | -      | -         | -      |
| 100       | 11.057 | 34.239    | 26.173 |
| 125       | -      | -         | -      |
| 150       | 9.641  | 34.141    | 26.342 |
| 200       | 8.656  | 34.052    | 26.430 |
| 250       | 7.352  | 33.894    | 26.499 |
| 300       | 5.716  | 33.772    | 26.618 |
| 400       | 4.286  | 33.791    | 26.795 |
| 500       | 4.295  | 33.976    | 26.941 |

| Station   |        | OS09051   |        |
|-----------|--------|-----------|--------|
| Longitude |        | 38-45.0N  |        |
| Latitude  |        | 155-00.0E |        |
| Depth(m)  |        | 5770      |        |
| Press.    | Temp.  | Sal.      | SIG-T  |
| 5         | 15.796 | 34.475    | 25.391 |
| 10        | 15.805 | 34.496    | 25.405 |
| 20        | 15.796 | 34.508    | 25.416 |
| 30        | 14.989 | 34.491    | 25.583 |
| 40        | 14.625 | 34.494    | 25.664 |
| 50        | 14.373 | 34.487    | 25.713 |
| 75        | 13.920 | 34.452    | 25.781 |
| 100       | 13.222 | 34.442    | 25.917 |
| 125       | 12.605 | 34.385    | 25.995 |
| 150       | 11.693 | 34.302    | 26.105 |
| 200       | 10.167 | 34.158    | 26.266 |
| 250       | 9.350  | 34.160    | 26.404 |
| 300       | 8.200  | 34.071    | 26.515 |
| 400       | 5.814  | 33.941    | 26.739 |
| 500       | 4.667  | 33.969    | 26.895 |
| 600       | 4.370  | 34.094    | 27.027 |
| 700       | 4.052  | 34.739    | 27.573 |
| 800       | 3.683  | 34.415    | 27.353 |
| 900       | 3.417  | 34.501    | 27.448 |
| 1000      | 3.140  | 34.547    | 27.511 |
| 1200      | 2.776  | 34.631    | 27.611 |
| 1500      | 2.341  | 34.699    | 27.703 |

| Station   |        | OS09052   |        |
|-----------|--------|-----------|--------|
| Longitude |        | 38-00.0N  |        |
| Latitude  |        | 155-00.0E |        |
| Depth(m)  |        | 5975      |        |
| Press.    | Temp.  | Sal.      | SIG-T  |
| 5         | 14.534 | 34.387    | 25.601 |
| 10        | 14.550 | 34.401    | 25.608 |
| 20        | 14.485 | 34.435    | 25.649 |
| 30        | 13.039 | 34.321    | 25.859 |
| 40        | 11.363 | 34.247    | 26.124 |
| 50        | 10.840 | 34.218    | 26.196 |
| 75        | -      | -         | -      |
| 100       | 9.568  | 34.125    | 26.341 |
| 125       | -      | -         | -      |
| 150       | 8.781  | 34.045    | 26.405 |
| 200       | 8.099  | 33.965    | 26.446 |
| 250       | 7.208  | 33.902    | 26.525 |
| 300       | 6.121  | 33.866    | 26.642 |
| 400       | 4.264  | 33.808    | 26.811 |
| 500       | 4.437  | 34.003    | 26.947 |

| Station   |        | OS09053   |        |
|-----------|--------|-----------|--------|
| Longitude |        | 37-15.0N  |        |
| Latitude  |        | 155-00.0E |        |
| Depth(m)  |        | 5751      |        |
| Press.    | Temp.  | Sal.      | SIG-T  |
| 5         | 15.568 | 34.441    | 25.416 |
| 10        | 15.564 | 34.441    | 25.417 |
| 20        | 14.067 | 34.407    | 25.716 |
| 30        | 12.541 | 34.377    | 26.002 |
| 40        | 12.074 | 34.341    | 26.064 |
| 50        | 11.616 | 34.274    | 26.098 |
| 75        | -      | -         | -      |
| 100       | 10.519 | 34.231    | 26.263 |
| 125       | -      | -         | -      |
| 150       | 9.061  | 34.117    | 26.417 |
| 200       | 7.896  | 33.985    | 26.492 |
| 250       | 6.540  | 33.887    | 26.604 |
| 300       | 6.619  | 34.048    | 26.720 |
| 400       | 5.432  | 34.063    | 26.882 |
| 500       | 4.677  | 34.097    | 26.996 |

| Station   | OS09054   |        |        |
|-----------|-----------|--------|--------|
| Longitude | 37-06.6N  |        |        |
| Latitude  | 155-00.0E |        |        |
| Depth(m)  | 5800      |        |        |
| Press.    | Temp.     | Sal.   | SIG-T  |
| 5         | 15.820    | 34.470 | 25.382 |
| 10        | 15.807    | 34.471 | 25.385 |
| 20        | 15.681    | 34.471 | 25.414 |
| 30        | 15.223    | 34.466 | 25.512 |
| 40        | 13.685    | 34.446 | 25.825 |
| 50        | 13.459    | 34.438 | 25.866 |
| 75        | 12.670    | 34.379 | 25.978 |
| 100       | 11.938    | 34.337 | 26.086 |
| 125       | 11.313    | 34.287 | 26.164 |
| 150       | 10.713    | 34.239 | 26.235 |
| 200       | 8.873     | 34.087 | 26.424 |
| 250       | 6.896     | 33.885 | 26.555 |
| 300       | 6.626     | 33.991 | 26.674 |
| 400       | 4.929     | 33.952 | 26.852 |
| 500       | 4.948     | 34.090 | 26.960 |
| 600       | 4.454     | 34.164 | 27.074 |
| 700       | 4.131     | 34.240 | 27.168 |
| 800       | 3.799     | 34.309 | 27.257 |
| 900       | 3.390     | 34.336 | 27.318 |
| 1000      | 3.086     | 34.367 | 27.372 |
| 1200      | 2.750     | 34.430 | 27.453 |
| 1500      | 2.380     | 34.504 | 27.544 |

| Station   | OS09055   |        |        |
|-----------|-----------|--------|--------|
| Longitude | 36-30.0N  |        |        |
| Latitude  | 155-00.0E |        |        |
| Depth(m)  | 5600      |        |        |
| Press.    | Temp.     | Sal.   | SIG-T  |
| 5         | 16.662    | 34.522 | 25.228 |
| 10        | 16.657    | 34.523 | 25.230 |
| 20        | 16.635    | 34.522 | 25.234 |
| 30        | 16.617    | 34.521 | 25.238 |
| 40        | 15.636    | 34.515 | 25.458 |
| 50        | 15.301    | 34.503 | 25.523 |
| 75        | -         | -      | -      |
| 100       | 14.436    | 34.500 | 25.709 |
| 125       | -         | -      | -      |
| 150       | 13.981    | 34.470 | 25.782 |
| 200       | 13.037    | 34.406 | 25.925 |
| 250       | 11.671    | 34.313 | 26.118 |
| 300       | 9.765     | 34.135 | 26.317 |
| 400       | 8.243     | 34.017 | 26.466 |
| 500       | 5.772     | 33.961 | 26.760 |

| Station   | OS09056   |        |        |
|-----------|-----------|--------|--------|
| Longitude | 35-45.0N  |        |        |
| Latitude  | 155-00.0E |        |        |
| Depth(m)  | 5235      |        |        |
| Press.    | Temp.     | Sal.   | SIG-T  |
| 5         | 16.490    | 34.328 | 25.119 |
| 10        | 16.459    | 34.348 | 25.142 |
| 20        | 16.182    | 34.357 | 25.212 |
| 30        | 15.420    | 34.416 | 25.430 |
| 40        | 14.899    | 34.415 | 25.544 |
| 50        | 14.721    | 34.408 | 25.577 |
| 75        | 14.365    | 34.427 | 25.668 |
| 100       | 14.085    | 34.414 | 25.717 |
| 125       | 13.885    | 34.410 | 25.756 |
| 150       | 13.589    | 34.399 | 25.809 |
| 200       | 12.690    | 34.355 | 25.955 |
| 250       | 11.234    | 34.247 | 26.147 |
| 300       | 10.212    | 34.190 | 26.284 |
| 400       | 7.507     | 33.996 | 26.557 |
| 500       | 5.525     | 33.979 | 26.804 |
| 600       | 4.848     | 34.057 | 26.945 |
| 700       | 4.393     | 34.147 | 27.066 |
| 800       | 3.945     | 34.243 | 27.190 |
| 900       | 3.565     | 34.312 | 27.283 |
| 1000      | 3.274     | 34.366 | 27.354 |
| 1200      | 2.820     | 34.442 | 27.456 |
| 1500      | 2.343     | 34.523 | 27.562 |

| Station   | OS09057   |        |        |
|-----------|-----------|--------|--------|
| Longitude | 35-00.0N  |        |        |
| Latitude  | 155-00.0E |        |        |
| Depth(m)  | 5634      |        |        |
| Press.    | Temp.     | Sal.   | SIG-T  |
| 5         | 17.046    | 34.335 | 24.994 |
| 10        | 16.942    | 34.347 | 25.028 |
| 20        | 16.806    | 34.349 | 25.061 |
| 30        | 16.537    | 34.342 | 25.119 |
| 40        | 15.621    | 34.358 | 25.340 |
| 50        | 14.875    | 34.366 | 25.511 |
| 75        | 13.303    | 34.376 | 25.849 |
| 100       | 12.357    | 34.309 | 25.985 |
| 125       | 11.437    | 34.256 | 26.117 |
| 150       | 10.921    | 34.245 | 26.202 |
| 200       | 9.634     | 34.154 | 26.353 |
| 250       | 8.238     | 34.051 | 26.493 |
| 300       | 7.086     | 34.018 | 26.634 |
| 400       | 5.124     | 33.949 | 26.828 |
| 500       | 4.728     | 34.067 | 26.966 |
| 600       | 4.247     | 34.166 | 27.097 |
| 700       | 3.886     | 34.241 | 27.194 |
| 800       | 3.538     | 34.315 | 27.288 |
| 900       | 3.265     | 34.374 | 27.361 |
| 1000      | 3.024     | 34.406 | 27.409 |
| 1200      | 2.599     | 34.481 | 27.506 |
| 1500      | 2.232     | 34.567 | 27.606 |

| Station   | OS09058   |        |        |
|-----------|-----------|--------|--------|
| Longitude | 34-17.0N  |        |        |
| Latitude  | 155-00.0E |        |        |
| Depth(m)  | 5794      |        |        |
| Press.    | Temp.     | Sal.   | SIG-T  |
| 5         | 19.629    | 34.619 | 24.569 |
| 10        | 19.639    | 34.633 | 24.577 |
| 20        | 19.613    | 34.637 | 24.587 |
| 30        | 19.592    | 34.643 | 24.597 |
| 40        | 18.864    | 34.651 | 24.790 |
| 50        | 18.572    | 34.660 | 24.871 |
| 75        | 17.900    | 34.640 | 25.022 |
| 100       | 16.448    | 34.569 | 25.314 |
| 125       | 15.674    | 34.588 | 25.505 |
| 150       | 14.732    | 34.532 | 25.670 |
| 200       | 13.228    | 34.419 | 25.898 |
| 250       | 11.765    | 34.337 | 26.119 |
| 300       | 10.033    | 34.239 | 26.352 |
| 400       | 5.638     | 33.779 | 26.633 |
| 500       | 5.874     | 34.096 | 26.854 |
| 600       | 4.506     | 34.089 | 27.008 |
| 700       | 4.138     | 34.192 | 27.129 |
| 800       | 3.719     | 34.267 | 27.232 |
| 900       | 3.428     | 34.335 | 27.314 |
| 1000      | 3.166     | 34.380 | 27.375 |
| 1200      | 2.732     | 34.458 | 27.476 |
| 1500      | 2.325     | 34.539 | 27.576 |

| Station   | OS09059   |        |        |
|-----------|-----------|--------|--------|
| Longitude | 35-52.0N  |        |        |
| Latitude  | 151-56.4E |        |        |
| Depth(m)  | 6020      |        |        |
| Press.    | Temp.     | Sal.   | SIG-T  |
| 5         | 18.413    | 34.614 | 24.875 |
| 10        | 18.413    | 34.615 | 24.876 |
| 20        | 18.303    | 34.603 | 24.894 |
| 30        | 18.181    | 34.598 | 24.920 |
| 40        | 18.080    | 34.694 | 25.019 |
| 50        | 17.756    | 34.696 | 25.100 |
| 75        | 17.114    | 34.693 | 25.253 |
| 100       | 16.221    | 34.631 | 25.414 |
| 125       | 15.353    | 34.607 | 25.591 |
| 150       | 14.307    | 34.538 | 25.766 |
| 200       | 13.140    | 34.477 | 25.960 |
| 250       | 12.389    | 34.391 | 26.042 |
| 300       | 11.082    | 34.251 | 26.178 |
| 400       | 7.397     | 33.939 | 26.528 |
| 500       | 5.383     | 33.843 | 26.714 |
| 600       | 4.953     | 34.008 | 26.894 |
| 700       | 4.531     | 34.121 | 27.031 |
| 800       | 4.077     | 34.212 | 27.152 |
| 900       | 3.728     | 34.281 | 27.242 |
| 1000      | 3.423     | 34.334 | 27.314 |
| 1200      | 2.982     | 34.426 | 27.429 |
| 1500      | 2.482     | 34.496 | 27.528 |

## 5. Data on drift gillnet research

Three gillnet researches were performed during this cruise. The operations were supervised by the captain, and were conducted by deck officers, crews and research staff.

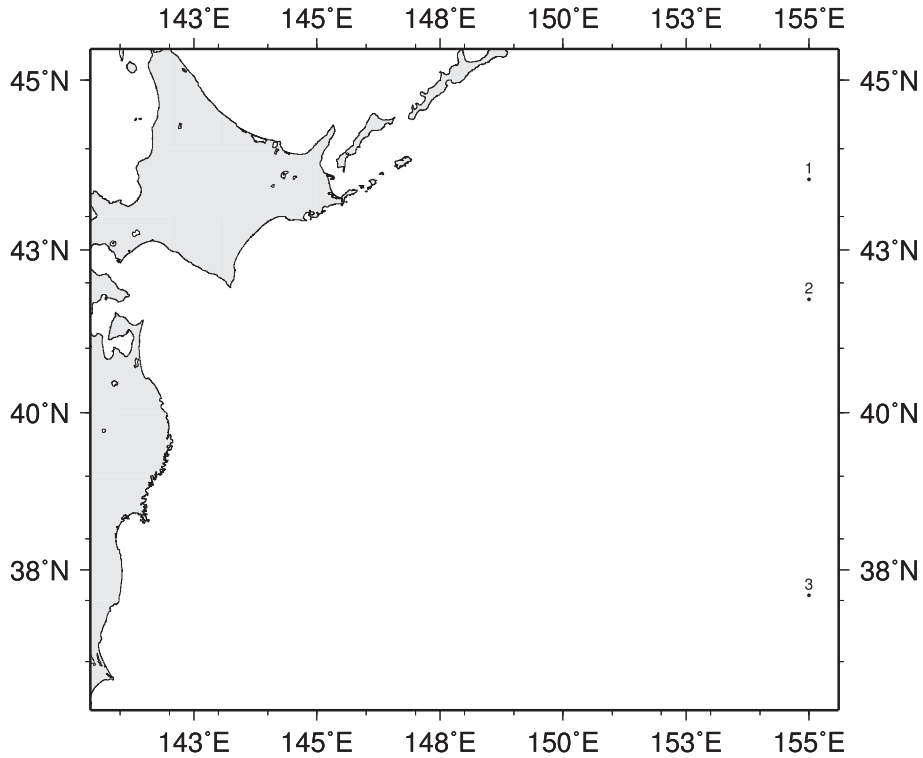


Figure 3: Locations of drift gillnet research

Table 3: Data on drift gillnet research

| No. of research | Date and Time (S.M.T.) |                  | T.D. | Position |              | Bottom D.D. | depth(m) | Wr | Wind    | S.T. (°C) | Tr (m) |
|-----------------|------------------------|------------------|------|----------|--------------|-------------|----------|----|---------|-----------|--------|
|                 | Net set                | Net haul         |      | Lat.(N)  | Long.        |             |          |    |         |           |        |
| OSG0901         | 11-May 1751-1814       | 12-May 0428-0514 | +10h | 43-33.1  | 155-00.0 (E) | 220         | 5450     | o  | North-2 | 6.3       | 16.5   |
| OSG0902         | 12-May 1751-1812       | 13-May 0424-0520 | +10h | 41-44.9  | 154-59.8 (E) | 335         | 5515     | c  | ESE-5   | 8.1       | -      |
| OSG0903         | 14-May 1755-1815       | 15-May 0424-0536 | +10h | 37-05.2  | 154-59.9 (E) | 340         | 5800     | c  | NE-6    | 15.1      | 10.0   |

T.D.: Time Difference between Greenwich Mean Time (G.M.T.) and S.M.T. D.D : Direction of Drift toward

Wr.: Weather ( o: 100% clouded, c: 75-99% clouded) S.T. : Surface temperature Tr : Transparency

Table 4: Nets composition

| No. of<br>research | Mesh size (mm) |    |    |    |    |    |     |     |     |     |     |     |     |     |    |    |    |    |    |    |    |    | Total |
|--------------------|----------------|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|-------|
|                    | 48             | 55 | 63 | 72 | 82 | 93 | 106 | 121 | 138 | 157 | 112 | 115 | 118 | 121 | 19 | 22 | 25 | 29 | 33 | 37 | 42 |    |       |
| OSG0901            | 3              | 3  | 3  | 3  | 3  | 3  | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 49 |       |
| OSG0902            | 3              | 3  | 3  | 3  | 3  | 3  | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 49 |       |
| OSG0903            | 3              | 3  | 3  | 3  | 3  | 3  | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 3   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 49 |       |

Table 5: Data on catch number of salmonids by drift gillnet research

## Sockeye (catch number)

| No. of<br>research | Mesh size (mm) |    |    |    |    |    |     |     |     |     |     |     |     |     |    |    |    |    |    |    |    |   | Total |
|--------------------|----------------|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|---|-------|
|                    | 48             | 55 | 63 | 72 | 82 | 93 | 106 | 121 | 138 | 157 | 112 | 115 | 118 | 121 | 19 | 22 | 25 | 29 | 33 | 37 | 42 |   |       |
| OSG0901            | 0              | 0  | 0  | 0  | 0  | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0 |       |
| OSG0902            | 0              | 0  | 0  | 0  | 0  | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0 |       |
| OSG0903            | 0              | 0  | 0  | 0  | 0  | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0 |       |

## Chum (catch number)

| No. of<br>research | Mesh size (mm) |    |    |    |    |    |     |     |     |     |     |     |     |     |    |    |    |    |    |    |    | Total |
|--------------------|----------------|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|-------|
|                    | 48             | 55 | 63 | 72 | 82 | 93 | 106 | 121 | 138 | 157 | 112 | 115 | 118 | 121 | 19 | 22 | 25 | 29 | 33 | 37 | 42 |       |
| OSG0901            | 0              | 0  | 1  | 0  | 1  | 4  | 14  | 8   | 0   | 0   | 7   | 7   | 2   | 10  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 54    |
| OSG0902            | 0              | 0  | 0  | 0  | 0  | 2  | 1   | 3   | 2   | 0   | 3   | 2   | 0   | 3   | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 16    |
| OSG0903            | 0              | 0  | 0  | 0  | 0  | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0     |

## Pink (catch number)

| No. of<br>research | Mesh size (mm) |    |    |    |     |     |     |     |     |     |     |     |     |     |    |    |    |    |    |    |    |     | Total |
|--------------------|----------------|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|-----|-------|
|                    | 48             | 55 | 63 | 72 | 82  | 93  | 106 | 121 | 138 | 157 | 112 | 115 | 118 | 121 | 19 | 22 | 25 | 29 | 33 | 37 | 42 |     |       |
| OSG0901            | 0              | 0  | 1  | 4  | 51  | 108 | 12  | 1   | 0   | 0   | 3   | 1   | 1   | 0   | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 182 |       |
| OSG0902            | 0              | 0  | 0  | 75 | 207 | 70  | 15  | 0   | 0   | 0   | 0   | 0   | 2   | 1   | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 370 |       |
| OSG0903            | 0              | 0  | 0  | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0   |       |

## Coho (catch number)

| No. of<br>research | Mesh size (mm) |    |    |    |    |    |     |     |     |     |     |     |     |     |    |    |    |    |    |    |    |   | Total |
|--------------------|----------------|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|---|-------|
|                    | 48             | 55 | 63 | 72 | 82 | 93 | 106 | 121 | 138 | 157 | 112 | 115 | 118 | 121 | 19 | 22 | 25 | 29 | 33 | 37 | 42 |   |       |
| OSG0901            | 0              | 0  | 0  | 0  | 0  | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0 |       |
| OSG0902            | 0              | 0  | 0  | 0  | 0  | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0 |       |
| OSG0903            | 0              | 0  | 0  | 0  | 0  | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0 |       |

## Chinook (catch number)

| No. of<br>research | Mesh size (mm) |    |    |    |    |    |     |     |     |     |     |     |     |     |    |    |    |    |    |    |    |   | Total |
|--------------------|----------------|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|---|-------|
|                    | 48             | 55 | 63 | 72 | 82 | 93 | 106 | 121 | 138 | 157 | 112 | 115 | 118 | 121 | 19 | 22 | 25 | 29 | 33 | 37 | 42 |   |       |
| OSG0901            | 0              | 0  | 0  | 0  | 0  | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0 |       |
| OSG0902            | 0              | 0  | 0  | 0  | 0  | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0 |       |
| OSG0903            | 0              | 0  | 0  | 0  | 0  | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0 |       |

## Steelhead (catch number)

| No. of<br>research | Mesh size (mm) |    |    |    |    |    |     |     |     |     |     |     |     |     |    |    |    |    |    |    |    |   | Total |
|--------------------|----------------|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|---|-------|
|                    | 48             | 55 | 63 | 72 | 82 | 93 | 106 | 121 | 138 | 157 | 112 | 115 | 118 | 121 | 19 | 22 | 25 | 29 | 33 | 37 | 42 |   |       |
| OSG0901            | 0              | 0  | 0  | 0  | 0  | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0 |       |
| OSG0902            | 0              | 0  | 0  | 0  | 0  | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0 |       |
| OSG0903            | 0              | 0  | 0  | 0  | 0  | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0 |       |

Table 6. Biological characteristics of salmonids caught by drift gillnet research

| CHUM SALMON |      |      |      |     |      |     |      |      |      |     |      |     |      |      |      |     |      |
|-------------|------|------|------|-----|------|-----|------|------|------|-----|------|-----|------|------|------|-----|------|
| St.         | Gear | F.L. | B.W. | Sex | G.W. | St. | Gear | F.L. | B.W. | Sex | G.W. | St. | Gear | F.L. | B.W. | Sex | G.W. |
|             | (mm) | (mm) | (gr) |     | (gr) |     | (mm) | (mm) | (gr) |     | (gr) |     | (mm) | (mm) | (gr) |     | (gr) |
| G01         | A112 | 520  | 1800 | M   | 3    | G01 | A121 | 517  | 1655 | M   | 2    | G01 | C121 | 510  | 1567 | F   | 37   |
| G01         | A112 | 579  | 2240 | F   | 20   | G01 | A121 | 562  | 2126 | M   | 2    | G01 | C121 | 600  | 2327 | F   | 22   |
| G01         | A112 | 522  | 1820 | M   | 4    | G01 | A121 | 536  | 1645 | M   | 1    | G01 | C121 | 511  | 1628 | F   | 37   |
| G01         | A112 | 483  | 1320 | F   | 25   | G01 | C063 | 471  | 1363 | M   | 2    | G01 | C121 | 524  | 1615 | F   | 21   |
| G01         | A112 | 496  | 1600 | F   | 32   | G01 | C082 | 525  | 1749 | F   | 52   | G01 | C121 | 579  | 2092 | F   | 53   |
| G01         | A112 | 510  | 1440 | F   | 17   | G01 | C093 | 522  | 1634 | F   | 21   | G01 | C121 | 522  | 1673 | M   | 2    |
| G01         | A112 | 496  | 1540 | M   | 2    | G01 | C093 | 508  | 1388 | F   | 15   | G01 | C121 | 519  | 1848 | M   | 5    |
| G01         | A115 | 541  | 1612 | M   | 1    | G01 | C093 | 528  | 1956 | M   | 10   | G02 | C093 | 504  | 1389 | F   | 12   |
| G01         | A115 | 509  | 1513 | F   | 16   | G01 | C093 | 502  | 1594 | M   | 3    | G02 | C093 | 530  | 1625 | F   | 25   |
| G01         | A115 | 525  | 1557 | M   | 2    | G01 | C106 | 506  | 1456 | M   | 4    | G02 | A112 | 599  | 2665 | F   | 33   |
| G01         | A115 | 520  | 1692 | M   | 3    | G01 | C106 | 458  | 1155 | F   | 14   | G02 | A112 | 496  | 1324 | F   | 26   |
| G01         | A115 | 524  | 1690 | M   | 3    | G01 | C106 |      |      | F   | 16   | G02 | A112 | 538  | 1616 | M   | 2    |
| G01         | A115 | 561  | 1873 | M   | 2    | G01 | C106 | 475  | 1520 | F   | 27   | G02 | A115 | 586  | 2380 | M   | 4    |
| G01         | A115 | 525  | 1803 | M   | 3    | G01 | C106 | 540  | 1707 | F   | 30   | G02 | A115 | 528  | 1670 | F   | 23   |
| G01         | A118 | 508  | 1960 | M   | 2    | G01 | C106 | 538  | 1782 | M   | 2    | G02 | A121 | 554  | 2069 | M   | 3    |
| G01         | A118 | 552  | 1800 | M   | 5    | G01 | C106 | 510  | 1660 | F   | 32   | G02 | A121 | 532  | 1988 | F   | 62   |
| G01         | A121 | 565  | 1988 | M   | 1    | G01 | C106 | 477  | 1276 | F   | 8    | G02 | A121 | 491  | 1457 | F   | 21   |
| G01         | A121 | 534  | 1814 | F   | 53   | G01 | C106 | 546  | 2012 | F   | 39   | G02 | C106 | 528  | 1625 | M   | 1    |
| G01         | A121 | 606  | 2442 | F   | 29   | G01 | C106 | 524  | 1615 | M   | 2    | G02 | C121 | 558  | 2343 | M   | 6    |
| G01         | A121 | 580  | 2229 | M   | 3    | G01 | C106 | 503  | 1635 | M   | 3    | G02 | C121 | 522  | 1643 | F   | 18   |
| G01         | A121 | 508  | 1416 | F   | 22   | G01 | C106 | 503  | 1724 | F   | 41   | G02 | C121 | 508  | 1583 | F   | 35   |
| G01         | A121 | 504  | 1578 | F   | 27   | G01 | C106 | 513  | 1638 | M   | 3    | G02 | C138 | 594  | 2356 | F   | 28   |
| G01         | A121 | 526  | 1758 | M   | 2    | G01 | C121 | 617  | 2646 | M   | 2    | G02 | C138 | 608  | 2558 | M   | 3    |
| PINK SALMON |      |      |      |     |      |     |      |      |      |     |      |     |      |      |      |     |      |
| St.         | Gear | F.L. | B.W. | Sex | G.W. | St. | Gear | F.L. | B.W. | Sex | G.W. | St. | Gear | F.L. | B.W. | Sex | G.W. |
|             | (mm) | (mm) | (gr) |     | (gr) |     | (mm) | (mm) | (gr) |     | (gr) |     | (mm) | (mm) | (gr) |     | (gr) |
| G01         | A112 | 482  | 1160 | M   | 6    | G01 | C082 | 395  | 680  | M   | 3    | G01 | C093 | 432  | 857  | M   | 4    |
| G01         | A112 | 452  | 1040 | M   | 6    | G01 | C082 | 423  | 848  | M   | 5    | G01 | C093 | 414  | 813  | M   | 1    |
| G01         | A112 | 492  | 1260 | M   | 8    | G01 | C082 | 433  | 848  | M   | 4    | G01 | C093 | 384  | 722  | M   | 2    |
| G01         | A118 | 474  | 1180 | M   | 5    | G01 | C082 | 386  | 717  | F   | 7    | G01 | C093 | 420  | 850  | M   | 1    |
| G01         | A121 | 488  | 1213 | M   | 2    | G01 | C082 | 395  | 710  | F   | 8    | G01 | C093 | 415  | 827  | M   | 2    |
| G01         | C063 | 402  | 840  | F   | 37   | G01 | C082 | 420  | 847  | M   | 2    | G01 | C093 | 425  | 898  | M   | 4    |
| G01         | C072 | 400  | 720  | M   | 4    | G01 | C082 | 426  | 895  | M   | 3    | G01 | C093 | 404  | 718  | F   | 11   |
| G01         | C072 | 398  | 790  | M   | 3    | G01 | C082 | 400  | 767  | M   | 1    | G01 | C093 | 395  | 731  | F   | 11   |
| G01         | C072 | 350  | 500  | M   | 2    | G01 | C082 | 404  | 755  | M   | 1    | G01 | C093 | 394  | 673  | M   | 2    |
| G01         | C072 | 396  | 700  | F   | 9    | G01 | C082 | 422  | 839  | M   | 2    | G01 | C093 | 398  | 757  | M   | 3    |
| G01         | C082 | 403  | 745  | M   | 3    | G01 | C082 | 390  | 695  | M   | 1    | G01 | C093 | 418  | 816  | M   | 2    |
| G01         | C082 | 383  | 632  | F   | 5    | G01 | C082 | 407  | 790  | M   | 2    | G01 | C093 | 402  | 758  | F   | 19   |
| G01         | C082 | 432  | 852  | F   | 10   | G01 | C082 | 423  | 853  | M   | 4    | G01 | C093 | 400  | 764  | F   | 10   |
| G01         | C082 | 390  | 678  | M   | 3    | G01 | C082 | 417  | 834  | F   | 14   | G01 | C093 | 402  | 744  | F   | 20   |
| G01         | C082 | 422  | 829  | M   | 1    | G01 | C082 | 384  | 682  | F   | 6    | G01 | C093 | 427  | 861  | M   | 3    |
| G01         | C082 | 401  | 741  | F   | 18   | G01 | C082 | 418  | 825  | M   | 3    | G01 | C093 | 400  | 751  | F   | 11   |
| G01         | C082 | 428  | 916  | M   | 4    | G01 | C082 | 439  | 861  | M   | 2    | G01 | C093 | 388  | 709  | F   | 12   |
| G01         | C082 | 396  | 685  | M   | 2    | G01 | C093 | 438  | 894  | M   | 4    | G01 | C093 | 385  | 680  | F   | 7    |
| G01         | C082 | 397  | 760  | F   | 14   | G01 | C093 | 398  | 745  | M   | 2    | G01 | C093 | 411  | 846  | F   | 9    |
| G01         | C082 | 408  | 816  | M   | 2    | G01 | C093 | 422  | 903  | M   | 4    | G01 | C093 | 447  | 965  | M   | 3    |
| G01         | C082 | 393  | 713  | M   | 3    | G01 | C093 | 392  | 742  | F   | 8    | G01 | C093 | 426  | 903  | M   | 1    |
| G01         | C082 | 385  | 633  | F   | 6    | G01 | C093 | 462  | 1158 | M   | 4    | G01 | C093 | 396  | 709  | F   | 7    |
| G01         | C082 | 379  | 673  | M   | 2    | G01 | C093 | 391  | 742  | M   | 1    | G01 | C093 | 389  | 746  | M   | 4    |
| G01         | C082 | 436  | 1077 | M   | 4    | G01 | C093 | 410  | 818  | M   | 1    | G01 | C093 | 429  | 907  | M   | 3    |
| G01         | C082 | 380  | 655  | M   | 4    | G01 | C093 | 452  | 977  | M   | 2    | G01 | C093 | 410  | 846  | M   | 4    |
| G01         | C082 | 394  | 725  | F   | 13   | G01 | C093 | 422  | 840  | M   | 3    | G01 | C093 | 431  | 922  | M   | 2    |
| G01         | C082 | 383  | 682  | F   | 8    | G01 | C093 | 403  | 863  | M   | 3    | G01 | C093 | 420  | 876  | M   | 2    |
| G01         | C082 | 400  | 724  | F   | 7    | G01 | C093 | 424  | 857  | M   | 2    | G01 | C093 | 418  | 825  | M   | 1    |
| G01         | C082 | 388  | 702  | F   | 18   | G01 | C093 | 406  | 804  | M   | 1    | G01 | C093 | 432  | 850  | F   | 7    |
| G01         | C082 | 381  | 611  | M   | 2    | G01 | C093 | 414  | 883  | M   | 2    | G01 | C093 | 431  | 934  | M   | 2    |
| G01         | C082 | 405  | 792  | M   | 3    | G01 | C093 | 402  | 779  | F   | 21   | G01 | C093 | 372  | 577  | F   | 5    |
| G01         | C082 | 414  | 817  | M   | 2    | G01 | C093 | 422  | 890  | M   | 2    | G01 | C093 | 412  | 814  | M   | 2    |
| G01         | C082 | 375  | 640  | F   | 8    | G01 | C093 | 394  | 738  | M   | 3    | G01 | C093 | 423  | 901  | M   | 3    |
| G01         | C082 | 388  | 665  | M   | 3    | G01 | C093 | 436  | 883  | M   | 2    | G01 | C093 | 434  | 953  | M   | 3    |
| G01         | C082 | 411  | 856  | M   | 2    | G01 | C093 | 398  | 665  | F   | 9    | G01 | C106 | 404  | 779  | F   | 16   |
| G01         | C082 | 390  | 639  | M   | 2    | G01 | C093 | 407  | 770  | M   | 3    | G01 | C106 | 435  | 960  | M   | 2    |
| G01         | C082 | 403  | 723  | F   | 9    | G01 | C093 | 400  | 735  | M   | 2    | G01 | C106 | 429  | 965  | M   | 7    |
| G01         | C082 | 408  | 814  | M   | 3    | G01 | C093 | 434  | 973  | M   | 3    | G01 | C106 | 395  | 769  | F   | 10   |
| G01         | C082 | 388  | 669  | F   | 6    | G01 | C093 | 422  | 800  | F   | 19   | G01 | C106 | 499  | 1005 | M   | 4    |
| G01         | C082 | 425  | 915  | M   | 2    | G01 | C093 | 419  | 815  | M   | 4    | G01 | C106 | 428  | 918  | M   | 1    |
| G01         | C082 | 401  | 737  | F   | 11   | G01 | C093 | 425  | 878  | F   | 12   | G01 | C106 | 445  | 1050 | M   | 5    |
| G01         | C082 | 421  | 871  | M   | 3    | G01 | C093 | 410  | 792  | M   | 3    | G01 | C106 | 442  | 974  | M   | 8    |

Table 6. Biological characteristics of salmonids caught by drift gillnet research (continued)

| PINK SALMON |      |      |      |     |      |     |      |      |      |     |      |     |      |      |      |     |      |
|-------------|------|------|------|-----|------|-----|------|------|------|-----|------|-----|------|------|------|-----|------|
| St.         | Gear | F.L. | B.W. | Sex | G.W. | St. | Gear | F.L. | B.W. | Sex | G.W. | St. | Gear | F.L. | B.W. | Sex | G.W. |
|             | (mm) | (mm) | (gr) |     | (gr) |     | (mm) | (mm) | (gr) |     | (gr) |     | (mm) | (mm) | (gr) |     | (gr) |
| G01         | C106 | 448  | 1035 | M   | 2    | G02 | C072 | 390  | 649  | F   | 7    | G02 | C093 | 392  | 718  | F   | 20   |
| G01         | C106 | 416  | 786  | M   | 1    | G02 | C082 | 418  | 857  | M   | 3    | G02 | C093 | 386  | 754  | M   | 2    |
| G01         | C106 | 441  | 902  | M   | 2    | G02 | C082 | 381  | 630  | F   | 8    | G02 | C093 | 408  | 819  | M   | 5    |
| G01         | C121 | 485  | 1407 | M   | 3    | G02 | C082 | 381  | 571  | M   | 3    | G02 | C093 | 426  | 936  | M   | 5    |
| G02         | A118 | 482  | 1250 | M   | 7    | G02 | C082 | 434  | 896  | M   | 4    | G02 | C093 | 394  | 763  | M   | 5    |
| G02         | A118 | 475  | 1180 | M   | 3    | G02 | C082 | 421  | 832  | F   | 12   | G02 | C093 | 400  | 750  | M   | 4    |
| G02         | A121 | 442  | 962  | M   | 3    | G02 | C082 | 378  | 617  | F   | 8    | G02 | C093 | 431  | 926  | F   | 20   |
| G02         | C072 | 394  | 706  | M   | 4    | G02 | C082 | 408  | 714  | F   | 42   | G02 | C093 | 436  | 925  | M   | 3    |
| G02         | C072 | 398  | 764  | F   | 13   | G02 | C082 | 421  | 844  | F   | 24   | G02 | C093 | 405  | 795  | F   | 18   |
| G02         | C072 | 414  | 821  | F   | 14   | G02 | C082 | 390  | 712  | F   | 13   | G02 | C093 | 401  | 765  | F   | 20   |
| G02         | C072 | 406  | 762  | F   | 15   | G02 | C082 | 394  | 688  | M   | 6    | G02 | C093 | 402  | 782  | M   | 4    |
| G02         | C072 | 392  | 661  | F   | 12   | G02 | C082 | 384  | 648  | F   | 13   | G02 | C093 | 392  | 775  | F   | 16   |
| G02         | C072 | 421  | 872  | M   | 7    | G02 | C082 | 368  | 535  | M   | 2    | G02 | C093 | 419  | 894  | M   | 5    |
| G02         | C072 | 391  | 665  | F   | 18   | G02 | C082 | 389  | 667  | F   | 9    | G02 | C093 | 390  | 749  | F   | 17   |
| G02         | C072 | 376  | 608  | F   | 7    | G02 | C082 | 419  | 735  | M   | 3    | G02 | C093 | 408  | 828  | M   | 4    |
| G02         | C072 | 385  | 693  | F   | 7    | G02 | C082 | 389  | 680  | F   | 5    | G02 | C093 | 397  | 753  | F   | 50   |
| G02         | C072 | 396  | 710  | F   | 9    | G02 | C082 | 382  | 674  | M   | 2    | G02 | C093 | 403  | 772  | M   | 4    |
| G02         | C072 | 381  | 624  | M   | 2    | G02 | C082 | 402  | 669  | M   | 2    | G02 | C093 | 406  | 788  | F   | 12   |
| G02         | C072 | 352  | 510  | M   | 1    | G02 | C082 | 401  | 672  | F   | 7    | G02 | C093 | 380  | 682  | M   | 3    |
| G02         | C072 | 401  | 700  | M   | 4    | G02 | C082 | 395  | 755  | F   | 12   | G02 | C093 | 451  | 999  | M   | 4    |
| G02         | C072 | 389  | 644  | M   | 2    | G02 | C082 | 409  | 775  | F   | 3    | G02 | C093 | 399  | 805  | F   | 23   |
| G02         | C072 | 395  | 731  | M   | 2    | G02 | C082 | 388  | 595  | F   | 7    | G02 | C093 | 444  | 976  |     |      |
| G02         | C072 | 382  | 677  | F   | 12   | G02 | C082 | 393  | 613  | F   | 7    | G02 | C093 | 393  | 770  | F   | 12   |
| G02         | C072 | 413  | 772  | F   | 14   | G02 | C082 | 382  | 585  | M   | 3    | G02 | C093 | 438  | 961  | M   | 5    |
| G02         | C072 | 353  | 422  | F   | 8    | G02 | C082 | 388  | 635  | F   | 12   | G02 | C093 | 388  | 682  | M   | 7    |
| G02         | C072 | 399  | 722  | F   | 7    | G02 | C082 | 362  | 497  | F   | 8    | G02 | C093 | 408  | 808  | M   | 5    |
| G02         | C072 | 394  | 657  | M   | 3    | G02 | C082 | 388  | 643  | M   | 3    | G02 | C093 | 406  | 774  | F   | 32   |
| G02         | C072 | 384  | 649  | F   | 4    | G02 | C082 | 380  | 620  | F   | 12   | G02 | C093 | 396  | 695  | F   | 11   |
| G02         | C072 | 388  | 673  | F   | 6    | G02 | C082 | 407  | 731  | F   | 8    | G02 | C093 | 418  | 842  | F   | 7    |
| G02         | C072 | 372  | 626  | M   | 4    | G02 | C082 | 365  | 640  | M   | 2    | G02 | C093 | 384  | 661  | F   | 13   |
| G02         | C072 | 353  | 477  | F   | 4    | G02 | C082 | 377  | 591  | M   | 4    | G02 | C093 | 444  | 935  | M   | 3    |
| G02         | C072 | 385  | 693  | M   | 5    | G02 | C082 | 394  | 680  | M   | 3    | G02 | C093 | 409  | 808  | M   | 5    |
| G02         | C072 | 394  | 686  | F   | 9    | G02 | C082 | 404  | 740  | M   | 1    | G02 | C093 | 402  | 792  | F   | 12   |
| G02         | C072 | 380  | 664  | F   | 11   | G02 | C082 | 423  | 800  | M   | 5    | G02 | C093 | 410  | 795  | F   | 13   |
| G02         | C072 | 386  | 654  | M   | 4    | G02 | C082 | 348  | 590  | M   | 3    | G02 | C093 | 371  | 593  | M   | 2    |
| G02         | C072 | 385  | 617  | F   | 9    | G02 | C082 | 390  | 700  | F   | 20   | G02 | C093 | 430  | 885  | M   | 4    |
| G02         | C072 | 371  | 574  | F   | 8    | G02 | C082 | 391  | 660  | F   | 12   | G02 | C093 | 374  | 668  | F   | 19   |
| G02         | C072 | 386  | 685  | F   | 12   | G02 | C082 | 387  | 750  | F   | 18   | G02 | C093 | 406  | 767  | F   | 17   |
| G02         | C072 | 426  | 873  | F   | 32   | G02 | C082 | 402  | 720  | M   | 2    | G02 | C093 | 412  | 806  | F   | 12   |
| G02         | C072 | 390  | 682  | M   | 2    | G02 | C082 | 384  | 680  | M   | 2    | G02 | C093 | 441  | 876  | M   | 3    |
| G02         | C072 | 389  | 707  | F   | 6    | G02 | C082 | 342  | 550  | M   | 1    | G02 | C093 | 408  | 816  | F   | 10   |
| G02         | C072 | 374  | 641  | F   | 6    | G02 | C082 | 392  | 670  | F   | 20   | G02 | C093 | 401  | 703  | F   | 20   |
| G02         | C072 | 426  | 782  | F   | 5    | G02 | C082 | 378  | 620  | F   | 12   | G02 | C093 | 426  | 856  | M   | 2    |
| G02         | C072 | 381  | 620  | M   | 2    | G02 | C082 | 393  | 731  | F   | 6    | G02 | C093 | 388  | 635  | M   | 3    |
| G02         | C072 | 376  | 584  | F   | 5    | G02 | C082 | 418  | 840  | M   | 3    | G02 | C093 | 390  | 598  | M   | 2    |
| G02         | C072 | 374  | 613  | F   | 5    | G02 | C082 | 415  | 812  | F   | 8    | G02 | C093 | 423  | 783  | F   | 18   |
| G02         | C072 | 388  | 653  | F   | 7    | G02 | C082 | 389  | 660  | F   | 18   | G02 | C093 | 466  | 1092 | M   | 3    |
| G02         | C072 | 403  | 717  | F   | 15   | G02 | C082 | 396  | 600  | M   | 2    | G02 | C093 | 390  | 696  | M   | 7    |
| G02         | C072 | 368  | 599  | F   | 6    | G02 | C082 | 424  | 870  | F   | 23   | G02 | C093 | 389  | 733  | F   | 15   |
| G02         | C072 | 384  | 651  | M   | 1    | G02 | C082 | 366  | 700  | F   | 5    | G02 | C093 | 427  | 901  | F   | 17   |
| G02         | C072 | 353  | 486  | F   | 5    | G02 | C082 | 390  | 700  | M   | 2    | G02 | C093 | 386  | 673  | M   | 9    |
| G02         | C072 | 378  | 644  | M   | 4    | G02 | C082 | 381  | 700  | F   | 15   | G02 | C093 | 400  | 708  | F   | 29   |
| G02         | C072 | 398  | 698  | M   | 7    | G02 | C082 | 407  | 670  | M   | 2    | G02 | C106 | 453  | 959  | M   | 5    |
| G02         | C072 | 393  | 662  | M   | 1    | G02 | C082 | 394  | 750  | F   | 21   | G02 | C106 | 451  | 1144 |     |      |
| G02         | C072 | 402  | 696  | M   | 3    | G02 | C082 | 394  | 780  | M   | 3    | G02 | C106 | 428  | 923  | F   | 38   |
| G02         | C072 | 382  | 621  | F   | 7    | G02 | C082 | 402  | 700  | M   | 2    | G02 | C106 | 438  | 963  | M   | 4    |
| G02         | C072 | 389  | 695  | M   | 4    | G02 | C082 | 429  | 850  | M   | 2    | G02 | C106 | 386  | 723  | M   | 10   |
| G02         | C072 | 410  | 801  | M   | 3    | G02 | C082 | 388  | 720  | M   | 3    | G02 | C106 | 431  | 887  | F   | 8    |
| G02         | C072 | 378  | 580  | M   | 1    | G02 | C082 | 393  | 700  | M   | 3    | G02 | C106 | 445  | 977  | M   | 5    |
| G02         | C072 | 390  | 662  | F   | 9    | G02 | C082 | 333  | 540  | M   | 2    | G02 | C106 | 400  | 771  | M   | 5    |
| G02         | C072 | 364  | 552  | M   | 3    | G02 | C082 | 394  | 710  | M   | 2    | G02 | C106 | 451  | 997  | F   | 26   |
| G02         | C072 | 396  | 721  | F   | 7    | G02 | C093 | 406  | 837  | M   | 7    | G02 | C106 | 422  | 866  | M   | 4    |
| G02         | C072 | 375  | 604  | M   | 2    | G02 | C093 | 438  | 996  | F   | 14   | G02 | C106 | 450  | 1087 | M   | 5    |
| G02         | C072 | 375  | 640  | M   | 1    | G02 | C093 | 396  | 837  | F   | 16   | G02 | C106 | 431  | 872  | M   | 2    |
| G02         | C072 | 389  | 630  | M   | 2    | G02 | C093 | 396  | 750  | M   | 6    | G02 | C106 | 419  | 932  | M   | 3    |
| G02         | C072 | 379  | 682  | M   | 3    | G02 | C093 | 407  | 817  | M   | 5    |     |      |      |      |     |      |

Table 7. Biological characteristics of fishes caught by drift gillnet

| NEON FLYING SQUID     |      |      |      |      |      |      |      |      |      |      |      |
|-----------------------|------|------|------|------|------|------|------|------|------|------|------|
| St.                   | Gear | M.L. | B.W. | St.  | Gear | M.L. | B.W. | St.  | Gear | M.L. | B.W. |
| (mm)                  | (mm) | (mm) | (gr) | (mm) | (mm) | (mm) | (gr) | (mm) | (mm) | (mm) | (gr) |
| G03                   | A121 | 374  | 1692 | G03  | C157 | 450  | 3000 |      |      |      |      |
| BOREAL CLUBHOOK SQUID |      |      |      |      |      |      |      |      |      |      |      |
| St.                   | Gear | M.L. | B.W. | St.  | Gear | M.L. | B.W. | St.  | Gear | M.L. | B.W. |
| (mm)                  | (mm) | (mm) | (gr) | (mm) | (mm) | (mm) | (gr) | (mm) | (mm) | (mm) | (gr) |
| G02                   | C072 |      |      | G03  | F19  | 76   | 14   | G03  | F33  | 128  | 52   |
| G02                   | C082 |      |      | G03  | F22  | 96   |      | G03  | F37  | 140  | 75   |
| G03                   | A112 | 142  | 64   | G03  | F29  | 130  | 52   |      |      |      |      |
| PACIFIC SAURY         |      |      |      |      |      |      |      |      |      |      |      |
| St.                   | Gear | F.L. | B.W. | St.  | Gear | F.L. | B.W. | St.  | Gear | F.L. | B.W. |
| (mm)                  | (mm) | (mm) | (gr) | (mm) | (mm) | (mm) | (gr) | (mm) | (mm) | (mm) | (gr) |
| G03                   | F19  | 175  | 20   | G03  | F22  | 186  | 23   | G03  | F25  | 190  | 26   |
| G03                   | F19  | 159  | 14   | G03  | F22  | 200  | 33   | G03  | F25  | 194  | 27   |
| G03                   | F19  | 153  | 13   | G03  | F22  | 197  | 31   | G03  | F25  | 202  | 41   |
| G03                   | F19  | 188  | 26   | G03  | F22  | 184  | 21   | G03  | F25  | 196  | 27   |
| G03                   | F19  | 146  | 12   | G03  | F22  | 183  | 21   | G03  | F25  | 200  | 28   |
| G03                   | F19  | 139  | 11   | G03  | F22  |      |      | G03  | F25  | 192  | 27   |
| G03                   | F19  | 200  | 32   | G03  | F22  | 166  | 14   | G03  | F25  | 204  | 32   |
| G03                   | F19  | 177  | 26   | G03  | F22  | 170  | 18   | G03  | F25  | 182  | 22   |
| G03                   | F19  | 167  | 17   | G03  | F22  | 178  | 21   | G03  | F25  | 197  | 24   |
| G03                   | F19  | 165  | 16   | G03  | F22  | 201  | 35   | G03  | F25  | 204  | 33   |
| G03                   | F19  | 193  | 23   | G03  | F22  | 177  | 20   | G03  | F25  | 206  | 33   |
| G03                   | F19  | 157  | 16   | G03  | F22  | 180  | 15   | G03  | F25  | 200  | 29   |
| G03                   | F19  | 184  | 22   | G03  | F22  | 188  | 30   | G03  | F25  | 204  | 35   |
| G03                   | F22  | 170  | 18   | G03  | F22  | 187  | 24   | G03  | F25  | 200  | 31   |
| G03                   | F22  | 182  | 26   | G03  | F22  | 160  | 11   | G03  | F25  | 220  | 39   |
| G03                   | F22  | 202  | 30   | G03  | F22  | 160  | 14   | G03  | F25  | 198  | 27   |
| G03                   | F22  | 167  | 21   | G03  | F22  | 198  | 29   | G03  | F25  | 203  | 33   |
| G03                   | F22  | 173  | 18   | G03  | F22  | 167  | 19   | G03  | F25  | 196  | 31   |
| G03                   | F22  | 171  | 20   | G03  | F22  | 180  | 18   | G03  | F25  | 214  | 38   |
| G03                   | F22  | 186  | 25   | G03  | F22  | 189  | 31   | G03  | F25  | 194  | 30   |
| G03                   | F22  | 187  | 17   | G03  | F22  | 190  | 28   | G03  | F25  | 202  | 31   |
| G03                   | F22  | 165  | 19   | G03  | F22  | 200  | 33   | G03  | F25  | 185  | 24   |
| G03                   | F22  | 182  | 22   | G03  | F22  | 180  | 24   | G03  | F25  | 194  | 27   |
| G03                   | F22  | 194  | 27   | G03  | F22  | 168  | 19   | G03  | F25  | 224  | 46   |
| G03                   | F22  | 170  | 17   | G03  | F22  | 172  | 17   | G03  | F25  | 185  | 19   |
| G03                   | F22  | 195  | 22   | G03  | F22  | 186  | 24   | G03  | F25  | 199  | 29   |
| G03                   | F22  | 190  | 25   | G03  | F22  | 170  | 19   | G03  | F25  | 193  | 28   |
| G03                   | F22  | 188  | 26   | G03  | F25  | 224  | 39   | G03  | F25  |      |      |
| G03                   | F22  | 188  | 24   | G03  | F25  | 188  | 25   | G03  | F25  | 196  | 29   |
| G03                   | F22  | 165  | 18   | G03  | F25  | 189  | 25   | G03  | F25  | 192  | 26   |
| G03                   | F22  | 174  | 17   | G03  | F25  | 208  | 3    | G03  | F25  | 200  | 30   |
| G03                   | F22  | 205  | 33   | G03  | F25  | 193  | 28   | G03  | F25  | 195  | 31   |
| G03                   | F22  | 186  | 26   | G03  | F25  | 205  | 32   | G03  | F29  | 168  | 17   |
| G03                   | F22  | 203  | 35   | G03  | F25  | 194  | 28   | G03  | F29  | 215  | 38   |
| G03                   | F22  | 194  | 24   | G03  | F25  | 190  | 28   | G03  | F29  | 224  | 42   |
| G03                   | F22  | 175  | 20   | G03  | F25  | 208  | 37   | G03  | F29  | 220  | 45   |
| G03                   | F22  | 182  | 24   | G03  | F25  | 194  | 28   | G03  | F29  | 206  | 35   |
| G03                   | F22  | 195  | 30   | G03  | F25  | 205  | 26   | G03  | F29  | 302  | 81   |
| G03                   | F22  | 167  | 21   | G03  | F25  | 200  | 28   | G03  | F29  | 224  | 43   |
| G03                   | F22  | 173  | 10   | G03  | F25  | 182  | 22   | G03  | F29  | 228  | 46   |
| G03                   | F22  | 184  | 24   | G03  | F25  | 189  | 26   | G03  | F29  | 238  | 47   |
| G03                   | F22  | 182  | 22   | G03  | F25  | 192  | 23   | G03  | F29  |      |      |
| G03                   | F22  | 175  | 21   | G03  | F25  | 198  | 29   | G03  | F33  | 246  | 56.3 |
| G03                   | F22  | 183  | 22   | G03  | F25  | 206  | 33   | G03  | F33  | 135  | 54.3 |
| G03                   | F22  | 169  | 18   | G03  | F25  | 188  | 25   | G03  | F37  | 310  |      |
| G03                   | F22  | 178  | 20   | G03  | F25  | 205  | 33   | G03  | F37  | 273  | 75   |
| PACIFIC POMFRET       |      |      |      |      |      |      |      |      |      |      |      |
| St.                   | Gear | F.L. | B.W. | St.  | Gear | F.L. | B.W. | St.  | Gear | F.L. | B.W. |
| (mm)                  | (mm) | (mm) | (gr) | (mm) | (mm) | (mm) | (gr) | (mm) | (mm) | (mm) | (gr) |
| G03                   | A112 | 498  | 1359 | G03  | A118 | 408  | 1250 | G03  | A121 | 430  | 1479 |
| G03                   | A112 | 425  | 1965 | G03  | A118 | 416  | 1430 | G03  | A121 | 442  | 1383 |
| G03                   | A112 | 441  | 5482 | G03  | A118 | 452  | 1500 | G03  | A121 | 430  | 1505 |
| G03                   | A115 | 444  | 1484 | G03  | A118 | 422  | 1370 | G03  | C106 | 436  | 1688 |
| G03                   | A115 | 424  | 1369 | G03  | A121 | 436  | 1563 | G03  | C106 | 452  | 1796 |
| G03                   | A115 | 450  | 1606 | G03  | A121 | 430  | 1411 | G03  | C121 | 450  | 1491 |
| G03                   | A115 | 395  | 1227 | G03  | A121 | 442  | 1600 | G03  | C121 | 443  | 1355 |
| G03                   | A118 | 428  | 1210 | G03  | A121 | 405  | 1086 | G03  | C121 | 455  | 1399 |

Table 7. Biological characteristics of fishes caught by drift gillnet (continued)

| PACIFIC POMFRET |              |              |              |     |              |              |              |     |              |              |              |
|-----------------|--------------|--------------|--------------|-----|--------------|--------------|--------------|-----|--------------|--------------|--------------|
| St.             | Gear<br>(mm) | F.L.<br>(mm) | B.W.<br>(gr) | St. | Gear<br>(mm) | F.L.<br>(mm) | B.W.<br>(gr) | St. | Gear<br>(mm) | F.L.<br>(mm) | B.W.<br>(gr) |
| G03             | C121         | 413          | 1470         | G03 | C138         | 450          | 1518         | G03 | C157         | 482          | 2035         |
| G03             | C121         | 429          | 1306         | G03 | C138         | 418          | 1428         | G03 | C157         | 390          | 996          |
| G03             | C121         | 439          | 1308         | G03 | C138         | 440          | 1405         | G03 | C157         | 400          | 1164         |
| G03             | C138         | 435          | 1441         | G03 | C138         | 435          | 1350         | G03 | C157         | 404          | 1101         |
| G03             | C138         | 438          | 1467         | G03 | C157         | 384          | 948          | G03 | C157         | 436          | 1575         |
| G03             | C138         | 453          | 1623         | G03 | C157         | 437          | 1391         | G03 | C157         | 446          | 1466         |
| G03             | C138         | 455          | 1698         | G03 | C157         | 420          | 1341         | G03 | C157         | 453          | 1668         |
| G03             | C138         | 450          | 1391         | G03 | C157         | 434          | 1548         | G03 | C157         | 445          | 1425         |
| G03             | C138         | 443          | 1519         | G03 | C157         | 430          | 1395         | G03 | C157         | 477          | 1677         |
| G03             | C138         | 423          | 1192         | G03 | C157         | 465          | 1770         | G03 | C157         | 440          | 1633         |
| G03             | C138         | 422          | 1235         | G03 | C157         | 440          | 1508         | G03 | C55          | 440          | 1558         |
| G03             | C138         | 440          | 1561         | G03 | C157         | 440          | 1394         | G03 | C55          | 155          | 66           |
| G03             | C138         | 464          | 1718         | G03 | C157         | 455          | 1719         | G03 | C55          | 154          | 70           |
| G03             | C138         | 430          | 1332         | G03 | C157         | 432          | 1533         | G03 | C55          | 150          | 61           |
| G03             | C138         | 425          | 1405         | G03 | C157         | 460          | 1484         | G03 | C63          | 148          | 57           |
| G03             | C138         | 413          | 1331         | G03 | C157         | 474          | 1751         | G03 | C72          | 450          | 1558         |
| G03             | C138         | 460          | 1706         | G03 | C157         | 430          | 1464         | G03 | C82          | 435          | 1501         |
| G03             | C138         | 413          | 1173         | G03 | C157         | 429          | 1204         | G03 | C82          | 440          | 1509         |
| G03             | C138         | 457          | 1586         | G03 | C157         | 466          | 1745         | G03 | F37          | 436          | 1400         |
|                 |              |              |              |     |              |              |              | G03 | F42          | 448          | 1403         |
| ALBACORE        |              |              |              |     |              |              |              |     |              |              |              |
| St.             | Gear<br>(mm) | F.L.<br>(mm) | B.W.<br>(gr) | St. | Gear<br>(mm) | F.L.<br>(mm) | B.W.<br>(gr) | St. | Gear<br>(mm) | F.L.<br>(mm) | B.W.<br>(gr) |
| G03             | A112         | 630          | 5482         | G03 | C106         | 610          | 4760         | G03 | C63          | 500          | 2612         |
| G03             | A121         | 485          | 2394         | G03 | C121         | 630          | 5590         | G03 | C72          | 618          | 5342         |
| G03             | C106         | 625          | 5544         | G03 | C138         | 495          | 2511         | G03 | C72          | 512          | 2900         |
| G03             | C106         | 618          | 4824         | G03 | C138         | 636          | 5250         | G03 | C72          | 500          | 2619         |
|                 |              |              |              |     |              |              |              | G03 | C72          | 698          | 6315         |

## 6. Salmon Hook-and-Line Research

To collect salmons, hook-and-line gears were used along 155°E line in the Central North Pacific during Cruise#201. Five to ten anglers were engaged in the work. These samplings were mainly conducted with observations when ship was under drifting.

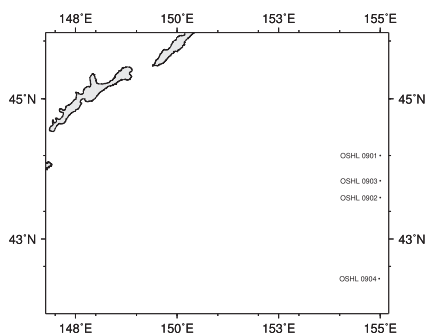


Figure 4: Locations of salmon hook-and-line research

Table 8: List of hook-and-line sampling (OSHL 09XX) station during the "Oshoro Maru" Cruise #201

| Station   | Date and Time (S.M.T.) |       |           |       |      | Set Position |           | D.S. | No. of hooks | Wr. | Wind (Force) | Oceanographic Station No. |
|-----------|------------------------|-------|-----------|-------|------|--------------|-----------|------|--------------|-----|--------------|---------------------------|
|           | Line set               |       | Line haul |       | T.D. | Lat.         | Long.     |      |              |     |              |                           |
| OSHL 0901 | 11-May                 | 05:45 | 11-May    | 06:45 | +10h | 44-00.0N     | 155-00.0E | -    | -            | b   | NNE-4        | OS 09043                  |
| OSHL 0902 | 11-May                 | 10:45 | 11-May    | 12:25 | +10h | 43-15.0N     | 155-00.0E | -    | -            | bc  | NNE-4        | OS 09044                  |
| OSHL 0903 | 11-May                 | 15:30 | 12-May    | 03:00 | +10h | 43-33.0N     | 155-00.0E | -    | -            | bc  | NNW-2        | OS 09045                  |
| OSHL 0904 | 12-May                 | 20:45 | 13-May    | 03:00 | +10h | 41-46.3N     | 154-58.3E | -    | -            | o   | ESE-5        | OS 09047                  |

S.M.T. : Ship's Mean Time T.D.: Time Difference between Greenwich Mean Time (G.M.T.) and S.M.T.

D.S. : Direction in which line was set Wr.: Weather ( o: 100% clouded, b: 0-25% clouded, bc: 25-75% clouded)

Table 9. Biological characteristics of salmonids caught by hook-and-line research

| CHUM SALMON |              |              |     |              |      |              |              |     |              |      |              |              |     |              |
|-------------|--------------|--------------|-----|--------------|------|--------------|--------------|-----|--------------|------|--------------|--------------|-----|--------------|
| St.         | F.L.<br>(mm) | B.W.<br>(gr) | Sex | G.W.<br>(gr) | St.  | F.L.<br>(mm) | B.W.<br>(gr) | Sex | G.W.<br>(gr) | St.  | F.L.<br>(mm) | B.W.<br>(gr) | Sex | G.W.<br>(gr) |
| HL03        | 472          | 1200         |     |              | HL03 | 482          | 1320         | F   | 30           | HL03 | 540          | 2150         | F   | 25           |
| HL03        | 528          | 1570         | F   | 25           | HL03 | 514          | 1600         | F   | 24           | HL03 | 558          | 2300         | M   | 9            |
| HL03        | 466          | 1100         | M   | 1            | HL03 | 506          | 1620         | F   | 25           | HL04 | 620          | 3500         | F   | 35           |
| HL03        | 605          | 2750         | F   | 37           | HL03 | 556          | 1960         | M   | 8            | HL04 | 539          | 1700         | M   | 4            |
| HL03        | 598          | 2500         | F   | 35           | HL03 | 612          | 3000         | M   | 7            |      |              |              |     |              |
| PINK SALMON |              |              |     |              |      |              |              |     |              |      |              |              |     |              |
| St.         | F.L.<br>(mm) | B.W.<br>(gr) | Sex | G.W.<br>(gr) | St.  | F.L.<br>(mm) | B.W.<br>(gr) | Sex | G.W.<br>(gr) | St.  | F.L.<br>(mm) | B.W.<br>(gr) | Sex | G.W.<br>(gr) |
| HL01        | 434          | 880          | F   | 28           | HL03 | 433          | 820          | M   | 10           | HL04 | 456          | 1000         |     |              |
| HL01        | 422          | 830          | M   | 2            | HL03 | 405          | 740          |     |              | HL04 | 400          | 680          |     |              |
| HL02        | 412          | 780          | M   | 5            | HL03 | 424          | 980          |     |              | HL04 | 437          | 860          |     |              |
| HL03        | 394          | 720          |     |              | HL03 | 407          | 720          | M   | 14           | HL04 | 424          | 820          |     |              |
| HL03        | 397          | 680          |     |              | HL03 | 423          | 920          | F   | 25           | HL04 | 398          | 620          |     |              |
| HL03        | 401          | 800          |     |              | HL03 | 378          | 580          | M   | 4            | HL04 | 441          | 960          |     |              |
| HL03        | 393          | 740          |     |              | HL03 | 406          | 780          | M   | 6            | HL04 | 422          | 820          |     |              |
| HL03        | 409          | 840          |     |              | HL03 | 424          | 820          | M   | 8            | HL04 | 408          | 780          |     |              |
| HL03        | 360          | 620          |     |              | HL03 | 418          | 810          | M   | 5            | HL04 | 414          | 800          |     |              |
| HL03        | 393          | 660          |     |              | HL03 | 410          | 760          |     |              | HL04 | 404          | 720          |     |              |
| HL03        | 406          | 900          |     |              | HL03 | 444          | 940          | M   | 10           | HL04 | 410          | 680          |     |              |
| HL03        | 403          | 780          |     |              | HL03 | 398          | 810          | F   | 17           | HL04 | 378          | 600          |     |              |
| HL03        | 392          | 720          |     |              | HL03 | 402          | 740          | M   | 10           | HL04 | 384          | 620          | F   | 7            |
| HL03        | 400          | 720          |     |              | HL03 | 390          | 680          | F   | 23           | HL04 | 348          | 490          | M   | 4            |
| HL03        | 417          | 960          |     |              | HL03 | 400          | 690          | M   | 5            | HL04 | 370          | 600          | M   | 3            |
| HL03        | 399          | 720          |     |              | HL03 | 413          | 700          | M   | 10           | HL04 | 420          | 770          | M   | 8            |
| HL03        | 418          | 940          |     |              | HL03 | 418          | 820          | M   | 7            | HL04 | 390          | 630          | F   | 8            |
| HL03        | 402          | 840          |     |              | HL03 | 390          | 660          | F   | 20           | HL04 | 392          | 640          |     |              |
| HL03        | 410          | 880          |     |              | HL03 | 382          | 640          | F   | 17           | HL04 | 417          | 830          | M   | 6            |
| HL03        | 415          | 980          |     |              | HL03 | 404          | 700          | M   | 6            | HL04 | 412          | 680          |     |              |
| HL03        | 400          | 680          |     |              | HL03 | 401          | 740          | F   | 12           | HL04 | 393          | 660          |     |              |
| HL03        | 396          | 720          |     |              | HL03 | 400          | 700          | F   | 15           | HL04 | 405          | 680          |     |              |
| HL03        | 410          | 800          |     |              | HL03 | 436          | 850          | M   | 8            | HL04 | 404          | 720          |     |              |
| HL03        | 390          | 720          |     |              | HL04 | 419          | 740          |     |              | HL04 | 398          | 720          |     |              |
| HL03        | 389          | 700          |     |              | HL04 | 426          | 840          |     |              | HL04 | 408          | 700          |     |              |
| HL03        | 399          | 740          |     |              | HL04 | 395          | 680          |     |              | HL04 | 442          | 820          |     |              |
| HL03        | 398          | 720          |     |              | HL04 | 395          | 670          | M   | 4            | HL04 | 412          | 800          | F   | 7            |
| HL03        | 410          | 800          |     |              | HL04 | 420          | 775          | F   | 25           | HL04 | 392          | 690          | F   | 10           |
| HL03        | 400          | 600          |     |              | HL04 | 410          | 805          | F   | 24           | HL04 | 402          | 660          | F   | 16           |
| HL03        | 408          | 800          | M   | 6            | HL04 | 398          | 720          | M   | 4            | HL04 | 402          | 720          | F   | 10           |
| HL03        | 429          | 1000         | F   | 14           | HL04 | 430          | 895          | F   | 13           | HL04 | 381          | 660          | F   | 1            |
| HL03        | 414          | 740          |     |              | HL04 | 421          | 840          |     |              | HL04 | 388          | 660          | F   | 2            |
| HL03        | 407          | 800          | M   | 6            | HL04 | 400          | 660          | F   | 10           | HL04 | 392          | 650          | M   | 5            |
| HL03        | 401          | 780          | M   | 7            | HL04 | 440          | 870          | F   | 15           | HL04 | 405          | 740          | F   | 5            |
| HL03        | 402          | 700          | M   | 8            | HL04 | 417          | 840          |     |              | HL04 | 375          | 550          | F   | 7            |
| HL03        | 403          | 720          | M   | 6            | HL04 | 400          | 720          |     |              | HL04 | 410          | 760          | F   | 5            |
| HL03        | 404          | 760          | F   | 16           | HL04 | 408          | 710          | M   | 7            | HL04 | 410          | 740          | F   | 7            |
| HL03        | 408          | 760          | M   | 10           | HL04 | 394          | 640          |     |              | HL04 | 420          | 870          | F   | 12           |
| HL03        | 412          | 840          | F   | 16           | HL04 | 400          | 760          |     |              | HL04 | 398          | 650          | F   | 14           |
| HL03        | 426          | 780          | M   | 8            | HL04 | 432          | 940          |     |              | HL04 | 380          | 680          | F   | 12           |
| HL03        | 416          | 740          | F   | 14           | HL04 | 471          | 1050         |     |              | HL04 | 383          | 620          | F   | 16           |
|             |              |              |     |              |      |              |              |     |              | HL04 | 397          | 660          | M   | 8            |

## 7. Data on plankton collected by vertical hauls with a single or twin NORPAC net

Vertical hauls with a twin-NORPAC net were made at hydrographic stations. This net was composed of 45 cm mouth diameter and 180 cm long conical one which was made of GG54 and XX13 having 0.33 mm and 0.10 mm mesh, respectively. The net was lowered to the estimated depth of 150 m, 500 m or near the bottom when the bottom depth was shallower than 150 m, and immediately hauled to the surface at a speed about 1 m s<sup>-1</sup>. A flowmeter was mounted at the center of mouth of the net to estimate the volume water filtered. Sampling was conducted by research staffs and measurement of wet weight of the samples were made by A. Yamaguchi, K. Ishii, K. Matsuno, R. Saito, K. Ohgi, Y. Onishi, T. Homma, R. Ohashi, C. Tsukazaki and K. Mishima (Laboratory of Marine Biology).

Table 10: Data on plankton collected by vertical hauls with a single or twin NORPAC net.

GG54:0.33mm mesh, XX13:0.10mm mesh.

| Station no.         | Position |          | S.M.T. |       | Length of wire (m) | Angle of wire (°) | Depth estimated by wire angle (m) | Kind of cloth | Flowmeter |         | Estimated volume of water filtered (m <sup>3</sup> ) | Wet weight (g) |                         | Sample no. |
|---------------------|----------|----------|--------|-------|--------------------|-------------------|-----------------------------------|---------------|-----------|---------|------------------------------------------------------|----------------|-------------------------|------------|
|                     | Lat. (N) | Lon.     | Date   | Hour  |                    |                   |                                   |               | No.       | Reading |                                                      | per haul       | per 1000 m <sup>3</sup> |            |
| OS09042<br>(site H) | 41-30    | 145-47 E | 9-May  | 13:53 | 150                | 1                 | 150                               | GG54          | 1852      | 1354    | 22.69                                                | 12.2           | 540                     | 09101      |
|                     |          |          |        |       |                    |                   |                                   | XX13          | 2555      | 1098    | 22.45                                                |                |                         | 09102      |
|                     |          |          |        | 14:04 | 500                | 1                 | 500                               | GG54          | 1852      | 4530    | 75.92                                                | 15.2           | 200                     | 3) 09103   |
|                     |          |          |        |       |                    |                   |                                   | XX13          | 2555      | 3198    | 65.38                                                |                |                         | 09104      |
| OS09043             | 44-00    | 155-00 E | 11-May | 6:37  | 150                | 1                 | 150                               | GG54          | 1852      | 1368    | 22.93                                                | 7.7            | 335                     | 09105      |
|                     |          |          |        |       |                    |                   |                                   | XX13          | 2555      | 1003    | 20.50                                                |                |                         | 09106      |
| OS09044             | 43-15    | 155-00 E | 11-May | 12:17 | 150                | 14                | 146                               | GG54          | 1852      | 1474    | 24.70                                                | 10.8           | 436                     | 09107      |
|                     |          |          |        |       |                    |                   |                                   | XX13          | 2555      | 1142    | 23.35                                                |                |                         | 09108      |
| OS09045             | 43-33    | 155-00 E | 11-May | 15:23 | 155                | 15                | 150                               | GG54          | 1852      | 1533    | 25.69                                                | 17.6           | 686                     | 3) 09109   |
|                     |          |          |        |       |                    |                   |                                   | XX13          | 2555      | 1178    | 24.08                                                |                |                         | 09110      |
| OS09046             | 42-30    | 155-00 E | 12-May | 12:16 | 158                | 18                | 150                               | GG54          | 1852      | 1688    | 28.29                                                | 7.9            | 280                     | 09111      |
|                     |          |          |        |       |                    |                   |                                   | XX13          | 2555      | 1303    | 26.64                                                |                |                         | 09112      |
| OS09047             | 41-47    | 154-57 E | 12-May | 19:33 | 162                | 22                | 150                               | GG54          | 1852      | 2015    | 33.77                                                | 29.1           | 863                     | 2) 09113   |
|                     |          |          |        |       |                    |                   |                                   | XX13          | 2555      | 1441    | 29.46                                                |                |                         | 09114      |
| OS09048             | 41-00    | 155-00 E | 13-May | 11:41 | 156                | 16                | 150                               | GG54          | 1852      | 1556    | 26.08                                                | 8.1            | 310                     | 09115      |
|                     |          |          |        |       |                    |                   |                                   | XX13          | 2555      | 1278    | 26.13                                                |                |                         | 09116      |
| OS09049             | 40-15    | 155-00 E | 13-May | 17:05 | 152                | 10                | 150                               | GG54          | 1852      | 1517    | 25.42                                                | 11.3           | 444                     | 09117      |
|                     |          |          |        |       |                    |                   |                                   | XX13          | 2555      | 1068    | 21.83                                                |                |                         | 09118      |
| OS09050             | 39-30    | 155-00 E | 13-May | 23:07 | 163                | 23                | 150                               | GG54          | 1852      | 1596    | 26.75                                                | 9.4            | 352                     | 1) 09119   |
|                     |          |          |        |       |                    |                   |                                   | XX13          | 2555      | 1070    | 21.87                                                |                |                         | 09120      |
| OS09052             | 38-00    | 155-00 E | 14-May | 11:17 | 150                | 4                 | 150                               | GG54          | 1852      | 1435    | 24.05                                                | 12.8           | 531                     | 1) 09121   |
|                     |          |          |        |       |                    |                   |                                   | XX13          | 2555      | 913     | 18.66                                                |                |                         | 09122      |
| OS09053             | 37-15    | 155-00 E | 14-May | 15:44 | 151                | 6                 | 150                               | GG54          | 1852      | 1481    | 24.82                                                | 15.9           | 640                     | 1) 09123   |
|                     |          |          |        |       |                    |                   |                                   | XX13          | 2555      | 1062    | 21.71                                                |                |                         | 09124      |
| OS09054             | 37-05    | 155-00 E | 14-May | 20:23 | 151                | 8                 | 150                               | GG54          | 1852      | 1501    | 25.16                                                | 28.4           | 1129                    | 1) 09125   |
|                     |          |          |        |       |                    |                   |                                   | XX13          | 2555      | 1006    | 20.57                                                |                |                         | 09126      |
| OS09055             | 36-30    | 155-00 E | 15-May | 10:23 | 150                | 2                 | 150                               | GG54          | 1852      | 1570    | 26.31                                                | 44.9           | 1706                    | 1) 09127   |
|                     |          |          |        |       |                    |                   |                                   | XX13          | 2555      | 1030    | 21.06                                                |                |                         | 09128      |
| OS09058             | 34-13    | 154-57 E | 16-May | 3:00  | 153                | 12                | 150                               | GG54          | 1852      | 1761    | 29.51                                                | 13.7           | 465                     | 09129      |
|                     |          |          |        |       |                    |                   |                                   | XX13          | 2555      | 1553    | 31.75                                                |                |                         | 09130      |

1) Exclusively phytoplankton

2) Including some fragments of medusae.

3) *Neocalanus* abundant.

4) Gelatinous zooplankton abundant.

5) *Salpida* abundant.

6) *Chaetognaths* abundant.

## 8. Data on calibration of flowmeters

Flowmeters used for plankton nets were calibrated once in the cruise.

Table 11. Calibration data on flowmeters used for a twin or single NORPAC net and other kind of nets. 100-m wire out at 35°48'N, 151°57'E in 16 May 2009.

| Flowmeter<br>No. | Wire length<br>(m) | Revolution |      |       |      |       |       | Mean |
|------------------|--------------------|------------|------|-------|------|-------|-------|------|
|                  |                    | 1          | 2    | 3     | 4    | 5     | 6     |      |
| RG1852           | 100                | 938        | 972* | 968   | 950  | 927*  | 940   | 949  |
| RG2555           | 100                | 778        | 778  | 780*  | 768* | 778   | 778   | 778  |
| RG2826           | 100                | 1020       | 1005 | 1095* | 1090 | 1004* | 1025  | 1035 |
| RG3023           | 100                | 1030       | 1027 | 1034  | 1019 | 951*  | 1035* | 1028 |
| RG3024           | 100                | 1010*      | 1036 | 1080* | 1078 | 1030  | 1048  | 1048 |

\*: omitted from calculation

