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DATA REPORT

HARVEST OF INTERTIDAL, NONFOOD INVERTEBRATES, 1974

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### INTRODUCTION

Persons desiring to harvest intertidal nonfood invertebrates in permit areas or in excess of personal use bag limits must obtain a collecting permit from the Oregon State Department of Fish and Wildlife and report the number of animals taken, by area.

This report summarizes the 1974 collecting reports. A general analysis of the data is followed by a separate analysis of index species such as sea anemones, shore crabs, sea stars and others to determine collecting trends.

### RESULTS AND DISCUSSION

The Department of Fish and Wildlife issued 260 intertidal nonfood invertebrate collecting permits in 1974 (Table 1), down 13% from 1973. Collecting reports were returned by 75% of the permittees and showed a harvest of 62,774 animals (Table 1), down 19% from 1973.

Table 1. Summary of Intertidal, Nonfood Invertebrate Collecting Permits Issued, Reports Returned and Harvest Reported from the Oregon Coast, 1974.

|                                       | <u>Number</u> | <u>Percentage</u> |
|---------------------------------------|---------------|-------------------|
| Educational permits                   | 254           | 98                |
| Commercial permits                    | 6             | 2                 |
| Total                                 | 260           | 100               |
| Number of collecting reports returned | 188           | 75                |
| Number of permits used                | 136           | 72                |
| Number of permits unused              | 52            | 28                |
| Educational harvest                   | 20,264        | 32                |
| Commercial harvest                    | 42,510        | 68                |
| Total                                 | 62,774        | 100               |

Miscellaneous species such as amphipods, isopods and barnacles made up 32% of the educational harvest. Marine worms, snails and sea urchins were also taken in larger numbers (Table 2). Commercial collectors concentrated on shore crabs and sea stars which accounted for 71% of the commercial harvest (Table 3).

The peak educational catch came from open areas on the Central Coast but 51% of the animals were miscellaneous species such as barnacles, amphipods and isopods. Sunset Bay-Cape Arago had the largest harvest among the permit areas (Table 2). As in the past, over 90% of the commercial take came from the Central Oregon Coast (Table 3).

Yaquina Head and the Central Coast were the most frequently visited areas (Table 4).

Index species collecting was up 12% among educational collectors, down 26% among commercial collectors for an overall decrease of 21% (Table 5). Educational collecting was 35% below the 11-year average and the commercial harvest was 5% above the 11-year average commercial take (Figures 1 and 2).

Table 2. Intertidal Nonfood Invertebrates Harvested by Educational Collectors Along the Oregon Coast, by Area and Taxonomic Group, 1974.

| Animal Group               | Haystack Rock | Boiler Bay   | Shell Cove (Depoe Bay) | Yaquina Head | Neptune State Park | Sunset Bay-Cape Arago | Harris Beach Permit Area | North Coast <sup>1/</sup> | Central Coast <sup>2/</sup> | South Coast <sup>3/</sup> | Total         | Percentage   |
|----------------------------|---------------|--------------|------------------------|--------------|--------------------|-----------------------|--------------------------|---------------------------|-----------------------------|---------------------------|---------------|--------------|
| <b>Coelenterata</b>        |               |              |                        |              |                    |                       |                          |                           |                             |                           |               |              |
| Sea anemones               | 0             | 138          | 0                      | 129          | 21                 | 534                   | 0                        | 1                         | 344                         | 7                         | 1,174         | 5.8          |
| <b>Annelida</b>            |               |              |                        |              |                    |                       |                          |                           |                             |                           |               |              |
| Marine worms               | 0             | 108          | 0                      | 165          | 55                 | 568                   | 0                        | 3                         | 2,047                       | 219                       | 3,165         | 15.6         |
| <b>Arthropoda</b>          |               |              |                        |              |                    |                       |                          |                           |                             |                           |               |              |
| Hermit & porcelain crabs   | 0             | 125          | 0                      | 422          | 18                 | 210                   | 0                        | 2                         | 309                         | 8                         | 1,094         | 5.4          |
| Ghost & mud shrimp         | 0             | 2            | 0                      | 8            | 0                  | 28                    | 0                        | 0                         | 259                         | 7                         | 304           | 1.5          |
| Shore, spider & kelp crabs | 0             | 61           | 0                      | 209          | 12                 | 330                   | 2                        | 2                         | 302                         | 16                        | 934           | 4.6          |
| <b>Mollusca</b>            |               |              |                        |              |                    |                       |                          |                           |                             |                           |               |              |
| Chitons                    | 0             | 76           | 0                      | 156          | 11                 | 132                   | 0                        | 2                         | 73                          | 16                        | 466           | 2.3          |
| Snails, limpets            | 0             | 309          | 0                      | 564          | 42                 | 876                   | 0                        | 8                         | 677                         | 21                        | 2,497         | 12.3         |
| Sea slugs                  | 0             | 16           | 0                      | 34           | 16                 | 135                   | 0                        | 0                         | 57                          | 1                         | 259           | 1.3          |
| <b>Echinodermata</b>       |               |              |                        |              |                    |                       |                          |                           |                             |                           |               |              |
| Sea stars                  | 0             | 72           | 0                      | 118          | 7                  | 168                   | 3                        | 1                         | 362                         | 8                         | 739           | 3.6          |
| Sea urchins                | 0             | 1,035        | 0                      | 375          | 3                  | 595                   | 7                        | 0                         | 96                          | 183                       | 2,294         | 11.3         |
| Sand dollars               | 0             | 3            | 0                      | 0            | 0                  | 250                   | 0                        | 0                         | 5                           | 200                       | 458           | 2.3          |
| Brittle stars              | 0             | 11           | 5                      | 21           | 0                  | 39                    | 0                        | 0                         | 14                          | 1                         | 91            | .5           |
| Sea cucumbers              | 0             | 9            | 0                      | 10           | 12                 | 65                    | 0                        | 0                         | 151                         | 41                        | 288           | 1.4          |
| Other groups               | 0             | 242          | 0                      | 675          | 60                 | 507                   | 1                        | 0                         | 4,999                       | 17                        | 6,501         | 32.1         |
| <b>Total</b>               | <b>0</b>      | <b>2,207</b> | <b>5</b>               | <b>2,886</b> | <b>257</b>         | <b>4,437</b>          | <b>13</b>                | <b>19</b>                 | <b>9,695</b>                | <b>745</b>                | <b>20,264</b> | <b>100.0</b> |
| <b>Percentage</b>          | <b>0.0</b>    | <b>10.9</b>  | <b>&lt;0.1</b>         | <b>14.2</b>  | <b>1.3</b>         | <b>21.9</b>           | <b>.1</b>                | <b>.1</b>                 | <b>47.8</b>                 | <b>3.7</b>                | <b>100.0</b>  |              |

- <sup>1/</sup> Columbia River to Tillamook Bay  
<sup>2/</sup> Tillamook Bay to Coos Bay  
<sup>3/</sup> Coos Bay to California border

**Table 3. Intertidal Nonfood Invertebrates Harvested by Commercial Collectors  
Along the Oregon Coast, by Area and Taxonomic Group, 1974.**

| Animal Group                 | Area           |                  |                | Total         | Percentage   |
|------------------------------|----------------|------------------|----------------|---------------|--------------|
|                              | North<br>Coast | Central<br>Coast | South<br>Coast |               |              |
| <b>Coelenterata</b>          |                |                  |                |               |              |
| Sea anemones                 | 0              | 0                | 0              | 0             | 0.0          |
| <b>Annelida</b>              |                |                  |                |               |              |
| Marine worms                 | 0              | 0                | 0              | 0             | 0.0          |
| <b>Arthropoda</b>            |                |                  |                |               |              |
| Hermit & porcelain crabs     | 0              | 3,000            | 0              | 3,000         | 7.1          |
| Shore, spider and kelp crabs | 0              | 21,400           | 0              | 21,400        | 50.3         |
| <b>Mollusca</b>              |                |                  |                |               |              |
| Chitons                      | 0              | 50               | 1,050          | 1,100         | 2.5          |
| Snails, limpets              | 0              | 3,000            | 0              | 3,000         | 7.1          |
| Sea slugs                    | 0              | 0                | 0              | 0             | 0.0          |
| <b>Echinodermata</b>         |                |                  |                |               |              |
| Sea stars                    | 0              | 9,000            | 90             | 9,090         | 21.0         |
| Sea urchins                  | 0              | 2,000            | 1,400          | 3,400         | 8.0          |
| Sand dollars                 | 0              | 0                | 0              | 0             | 0.0          |
| Brittle stars                | 0              | 0                | 0              | 0             | 0.0          |
| Sea cucumbers                | 0              | 0                | 20             | 20            | <0.1         |
| <b>Other groups</b>          | 0              | 1,500            | 0              | 1,500         | 4.0          |
| <b>Total</b>                 | <b>0</b>       | <b>39,950</b>    | <b>2,560</b>   | <b>42,510</b> | <b>100.0</b> |
| <b>Percentage</b>            | <b>0.0</b>     | <b>94.0</b>      | <b>6.0</b>     | <b>100.00</b> |              |

Table 4. Summary of Collecting Intensity by Area, Oregon Coast, 1974.

| Location                    | Permittees collecting in area | Percentage     |
|-----------------------------|-------------------------------|----------------|
| Yaquina Head                | 53                            | 32.8           |
| Sunset Bay - Cape Arago     | 29                            | 18.0           |
| Boiler Bay                  | 26                            | 16.2           |
| Neptune State Park          | 5                             | 3.1            |
| Harris Beach Permit area    | 2                             | 1.2            |
| Haystack Rock               | 0                             | 0.0            |
| Central Coast <sup>1/</sup> | 41                            | 25.4           |
| South Coast <sup>2/</sup>   | 5                             | 3.2            |
| North Coast <sup>3/</sup>   | <u>1</u>                      | <u>&lt;0.1</u> |
| Total                       | 162                           | 100.0          |

- <sup>1/</sup> Central Coast: Tillamook Bay to Coos Bay  
<sup>2/</sup> South Coast: Coos Bay to California border  
<sup>3/</sup> North Coast: Columbia River to Tillamook Bay

Table 5. Selected Groups of Intertidal Nonfood Invertebrates Harvested by Permit Holders Along the Oregon Coast, 1974.

| Animal Group               | Educational Catch |            | Commercial Catch |            | Total Catch |            |
|----------------------------|-------------------|------------|------------------|------------|-------------|------------|
|                            | Number            | Percentage | Number           | Percentage | Number      | Percentage |
| Coelenterata               |                   |            |                  |            |             |            |
| Sea anemones               | 1,174             | 11.9       | 0                | 0          | 1,174       | 2.3        |
| Arthropoda                 |                   |            |                  |            |             |            |
| Hermit & porcelain crabs   | 1,094             | 11.1       | 3,000            | 7.3        | 4,094       | 8.1        |
| Shore, spider & kelp crabs | 934               | 9.5        | 21,400           | 52.2       | 22,334      | 43.9       |
| Mollusca                   |                   |            |                  |            |             |            |
| Chitons                    | 466               | 4.7        | 1,100            | 2.7        | 1,566       | 3.1        |
| Snails, limpets            | 2,497             | 25.4       | 3,000            | 7.3        | 5,497       | 10.8       |
| Sea slugs                  | 259               | 2.7        | 0                | 0          | 259         | .5         |
| Echinodermata              |                   |            |                  |            |             |            |
| Sea stars                  | 739               | 7.5        | 9,090            | 22.2       | 9,829       | 19.3       |
| Sea urchins                | 2,294             | 23.4       | 3,400            | 8.3        | 5,694       | 11.2       |
| Brittle stars              | 91                | 0.9        | 0                | 0          | 91          | .2         |
| Sea cucumbers              | 288               | 2.9        | 20               | <0.1       | 308         | .6         |
| Total                      | 9,836             | 100.0      | 41,010           | 100.0      | 50,846      | 100.0      |
| Percent change from 1973   | +12%              |            | -26%             |            | -21%        |            |

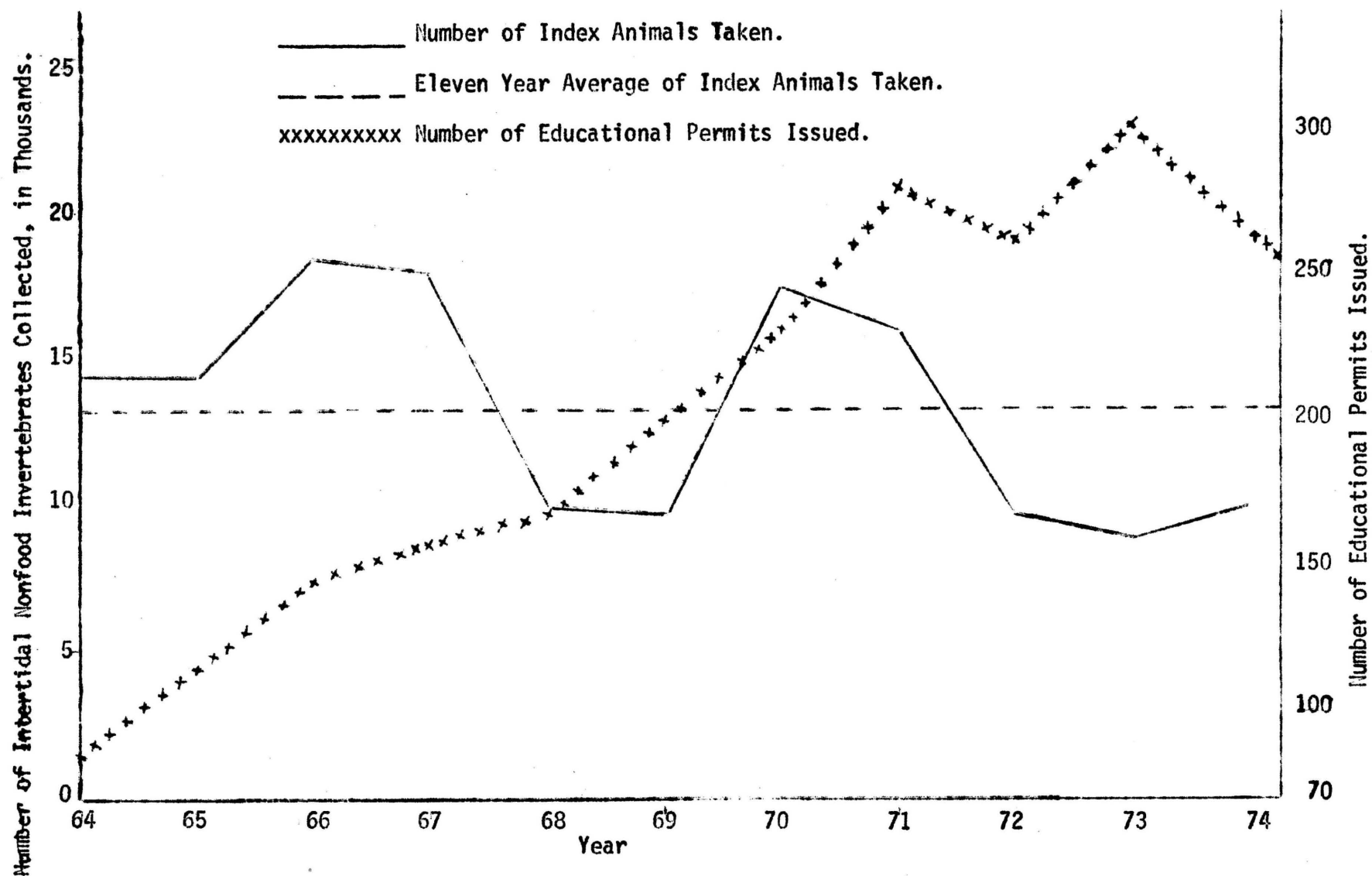


Figure 1. Number of Selected Invertebrates Harvested Along the Oregon Coast by Educational Permit Holders, 1964-1974.



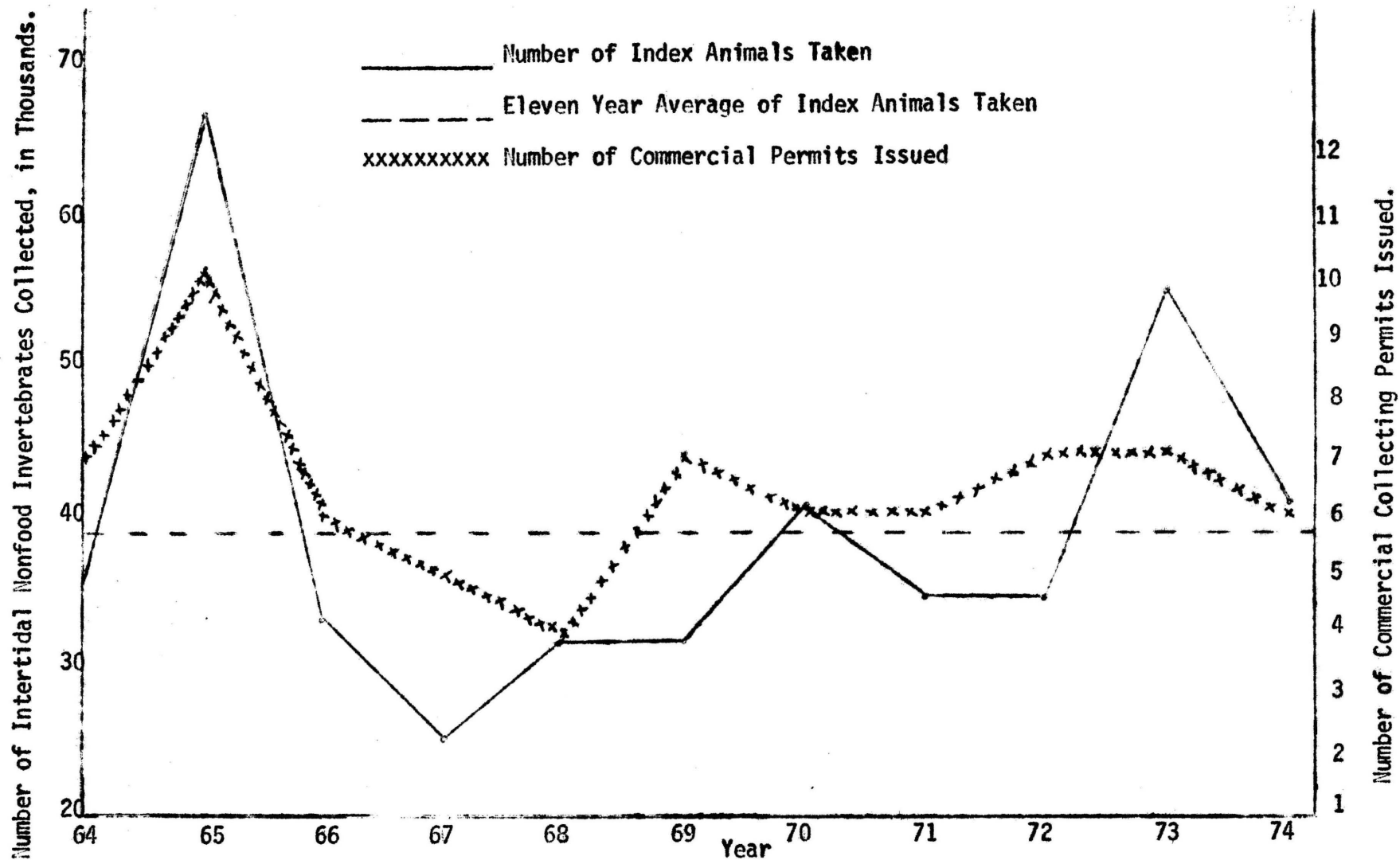


Figure 2. Number of Selected Invertebrates Harvested Along the Oregon Coast by Commercial Collectors, 1964-1974.