<table>
<thead>
<tr>
<th>Item Description</th>
<th>Quantity</th>
<th>Unit</th>
<th>Cost</th>
</tr>
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<tbody>
<tr>
<td>3 coils long line</td>
<td>75</td>
<td></td>
<td>13½</td>
</tr>
<tr>
<td>6 dfg 32 lb. codlines</td>
<td>192</td>
<td></td>
<td>39.40</td>
</tr>
<tr>
<td>6 &quot; 14&quot; &quot;</td>
<td>84</td>
<td></td>
<td>11.80</td>
</tr>
<tr>
<td>5 gross Hal. hooks</td>
<td>80</td>
<td></td>
<td>4.00</td>
</tr>
<tr>
<td>4 Halls decker</td>
<td>20</td>
<td></td>
<td>6.00</td>
</tr>
<tr>
<td>6 &quot; linen thread</td>
<td>115</td>
<td></td>
<td>6.90</td>
</tr>
<tr>
<td>4 good rubber</td>
<td></td>
<td></td>
<td>4.00</td>
</tr>
<tr>
<td>6 trail anchors</td>
<td></td>
<td></td>
<td>4.00</td>
</tr>
<tr>
<td>2 &quot; rollers</td>
<td></td>
<td></td>
<td>3.00</td>
</tr>
<tr>
<td>3 1/4&quot; knives</td>
<td></td>
<td></td>
<td>6.00</td>
</tr>
<tr>
<td>1 &quot; 1/2 Hal. stove</td>
<td></td>
<td></td>
<td>1.00</td>
</tr>
<tr>
<td>2 gal Stock Jan.</td>
<td></td>
<td></td>
<td>1.00</td>
</tr>
<tr>
<td>1/2 doz. 8&quot; bull bastard</td>
<td></td>
<td></td>
<td>1.63</td>
</tr>
<tr>
<td>#18 2 Barn Ball Frank Opinion</td>
<td></td>
<td></td>
<td>5.00</td>
</tr>
<tr>
<td>1 b Red sole boot (kid)</td>
<td></td>
<td></td>
<td>10.00</td>
</tr>
<tr>
<td>21 # 18 #11 Beach</td>
<td></td>
<td>10 @ 10</td>
<td>1.00</td>
</tr>
<tr>
<td>3 1/4&quot; shell</td>
<td></td>
<td>25</td>
<td>75</td>
</tr>
<tr>
<td>3 &quot; 1/2&quot; shells</td>
<td></td>
<td>35</td>
<td>1.05</td>
</tr>
<tr>
<td>1 gal ver. Jan.</td>
<td></td>
<td></td>
<td>2.50</td>
</tr>
</tbody>
</table>
Halibut good.

July 14. 2 Halibut 15 lbs. (stomach contents voided."
85 lbs. one goby small in stomach.
44 in wide."

July 24 (6) 60 " lobster, 1 role, lemon."
15 " lemon roll. (Glyptocephalus zachirius. L. 210)"

Aug 15 (12) one very long one, digested partially, digested 2 salmon.

Aug 16 9 sea anemones.

Sept 29 72 lbs. 852 " one hake, very digested on deck.

Aug 16 " 5 fish in stomach. 1 of them one.

May 28 1 fish, remainder of small decapod crustacean."
44 shell fragments, remains of small fish. 2 crabs.

May 28 1 hake, 5 16 lbs. 31"X10" young codfish in stomach.

May 29 1 hake 42 lbs. X14", few skeleton ribs + otoliths 2 crabs.

July 24 1 hake in stomach.

20 = skate or shark, digested 66."

July 21 skate in stomach.

July 24 stomach contents.

Aug 17 21 fish back from shark, hanging around.

(over)
Salmon: hale of the north-west of the logger. XII, 15. June
21-27 fms. ft.g.s. f.d.s. (0.83)

The stomach of the only fish examined contained one Sola (sh?) of 2 1/2 in., one Sola (sh?), one Engraulis Benlbardus, and two Portunus (sh?).

Todd, R.C.
July 28  65 lb. 48-16  
July 21 almost ripe?  85 lb. 4'6" 18" 
July 21  55 lb. 4'H.15"  
Rather than usual
Aug. 17  75 lb. 4'6 x 19" 
Eggs loose 
Aug. 17  80" 4'8 x 19"  
February ripe
Aug. 17  30 lb. 3'4 x 13"  
Large testa very large
July 16  55 lb. 4'2 x 15"  
Eggs very free

July 21.
July 21.
July 28.
Aug. 16.
Aug. 17.
Aug. 17.
H. 5734 The mall and arena

course

gravel

H. 5732 Several

nerles age of 1 inch

and inch thick of 1 inch
sand  quartz
might be glaucite,
which might be phanite when it comes out.
off hand fully half glaucite?
State?  organ nomen
silicon shade
made up of organisms.
5367 (v. 5386)
also different from 5377
also branching from scales
different kind of material, in the sand but small shift seems
to be of different construction
5271 see 5380
delve the last.
5376 sharon accom state
5377 (5403)

many organic remains

In addition to diatoms, several species, notably but organic remains

diatomaceous shale

rounded, rectangular, coarse and fine

meshed diatome
Department of Commerce

5-380

Smith Mineral Oil
Department of Commerce

5381 limestone (a2 5383)
like banded rock (5403)
5384 (a=5387)
5386 (different from 5377)

...longed spicules + stellae

nummular foraminifera dead

and broken tests

don't see any magnesia or

kev feldspary + quartz
5387 diatomaceous shale
slightly more sandy than 5376
quite a bit of mineral material
5390 (5395) (5393)
more earthly than above

393 (5395)
near 76 in character.
Department of Commerce

5395 mean 5376

darader.
Department of Commerce

5403 (5437) ree 5381
Department of Commerce

5426 (5564) (5561)

Salterine, see

volcanic, no volcanic glass

in it; strange sticlar, a

radiolarian.

(great many strange sticlar,

diatoms, more sand than mud.)
5437

same thing undecorated
doubtless mucinae
layers of shale + Ammonite
or else concretion
very little laminae
material
calcarenite ultimately
diagenesis increasingly occur in little laminae unaffected by acid (HCl)
54172 quartz clast
most minerals found in
columbia river
5521 at manor place
more like southern stuff
5544 more like Columbia River shift same minerals instruction about the same.
Department of Commerce

5561 soft blue sand
some general conditions of
5564 that in a way naturally
saturated
larger grains very small

larger grains very small

5 4 2 6
5564
Bkl. 2. in Columbia River
fragments of lava
coarse sand than 5426
very closely related
minerals as in Cascade Furn
mg. minerals
Alaska

Aug. 24 Seattle 80,000 @ 3 3/4¢

(Date of Alfie Edwards trip.)

in Readling Bros.
Aug. 14, 13,000, 3 skate sea. frozen herring, (first set)
15 15,000
16 15,000

Aug. 21, Seattle, 50,000 @ 3/4¢ (32,000 good fish)
Daisy

July 11 Newport, 19,000 @ $1/4, (3 days)  
July 13 caught 27,000 in 5 days, left for Seattle.  
July 14 = 3,000 lbs.  
Best day 7,000 lbs.

July 16 Seattle 30,000 @ $1/2, (5 days)  
July 24, S.W. of whistling buoy where we were on July 21  
July 30, in with 17,000, 5 days did lot of prospecting.  
Fished outside of 30f. ridge, 1,500 on 4 skates in one day  
others did not do so well.

July 30 Newport, 17,000 @ $1/2, (5 days)  
Aug 7, 11 miles S.W. Yaquina ht.

Aug 12 Seattle 40,000 @ $4/4, (3 days)  
Aug 12, trip, fished 3 day = 40,000.  
(27,000 good fish.

made one set, on way down for July 30 fish, under cute Schooner,  
took 4,000, good bottom, but fish all too small, chickens.
<table>
<thead>
<tr>
<th>Date</th>
<th>Location</th>
<th>Catch (lbs)</th>
<th>Price</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>May 18</td>
<td>Portland</td>
<td>4,500</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>May 28</td>
<td>&quot;</td>
<td>16,700</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>June 16</td>
<td>&quot;</td>
<td>26,800</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>July 6</td>
<td>&quot;</td>
<td>32,000</td>
<td>3/4</td>
<td></td>
</tr>
<tr>
<td>July 22</td>
<td>&quot;</td>
<td>21,000</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Aug 11</td>
<td>&quot;</td>
<td>14,000</td>
<td>3/4</td>
<td>(5 days)</td>
</tr>
<tr>
<td>Aug 22</td>
<td>Seattle</td>
<td>40,000</td>
<td>3</td>
<td>(4 days)</td>
</tr>
</tbody>
</table>

Portland catches returned by Decorah
v. Robert A. Reid, Secr. Portland Fish.
May 10, 4,500
July 6, 32,500

June 16, 22,800
Aug 10, 14,000

July 13, used wagon hemmings Rabake to dry
72 cases avg. 5.35 tons.
Long net = 6,000 lbs. [W 2/3 N, 6 miles Yaquina.]

July 14, 1,500 to dry Rabake, etc., long net
(1/2 of 1,000 lbs. snagged in one day.)

Aug. 6, 5 day fishing came into Newport with 16,000,
fished off light near Daisy, began Aug 2.

Aug 15, Decorah took 10,000 (Carrol)
Aug 16 " 11,000 (Lt. N.E, 9-10 miles)
Trawl Line

DEPARTMENT OF COMMERCE

2,400 ft = 1 shackle
8 lines = 1 "
1 line = 50 fms

\[ \frac{9/24,000}{2.65} \times 400 \text{ fms} = 1 \text{ shackle} \]
\[ = 2,400 \text{ ft} \]

hook, 6 feet apart
400 hooks total on gear.

Twelve dry bow drills
cover at one set about
18 sq. miles of ground

7 bow drills 3.18 mi.
6 " " 2.72 mi.
Trunk line

7-8 lines, 25 looks 9 ft. apart.

CWS Rep. #1: Trunks are employed almost exclusively. The quantity used for a boat varies considerably. On the southern coast of S.E. Alaska a day will have our from 5-7 boats. Trunks comprised of lines of 50 fms each, and each of these lines will have about 25 looks on average, a side lines with about 15 looks apart. The #6293 English pulldock is generally used by the white fishermen. Ordinarily there is an anchor and a long caulk end of a boat, but for deep water fishing an extra anchor and bungee placed along the middle of the boats. It is changed to horns once a day. The first set is made at dawn and the fisherman comes to left about 10 am after the line has all been laid out. The next set is usually made about 12 in the afternoon and the line is allowed to remain down about an hour. In the winter season usually has one set a day is made, while only 2/3 of the usual gear is employed. The trunks are generally set in about 500 fms.
although sometimes as deep as 300 fms. Fishing is continued during all stages of the tide although none of the fishermen consider it morning flooded as the best.

Large fallow are occasionally taken, one being delivered at Juneau in 1904 which weighed 365 lbs. According to the superintendent of the Skagway Fallows station of the International Fisheries Co., he believes the fish to have well-developed eggs all seasons of the year. The summer one of the authors opened a fish, measuring about 3½ feet in length, and found in its stomach 22 good sized herring.

It is quite evident that the fishing in southern Alaska at least has reached its maximum development, if it has not already begun to decline. The banks are now very extensive in proportion and most of them are frequented by the fish only about six months of the year (October) at times the fishing is productive as in years in which certain banks that they are worst. The reason of this is early in the season and the fish are followed in a special manner from the coast, food supplies may have prevented them from returning until after the fall.

Drown. 8.4 Sussex, when the roe is soft and ready the fish are taken.
Zillah May

in April of this cal. (with the 60,000) total 27,000 lbs.

Two ships financed by W.C. Hammond. Summer

Fisher ship, 1942, owner D. C. and returned empty

Second ship total catch less than 6,000 lbs.

The master who ran aground and flooded flood. All fish staked and have washed out.


Swede Johnson
Halibut Food

Cunningham, J.B. Modern Marine Fish. p. 242-244
1902-1903
P 228-240 1911
Bait

Reproduction

see note under third line. (Ref. #1).
May 6 Strongly contents of one for culture + two rocks cast were saved.

May 7 2 male stomachs saved.

May 8 4 5 in. long fish stomach contained 1 fresh herring.

May 28 Stomach contents of two black cast saved.

July 25 1 dog with 2 fresh & 2 partially digested herring in stomach

July 25 1 herring in stomach

Aug 15 1 red fish digested shrimps + some floated away.

56 32 July 30 nearly ripe eggs
Mushy Fish

Sept. 24: Tyee; Portlock Bank; 50,000; 5½; 20,000

Oct. 14: Stan, on second line.
          San Jose, Carroll, Cape St. James; 240,000; 70,000
          Decorah, Porter, Decorah, Portary; 18,000; 8³/₄; 28,000;
          Tyee, from the North; 80,000.
Mushy Fish

America (Booth) 3 1/4; 50,000 = 32,000 good fish. Aug 21-14.
Decorah " 3 ; 40,000 = 28,000 " " " 22-14.

Daisy (San Juan) 4 ; 35,000 = 27,000 " " " 25-14.

Other would go down anyway. 60,000 good fish out of 100,000
would be better than Decatur Sheets.
(over)
Mushy fish hatched in two weeks? Can't be determined before being noticeable after 3-4 days.

"Seed" does not, expect hatch in 2-3 weeks, full laden up.

Possibly is female. Isn't in mushy. Needs investigation would take many fish to determine. Tried 4 fish 28 + 2 g, one of each, very large and 1 each partially mushy. Either spent fish after spawning or else, degeneracy of preparation to spawning or accumulation of fat prior to spawning, as in salmon, e.g.

U.B.F. Dec. 799
Sept. 30-14

Fish have hard fleshy lumps from size of small finger nail to dollar size, flesh becomes of consistency of condensed milk. Not go prevalent in northern fish? Mauled Alexander, diseased condition (also Dr. Moore, parasites?) warm water condition.
DEPARTMENT OF COMMERCE

Sydney Island. (Bird every fall)
(Next Count of Vancouver Is.
70 miles from site Shallow
21 miles off the Count of Vancouver.
Many fish caught the last few months.

According to this cold are the same
run of fish as caught of last year.

(Hiskepman can usually tell
by the "look" of a lot of
fish, the locality at
which they were taken.)

About the same percent of
mutton fish. This is the first
time mutton fish have been taken
at Sydney Island.
Here is said, however, to be one defect in the calculus taken on the court in preference of changing to another, and that is that they have aqueous white or gelatinous streaks through the flesh.

R.P. from '88

n 1889-91
Voeth, fish sold.

<table>
<thead>
<tr>
<th>Date</th>
<th>Weight (lbs)</th>
<th>Total</th>
<th>Cost</th>
</tr>
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<tbody>
<tr>
<td>July 14</td>
<td>257</td>
<td>$13.15</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>401</td>
<td>21.20</td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>937</td>
<td>32.05</td>
<td></td>
</tr>
<tr>
<td>24</td>
<td>478</td>
<td>23.90</td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>173</td>
<td></td>
<td></td>
</tr>
<tr>
<td>26</td>
<td>519</td>
<td>25.80</td>
<td></td>
</tr>
<tr>
<td>Aug 4</td>
<td>120</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>122</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>114</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Small</td>
<td>Medium</td>
<td>Large</td>
<td></td>
</tr>
<tr>
<td>-------</td>
<td>--------</td>
<td>-------</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>16+</td>
<td></td>
<td>8+</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td></td>
<td>15</td>
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<tr>
<td>13+</td>
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<td>20</td>
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</tr>
<tr>
<td>26</td>
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<td>30</td>
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<td>27</td>
<td></td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>45</td>
<td></td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>49</td>
<td></td>
<td>55</td>
<td></td>
</tr>
<tr>
<td>58</td>
<td></td>
<td>65</td>
<td></td>
</tr>
<tr>
<td>0-5</td>
<td></td>
<td>0-1</td>
<td></td>
</tr>
<tr>
<td>5-10-12</td>
<td></td>
<td>2</td>
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</tr>
<tr>
<td>13-60</td>
<td></td>
<td>5</td>
<td></td>
</tr>
</tbody>
</table>
This call
Result of catches to female workers.
Quinn's

May 11 - 13, 1913

14th Ave.

125 B, 110 B, 34 9, 43 5, and

Detroit C, Detroit C

Quinn's

March 31 - Apr. 3

Chicago

1914

19

12

= 42

= 23

Quinn's

May 5 - 13

Quinn's

May 5 - 29

Ours

May 6

our

May 12

May 6

May 31

May 12

May 12

May 3

our

May 12

our No. 5

Quinn's + Daisy's set under

Cape Lookout

Daisy set outside of ridge and

our
Third Truth

(Newport)

1/2 bad, no
XXXII
brk, bot good.

No
brk, bot good
XXXIII
had, gn Mud 
blk, S.

Ors S, G
XXXIV

Sne, gys
N, C
XXXV
May 8 010

Chi. Mar 5 - Apr 3

May 11 Quinn

Our canoe patch had touched Ser hot Apr. 29.

Home on sets II, III, IV, V, VI

Second fish May 29

S. N. G. N. G. part N. G. good part N. G. N. G.

VIII IX X XI

Newport work good fine S. N. G. good

Trial rule out 2 3a 3b

XII XIII XIV XV XVI XVII XVIII

brk good brk good fine S. N. G. brk, good

XIX XX XXIII XXIV XXV XXVI
Newport, Oregon, small boats.

<table>
<thead>
<tr>
<th>Date</th>
<th>Sea Dog</th>
<th>Pilgrim</th>
<th>Orabell</th>
<th>U&amp;I</th>
</tr>
</thead>
<tbody>
<tr>
<td>July 13</td>
<td>3 halibut, 2 redfish</td>
<td></td>
<td></td>
<td>7 halibut (40-50 lbs), 3 redfish, 3 ling cod.</td>
</tr>
<tr>
<td>July 20</td>
<td></td>
<td>1 halibut</td>
<td></td>
<td></td>
</tr>
<tr>
<td>July 21</td>
<td></td>
<td></td>
<td>2 halibut</td>
<td></td>
</tr>
<tr>
<td>July 28</td>
<td>29 halibut</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aug 4</td>
<td></td>
<td>8 &quot;</td>
<td></td>
<td>1500 lbs. halibut</td>
</tr>
<tr>
<td>Aug 14</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aug 15</td>
<td>1,900 lbs. halibut</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aug 16</td>
<td>1,900 lbs. halibut</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4/800 Newport.
About 5,000 lbs.
### Halibut Cruise of 1911

<table>
<thead>
<tr>
<th>Bottom</th>
<th>Fish taken</th>
<th>no. of hauls</th>
<th>No. of unsuccessful hauls</th>
<th>Total hauls</th>
<th>Count of Total hauls</th>
<th>Fish per haul</th>
<th>Percent unsuccessful hauls</th>
<th>Fish per haul of successful hauls</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rocky Sand</td>
<td>165</td>
<td>38</td>
<td>10</td>
<td>48</td>
<td>48.0</td>
<td>4.34</td>
<td>2</td>
<td>3.43</td>
</tr>
<tr>
<td>Gravel + Sand</td>
<td>64</td>
<td>13</td>
<td>2</td>
<td>15</td>
<td>15.0</td>
<td>4.26</td>
<td>13</td>
<td>4.92</td>
</tr>
<tr>
<td>Sand Mud</td>
<td>39</td>
<td>5</td>
<td>6</td>
<td>11</td>
<td>11.0</td>
<td>3.83</td>
<td>54</td>
<td>7.80</td>
</tr>
<tr>
<td>Mud</td>
<td>23</td>
<td>4</td>
<td>5</td>
<td>9</td>
<td>9.0</td>
<td>2.65</td>
<td>55</td>
<td>5.75</td>
</tr>
<tr>
<td>Gravel + Shells</td>
<td>10</td>
<td>3</td>
<td>1</td>
<td>4</td>
<td>4.0</td>
<td>2.50</td>
<td>25</td>
<td>3.33</td>
</tr>
<tr>
<td>Rock + Mud</td>
<td>9</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>3.00</td>
<td>2.50</td>
<td>33</td>
<td>4.50</td>
</tr>
<tr>
<td>Shells Mud</td>
<td>9</td>
<td>2</td>
<td>2</td>
<td>4</td>
<td>4.0</td>
<td>2.50</td>
<td>50</td>
<td>4.50</td>
</tr>
<tr>
<td>Shells, Gravel</td>
<td>7</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>1.0</td>
<td>50</td>
<td>83</td>
<td>3.00</td>
</tr>
<tr>
<td>Sand + Mud</td>
<td>3</td>
<td>1</td>
<td>5</td>
<td>6</td>
<td>6.0</td>
<td>50</td>
<td>32</td>
<td>4.77</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>329</strong></td>
<td><strong>69</strong></td>
<td><strong>32</strong></td>
<td><strong>101</strong></td>
<td><strong>101.0</strong></td>
<td><strong>3.25</strong></td>
<td><strong>60%</strong></td>
<td><strong>4.77</strong></td>
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S.F. Light ship must have quite a series of observation (hydrographic). Bait fresh octopus; fresh halibut; fresh cod; fresh salmon.
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April 12. Under way at 6:00 a.m.

April 13. 1 whale.

3-4 stellers, common porpoises (L. obliquidens)

April 14. Mod. sea. 12-4 inch S.E. gale. Dr 4-6. At 12:26 hove to.

April 15. R. sea. 8 a.m. - noon. Heavy squall with hail passed over in mid watch.

Aug. 29. Saw 6-10 whales. Some at least 30 ft. Humpback whales.

Sept. 1. Saw whales each day.

Sept. 5. Saw 2-3 whales all day.
1911

Oct. 1911

Oct. Rachael Farge 17

refused and Oct 4 camping station has already stranded
197 whales this season.
from 141-1912

man killed first whale

of season, Calif. - humpback

Gray 'Amba

Pacific fish in Ocean 1912 p. 24
Sept 1912

George Austin Whalley

Patterson 5-4
West fury 5-2
Aberdeen 36
Alman 70

\( \frac{\text{t}^\text{2}}{2} \)

Larger of year 78 feet long
Both bare MC cutterns
Suckroot.

C & I Pac Trail
Grays Lumber Seattle 20th
368 while 1912
now 1912
Healing him still in Cam.

1912 catch whale
Grays Harbor 217.

Jan 1913
Scallops Trials

July 20 (3b) 9:55, 20 minutes. Tore jellyfish, large with home streamers.
10:35 20 " cut worm tubes enveloped with eggs on hand line while drifting through.
14, 16 in. scallops on hand line.

July 24 (5) 11:00 15 minutes. 8 scallops 16 inches.
11:30 " " " 3 = blanks.
12:00-12:30 " " "

Aug 6 (6) 10:45, 45 minutes. 1st run fish in net.
12:30, 1 hr. = blanks.
1:40, 20 minutes = 2 scallops, "3" in. and "7" in. in dia. + worms,合同.

Aug 14 (6) 20 scallops found 11:45 - 1:45 " blanks, only over for an hour.
Department of Commerce and Labor

Introduction

Natural History of giant scallop

Geographical range

Biology

Size, growth, and death habits

Parasites

The fishery

Origin, development, and ascertainment of the giant scallop

Apparatus and methods of capture

Vessels, boats, and lengths of fishing grounds

Fishing season

Results of fishing 1887, 1888, 1889

The Man of the giant scallop

Woodward House of 2000 in 1851

With giant oysters
8. Preparation of product, markets, etc.

Markets

Prices
Weather

July 14 - Held up by heavy lee. Coughed + fog. Uncertain + fog.

July 15 - Very foggy + windy.

July 20 - Heavy weather inclined to be foggy, southerly. Modest swell. Wind clear, increasing hourly. Wind from 200° toward evening.

July 25 - Very foggy + misty all morning. Left at 12.40 p.m. Caught out over night heavy fog.

Aug 4 - Very windy + choppy.

Aug 7 - Very foggy. One of most foggy yet.

Aug 14 - Heavy rain on 22.

Aug 29 - Very foggy could hardly see 3 miles in the.
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No. 203  
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No. 203
Ed. 6-10-13—500,000
Comparison of otter trawl and lines.

Early part of 1906 = Cobb. Fish. of Alaska, rep. of Comm.
Drisdell = 100,000 lbs. on lines; 12,000 lbs. in otter trawl.
Colt Ref. 2 But little halibut fishing is carried on in Alaska during the summer months, as halibut fishing coming into Kangerlussuaq, Upernavik, and the fleet operates off the coast of Alaska, where they are more difficult to catch. The price is low also at this time, as few local vessels make short trips and fish in this way during the past two years. Few little incentive to the enterprise.

Colt Ref. 3 The Atlantic fishermen made good catches in the spring, summer, and fall. The eastern northland fishery became glutted for the fishermen, and many of the Pacific fishermen either ceased fishing, the time being unsuitable to the season. The experiment of using steam-powered fishing boats in Atlantic waters the last year also created considerable interest among the Pacific.
kalibar fishermen, and in the early part of 1906 two clean
harbors fitted out by a British Columbia co. to work on the
banks of the coast. The attempt was abandoned after
several months, however, having proved unprofitable. Ac-
ccording to the reports of the owners of these vessels, the kalibars
was too cunning a fish for them, and would avoid the hand
without apparent effort. This was especially noticeable
when the hand was operated in the vicinity of the open fishermen.
While the latter would be ‘making good catches’, the hands would
make bands containing their fish kalibars and a quantity of small
fish of other breeds, for which there is no market, on the Pacific
shores of the outer edges, for which there is no market.
July her steam hunter arrives at Rancoura "Oronte." July 1912.
Nov. 1912.

From page 40

British tonnage reach coast.

*Triumph* 121 Ts. 124 ft.

*Canada* 166 Ts 100 ft.

Each has 9 Grindfishermen under five years contract.
Dec. 1912.
Searl. Frankla exhibiting Jan. 1912
Feb. 1913

Barbara Geo. & Ethel
Andrew Kelly arrived in
Vancouver, B.C. March 27.
According to all accounts the B.C.
St. John's Q. S. T. will abandon the
use of hands on the Grimsby
steamer Triumph and Canada. The
latter vessel arrived at Victoria
from the Dekatra. She has a dry
wago and is being fitted up
with stores like the 4th Canadian.
Oct 1913 Pac Dad.

American vessels. It is understood that the other boats which are being bought are to be the Pac. Could the company be engaged in the sealing trade will be similarly equipped with heavy nets with which owing to the rocky jugged sealed of the coast. The company have been found successful. The company has to put to considerate offense in consequence of the damage of the nets and it is stated their

Tunbridge will also be fitted out with chisels.

Captain Andrew Kelly
George Vivian, James Carruth and

Andrew Bliss
Fig. 18. View showing the two parts of the door cast together with outside lower panel & rabbets for glass pane cast in, as an alternative method to that shown on this sheet.
June 14th. From Mrs. Gunn
July 1913.

Note in hand: fish

Capt. Wm. Gunn was

sick, brought Canada air

from England, but reduced

to very thin convalescent to

dry fishery

July 1913.
Second floor window.
May 1913 p.25 - Pac. Sci.

Mr. G. H. Alford, manager of the Standard Fisheries Co., believes that the time will come eventually when fishing will be practicable with the growth of the market for soles, skate and other fish not demanded very much at present.

Mr. Alford claims that his co. was the first to take up herring in recent years. Their experience, however, was that herring was not sellable in England to the catch of the cheaper fish. Immaculate fish that it was not profitable. It has been expected that the nets were torn and the real reason is said to be because of the un-marketable fish.

Has the market will for
Plan for Apparatus of the 4th, 5

Sec'l Elevation on line CC. Fig. 10.

Sec'l Elevation on line FF. Fig. 11.

Enlarged View at D. Fig. 11.
May 1913  p. 25 Para 746

Your fear of the cheaper fish just as it has done in England is in the opinion of Mr. Alfred Horn the householders he says are not aware of how cheaply one can live from fish and in these days there is not the incentive to forsake steep for the cheaper fish from the prosperity that the early spring will bring. He declares fish will be more in demand and trapping will again be taken up.
*Hippoglossus vulgaris Flem.*

Fig 72.

a. Larve vom 22.5.04. 13,5 mm lang westlich des Färer.


c. 20.6.04 18

d. 19.6.04 22

e. 20.6.04 27

f. 9.7.04 39

nach J. Schmidt.


1893 dw. Ebenda 11th report p. 244.

1893 Petersen C. G. Jbn. Rep. of the Danish Biological Station IV p. 139 pl II fig 217 (fig 20 is Pl. Cynoglossum).


1904 Schmidt, John s. Ebenda Bd. 1. 3 p. 5-8 pl. I fig. 5-12.
Der Reisbild wird fast auf allein stehenden Fischgründe, in Eismeer sowie in Horden der atlantischen und pazifischen Ozeane beobachtet. In atlantischen Gebieten geht er südwestlich bis zur Biskaya, östlich bis zur norwegischen Küste. In der westlichen Ostsee ist er vereinzelt beobachtet bei Island is er häufig und bei Grönland wohl bekannt. Auf den Fischgründen vor der ost-amerikanischen Küste einschließlich der herzförmigen Landsträge spielt er eine sehr große Rolle.

Die Laichzeit fällt in der Nordsee und an den skandinavischen Küsten in die Zeit von Ende Februar bis Mai, besonders April bis Anfang Mai, bei Island in den Juni bis August.

Die Eier sind ziemlich runder, frankfurmernd, doch sind sie als solche noch nicht gefangen, jedenfalls noch nicht beschrieben worden, niemand hat aus dem reifen Ovar beobachtet. Es sind wahrscheinlich die größten planktonischen Eier, welche existieren. Ihr Durchmesser beträgt wohl 3.1 bis 3.8 mm. Sie haben einen homogenen Vellet ohne Öl und eine zarte Eihaut, aber wahrscheinlich keinen feststellbaren Raum von erheblicher Größe. Über ihre Entwicklung ist nichts bekannt.
Auch über die Laven ist erst in neueren Zeiten bekannt geworden. Von der G. O. Sars im August 1871 in der genannten Schildkröte von Christiania wurde noch fast symmetrische Verteilung erkannt, die zuvor von Allers (1864) beschrieben wurden. Später, von C. G. Johs. Petersen, (S. c. Fig. 20) auch abgebildet und von beiden als zum Heilbuck gehört angesehen wurde. Doch handelt es sich nach Petersens eigenen neueren Erklärungen hierbei eher um einen Pleurocentroglossus. In dessen Fall Petersen es für möglich hält, die vom ihm am gleichen Orte als Plagiomya abgebildete und die Grönland gefangene Lave vom 51 mm. Länge als Halsflosse angesehen zu sein.


Die jüngste Lave (Fig. 72 a) besitzt auch der hyphale Anlage der Schwanzflosse noch keine sichtbaren Strahlen. Die eigentümliche aufgespülte Schwanzflosse verleih dem Tierchen ein sehr charakteristisches Aussehen. Die Vorderen Brustflossen sind ziemlich groß.

Das nächstes Stadium von 16.25 mm Länge (Tig. 72 b) zeigte nur geringe Fortschritte in der Entwicklung. Die Vorderdarmerstärke, aufgebrochen die Flossenähte werden deutlich an der Basis der Flossen säume. Die Zahl der Windel, welche Verh. 16 (17) + (32) (33) 34 (35) beträgt, lässt sich bereits feststellen.

Beim folgenden Stadium von 18 bis 20 mm Länge (Tig. 72 c) geht die Entwicklung der Stacheln in den unpaaren Flossen weiter, aber erst bei 22-23 mm Länge (Tig. 72 d) lässt sich eine Zahl von 8 feststellen: A: 7-1-8-8; D: 96-108. Die Zahnreihe erscheint das linke Auge bereits deutlich aufgerichtet. Die Bauchflossen sind als zarte Knochen nicht klar. Das Pigment beginnt jetzt sich in Gruppen zusammenzunehmen, von denen auf der Rückflosse drei gleichmäßig deutlich sind. Diese Prozesse machen in der Folge weitere Fortschritte.
Bei 27 mm Länge (Fig. 72 e) sind auf der Afterflosse 4 Pigmentflecke in ziemlich gleichen Abständen sichtbar und dazwischen kleinere Intermediäre, ferner auf der Rückenflosse 5 bis 6 größere Gruppen, zwischen denen ebenfalls kleinere liegen. Der Rand des linken Auges ist jetzt über der Körpermitte sichtbar. Die Brustflossen sind noch zahlreicher und groß, die Bauchflossen deutlicher geworden. Die ganze pigmentlose Schwanzflosse ist vollkommen ausgebildet.

Allmählich beginnt nun auch das Pigment auf den Körper und eine schon frühe, sichtbare Ansammlung auf der Stirn deutlich zu werden, was bei den 30 mm. langen Larven erkennbar ist noch besser, bei den größten bisher bekannten vollständig. Larven von 34 mm Länge (Fig. 72 f) beworfen. Bei diesen ist das linke Auge nahezu auf der Kante angelaufen. Die Brustflossen sind noch immer sehr groß, ebenfalls die Schwanzflosse. Die welche hinten gerade abgeschnitten ist, ist stark verwachsen. Vermehrte Pigmentierung auf der rechten Körperseite reicht als auf der linken, und verleih dem Tier ein marmoriertes Aussehen. Auch auf den unhaften Flossen ist das Pigment sehr vermehrt und selbst am
der Schwanzflosse sind in basalen Teil der selben 2 kleine Ansammlungen aufgetreten.

Die Körperflosse, in welcher die heteromorphe abgeschossen ist und das Leben am Grunde beginnt, ist mehr bekannt.

I. 177-180

H. Planckton,

I. Eier und Larven von Fischen

1. Teil Von Prof. Dr. E. Ehrenbaum

Helgoland

Herausgegeben von
Brandt und Apstein

Keil und Leipzig -1905

Hier Amen Professor Laguna Marine Lab.

at Santa Barbara

Pomona College

May 1912

Publ. by Dept. Biol. Pomona College

Claremont Calif.
DEPARTMENT OF COMMERCE

Jordenshjold

Wil J. Thompson, Sanpul Univ.
(The Provincial Fisheries, Dept. of
British Columbia)

See Pa. Fisherman, Nov. 14 p. 84.

Female grow very rapidly after
cancer size than males.

Reach XIX year of age.

Male - 40 ft., 9 or 60.

Car. 3' length 34.8

" W " 38.3

One or other sex predominates at given
time on banks. Predominance varies
on successive days.

Predominance of head to body length of
fish from various places seems to
indicate occurrence of local races.
Halibut 1 Sleer 1 Sleer 1 Esparum emlnfedi
R. A. Todd.

The halibut feeds on fish & crustacean
J. F. Cunningham

It is known to live near other fishes, but it also takes crustaceans. I have found the remains of sea anemones in its stomach.
J. Wemyss D'Urton

Dine Crabs & oolze. A. B. Alexander.

Small halibut eat crabs and craince in shalow water
_off the coast from the house grey
and in principal food.
Range of crabs sea anemones starfish, sand lumps, along fish, cod, mackerel and
an occasional red cod.

Also toiled halibut octopine 15. 90

Will C. Thompson. Stamford
Department of Commerce

1. Deliastra
2. Remains of small decapod crusacean
3. Remains of small fish
4. Young octopus in stomach
5. Few sandeel ribs with scales
6. With probably Synodus luciopilosus 1.83 mm
7. With Osmerus attenuatus 1.125
8. With partially digested skate in stomach
9. " Skate in stomach
10. With 1 skate residue, lake, lake, lake
11. 1 lemma of Glyptocephalus zachius
12. 1 lake in stomach
13. Blowfish 315
14. (130) 1 line cod salmon, redcod
15. (Avd) 1 with partially digested salmon
16. 9 sea anemones (pieces remaining)
17. 6 fish in stomach
18. do do do
19. 2 W fish had bone in stomach, big cod
Department of Commerce

The Ranger Neither occurred 720
from the Court of Sweden.
The bulker is the largest vessel powering of the fleet. It is said by the fishermen to drive all the
blue ivy.

Distribution

It is essentially a cold-water fish
and as a general rule the colder the
water the better the quality of the fish

 Conse Hansen Therefore.
Department of Commerce and Labor

Banks:
Seal Rk. SSt. E.S.E.
N.E. nm Till Prince Id. came in sight
16 fms. depth. 15 miles offshore.

Fish:
Cape Snelho - Goat Id.
35-40 fms.
(½ ton fish per day av. Wt. 50 lb. L. 120 lb.)

Redding Rks.
Around Trinidad
Pt. Gordo, strong tide, 250 small salmon
in 3 hrs.

Whaler head, bird eggs.
Above bottoms rocky contrary to chart given on chart.
With Affection
Tellarmine June 22.

W. P. Charters

Informed me there is not any

Jed adopted out of Tellarmine at

present but there was a boat at

the time with four men and they

caught 17 fish that ran in weight

Jed 20 to 70 lb. but the boat was

lost bearing south in the bay the

gear went through the side and

they did not try again at the time

of the accident. She was 15 miles off

Ehren. Salmon is caught here in the

sixty boats are engaged in the business

and they do very well for a while.

the allen said a boat can't get up the

river and it cost too much to ship

fish from here to do any business.

Will habitat. A thousand all will last

a week and you can't do much shipping

them to Rutland as they won't handle

them for a small concern.
Salmon fishermen come up here make $15 000 others net 8 000 much. These are our men in a boat and they have 2000 salmon of net which is 25 meshes deep 9 1/2 in mesh they use a Columbia river boat 4 1/2 gas engine. The W. O. Chan said a man named Woodrum is trying to get up a cold storage plant a short distance from Tillamook. It is reported he has two little fish boats coming from Seattle. They have a place down here or have an option in one they want to buy $3 000 and they had $5 000 but can’t make the other $3 000 but the man said he would run it him self he is a fisherman (W. O. Chan) but Chan didn’t think much of it and also he is after a bunch of some farmers change that is what the Tillamook people think but he may be all right. He has gone fishing for trout today.
Tillamook June 22th

Tillamook Clam Market

J. Bibby manager

Informed me he fitted 500 lbs ballast a week, his fish is shipped from Portland, never heard of any fish being caught in Tillamook but had a good business in Clam and oysters. He is about to close his business in Tillamook.
Monday June 22 -
Mr. J. Small owns and operates the ice plant, which makes give tons a day but they use only about half. He runs the plant with a 15 H.P. steam gas engine. He also runs 16 trawl boats which he sends fishing. They do very well. He regards the men as fishermen there as well and they sell them the fish. They fish eight months, but they don't get many in winter.
Fillmore
Mr. R.E. Ueltschi,
Portland Press Club.

Mr. Ueltschi gave me these charts
which we heard so much about.
He was leaving Portland for Newport
He also had two see the fish which
the De Comahl got and they were very
good fish, averaging 15 lbs. They are
listed in Portland and they been
work to dispose of them being to
or much fish in Seattle. I wrote
a very in Penn. fish for sale in Wabash
village. They were 25 cts. here. They once to calls
De Comahl fish is quoted 2 12 cts.
Capt. Ueltschi is part owner of the
De Comahl Drill Bit Co.

De Comahl had 22,000 lbs. for which
they ree. 33 1/4 lbs. crew shared 39.
2 \left( \frac{77.00}{38.50} \right) = 13.98

\frac{57.54}{2.95} = 19.39

\text{Total} = 13.98 + 19.39 = 33.37
One of the crew of the Decora tells me there were some fish inshore now about six or eight miles off the light Yaquima Head - they got for the oldy - he said you could pick them up very quick but he did not think there was enough fish there for a boat to do anything & you fish in summer but they could not find the tank but lots of Heceta Tank.
Asmca—
Mr. Holm the man that runs the fish market said he does not handle it any but what they get is shipped from Portland & the trip the Decatur landed again tonight there and they think he got stuck as there is very little hatch
duced here it is all salmon they don't pump anything about the best. The run of salmon this year is small averaging 8 tons to 87 cents under 25 lb & 7 1/2 ct over 25 lb. The cannery run most of the fats and they bring 60 ct on the cellars and by fish tide work but they do so mighty & day on the tide.
Aberdeen June 27th

I met Capt. Anderson great about the Elba that she is getting for an
steam-travel pulling some heavy
mush gear for lifting the tent.
Very effect to do well as he
has his own market and can
handle a variety of fish - he
sells a quantity of fish up in
the logging camps and intends to go
in the Shittick to operate the
steam-travel. If it proves to be
a success will find his other
fruit in it. He expects to go to
San Francisco with some of the
fish. The law pattern trips the
Cisted mouth of Gray's harbor.
The will be ready in about
a week.
Q Fuzoon
Bender went on the flats today, June 16. She is going to load up the river, a steam draming [sic] returning 91/4 JF water, when loaded will take 500 or 600. The Commercial Club has floating the dam and it is a fine flat place but a boat can't get in or out in any kind of bad weather. At all, it is said she will not be allowed to sail without a licensed pilot— that is a hard thing to get as there is hardly any one acquainted with the river— but even put in twice with steam to get a license.
June 17th

On deck Capt. James Reed

Caught 25 fish average 20 lb.

A very uneven run some as small as 6 lbs. Which looks as

Ungt. there were not many when

These were caught. The small

One sold to the market for

8 cts. where they retailed for 62 cts.
June 18th

Capt. Capt. Keeler

Caught 4 halibut averaging

2 red cod - 2 ling cod. It was

Hunting string N.W. and

string tide 7 miles from the

head. I met Mr. Wilson

a fisherman he said fish were

not very plentiful & cpl. Cope

and clam - Cope sold for over

a doz & cpl. Would 7 cpl. and

Clams 15 a basket -

Ling cod were very plentiful.
Capt. Chambers, Capt. Pilgrim

Got 1 haddock, 2 red cod, 2 ling cod,
7 miles off shore — strong current.
He had 2 windows weights — about 8 lb each. Could not hold bottom.

Mr. Sykes informed me he got 48 fish 25 miles off in 200 fathoms of water.
Capt. Chambers

I have engaged the last Pilgrim for $10 a day. Capt. Chambers is one of the old time sea rustlers and being caught like lions in the day with the men tried to get up but late in the French lift and you can catch it at last when they strike. He assured one there are not large tanks that have been reported. But has seen good fishing in August they run about 3-0 lb. There be one ship 15 miles S W + S- from the bar, and another one 16 miles W. from the Bar.

There is not any great going out of law to day. The Pilgrim is ready but it is Planing from the North West.
I met a Mr. Warden, manager of the cold storage building. It is a 30 x 30 Shorq freezer; 10 x 14 cold storage room 15 x 15. About 12 ft. high.

The milk gas engine furnace 15 H. powers the fans. He has about decided on buying the Daisy for $5. Most he told me — you can buy stoves. Also said the Daisy had not done much. Deep water 13 ft. did not understand fishing but if there were a good man in his he thought she may do well — he said a trout could get out in about 32 ft. and without any trouble and fish was inside in the summer in shallow water and some time caught 70 in a day with hand-line.
Clay 3. will be ready in about 10 days. Capt. Carman takes out for the job which he charges are a $1 a day in considered a great improvement but in any opinion he does not know the least thing about the business but is quite sure it makes any difference as there is not just enough to supply the local market.
Germione Cott has a baby in high chair when they entertained me in Seattle. He was connected with Ben Johnson in Seattle and had gotten to know him before he was hanged here.

Then there was the musician and restaurant with musical entertainers accompanied in Hotel Seattle Carlin of Triangle Building in basement; Branding and I had two rooms in Hotel Say one we made study and putting room sleeping in the other.

Went to Portland to visit with Jack Cumblin (broadfoot) went to an evening Cal Alumni speech where many Cumblin's junior professors liked. He later died in poverty in N.Y.
That was when I checked my brief case at Hotel Portland and when I rushed off to get ready to ship they could not find it in the ship. Callahan had delayed sailing a whole day. The people had let it come to behind a minute (I guess something was stolen by a thief as well as found).

I went to Union Station and found, last in railcar identified, the room.

"Crumbs?" Van Osten the elegant man.
Rozie the German worked in a lunch room where he lived in a crude hotel in his poor Oregon.

Rozie was named William Schmidt and he had a ranch and horses and he never got to see them because of the rain.

Randall's friend was named Hammon, each married three times and had three or four kids and each of their marriages, all came to an end.

We took out cars and married and Pen and got in a fish with a man about it on a chartered launch and with that after noon car in 1938 we could not get back into the channel.
roasted in the cradle of life.

Caul was made in
just chunder out of hollow
cheeks first time old we
seen or eaten (had any).

I was anywhere to see
Alima and almost got
a ride down to the Zilla by
her sister. (Not going to S.P.
but to Lusumitu could
not make it as she
was on a foot
off
N. Calit CoV? If I had
some half a ounce would
have gone to por

Travelled back in company
one day to see fine decorated
area just burned all trees at
house of inner friend.
Driscoll's Report.

Information obtained by him, regarding halibut-fishing off Ore. and Wash.

* * * * * * * *

June 17, 1914.

"Orobell", Capt. James Reeder, caught 25 fish averaging 20 lbs.; a very uneven run; some of the fish as small as 6 lbs., which looks as though there were not many where these were caught. The small ones sold to the market @ 8¢; retailed for 12½¢.

June 18, 1914.

"Orobell", Capt. Reeder, caught 4 halibut averaging 15 lbs., 2 red-fish, 2 "ling-cod (cultus-cod), seven (7) miles from the bar; there was a strong N-W wind, with strong tides.

I met Mr. Wilson, a fisherman; he said that fish were not very plentiful; crabs were selling @ 30¢ the dozen, and would sell @ $1.00 later; clams were quoted at 15¢ the basket. Ling-cod were very plentiful.

* * *

The "Pilgrim", Capt. Chambers, got 1 halibut, 2 red-cod, 2 ling-cod, 8 miles off-shore --- strong current; Capt. Chambers said that he had two window-weights, about 8 lbs. each, but could not hold bottom.

* * *

Mr. Sykes informed me, that he got 40 fish, 25 miles off-shore, in 200 fathoms of water.

* * *

The following information was obtained from Capt. Chambers, an old-time fisherman: The "Pilgrim" is ready to go out today (June 18), but there is a hard blow from the N-W. The "Pilgrim" can be procured for $10.00 per diem. Fish are not plentiful now, but later on they will
bunch-up, and many can be caught when they strike; in August they average 50 lbs. There are no large banks, as has been reported; but there is one fishing-spot 15 miles SW of the bar, and another 16 miles W.

* * *

Interview with Mr. Maiden, manager of the cold-storage plant:
The building itself is about 30x30 feet; the sharp-freezing room is about 10x14 feet, with a capacity of perhaps 6000 lbs; the cold-storage room is 15x15x12 feet; a Fairbanks-Morse gas-engine of 15 H. P. has been installed.

Mr. Maiden contemplates buying the Daisy for $5000.00; the boat has not done much in deep water, but he thought she might do well, with a good man in command.

Boats can get in and out of the harbor without any trouble, during six months of the year.

During the summer, the fish are inside, in the shoal-water, and as many as 70 in one day have been caught with hand-lines.

* * *

The "Ollie S." , Captain Garner, will be ready in about ten days; Capt. Garner takes out parties, for which he charges at the rate of $1.00 per diem for each person. He is considered a good fisherman, but in my opinion he does not know the least thing about the business; this makes no difference, however, as there are not fish enough to supply the local market.

* * *

The "Bender" is a steam schooner, drawing 14 feet; capacity 500,000 feet of lumber.
Captain Voeth, of Portland, is part-owner of the "Decorah"; from him was obtained a blue-print of his chattered soundings off Newport.

The "Decorah" had 2200 lbs. of fish, which sold for $3.4; these same fish were quoted @ 12¢ retail. The crew received a net share of $39.00 each.

These are very good fish, averaging 15 lbs; I note a very inferior fish for sale here, 3 lbs. for 25¢ --- they may be culls.

James Bonset, a member of the crew of the "Decorah", told me, that there are now some fish in-shore, six or eight miles off Yaquina-Head light; they got 8000 one day, but he did not believe that there are enough fish there to enable a boat to make the work pay; no bank was found outside of Hecata Bank.


Mr. Chase, of W. O. Chase & Son, informed me, that there are no fish caught out of Tillamook at present; at one time there was a boat (5 men) which took 17 fish weighing from 20 to 70 pounds; the boat was lost, and no further attempt at halibut-fishing has been made. Boats cannot go up the river, and the cost of shipping fish to Portland is prohibitive.

Salmon are taken here, and sixty boats are engaged in the fishery; the common type is the "Columbia-river boat", with a 4 H. P. gas-engine; there are two men to each boat, with 120 fathoms of net, 18 meshes deep (meshes 9½").

A man named Henderson is trying to start a cold-storage plant, a short distance from Tillamook; it is surmized, by residents of Tillamook, that this is merely for speculative purposes; rumor has it, that
Department of Commerce and Labor

Henderson is bringing two boats down from Seattle.

* * *

Mr. F. Small owns and operates the ice-plant, which makes something like five tons a day; the plant is run by a gas-engine of 15 H. P.

Mr. Small owns sixteen boats that do very well; these fish throughout eight months of the year, but do not get much in winter. The men are required to furnish their own nets; they sell their catch to Small.

* * *

Mr. I. Bibby, manager of the Tillamook Clam Market, informed me, that he uses 500 lbs. of fish each week; his fish are shipped from Portland, and he has never heard of any halibut being caught in Tillamook. He has a good business in clams and crabs, although he is about to close out.

Aberdeen, Wash.  

June 24.

The Zilla May", Capt. Anderson, is fitting for a beam-trawl, and putting in some heavy winch gear for lifting the net; she will be ready in about a week. The last two trips were north of Gray's Harbor.

Capt. Anderson expects to do well, as he has his own market, and can handle a variety of fish -- he sells a quantity in the logging-camps; later, he expects to go to San Francisco with some of his fish. He intends to go to the southward to operate the beam-trawl; if it proves a success, he will engage his other boat in it.
Mr. Colston, the man who keeps the fish-market, says he does not handle halibut to any extent; what he gets is shipped from Portland. The catch landed by the "Decorah" was bought by Hegan, who is said to have lost on the deal, since there is little demand for them here. The fishermen know very little concerning halibut — the principal fish is salmon.

The run of salmon this year was small, averaging eight tons to the boat; the price paid at the cannery is six cents for fish under 25 lbs., seven and one-half cents for those over that weight.

The cannery owns most of the boats, which fish only during the tide and at that time work day and night. The men receive 60% of the catch, but they are required to sell to the cannery.
<table>
<thead>
<tr>
<th>Date</th>
<th>Location</th>
<th>Fish Sold</th>
<th>Price/</th>
<th>Value Sold</th>
<th>Culls (Mushy Fish)</th>
</tr>
</thead>
<tbody>
<tr>
<td>May 10</td>
<td>Decorah</td>
<td>Portland</td>
<td>4,600</td>
<td>3</td>
<td>$13,500</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Portland</td>
<td>1,3700</td>
<td>4</td>
<td>$54,800</td>
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<tr>
<td>June 16</td>
<td>Decorah</td>
<td>Portland</td>
<td>22,800</td>
<td>3</td>
<td>$6,840.00</td>
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<tr>
<td></td>
<td>Decorah</td>
<td>Portland</td>
<td>32,500</td>
<td>3/4</td>
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<tr>
<td></td>
<td>Daisy</td>
<td>Newport</td>
<td>19,000</td>
<td>3/4</td>
<td>$61,750</td>
</tr>
<tr>
<td></td>
<td>Decorah</td>
<td>Seattle</td>
<td>3,000</td>
<td>5/2</td>
<td>$165,000</td>
</tr>
<tr>
<td></td>
<td>Daisy</td>
<td>Newport</td>
<td>1,700</td>
<td>5/2</td>
<td>$93,500</td>
</tr>
<tr>
<td>Aug 1</td>
<td>Seattle</td>
<td>Seattle</td>
<td>4,400</td>
<td>3</td>
<td>$13,200.00</td>
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<td></td>
<td>3,860</td>
<td>3</td>
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<td>Decorah</td>
<td>Portland</td>
<td>14,000</td>
<td>3/4</td>
<td>$4,550.00</td>
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<tr>
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<td>Daisy</td>
<td>Seattle</td>
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<td></td>
<td>Tordenskjold</td>
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<td></td>
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<td>3/4</td>
<td>$1,040.00</td>
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<tr>
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<td>Portland</td>
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<td>3</td>
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<tr>
<td></td>
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<td></td>
<td>8,900</td>
<td>3/4</td>
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<tr>
<td></td>
<td>Daisy</td>
<td></td>
<td>3,500</td>
<td>4</td>
<td>$10,800</td>
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<tr>
<td>Sept 1</td>
<td>San Juan</td>
<td>Seattle</td>
<td>4,400</td>
<td>3/4</td>
<td>$210,000</td>
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<tr>
<td></td>
<td>Athena</td>
<td>Seattle</td>
<td>7,900</td>
<td>3/4</td>
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<td>Panama</td>
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<td>6,000</td>
<td>3</td>
<td>$1,380.00</td>
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<td></td>
<td>Omaney</td>
<td>San Francisco</td>
<td>4,000</td>
<td>4/4</td>
<td>$1,700.00</td>
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<tr>
<td></td>
<td>Daisy</td>
<td></td>
<td>6,000</td>
<td>3/4</td>
<td>$210,000</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>21,000</td>
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</tr>
</tbody>
</table>

Fish Taken Newport Banks:
May 10 - July 30: 174,500 lbs (203,500 lbs) = $6,920.75 (includes Decorah trip prior to Carrolls taking her over)
Aug 1 - Sept 15: 61,200 lbs (59,200 lbs) = $22,351.00 (includes Aug 16th trip)
Total Fish Taken: 235,700 lbs + (33,000? estimated) = 1,132,700 lbs

Total Fish Taken: 235,700 lbs + (33,000? estimated) = 1,132,700 lbs

Does not affect figures not in parentheses are those in which "Washington" trip has been considered an Aug one.
If trips of Daisy after Aug 1st be considered apart from Bureau's investigation, above figures would be:

Fish taken
May 10-July 30: 242,300 lbs (271,300) = $10,621.25 (11,490.25)
Aug 1-Sep 15: 557,400 lbs (528,400) = $18,650.50 (17,780.50)
Totals 799,700 lbs = $29,271.75

* This trip of the Washington must have been made in Aug, no Seattle boats had been reported off banks prior to Carrolls leaving, date very probably Aug 4. (have written for verification of this).

† Aug 10 trip of Decorah is included in totals of fish taken prior to Carrolls leaving. He did not take her over until the next trip. Was made and would have been irrespective of Bureau's investigation.

Note: In Aug, two other trips were given by Cobb, viz:

Star, La Paloma} but names were followed by statement "no fish."

From list of halibut vessel arrivals, (Pac. Fish)

Star July 21 190,000 lbs
Aug 14 190,000
Sept 13 225,000
La Paloma July 22 28,000 lbs
Aug 7 40,000
Aug 24 45,000
Sept 12 20,000

Monthly totals,
July: 119,500 lbs (148,500 lbs) = $5,098.75 (5,968.75) = 5 trips (7 trips)
Aug: 354,200 lbs (325,200 lbs) = $12,061.00 (11,061.00) = 10 trips (7 trips)
Sept: 285,000 lbs = $10,255.00

May-June trips:
May: 18,200 lbs = $683.00
June: 22,800 lbs = $684.00
Total 41,000 lbs = $1,367.00

Trip information given out as a result of the investigation.
<table>
<thead>
<tr>
<th>Date</th>
<th>Origin</th>
<th>Quantity</th>
<th>Value</th>
<th>Culls</th>
</tr>
</thead>
<tbody>
<tr>
<td>May 10</td>
<td>Decorah Portland</td>
<td>4,500</td>
<td>1,350.00</td>
<td>unknown</td>
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<tr>
<td></td>
<td></td>
<td>13,700</td>
<td>548.00</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>22,800</td>
<td>684.00</td>
<td></td>
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<tr>
<td>June 16</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>July 22</td>
<td>Decorah Portland</td>
<td>21,000</td>
<td>840.00</td>
<td>unknown</td>
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<td></td>
<td>17,000</td>
<td>935.00</td>
<td></td>
</tr>
<tr>
<td>Aug. 1</td>
<td>Seattle</td>
<td>44,000</td>
<td>1320.00</td>
<td>30,000</td>
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<td>Aug. 4</td>
<td>Alaska</td>
<td>38,600</td>
<td>1158.00</td>
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<td>Aug. 10</td>
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<td>56,800</td>
<td>2130.00</td>
<td>10,000</td>
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<td>27,000</td>
<td>1080.00</td>
<td>8,000</td>
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<td>Sept 1</td>
<td>Sand Juan</td>
<td>74,000</td>
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<td>7,000</td>
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<td>1890.00</td>
<td>27,000</td>
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<td></td>
<td>13,000</td>
<td>1300.00</td>
<td>29,000</td>
</tr>
</tbody>
</table>

**Fish Taken Newport Banks:**

- May 10 - July 30: 174,500 lbs (203,500 lbs) = $6,920.75 ($7,790.75)
  - (including Aug 10, Decorah, prior to Carroll release)

- Aug 1 - Sept 15: 62,520 lbs (59,620 lbs) = $22,351.00 ($21,481.00)

**Totals:** 799,700 lbs. $29,271

**Total Fish Taken good mushy:** 1,099,700 + (33,000?) = 1,132,700 (over)
In Aug. two trips were given by Cobb vis: Star La Paloma by followed by statement “no fish”

Taken from list of halibut vessel arrivals (Pac. Fish.)

\[
\begin{align*}
\text{Star in July, 21-23} &= 190,000 \\
\text{= Aug. 14-18} &= 190,000 \\
\text{= Sept. 13-15} &= 225,000 \\
\text{July 22} &= 28,000 \\
\text{La Paloma Aug. 7} &= 40,000 \\
\text{24} &= 45,000 \\
\text{= Sept. 12} &= 20,000 \\
\end{align*}
\]

* This trip by the Washington must have been made in Aug. no Seattle boats had been reported of banks prior to Carrol’s leaving date very probably Aug. 4.

Note: Aug 10 trip is included in totals of fish taken prior to Carrolls leaving as it was made without information given out by Bureau being used. Have written for verification of this.

Monthly Totals:

\[
\begin{align*}
\text{Av. Trip.} \\
\text{July 119, 500 lbs(148,500)} &= \frac{5,098.75}{5,968.75} = 5 \text{trips(6)}; 23,900 \\
\text{Aug. 354,200} &= \frac{12,061.00}{11,061.00} = 10 \text{trips(9)}; 35,420 \\
\text{Sept. 285,000} &= 10,745.00 = 7 \text{trips}; 40,714 \\
\text{May 18,200} &= 683.00 \\
\text{June 23,800} &= 684.00 \\
\text{Total 799,300 lbs} &= \frac{29,271.75}{29,271.75} = 25 \text{trips;} \\
\end{align*}
\]

Av. Trip 1913( Pac. Fish.) = 35,369 lbs.

Av. Trips inclusive of mushy:  
July 5,000  
Aug 155,000  
Sept. 140,000

Av. Trips exclusive of mushy:  
July 24,900  
Aug. 30,920  
Sept. 60,714
Average trips, schooners only,

<table>
<thead>
<tr>
<th></th>
<th>Newport (1914)</th>
<th>Total Seattle receipts</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(Good fish)</td>
<td>(Good+ mushy) (1914)</td>
</tr>
<tr>
<td>July</td>
<td>23,900</td>
<td>45,883</td>
</tr>
<tr>
<td>Aug</td>
<td>35,420</td>
<td>45,901</td>
</tr>
<tr>
<td>Sept</td>
<td>40,414</td>
<td>38,343</td>
</tr>
</tbody>
</table>

Seattle figures give total trips inclusive of mushy fish; for this reason column of "good + mushy" is given under Newport returns. Only July, Aug, and Sept are given as in May and June but few desultory trips were made. The Sept. figures are up until Sept. 15 as fishermen will no longer report on Newport fish as buyers are on lookout for them. This also will keep Sept. records from being as complete as they otherwise would have been.

As records stand above the Newport totals compare very favorably with average trips returned to Seattle during 1913 and 1914 in September alone even only for good fish running far ahead.

* i.e.: Aug 1 Seattle 65,000 Aug 21 America 50,000
Aug 3 Alaska 60,000 Aug 22 Deborah 60,000
Aug 12 Daisy 40,000 Aug 24 Alaska 80,000

Figures taken from Pac. Fish. for Oct. 14

Total 911,400 lbs.

Figures I gave Dr. Moore

$30,782.00

$8,104.00 (prior to July 22)

If ships of Hawaii after Aug. 1st be considered apart from Bureau investigations, the above figures would be

**Fish Taken**

May 10-July 30: 242,300 lbs (271,300) = £ 10,621.25 (11,498.25)

Aug 1 - Sept 15: 557,400 lbs (528,400) = £ 18,650.50 (17,780.50)

**Totals:** 779,700 lbs = £ 29,271.75
The hydrographic records of the present cruise have been included in this report as Table V and Chart II. Ordinarily these data are published separately, but are appended here so that reference may be readily had to the various soundings made in the determination of the bottom.

Only the H series of numbers has been employed in designating stations. The various "sets" and trials for the sake of convenience and to avoid confusion have been referred to the number hydrographic operation conducted at the same time. The last previous number in this series was H. 5365, made in connection with the Biological Survey of San Francisco Bay.

The position of each station has been given by means of "bearings" and distances to the nearest prominent landmark. All bearings are "true".

The "charts" are those published by the Coast and Geodetic Survey.

The "time of day" is that taken at the beginning of the sounding operation at which the "depth" was determined.

For the "character of bottom" the abbreviations used are as follows:

- bik ... black,
- brk ... broken,
- cse ... coarse
- fine ... fine,
- for ... foraminifera,
- G ... gravel,
- gn ... green,
- gran .. granular,
- grn ... gray,
- hrn ... hard,
- hrd ... hard,
- M .... mud,
- rky ... rocky,
- S ..... sand,
- Sh .... shells.

Shale, a new characterization is used to designate a siliceous, hard pan composed largely of sponge spicules and
diatom tests with at times an admixture of a certain percentage of lime. It occurs at times as a pseudo-gravel, \textit{granular} (gran); in the form of honeycombed boulders or easily crumbled rocks, \textit{rocky}; and as a species of \textit{hard mud} (hrd. M.).

The "air temperature" is copied from the ship's log. The accuracy of this reading is not to be relied upon to any great extent owing to the unfortunate placing of the thermometer casing near the stack.

The "surface" and "bottom" temperatures represent the corrected readings of tested Negretti-Zambra thermometers used in appropriate trip cases.

"Salinity" determinations were made by titration with the standard outfit supplied by the International Council for the Exploration of the Sea.

The "apparatus" used, where abbreviated, is in accordance with the following scheme:

- Alb. smp. \ldots \ldots \text{Albatross bottom sampler.}
- Ek. bot. \ldots \ldots \text{Ekman water sample bottle.}
- O.P. drdg. \ldots \ldots \text{Orange-peel bucket dredge.}
- P.W. bot. \ldots \ldots \text{Pettersen-Nansen insulated water bottle.}
- Tnrr-Blish adr. \ldots \text{Tanner-Blish sounding machine.}

The "depth" of the trial is that at which the gear was used or operated and under the "drift" the direction and distance through which the dredge was hauled is given. These are approximations. The "duration" is the length of time of towing the apparatus or allotted to a "set".
The chart (No. II.) of hydrographic stations has been taken from the Coast and Geodetic Survey charts Nos. 5,900, 6,000 and 6,100. The soundings are numbered in correspondence with Table V. in the order of their taking.

It will be noticed when chart I.is superimposed that the soundings of the same general character of bottom fall within the proper colored areas.
**Pecten auricula Gosse**

**Wrangell, Alaska—Siuslaw River, Oregon**

Sta. 3081  61 fms. N 46° Siuslaw River, Ore.  
Port Townsend, Wash.

" 3858
" 3866

**Suidia foliata J. and G.**

<table>
<thead>
<tr>
<th>Sta.</th>
<th>2870</th>
<th>58 f.</th>
</tr>
</thead>
<tbody>
<tr>
<td>3082</td>
<td>2882</td>
<td>68 f.</td>
</tr>
<tr>
<td>3046</td>
<td>3046</td>
<td>48 f.</td>
</tr>
<tr>
<td>3048</td>
<td>3048</td>
<td>52 f.</td>
</tr>
<tr>
<td>3051</td>
<td>3051</td>
<td>67 f.</td>
</tr>
<tr>
<td>3053</td>
<td>3053</td>
<td>69 f.</td>
</tr>
<tr>
<td>3060</td>
<td>3060</td>
<td>28 f.</td>
</tr>
<tr>
<td>3061</td>
<td>3061</td>
<td>23 f.</td>
</tr>
<tr>
<td>3062</td>
<td>3062</td>
<td>23 f.</td>
</tr>
<tr>
<td>3064</td>
<td>3064</td>
<td>26 f.</td>
</tr>
</tbody>
</table>

Off *Grays Harbor*, Sept. 22-28

Columbia River, Oregon, Oct. 13

Tillamook R.R.

Grays Harbor, June 7-89

*Shoalwater Bay, Neceta Bank, Oregon*, Aug. 6

Off Yaquina, Dep. C. and T. Portland

*Siletz Bay, Oregon*, Jan. 13

Tillamook R.R.

*Near Siletz Bay, Oregon*, June 13

Siuslaw River, Oregon, Sept. 1
3 0 8 1  Sept. 1.
43° 59' N. 124° 20' W. 45.8 61 lbs.
g.m.s. L.B.T.

This station has been marked at the
head of "bottom" with a cross ** X
Salpa sp. H. 5681
P. aculeata Dan.

Pennatula aciles Danielson, H. 5714

Pisaster papulosus Ver. H. 5714

Luidia foliata Grube 10

Orthasterias dawsoni Ver. H. 5681 (Br)

Pycnopodia helianthoides H. 5714 (les)

Metridium marginatum H. 5714

Cribrina elegantissima (Brandt)

Cribrina sp. H. 5732

Cribrina sp. H. 5735

July 21, Newport
Oregon
ESTIMATE FOR HALIBUT SURVEY: APRIL 1 - JUNE 30, 1914.
91 DAYS.

1. Pilot (H.B. Joyce), @ $5.00 per day
   $395.00
2. Mess dues of pilot, @ $1.50 per day
   $113.00
3. Practical fishermen, 4 men @ $2.00 per day
   $564.00
4. Navy ration for fishermen, @ $30 per day per man
   $150.00
5. Bait, (salt herring, 20 lbs. were used on 1911
   (cruise, 3 months), 20 lbs. @ $4.50
   $90.00
6. Cots, 4 for fishermen, @ $2.50
   $10.00
7. Overhauling and renewing present halibut gear;
   (buoys, lines, hooks, anchors, thole pins,
   (dory scoops, etc.)
   $25.00
8. Installation of a power gurdy, (dependent upon
   installation of at least one of the inde-
   pendent hoisting units in estimate sub-
   mitted October 29, 1913)
   $100.00
9. Additional gear, provisional estimate, 10 skates,
   second-hand gear, @ $7.00
   (Should it be found advantageous to cover
   (more ground than present equipment would
   (allow, i.e., fishing from ship).
   $70.00
10. Unclassified: 3 months provisionally estimated
    @ $100.00 per month
    (a) Possible detail for statistical work
    (b) Possible need of laboratory ashore for
    (c) Miscellaneous bills and expenses.
    $300.00
# Estimate for Halibut Survey: April 1 to June 30, 1914

91 Days.

<table>
<thead>
<tr>
<th>Item</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Pilot (H.B. Joyce), @ $5.00 per day</td>
<td>$395.00</td>
</tr>
<tr>
<td>2. Mess dues of pilot, @ $1.50 per day</td>
<td>113.00</td>
</tr>
<tr>
<td>3. Practical fishermen, 4 men @ $2.00 per day</td>
<td>864.00</td>
</tr>
<tr>
<td>4. Navy ration for fishermen, @ 30¢ per day per man</td>
<td>150.00</td>
</tr>
<tr>
<td>5. Bait, (salt herring, 20 lbs. were used on 1911 cruise, 3 months), 20 lbs. @ $4.50</td>
<td>90.00</td>
</tr>
<tr>
<td>6. Cots, 4 for fishermen, @ $2.50</td>
<td>10.00</td>
</tr>
<tr>
<td>7. Overhauling and renewing present halibut gear; (buoys, lines, hooks, anchors, thole pins, dory scoops, etc.)</td>
<td>$35.00</td>
</tr>
<tr>
<td>8. Installation of a power gurdy, (dependent upon installation of at least one of the independent hoisting units in estimate submitted October 23, 1913)</td>
<td>100.00</td>
</tr>
<tr>
<td>9. Additional gear, provisional estimate, 10 skates, second-hand gear, @ $7.00</td>
<td>70.00</td>
</tr>
<tr>
<td>(Should it be found advantageous to cover more ground than present equipment would allow, i.e., fishing from ship)</td>
<td></td>
</tr>
<tr>
<td>10. Unclassified: 3 months provisionally estimated @ $100.00 per month</td>
<td>300.00</td>
</tr>
<tr>
<td>a. Possible detail for statistical work of member of staff at Yaquina or Tillamook.</td>
<td></td>
</tr>
<tr>
<td>b. Possible need of laboratory ashore for titrating water samples.</td>
<td></td>
</tr>
<tr>
<td>c. Miscellaneous bills and expenses.</td>
<td></td>
</tr>
</tbody>
</table>
Table of "Sets" (Halibut Fishing Trials) Fish Taken (catch)

<table>
<thead>
<tr>
<th>Set No.</th>
<th>Reference Station</th>
<th>Date</th>
<th>Depth, fathoms</th>
<th>Character, bottom (X)</th>
<th>Bait</th>
<th>Number of fish</th>
<th>Total lbs</th>
<th>Average lbs</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>First Albatross Trip</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Heeeta Bank (N.78°E., true)</td>
<td>April 29, 88-92</td>
<td>2</td>
<td>salt herring</td>
<td>9</td>
<td>296.10-72</td>
<td>30.8</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>Off Newport (N.71°E., true)</td>
<td>May 2, 96</td>
<td>2</td>
<td>salt herring</td>
<td>1</td>
<td>21</td>
<td>1</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>3</td>
<td>Heeeta Bank (N.74°E., true)</td>
<td>May 5, 61</td>
<td>1</td>
<td>salt herring</td>
<td>4</td>
<td>88.10-38</td>
<td>22.0</td>
<td>3</td>
<td>26</td>
</tr>
<tr>
<td>4</td>
<td>Off Newport (N.71°E., true)</td>
<td>May 6, 54-57</td>
<td>2</td>
<td>salt herring</td>
<td>8</td>
<td>157.7-33</td>
<td>19.6</td>
<td>7</td>
<td>21.4</td>
</tr>
<tr>
<td>5</td>
<td>Do (N.71°E., true)</td>
<td>May 6, 62</td>
<td>2</td>
<td>salt herring</td>
<td>4</td>
<td>67.10-28</td>
<td>18.2</td>
<td>3</td>
<td>15.7</td>
</tr>
<tr>
<td>6</td>
<td>Off Cascade Head (N.71°E., true)</td>
<td>May 7, 48</td>
<td>2</td>
<td>salt herring</td>
<td>2</td>
<td>9</td>
<td>1</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>7</td>
<td>Off Columbia River (N.71°E., true)</td>
<td>May 8, 79</td>
<td>2</td>
<td>salt herring</td>
<td>1</td>
<td>32</td>
<td>1</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>8</td>
<td>Off Newport (N.71°E., true)</td>
<td>May 27, 31-34</td>
<td>2</td>
<td>salt herring</td>
<td>3</td>
<td>67.15-28</td>
<td>19.3</td>
<td>3</td>
<td>23.0</td>
</tr>
<tr>
<td>9</td>
<td>Heeeta Bank (N.74°E., true)</td>
<td>May 28, 66-68</td>
<td>2</td>
<td>salt herring</td>
<td>5</td>
<td>108.9-40</td>
<td>21.6</td>
<td>4</td>
<td>24.7</td>
</tr>
<tr>
<td>10</td>
<td>Do (N.71°E., true)</td>
<td>May 28, 109</td>
<td>2</td>
<td>salt herring</td>
<td>1</td>
<td>16</td>
<td>1</td>
<td>1</td>
<td>26</td>
</tr>
<tr>
<td>11</td>
<td>Do (N.74°E., true)</td>
<td>May 29, 100</td>
<td>2</td>
<td>salt herring</td>
<td>1</td>
<td>42</td>
<td>1</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>12</td>
<td>Off Newport (N.71°E., true)</td>
<td>July 13, 30</td>
<td>2</td>
<td>salt herring</td>
<td>1</td>
<td>10</td>
<td>1</td>
<td>10</td>
<td>5</td>
</tr>
<tr>
<td>13</td>
<td>Do (N.71°E., true)</td>
<td>July 14, 30</td>
<td>2</td>
<td>salt herring</td>
<td>43</td>
<td>26</td>
<td>12</td>
<td>6</td>
<td>5</td>
</tr>
</tbody>
</table>
# Table of Trials for Scallops

<table>
<thead>
<tr>
<th>Trial</th>
<th>Position</th>
<th>Ref. Sta.</th>
<th>Date</th>
<th>Time of Day</th>
<th>Depth</th>
<th>Bottom</th>
<th>Apparatus</th>
<th>Length</th>
<th>Directions</th>
<th>Duration</th>
<th>Scallops Taken</th>
<th>Addenda</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Off Newport approximately as located on chart XV</td>
<td>3B</td>
<td>July 20</td>
<td>9:55 am</td>
<td>38</td>
<td>crag. S. Oyster D.</td>
<td>do</td>
<td>do</td>
<td>do</td>
<td>do</td>
<td>20 mins</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>do</td>
<td>5</td>
<td>July 24</td>
<td>11:00 am</td>
<td>38-44</td>
<td>do</td>
<td>do</td>
<td>do</td>
<td>do</td>
<td>15 mins</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>do</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>do</td>
<td>do</td>
<td>do</td>
<td>do</td>
<td>15 mins</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>do</td>
<td></td>
<td></td>
<td></td>
<td>12:00 N</td>
<td>do</td>
<td>do</td>
<td>do</td>
<td>do</td>
<td>30 mins</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>do</td>
<td>10</td>
<td>Aug. 6</td>
<td>10:15 am</td>
<td>35</td>
<td>do</td>
<td>do</td>
<td>do</td>
<td>do</td>
<td>45 mins</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>do</td>
<td></td>
<td></td>
<td></td>
<td>12:30 pm</td>
<td>do</td>
<td>do</td>
<td>do</td>
<td>do</td>
<td>1 hr</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>do</td>
<td></td>
<td></td>
<td></td>
<td>1:40 pm</td>
<td>do</td>
<td>do</td>
<td>do</td>
<td>do</td>
<td>15 mins</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>La Quinta Light bears N.62°E. (true), distant 6.4 miles</td>
<td>H.5714</td>
<td>Sept. 2</td>
<td>11:30 am</td>
<td>35</td>
<td>do</td>
<td>do</td>
<td>1 mi.</td>
<td>S.12°E</td>
<td>17 mins</td>
<td>10</td>
<td>2</td>
</tr>
<tr>
<td>9</td>
<td>do</td>
<td>do</td>
<td>do</td>
<td>N.39° E, do. 8.0</td>
<td>do</td>
<td>do</td>
<td>do</td>
<td>30.0</td>
<td>42 crag. S. S.</td>
<td>9 ft.</td>
<td>do</td>
<td>S</td>
</tr>
<tr>
<td>10</td>
<td>do</td>
<td>do</td>
<td>do</td>
<td>S.84° E, do. 51</td>
<td>do</td>
<td>do</td>
<td>do</td>
<td>4:07</td>
<td>34 crag. S.</td>
<td>do</td>
<td>do</td>
<td>S.13° W</td>
</tr>
<tr>
<td>11</td>
<td>do</td>
<td>do</td>
<td>do</td>
<td>S.80° E, do. 28</td>
<td>do</td>
<td>do</td>
<td>do</td>
<td>5:05</td>
<td>28</td>
<td>do</td>
<td>Oyster D.</td>
<td>0.7</td>
</tr>
<tr>
<td>12</td>
<td>do</td>
<td>do</td>
<td>do</td>
<td>N.75° E, do. 0.0</td>
<td>do</td>
<td>do</td>
<td>do</td>
<td>5:53</td>
<td>33</td>
<td>do</td>
<td>do</td>
<td>1 mile</td>
</tr>
<tr>
<td>13</td>
<td>— off Cascade Head —</td>
<td>H.5732</td>
<td>Sept. 3</td>
<td>11:30 am</td>
<td>58</td>
<td>frey. S.</td>
<td>do</td>
<td>do</td>
<td>do</td>
<td>S.62° E</td>
<td>20 mins</td>
<td>30</td>
</tr>
<tr>
<td>14</td>
<td>do</td>
<td>do</td>
<td>do</td>
<td>N.22° E, do. 10.5</td>
<td>do</td>
<td>do</td>
<td>do</td>
<td>12:50</td>
<td>32</td>
<td>do</td>
<td>do</td>
<td>S.24° E</td>
</tr>
<tr>
<td>15</td>
<td>do</td>
<td>do</td>
<td>do</td>
<td>N.20° E, do. 13.5</td>
<td>do</td>
<td>do</td>
<td>do</td>
<td>2:28</td>
<td>2</td>
<td>do</td>
<td>do</td>
<td>S.24° E</td>
</tr>
<tr>
<td>16</td>
<td>do</td>
<td>do</td>
<td>do</td>
<td>N.34° E, do. 101 do</td>
<td>do</td>
<td>do</td>
<td>do</td>
<td>3:40</td>
<td>42 crag. S.</td>
<td>do</td>
<td>do</td>
<td>do</td>
</tr>
</tbody>
</table>

*Addenda:*
- Large jelly fish
- Unknown scallop
- No bottom samples
- Fish
- depth
- 6 inch
- Large scallops 7 feet
- Small and medium-sized