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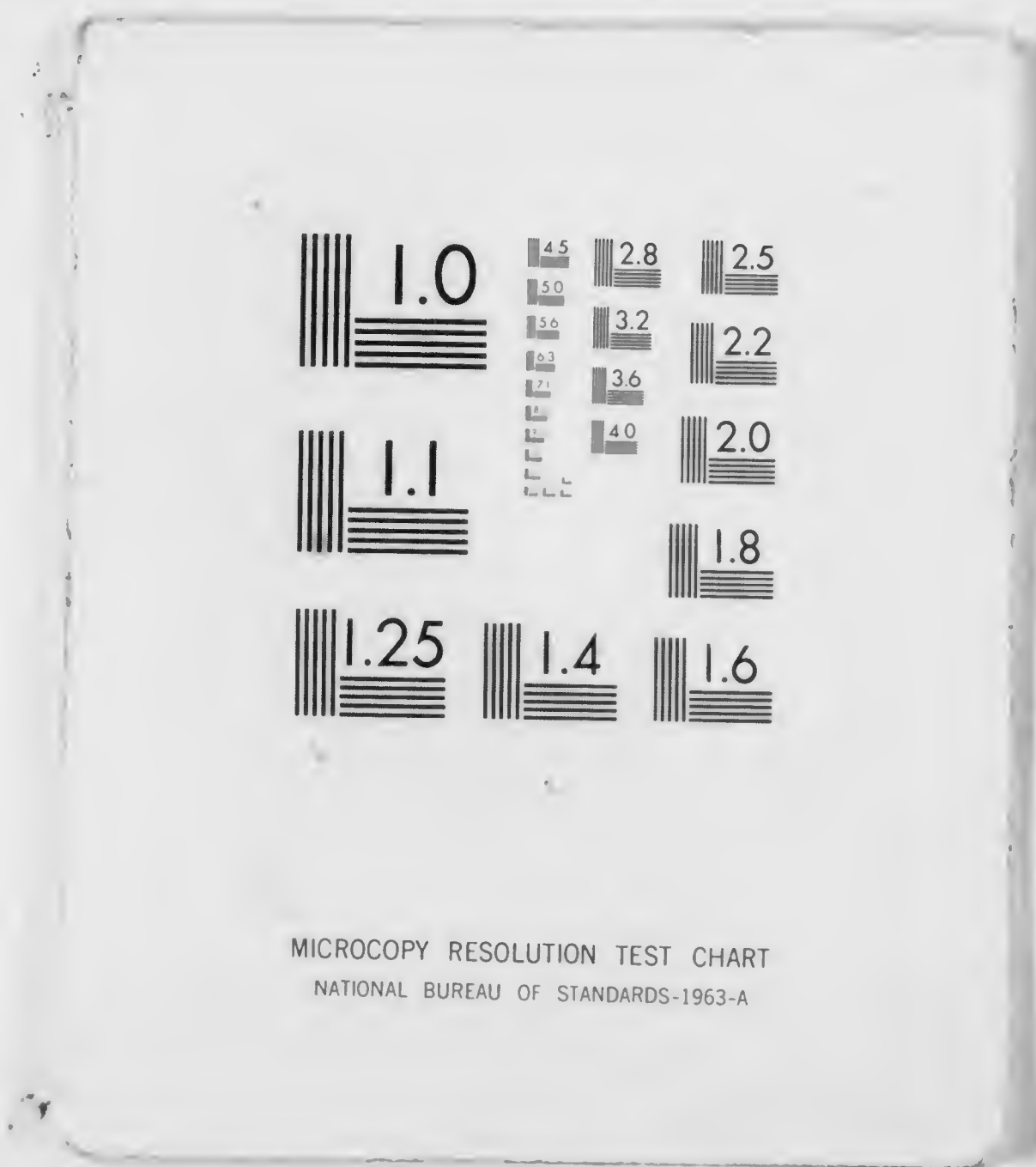
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VOLUME NUMBER: 24

Fur Seal Case, 1891-1892
Letters & Report of
Merriam

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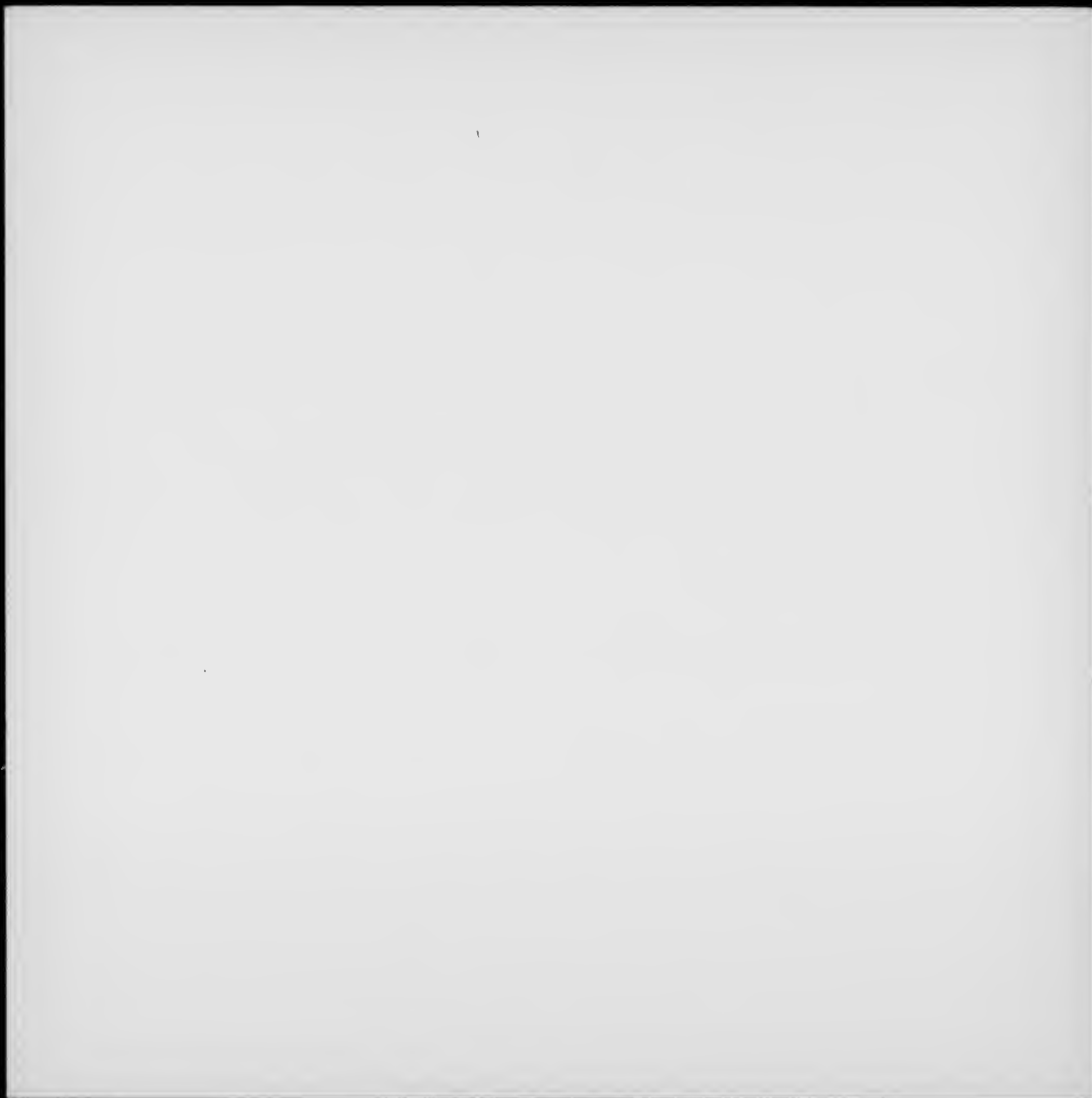
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Fur-Seal case - 1891-1892.

Letters & Report of C. Hart Merriam, Bering Sea Fur-Seal Commissioner

The contents of this Letter-Book were compared with the printed documents, arguments, &c. in the various volumes constituting the 'Fur-Seal Arbitration of 1892' as found in the Library of the U. S. State Department. Nothing appearing here could be identified positively in the material making up that published set except the Letter-Book matter on pp. 196-233 (earlier versions of which are on pp. 86-103, 123-125). This is evidently the final form accepted as C.H.M.'s part of the Amer. Com'rs' Report which is published as pp. 307-396 of 'Fur-Seal Arbitration. Case of the U. S. 1892'. The Letter-Book matter on pp. 296-301 appears to be the detailed statement from which the summary was made which constitutes 'Appendix E' of this published Report of the Amer. Com'rs.

The Letter-Book Instructions to the 'Albatross' (operating under the U. S. Fish Com'n) and to the 'Corwin' (operating under the U. S. Revenue Cutter Service) could not be found in the published Reports or Bulletins of the Fish Com'n, nor in anything credited to the Revenue Cutter Service - the reports of which were not issued for 1892-1896. The Instructions were probably included under 'Secret Orders' of the Revenue Cutter Service and, being confidential documents, were never published.

E. Crawford,
March 14, 1913.

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COPY.

Tacoma, Washington
August 22, 1891.

The Honorable
The Secretary of State
Washington, D. C.

Sir:

In obedience to instructions, Professor Thomas C. Mendenhall and I sailed from San Francisco July 16, 1891, on board the U. S. Fish Commission steamer 'Albatross', bound for the Pribilof Islands in Bering Sea. We stopped at Unalaska for coal July 25 and left July 27, arriving at the Seal Islands next day. We stopped at St. George Island and took on board Mr. J. Stanley Brown, Special Agent of the Treasury Department, whom we carried to St. Paul.

The British Commissioners, Sir George Raden-Powell and Dr. George M. Dawson, met us at Unalaska on the way to the Pribilof Islands, and reached St. Paul the same day we did. They came on the S. S. 'Danube'. I accompanied them from St. Paul to St. George July 31 (on the 'Danube') and returned with them to St. Paul August 2. While at St. George, we visited Zapadni, Eastern, and Great Eastern rookeries together, and took jointly the testimony of Captain Daniel Webster, a man who has lived on the Seal Islands twenty-two years in the employ of the Alaska and North-American Commercial Companies.

August 4, the British Commissioners came on board the 'Albatross', and visited North-East Point rookery (the largest fur-seal rookery in the world) in company with Professor Mendenhall, Mr. J. Stanley Brown, and myself, returning to St. Paul the same evening.

The British Commissioners lived on board their ship, the 'Danube'. Professor Mendenhall and I lived on shore, boarding at the house of the North-American Commercial Company, and eating at the table with the company's agents and the U. S. Treasury agents. While on St. George Island, July 31 to August 2, I lived on shore in the same manner. August 6, the British Commissioners left St. Paul Island for a cruise to the northward, bound for Nunivak and St. Matthew Islands.

I visited in person every fur-seal rookery on St. Paul and St. George Islands.

Prof. Mendenhall and I remained on the Pribilof Islands from July 28 to August 10, sailing on the latter date for Puget Sound, and reached this port (Tacoma) on the 'Albatross' this evening.

Respectfully,

E. A. Mendenhall

October 28, 1891.

The Honorable,
The Secretary of the Treasury,
Washington, D. C.

Sir:

I have the honor to request copies of the "seal logs" of the several revenue cutters cruising in Bering Sea during the past season. The information particularly desired comprises the number and positions of the seals observed from hour to hour each day, distance from the Pribilof Islands, and direction in which the seals were moving, if recorded.

If the tracks of the several vessels have been plotted I would be obliged for copies of the track charts. In case any vessels were in motion at night the night tracks should be discriminated from those made by day.

I have the honor to remain,

Very respectfully,

C. M. Merriam

(Dictated.)

Oct. 28, 1891.

The Honorable,

The Secretary of the Navy,

Washington, D. C.

Sir:

I have the honor to request copies of the "seal logs" of the several war vessels cruising in Bering Sea during the past season. The information particularly desired comprises the number and positions of the seals observed from hour to hour each day, distance from the Pribilof Islands, and direction in which the seals were moving, if recorded.

If the tracks of the several vessels have been plotted I would be obliged for copies of the track charts. In case any vessels were in motion at night the night tracks should be discriminated from those made by day.

I have the honor to remain,

Very respectfully,

C. Hart Merriam

(Dictated.)

October 29, 1891.

Hon. J. M. Rusk,
Secretary of Agriculture,
Washington, D. C.

Sir:

Availing myself of your kind offer to lay before the President certain matters relating to the Bering Sea seal fishery, I respectfully submit the following: The British Commissioners are now at Ottawa and are engaged in the preparation of their report, which, apparently, will be a voluminous document. Dr. Dawson has just written me that he is plotting on a track chart the positions at which seals have been observed at sea by the British ships Danube, Nympe, Pheasant, and Dolphin, and desires to plot at the same time the records made by our vessels in the same waters. He requests, therefore, that he be furnished with the "seal logs" of our war ships and revenue cutters. I see no objection to giving him this information, since he will furnish us a duplicate copy, thus saving us considerable time and labor, and putting us early in possession of the same information which they possess. I have written to the Secretaries of the Navy and Treasury for the "sealing logs" and reports of the masters of vessels cruising in Bering Sea during the past season, and should like to know if I am authorized to furnish Dr. Dawson with the information asked for.

Miss. Seidmore, author of a book on Alaska, has just sent

-2-

me a long letter from Judge James G. Swan, of Port Townsend, Washington, in which he states that he was called to Victoria by the British Commissioners. Among other things, he states, "The Royal Commissioners also have found that the seals of Cape Flattery do not go to Bering Sea at all, but go to Cook's Inlet, Cross Sound, and other of the Fiords and Inlets of southeastern Alaska, where they are found and killed by indians during the same months of the breeding season on the Pribilof Islands."

This letter is dated October 23d and contains much other matter of importance.

I have the honor to remain, with great respect,

C. Hart Merriam

Chief of Division.

Nov. 2, 1891.

Dear Dr. Dawson:

In reply to your recent letter I would say that I shall be very glad to exchange with you the information indicated in relation to the distribution of the Fur Seal in Bering Sea, as observed by the various vessels during the past season. I have asked the Navy and Treasury Departments for copies of the "seal logs" of our war ships and revenue cutters, but have not yet received the data. Will let you know as soon as the material reaches my hands, but fear it is not so detailed as it should be.

If you are going to plot all available data under this head, would it not simplify matters for you to plot our data with your own and give us an exact copy of the resulting track chart?

Very truly yours,

C. Hart Merriam

Dr. George M. Dawson,

Asst. Director, Geological Survey of Canada,

Ottawa, Canada.

poor imprint

November 2, 1891.

The Honorable

The Secretary of the Treasury,

Washington, D. C.

Sir:

I have the honor to acknowledge the receipt of your communication of October 31, transmitting, in compliance with my request, copies of the "seal logs" of the Revenue Steamers "Rush" and "Corwin", covering the months of July and August. In the case of the "Rush", it seems hardly possible that the five entries received comprised all the records of seals made during the season's cruise. Under date of July 19 it is stated that a fur seal was observed 120 miles from St. Paul Id., but the direction is omitted.

I am very glad to learn that track charts of the above named vessels are now being made and that copies will be furnished me when finished.

I have the honor to remain,

Very respectfully,

C. Hart Merriam

(Dictated.)

November 7, 1891.

The Honorable

The Secretary of the Treasury,

Washington, D. C.

Sir:

The track charts of the Revenue Steamers "Rush" and "Corwin", referred to in your communication of October 31 as under construction in the Supervising Architect's office, have been received, for which I am very much obliged.

Respectfully,

C. Eastman

November 9, 1891.

Lieut. Richardson Clover,
 Hydrographic Office, U. S. Navy Department,
 Washington, D. C.

Sir:

I have the honor to acknowledge your communication of the 7th instant, transmitting seven tracings of track charts showing the movements of the naval fleet in Bering Sea during the past season, together with the following Archive documents:

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Sec. 1X	---	" 2	----	"	2417
Sec. 1X	---	" 2	----	"	2412
Sec. 1X	---	" 2	----	"	2413
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The latter will be returned in accordance with your request as soon as I am able to have them copied.

Respectfully,

C. Hart Merriam

Chief of Division of

Ornithology and Mammalogy.

(Dictated)

November 10, 1891.

The Honorable
The Secretary of the Navy,
Washington, D. C.

Sir:

I have the honor to acknowledge the receipt, from the Hydrographic Office, of copies of the track charts and "seal logs" of the several vessels of the naval fleet cruising in Bering Sea during the past season, for which I am very much obliged.

Respectfully,

E. A. Mearns

(Dictated)

November 10, 1891.

The Honorable

The Secretary of State,

Washington, D. C.

Sir:

In partial compliance with my request for copies of the "seal logs" of the several naval vessels cruising in Bering Sea during the past season, I have just received from the Navy Department seven original reports with the request that they be returned. Shall I send these to the State Department to be copied or will you authorize me to have them copied outside?

I should like to be authorized to have enlarged bromide prints made of about a dozen photographs of seal rookeries, taken by me at the Pribilof Islands. These photographs are likely to be of considerable importance as evidence and the originals are too small to show clearly the points involved.

Respectfully,

E. A. Mearns

(Dictated)

November 11, 1891.

Dear Dr. Dawson:

Your letter of the 7th instant has just reached me. I have now received copies of all the track charts of our vessels cruising in Bering Sea during the past season, accompanied by the original records which I must return as promptly as possible. I will have these copied at once and will send you the track charts and "seal logs" as soon as possible, probably within a few days. I think you will find the meteorological data you desire in these reports, but in several instances the data relating to the seals are not so full and explicit as they should be. We shall doubtless be able to secure the information necessary to discriminate day tracks from night tracks later on.

Very truly yours,



(Dictated)

Dr. Geo. M. Dawson,

Director, Geological Survey of Canada,

Ottawa, Canada.

December 2, 1891.

Lieut. Richardson Clover,
Hydrographic Office, U. S. Navy,
Washington, D. C.

Sir:-

I have the honor to acknowledge the receipt of your communication of November 30, enclosing two charts showing the track of the U. S. S. "Alert", with wind, force and fog, from Unalaska, Alaska, to and below Pertopaulskoi, Kamchatka; and from the vicinity of Cape Lapatka, Kamchatka, to Latitude 41° N., Longitude 146° East.

I am very much obliged for these charts and will return them as soon as I am done with them.

Respectfully,

C. Hart Merriam

Chief of Division of

Ornithology and Mammalogy.

(Dictated)

December 2, 1891.

Dr. George M. Dawson,
Ottawa, Canada.

Dear Dr. Dawson:-

I sent you yesterday by express, prepaid, seven track charts of United States vessels cruising in Bering Sea during the past season, together with copies of the "seal logs" of the same vessels.

Regretting the delay in getting this off, and trusting you have not been inconvenienced, I remain,

Very truly yours,

C. West Hurst

(Dictated)

Track Charts Sent.

Corwin

Rush

Thetis

Alert

Mohican

Marion

Allied Fleet (not complete)

December 4, 1891.

Disbursing Officer,
U. S. Department of State.

Sir:

Enclosed is a bill from A. E. Gross of \$39.00 for copying the 'Seal logs' and meteorological reports of the Naval and Revenue Vessels cruising in Bering Sea during the past season.

This copying was done under authorization dated November 12, 1891.

The check may be sent direct to E. A. Gross, 1079--32d St., N.W., Washington.

Respectfully,

C. Hart Merriam

December 4, 1891.

Hon. Col. Marshall McDonald,
U. S. Commissioner Fish and Fisheries,
Washington, D. C.

Sir:-

I have the honor to request a copy of the track chart of the cruise of the "Albatross" in Bering Sea in July and August last, together with a copy of that portion of the log relating to the number and position of the seals observed. I should be very glad also if you would let me have copies of the photographs of the Seal Islands taken during the same cruise.

Respectfully,

C. Hart Merriam

poor imprint

December 14, 1891.

Dear Dr. Dawson:-

Your letter of the 10th inst. came Saturday and the maps and "seal logs" arrived this morning, for which I am much obliged.

It seems to me that it will be very difficult to arrange the discordant facts in our possession in such a way as to give a general view of the whole.

Hoping that matters may be so adjusted that we may get together and finish our part of the work soon, I remain,

Very truly yours,

C. Hart Merriam

Dr. George M. Dawson,

Ass't Director, Geological Survey,

Ottawa, Canada.

poor imprint

December 21, 1891.

Col. Marshall McDonald,
U. S. Commissioner, Fish & Fisheries,
Washington, D. C.

Dear Sir:-

Your letter of the 19th inst. has just been delivered to me by messenger, together with a package of photographs printed from negatives taken by officers of the "Albatross" when at the Seal Islands in July and August last. I am very much obliged for these prints and shall be still further indebted when you send me the remainder of the series on receipt of the negatives from Captain Tanner.

Thanking you for your courtesy in the matter I remain,

Very respectfully,

C. West Merriam

(Dictated)

December 26, 1891.

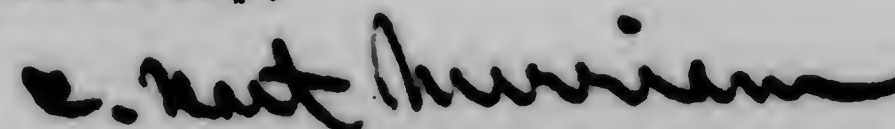
The Honorable

The Secretary of the Treasury.

Sir:-

There have been several notices in the newspapers recently respecting statements alleged to have been made by officers of the Revenue Cutter "Rush" on their arrival in San Francisco, relating to large numbers of young seals found dead on the rookeries. These statements are of the greatest interest and I have the honor to request a copy of such portions of Captain Coulson's report of his recent cruise in Bering Sea as relate to the Seal Fisheries and the condition of the rookeries on the islands of St. Paul and St. George.

Respectfully,



Chief of Division of

Ornithology and Mammalogy.

(Dictated)

December 28, 1891.

Capt. L. G. Shepard,
Chief, Revenue Marine Division,
Treasury Department.

Sir:-

I have the honor to acknowledge the receipt of your communication of the 26th inst., together with a copy of the track chart of the Revenue Steamer "Bear" in the vicinity of the Seal Islands, for which I am very much obliged.

Respectfully,

C. A. Mearns

Chief of Division of
Ornithology and Mammalogy.

(Dictated)

December 31, 1891.

Hon. O. L. Spaulding,
Acting Secretary of the Treasury.

Sir:-

I have the honor to acknowledge the receipt of your communication of the 29th inst. transmitting a copy of a letter from Captain Coulson, U.S.R.M., accompanying a copy of the evidence regarding pelagic sealing in Bering Sea, taken before Lieutenants Newcomb and Quinan, for which I am very much obliged.

I should be still further indebted if you will have copied for me that portion of the log of the "Bear" relating to the seal fisheries and to seals observed in Bering Sea during the past season.

The document sent in response to my request of the 28th inst. consists wholly of testimony of natives and Company employees taken by the officers of the "Rush" and does not contain any statement made by the officers themselves. The newspaper clipping referred to in my former letter stated that the officers reported seeing enormous numbers of dead pups on the rookeries after the old seals had gone. A statement to this effect from the commanding officer of the "Rush" would be of much importance.

Respectfully,

C. Hart Merriam

(Dictated)

December 31, 1891.

Capt. L. G. Shepard,
Chief, Revenue Marine Division,
U. S. Treasury Department.

Sir:-

In acknowledging the receipt of the track chart of the Revenue Steamer "Bear" yesterday I omitted to observe that the chart received relates exclusively to the immediate vicinity of the Pribilof Islands and does not show the positions and numbers of seals observed in Bering Sea during the past season. It therefore is of no value to us for the purpose for which it was desired. I have the honor to request therefore a copy of the track chart of the Revenue Steamer "Bear" covering the whole of Bering Sea from Unalaska to the northernmost point at which fur seals were observed, showing the positions and numbers of seals observed during each watch, and discriminating between day runs and night runs. Similar track charts are now in my possession showing the movements of all the other United States and British vessels cruising in Bering Sea during the past season.

Respectfully,

C. Hart Merriam

(Dictated)

December 31, 1891.

Prof. S. I. Smith,
New Haven, Conn.

My Dear Prof. Smith:-

By this mail I send you an Isopod taken from the stomach of a seal at St. Paul Island, Bering Sea. Will you be kind enough to let me know what it is as nearly as may be practicable from so imperfect a specimen.

Will you be kind enough to ask Prof. Verrill if he will identify for me a leech collected by our Death Valley expedition in southern Nevada last winter.

Very truly yours,

C. Hart Merriam

(Dictated)

January 6, 1892.

Capt. L. G. Shepard,
Chief Revenue Marine Division,
U. S. Treasury Department.

Sir:-

I have the honor to acknowledge the receipt of your communication of the 4th inst. and am glad to know that you have taken means to secure the desired data in relation to Bering Sea.

Respectfully,

C. East

(Dictated)

January 11, 1892.

Hon. J. M. Rusk,
Secretary of Agriculture.

Sir:

The accompanying letter has just been received from Sir George Baden-Powell, who, it appears, is likely to arrive from London in a day or two.

He comes, as you will see from his letter, in the hope of proceeding immediately to the preparation of a joint report on the Bering Sea matter, which it is earnestly hoped may be finally settled before the sealing industry becomes a thing of the past.

More seals were killed by pelagic sealers last season than ever before, notwithstanding the modus vivendi, which it should be remembered does not prohibit sealing in Pacific waters south of the Aleutian Islands, where so many female seals heavy with young have been killed annually for the past few years that if the killing is continued I have no doubt the rookeries at the Pribilof Islands will soon be ruined, even if no seals are killed in Bering Sea. This sealing in the North Pacific begins off the Straits of Fuca in January or February, and the seals are followed thence northward to the passes in the Aleutian Chain, the killing being kept up well into June. Last year 18,000 skins of old seals killed in these waters

were shipped to Victoria from the Shumagin Islands by one vessel (the Danube), this number representing the destruction, according to our estimate, of 180,000 seals; and there can be no reasonable doubt that 200,000 seals were destroyed south of Bering Sea last year--a number twice as great as the largest number ever killed at the Pribilof Islands in any one year during the lease of the Alaska Commercial Co.

According to the newspapers, the Victoria sealing fleet is now almost ready to sail, and it is stated that "fully fifty vessels will leave that place alone."

Respectfully,

E. W. Murrison

January 21, 1892.

Hon. O. L. Spaulding,

Acting Secretary of the Treasury.

Sir:

I have the honor to acknowledge your communication of the 20th instant, transmitting copies of letters from Captain W. C. Coulson and other officers of the Revenue Steamer "Rush" respecting the numbers of dead pup seals found upon the rookeries at St. Paul and St. George Islands, Bering Sea, during the Fall of 1891, for which I am very much obliged.

Respectfully,

C. West Merriam

Chief of Division of

Ornithology & Mammalogy.

poor imprint

copy

January 15, 1892.

Sir George Baden-Powell,
Government House,
Ottawa, Canada.

Dear Sir George:

I am pleased to learn from your letter of the first instant that matters are so nearly arranged for our meeting that you were about to return to America--and I assume you will reach Ottawa about the time this letter gets there. I should have replied to your former polite note had I known your London address. Personally I am anxious to complete our task at the earliest possible moment in order to go back to my legitimate work and trust that we may be permitted to begin at a very early date.

Mrs. Merriam joins me in kindest regards and in the hope that we shall see you here in a few days.

Very truly yours,

C. Hart Merriam

January 23, 1892.

Mr. Alfred Fraser,

50 Wall Street,

New York.

Dear Sir:

Will you have the kindness to send me a copy of C. M.
Lampson and Cos. price current for 1891?

Respectfully,

C. Hart Merriam

Chief of Division of

Ornithology & Mammalogy.

January 26, 1892.

Mr. Alfred Fraser,
50 Wall Street, New York.

Dear Sir:

Your favor of the 25th instant is received, together with the catalogues and reports of C. M. Lampson & Co. for the past year, for which I am very greatly obliged.

If you have on hand the prices brought "at the Sales of Salted Fur Seal Skins" in previous years, I shall be greatly obliged for copies of the same.

Respectfully,

C. Nutt Merriam

Chief of Division of

Ornithology & Mammalogy.

poor imprint

January 27, 1892.

Hon. O. L. Spaulding,
Acting Secretary of the Treasury,
Washington, D. C.

Sir:

I have the honor to acknowledge your communication of the 26th instant, transmitting a copy of a letter from the Commanding Officer of the Revenue Steamer "Bear" respecting seal life in Bering Sea, together with a revised track chart of the "Bear", for all of which I am very much obliged.

Respectfully,

C. West Mearns

Chief of Division of
Ornithology & Mammalogy.

poor imprint

February 1, 1892.

Mr. Alfred Fraser,
50 Wall Street,
New York City.

Dear Sir:

Your communication of the 30th ultimo is at hand, together with Lampson Co.'s Reports of Sales of Fur Seal skins from 1888 to 1890 inclusive, for which I am exceedingly obliged. Thanking you for your courtesy in this matter, I remain,

Respectfully,

C. Hart Merriam

Chief of Division of
Ornithology & Mammalogy.

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WELL
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January 27, 1892.

Hon. O. L. Spaulding,
Acting Secretary of the Treasury,
Washington, D. C.

Sir:

I have the honor to acknowledge your communication of the 26th instant, transmitting a copy of a letter from the Commanding Officer of the Revenue Steamer "Bear" respecting seal life in Bering Sea, together with a revised track chart of the "Bear", for all of which I am very much obliged.

Respectfully,

C. Hart Merriam

Chief of Division of
Ornithology & Mammalogy.

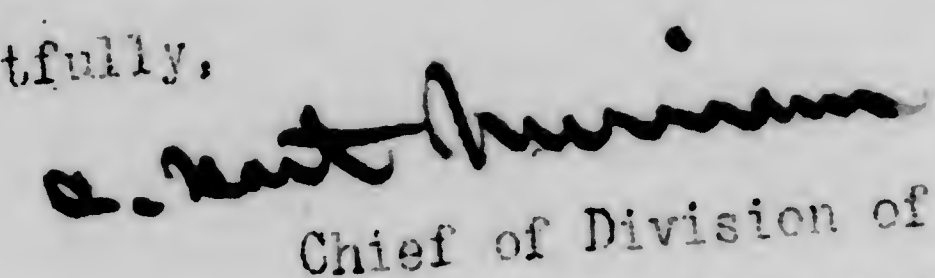
February 1, 1902.

Mr. Alfred Fraser,
50 Wall Street,
New York City.

Dear Sir:

Your communication of the 20th ultimo is at hand, together with Lampson Co.'s Reports of Sales of Fur Seal skins from 1888 to 1890 inclusive, for which I am exceedingly obliged. Thanking you for your courtesy in this matter, I remain,

Respectfully,



Chief of Division of
Ornithology & Mammalogy.

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WELL
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February 1, 1892.

The Honorable

The Secretary of State

Sir:

I have the honor to request a citation that will enable me to refer to the treaty between Great Britain and Sweden and Norway, respecting the protection of the Newfoundland seal fishery.

Respectfully,

C. Hart Merriam

Chief of Division of
Ornithology & Mammalogy.

February 3, 1892.

Dear Doctor Dawson:

Mr. Macoun has just handed me your letter of yesterday together with tracings of combined track charts and the two printed maps containing the generalized results of your study of available data, for all of which I am very much obliged.

Very truly yours,

C. Hart Merriam

Dr. George M. Dawson,

Arlington Hotel,

Washington D. C.

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Washington
Feb. 10, 1892.

My dear Sir George:

Enclosed is a copy of the only list in my possession of the U.S. vessels engaged in pelagic sealing in 1891, with their respective catches.

It is manifestly incomplete as you will see, and perhaps Stanley-Brown has a better one, but I have not been able to see him since Sunday.

With best wishes
Very truly yours
C. West Harrison

Sir George Baden Powell
The Arlington

CATCH OF AMERICAN SEALING FLEET, 1891.

Name.	Spring Catch.	Fall Catch.	Total
Emma & Louise S.F.		1080	1080
Ethel, San Diego.....	125	56	181
E.E. Webster, S.F.....	600		600
Henry Dennis, Seattle....	750	428	1178
J. H. Lewis, S.F.....	470		470
Sophie Sutherland, S.F....			
Allie A. Algar, Seattle..	450		450
O.G. White, S.F.....		1686	1686
Kate & Amy Yaquina Bay...		630	630
Louise Olsen, Portland...			
San Diego, S.F.....		465	465
C.H. White, S.F.....			
Helen Blum, S.F.....		46	46
Mattie Dyer, S.F.....			
Lillie L., S.F.....		540	540
Mary Gilbert, S.F.....			
Bessie Ritter, Astoria...			
La Ninfa, S.F.....			
Undaunted, Kodiak.....	395		395
G.H. White, Port Townsend.		202	202
James G. Swan, Neah Bay..	54		54
Rosie Sparks, S.F.....	148		148
Lottie, Neah Bay.....		460	460
	2992	5593	8585

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February 12, 1898.

Dear Mr. Forster:

Many thanks for your kindness in calling my attention to the note in the Medical Repository for 1805 respecting the former abundance of sea elephants and other seals on Juan Fernandez Island. I shall have the reference looked up at once.

Very truly yours,

C. Hart Merriam

Mr. L. S. Forster,

36 Pine Street,

New York City.

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WELL
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February 18, 1892.

The Honorable

The Secretary of the Treasury.

Sir:

I have the honor to request a chart of Bering Sea showing the positions of the sealing schooners when warned, or seized by our united fleet during the past season, together with a statement as to whether or not such vessels were actually engaged in taking seals at the time of warning or seizure, and such other information as the Department may possess respecting the points at which seals were taken by the sealing schooners. It is of much importance that this information be furnished at as early a date as possible.

Respectfully,

e. nest murian

Bering Sea Commissioner.

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February 18, 1892.

The Honorable

The Secretary of the Navy.

Sir:

I have the honor to request a chart of Bering Sea showing the positions of the sealing schooners when warned or seized by our united fleet during the past season, together with a statement as to whether or not such vessels were actually engaged in taking seals at the time of warning or seizure, and such other information as the Department may possess respecting the points at which seals were taken by the sealing schooners. It is of much importance that this information be furnished at as early a date as possible.

Respectfully,

C. West Merriam

Bering Sea Commissioner.

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February 18, 1892.

The Honorable

The Secretary of the Treasury.

Sir:

I am informed that some months ago the Treasury Department undertook to collect information on the Pacific Coast respecting the number of seals lost in relation to those secured by the pelagic sealers, and other information bearing upon pelagic sealing. It is very important that the information collected by the Department be placed at the disposal of the United States Bering Sea Commissioners at as early a date as practicable.

I have the honor to remain,

Respectfully,

E. A. Mearns

Bering Sea Commissioner.

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February 29, 1892.

The Honorable

The Secretary of the Navy.

Sir:

I have the honor to acknowledge the receipt of the chart of Bering Sea showing the positions of the vessels warned and seized during the season of 1891, together with letters from the Commanding officers of the Mohican, Thetis, and Marion, and a tabular statement of vessels warned, for all of which I am very much obliged.

One important article of information asked for is not contained in these documents, namely, "the statement as to whether or not the vessels warned or seized were actually engaged in taking seals at the time of warning or seizure, and such other information as the Department may possess respecting the points at which seals were taken by the sealing schooners."

Respectfully,

C. West Thurman

Bering Sea Commissioner.

February 29, 1892.

The Honorable

The Secretary of the Navy.

Sir:

I have the honor to acknowledge the receipt of the chart of Bering Sea showing the positions of the vessels warned and seized during the season of 1891, together with letters from the Commanding officers of the Mohican, Thetis, and Marston, and a tabular statement of vessels warned, for all of which I am very much obliged.

One important article of information asked for is not contained in these documents, namely, "the statement as to whether or not the vessels warned or seized were actually engaged in taking seals at the time of warning or seizure, and such other information as the Department may possess respecting the points at which seals were taken by the sealing schooners."

Respectfully,

C. West Thurman

Bering Sea Commissioner.

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March 9, 1892.

Commodore Francis M. Ramsay,

Navy Department, Washington D. C.

Sir:

I have the honor to acknowledge the receipt of your communication of the 8th instant, transmitting extracts from the log books of the "MORICAN", "THETIS" and "MARION", respecting vessels warned or seized in Bering Sea during the past season.

Respectfully,

E. Hart Merriam

Bering Sea Commissioner.

MEMORANDUM FOR MAJOR WILLIAMS.

Send man to San Diego to collect affidavits from former pelagic sealers.

In addition to usual questions, ask how far south seals are found as a rule (in ordinary years) and how far in exceptional years by vessels sailing from San Diego, and at what dates.

Inquire at San Diego also about old rookeries on Guadalupe Island: when last occupied, etc.

Go or send man to Neah Bay to question Makah Indians as to dates when seals are present in Strait of Fuca and off mouth of Strait. **Are** the different categories (i.e. different sexes and ages) found together or at different dates and in separate herds?

It has been claimed that newly born pups have been repeatedly found along the coast. At what time of year and in what numbers have pup seals been found in or near the Strait of Fuca or on neighboring coasts? Can evidence be had as to where such pups were born? If so, can it be shown that pups have been born in same locality several successive years?

Questions to ask sealers:

(NORTH PACIFIC)

1. How far south as a rule are seals found in winter off the coast of California; how far off shore, and at what dates?
2. What variations have been observed in the southern limit of

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the herd in different years ?

3. To what category (i.e., what sex and age) do these seals at the southern end of the herd belong ?

4. How long do they remain at their southernmost observed point ? (Give inclusive dates if possible)

5. Are they found in distinct herds or as scattered individuals ?

6. Are those first observed replaced by others at a later date ? If so, do the latter belong to the same category (i.e., are they of the same sex and age?) .

7. About what percentage of seals killed in the North Pacific are females ?

8. About what percentage of the cows are barren ? Are the latter taken in greatest numbers at any particular place or time ?

9. Are young seals (yearlings or under) often killed in the North Pacific ? If so, where, and at what dates ? Is it known whether these young are chiefly males or females ?

10. Are bachelor seals (holluschickie) ever killed in the North Pacific in any numbers ? If so, where, and at what dates ? Do they mix with the cows or do they herd by themselves ?

11. How early in spring do seals appear in the neighborhood of the Fairweather banks ? And how long do they remain off this part of the coast ?

12. To what category or categories do such seals belong ? (Are barren cows or bachelor seals more abundant here than elsewhere ?)

(BERING SEA.)

13. At what distance from the Pribilof Islands are most of the seals killed ?
14. About what proportion of the total pelagic catch are males and what females ?
15. What proportion of seals killed at sea 10 miles away from the Islands are nursing cows (i.e., giving milk)?
16. What proportion at 20 miles ?
17. What proportion at 30 miles ?
18. What proportion at 50 miles ?
19. What proportion at 100 miles ?
20. What proportion at 150 miles ?
21. Are barren cows ever killed in Bering sea in any considerable numbers ? If so, in what part of the sea (what distance and direction from the Seal Islands, etc.), and at what dates ?
22. Do such barren cows herd by themselves or do they mix with other seals ?

March 15, 1892

March 12, 1912

INSTRUCTIONS FOR THE 'ALBATROSS'.

In relation to the regulations necessary for the proper protection and preservation of Seal life in Bering Sea, concerning which the Governments of the United States and Great Britain are about to appeal to arbitration, the following propositions, among others, are contended for by the United States:

- (1) The great majority of seals taken in pelagic sealing are female Seals, and of these by far the greater part are capable of bearing young.
- (2) All methods of taking Seals at Sea (pelagic sealing) are wasteful because: (a) it is impossible to exercise any selection as to age, and hence skins are taken which on account of being too young or too old have little market value, and (b) a considerable percentage of Seals killed in the water, or wounded beyond recovery are lost.

For the purpose of obtaining evidence in support of these propositions, you are directed to carry out the following instructions, and, in addition, you will take every opportunity that is offered for gaining information which, in your judgment, tends to establish the fact that pelagic sealing should be prohibited.

Prepared by S.C. Chamberlain

March 17, 1912

ALBATROSS.

Get a native hunter at Neah Bay, if possible, to take to Cook Inlet as interpreter. If native cannot be obtained, get a white man (seal hunter if practicable) who talks Chinook.

Proceed at once to Cook Inlet for the purpose of ascertaining from natives and by observation along shore all facts bearing upon following points. It has been alleged that the seals attempted to establish a rookery there, but were driven off by the Indians. We hope to prove either that fur seals have never gone ashore there, or if the fact of landing is established, that a few non-breeding seals have hauled there during migration. If it is found that fur seals have 'hauled' in Cook Inlet, or at any other points along the coast, ascertain the precise spot or spots and collect evidence as to numbers and dates. It is important to show that the alleged 'hauling out' has not been repeated in the same spot year after year.

The cruise from Port Townsend to Cook Inlet and return to Sitka should be made in three weeks if practicable, and must not exceed four weeks. It should be so arranged as to catch mail steamer at Sitka.

Some seals should be secured on the way up, and the northern limit of the herd at the date of the cruise should be determined if possible. If seals are encountered on the return trip, the northernmost point at which they are seen should be recorded, and specimens should be secured if possible to determine sex and age.

Await further instructions at Sitka, and while there obtain affidavits from natives, seal hunters, and others respecting the

points on which evidence is desired.

A special 'seal log' should be kept, in which should be recorded the positions and relative abundance of seals seen at successive hours each day.

A special track chart should be used for plating the positions of seals observed from day to day, and the relative abundance should be indicated by the words, 'abundant', 'common', 'scarce'.

A record should be kept of all sealing vessels encountered, and a note should be made as to whether such vessels were engaged in taking seals when seen.

In connection with your weather record, state the number of days in each week during which pelagic sealing can be carried on.

Investigations should be made with a view to ascertaining:--

1. The proportion of gravid females to the total number of fur seals killed in the North Pacific.
2. The proportion of seals lost to those wounded at sea.
3. The distribution of seals along the coast at different dates
Under this head should be recorded all facts obtained respecting the dates at which seals occur off successive points and at different distances from land; and if the several classes or categories (i.e., different sexes and ages) herd independently, limiting dates and distances should be given for each when known.
4. The food habits and character of feeding grounds of the fur seal.

In the case of seals killed at sea, it is important to ascertain:

- (a) proportions of sexes and ages at different localities and dates;
- (b) proportion of gravid cows to barren cows and virgin cows.
If doubt exists as to whether non-pregnant cows are virgin or barren, the uterus should be labeled with full data and preserved in alcohol.
- (c) proportion of seals wounded to seals secured;
- (d) proportion of seals that sink when killed and let alone;
- (e) character of food
As many stomachs as possible should be examined for food, and all stomach-contents should be carefully preserved and brought back. The contents of each stomach should be dried (unless comprising too much fleshy matter, in which case it should be preserved in alcohol), and should be labeled with locality, date, and sex of seal. Care should be taken not to overlook squid's beaks, and other small objects.

Secure affidavits from seal hunters whenever practicable. Such affidavits should cover the following points:

RESPECTING PELAGIC SEALING IN THE NORTH PACIFIC.

1. How far south and how far north are fur seals known to occur.
2. About what proportion of seals wounded are lost ?
3. About what proportion of seals killed in the North Pacific are females ?
4. About what percentage of the cows are barren ? Are the latter taken in greatest numbers at any particular place or time ?
5. Are young seals (yearlings or under) often killed in the North Pacific ? If so, where, and at what dates ? Is it known whether these young are chiefly males or females ?
6. Are bachelor seals (holluschickie) ever killed in the North Pacific in any numbers ? If so, where, and at what dates ? Do they mix with the cows or do they herd by themselves ?
7. How early in spring do seals appear in the neighborhood of the Fairweather banks ? And how long do they remain off this part of the coast ?
8. To what category or categories do such seals belong ? (Are

barren cows or bachelor seals more abundant here than elsewhere ?)

RESPECTING PELAGIC SEALING IN BERING SEA.

9. At what distance from the Pribilof Islands are most of the seals killed ?
10. About what proportion of the total pelagic catch are males and what females ?
11. What proportion of seals killed at sea 10 miles away from the Islands are nursing cows (i.e., giving milk) ?
12. What proportion are nursing cows at 20, 30, 50, 100, and 150 miles ?
13. Are barren cows ever killed in Bering sea in any considerable numbers ? If so, in what part of the sea (what distance and direction from the Seal Islands, etc.), and at what dates ?
14. Do such barren cows herd by themselves or do they mix with other seals ?

INSTRUCTIONS FOR THE 'CORWIN'.

In relation to the regulations necessary for the proper protection and preservation of Seal life in Bering Sea, concerning which the Governments of the United States and Great Britain are about to appeal to arbitration, the following propositions, among others, are contended for by the United States:

- (1) The great majority of seals taken in pelagic sealing are female Seals, and of these by far the greater part are capable of bearing young.
- (2) All methods of taking Seals at Sea (pelagic sealing) are wasteful because: (a) it is impossible to exercise any selection as to age, and hence skins are taken which on account of being too young or too old have little market value, and (b) a considerable percentage of Seals killed in the water, or wounded beyond recovery are lost.

For the purpose of obtaining evidence in support of these propositions, you are directed to carry out the following instructions, and, in addition, you will take every opportunity that is offered for gaining information which, in your judgment, tends to establish the fact that pelagic sealing should be prohibited.

The following instructions replace those previously sent, which latter are hereby annulled.

An interpreter, or some one who can speak 'Chinook' with the natives, should be taken on board.

Area to be covered by the Investigation.

Leaving Puget Sound and passing out of the Strait of Juan de Fuca, you will proceed by an outside passage, but not far from the

-2-

Coast, to Dixon Entrance, where you will enter fairly upon your working ground. Your work will then consist of as careful an examination as is possible of the interior waters of South-East Alaska, including the principal channels and straits and of the outside waters within fifty miles of the Coast line and not further north than Yakutat Bay.

Methods of making the Investigation.

Two principal methods may be used in obtaining the desired evidence.

1. By actually hunting and taking seals by the methods ordinarily used in pelagic sealing, combined with a careful examination of the results of the catch with all the incidents pertaining thereto which may be in any way related to the questions under consideration. For this purpose you will employ and equip a crew of experienced hunters, especially such as employ the rifle or shot gun. You will give them every opportunity for seal hunting particularly in the outside waters, making careful and accurate notes and records of the results, as to sex, condition, time and place of taking, condition of stomach as to food and generally all facts bearing on the propositions stated above. The hunting crew should be accompanied on their excursion by some reliable person, competent to make the necessary observations and records.
2. By obtaining such evidence of seal hunters, native and white, whose testimony you may be able to secure. For this purpose you will be accompanied by an officer authorized to administer oaths and by some ^{one} able to act as an interpreter in your dealings with the natives. You will visit the various towns and villages

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in Alaska, making diligent inquiry as to where these seal hunters may be found, and endeavor to put yourself in such relations with them as to secure their testimony free from personal bias.

You will inform yourself as to the dates of the sailing of the regular mail steamers from Alaskan ports, and after you have begun your work you will send a full report of your operations and their results by each mail. It is understood that Seal hunting will be carried on during the outside passage from Puget Sound to Dixon Entrance, and in order that hunting may not interfere too much with the progress of the ship, it will generally be desirable to keep under good headway during the night, that the hunters may be able to utilize the day for their work.

Very much must be left to your own discretion, and you will be expected to deviate from these instructions whenever, in your judgment, such a course would further the interests involved, keeping constantly before you the fundamental propositions, to the support of which it is hoped your cruise will largely contribute. You will so conduct the cruise that you will return to Port Townsend not ^{more} ~~less~~ than six weeks after you sail for Alaskan waters. You will telegraph your return and await further instructions.

A special 'seal log' should be kept, in which should be recorded the positions and relative abundance of seals seen at successive hours each day.

A special track chart should be used for plating the positions of seals observed from day to day, and the relative abundance should be indicated by the words, 'abundant', 'common', 'scarce'.

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A record should be kept of all sealing vessels encountered, and a note should be made as to whether such vessels were engaged in taking seals when seen.

In connection with your weather record, state the number of days in each week during which pelagic sealing can be carried on.

A special effort should be made to learn as much as possible concerning the facts (as to places, dates, etc.,) in all cases where seals are alleged to have landed or 'hauled out' south of the Alaska Peninsula.

An attempt should be made to ascertain what 'inland passages', 'channels', and 'sounds' are frequented by seals.

In connection with the weather record, it should be stated how many days in each week were fit for pelagic sealing.

In the case of seals killed at sea, it is important to ascertain:

- (a) proportions of sexes and ages at different localities and dates;
- (b) proportion of gravid cows to barren cows and virgin cows. If doubt exists as to whether non-pregnant cows are virgin or barren, the uterus should be labeled with full data and preserved in alcohol.
- (c) proportion of seals wounded to seals secured;
- (d) proportion of seals that sink when killed and left alone;

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(e) character of food

As many stomachs as possible should be examined for food, and all stomach-contents should be carefully preserved and brought back. The contents of each stomach should be dried (unless comprising too much fleshy matter, in which case it should be preserved in alcohol), and should be labeled with locality, date, and sex of seal. Care should be taken not to overlook squid's beaks, and other small objects.

INSTRUCTIONS FOR THE STEAMER ALBATROSS.

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1. In relation to the regulations necessary for the proper protection and preservation of Seal life in Bering Sea, concerning which the Governments of the United States and Great Britain are about to appeal to arbitration, the following propositions, among others, are contended for by the United States:

2. The great majority of Seals taken in pelagic sealing are female Seals, and of these by far the greater part are capable of bearing young.

3. All methods of taking Seals at Sea (pelagic sealing) are wasteful because: (a) it is impossible to exercise any selection as to age, and hence skins are taken which on account of being too young or too old have little market value, and (b) a considerable percentage of Seals killed in the water, or wounded beyond recovery are lost.

4. For the purpose of obtaining evidence in support of these propositions, you are directed to carry out the following instructions, and, in addition, you will take every opportunity that is offered for gaining information which, in your judgment, tends to establish the fact that pelagic sealing should be prohibited.

5. Get a native hunter at Neah Bay, if possible, to take to Cook Inlet as interpreter. If a native cannot be obtained, get a white man (seal hunter if practicable) who talks Chinook.

6. Proceed at once to Cook Inlet for the purpose of ascertaining from natives and by observation along shore all facts bearing upon the following points. It has been alleged that the seals attempted to establish a rookery there, but were driven off by the Indians. We hope to prove either that fur seals have never gone ashore there, or, if the fact of landing is established, that a few non-breeding seals have ~~been~~ "hauled" there during migration. If it is found that fur seals have "hauled" in Cook Inlet, or at any other points along the coast, ascertain the precise spot or spots and collect evidence as to numbers and dates. It is important to show that the alleged 'hauling out' has not been repeated in the same spot year after year.

7. The cruise from Port Townsend to Cook Inlet and return to Sitka should be made in three weeks if practicable, and must not exceed four weeks. It should be so arranged as to catch the mail steamer at Sitka.

8. Some seals should be secured on the way up, and the northern limit of the herd at the date of the cruise should be determined if possible. If seals are encountered on the return trip, the northernmost point at which they are seen should be recorded, and specimens should be secur-

poor imprint

5. Get a native hunter at Neah Bay, if possible, to take to Cook Inlet as interpreter. If a native cannot be obtained, get a white man (seal hunter if practicable) who talks Chinook.

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-ed if possible to determine sex and age.

9. Await further instructions at Sitka, and while there obtain affidavits from natives, seal hunters, and others respecting the points on which evidence is desired.

10. A special 'seal log' should be kept, in which should be recorded the positions and relative abundance of seals seen at successive hours each day.

11. A special track chart should be used for plotting the positions of seals observed from day to day, and the relative abundance should be indicated by the words, 'abundant', 'common', 'scarce'.

12. A record should be kept of all sealing vessels encountered, and a note should be made as to whether such vessels were engaged in taking seals when seen.

13. In connection with your weather record, state the number of days in each week during which pelagic sealing can be carried on.

[Note. — Nos. 10 and 11 should be included in one sworn statement. No. 12 should constitute a separate statement.]

Investigations should be made with a view to ascertain:--

14. The proportion of gravid females to the total number of fur seals killed in the North Pacific Ocean.
15. The proportion of seals lost to those wounded at sea.
16. The distribution of seals along the coast at different dates.

Under this head should be recorded all facts obtained respecting the dates at which seals occur off successive points and at different distances from land; and if the several classes or categories (i.e., different sexes and ages) herd independently, limiting dates and distances should be given for each when known.

17. The food habits and character of feeding grounds of the fur seal.

In the case of seals killed at sea, it is important to ascertain:--

18. Proportions of sexes and ages at different localities and dates;
19. Proportion of gravid cows to barren cows and virgin cows.

If doubt exists as to whether non-pregnant cows are virgin or barren, the uterus should be labelled with full data and preserved in alcohol.

20. Proportion of seals wounded to seals secured;
21. Proportion of seals that sink when killed and let alone;

22. Character of food

As many stomachs as possible should be examined for food, and all stomach-contents should be carefully preserved and brought back. The contents of each stomach should be dried (unless comprising too much fleshy matter, in which case it should be preserved in alcohol), and should be labeled with locality, date, and sex of seal. Care should be taken not to overlook squid's beaks and other small objects.

Note of Explanation respecting Affidavits relative to the foregoing Instructions.

The affidavits made by Lieut. Commander Z. L. Tanner and Prof. B. W. Evermann, to be forwarded to Washington, should be in four sets, as follows:

I. To comprise results of your own observations on points covered by paragraphs 2, 3, 14, 15, 18, 19, 20 and 21.

II. To cover seal log and track chart, paragraphs 10 and 11.

III. To comprise results of scientific observations specified in paragraphs 16, 17 and 22.

IV. To cover record of sealing vessels encountered, paragraph 12.

The affidavits of seal hunters and natives are independent of the above, and will be attended to by the special officer detailed for that purpose.

You will be accompanied by an officer authorized to administer oaths.

Secure affidavits from seal hunters whenever practicable. Such affidavits should cover, as far as practicable, the following points:

RESPECTING PELAGIC SEALING IN THE NORTH PACIFIC.

1. How far south and how far north are fur seals known to occur in winter?
2. About what proportion of seals wounded are lost?
3. About what proportion of seals killed in the North Pacific are females?
4. About what percentage of the cows are barren? Are the latter taken in greatest numbers at any particular place or time?
5. Are young seals (yearlings or under) often killed in the North Pacific? If so, where, and at what dates? Is it known whether these young are chiefly males or females?
6. Are bachelor seals (holluschickie) ever killed in the North Pacific in any numbers? If so, where, and at what dates? Do they mix with the cows or do they herd by themselves?
7. How early in the spring do seals appear in the

neighborhood of the Fairweather banks? And how long do they remain off this part of the coast?

8. To what category or categories do such seals belong? (Are barren cows or bachelor seals more abundant there than elsewhere?)

RESPECTING PELAGIC SEALING IN BERING SEA.

9. At what distance from the Pribilof Islands are most of the seals killed?

10. About what proportion of the total pelagic catch are males and what females?

11. What proportion of seals killed at sea 10 miles away from the Islands are nursing cows (i.e., giving milk)?

12. What proportion are nursing cows at 20, 30, 50, 100, and 150 miles?

13. Are barren cows ever killed in Bering Sea in any considerable numbers? If so, in what part of the sea (what distance and direction from the Seal Islands, etc.), and at what dates?

14. Do such barren cows herd by themselves or do they mix with other seals?

March 18, 1892.

Disbursing Officer,
Department of State.

Dear Sir:

I transmit herewith receipted vouchers from the Eastman Co. for 12 enlargements of photographs of seals and Seal Islands authorized by letter of Mr. Wharton. The photographs have been received and I shall be obliged if you will send the check direct to the Eastman Co.

Respectfully,

C. Hart Merriam

Bering Sea Commissioner.

The Eastman Company
Rochester, New York.

2

March 14. 12 bromide enlargements of photographs
(20 x 16) @ 2.00 (scale + red labels)

24

Account *March 2*
Twenty-four *per*
24.00
J. E. Eastman
Pres

The Eastman Company
Rochester, New York.

2

March 14. 12 bromide enlargements of photographs
(20 x 16) @ 2.00 (scale + end labels)

24

Account March 2
Twenty-four
24.00
J. E. Eastman
Pres

Retake of Preceding Frame

Washington, D. C., April 2, 1892. ³³

Prof. Dr. Wilhelm Blasius,
 Director Brunswick Museum & Botanical Garden,
 Brunswick, Germany.

Dear Sir:

The Government of the United States having selected me as a naturalist to investigate and report upon the condition of the Fur Seal rookeries on the Pribilof Islands in Bering Sea, with special reference to the causes of decrease and the measures necessary for the restoration and permanent preservation of the seal herd, I visited the Pribilof Islands and made an extended investigation of the subject, the results of which are here briefly outlined.

FACTS IN THE LIFE HISTORY OF THE NORTHERN FUR SEAL (*CALLORHINUS URSINUS*.)

1. The Fur Seal is an inhabitant of Bering Sea and the Sea of Okhotsk, where it breeds on rocky islands. But four breeding colonies are known, namely, (1) the Pribilof Islands belonging to the United States; (2) the Commander Islands belonging to Russia; (3) Robben Reef belonging to Russia; and (4) the Kuril Islands belonging to Japan. The Pribilof and Commander Islands are in Bering Sea; Robben Reef in the Sea of Okhotsk near the Island of Saghalien, and the Kuril Islands between Yezo and Kamtchatka. The species is not known to breed in any other part of the world.

2. In winter the Fur Seal migrates into the North Pacific Ocean.

E.C. - Pribilof
 Case of U.S. Appendix
 I, p 14-7

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The herds from the Commander Islands, Robben Reef, and the Kuril Islands move south along the Japan coast. The Pribilof Islands herd moves south through the passes in the Aleutian Chain. The old breeding males are not known to range much south of these Islands. The females and young reach the American coast as far south as California.

3. Returning, the herds of females move northward along the coast of California, Oregon, Washington, and British Columbia in January, February, and March, occurring at varying distances from shore. Following the Alaska coast northward and westward they leave the North Pacific Ocean in June, traversing the passes in the Aleutian Chain, and proceed at once to the Pribilof Islands.

4. The old (breeding) males reach the Islands much earlier, the first coming the last week in April or early in May. They at once land and take stands on the rookeries where they await the arrival of the females. Each male (called a bull) selects a large rock on or near which he remains, unless driven off by stronger bulls, until August, never leaving for a single instant night or day, and taking neither food nor water. Before the arrival of the females (called cows) the bulls fight savagely among themselves for positions on the rookeries, and many are severely wounded. All the bulls are located by June 20.

5. The pregnant cows begin arriving early in June, and soon appear in large schools or droves, immense numbers taking their places on the rookeries each day between June 12 and the end of the

-2-

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5. The pregnant cows begin arriving early in June, and soon appear in large schools or droves, immense numbers taking their places on the rookeries each day between June 12 and the end of the

-3-

month, varying with the weather. They assemble about the old bulls in compact groups called harems. The harems are complete early in July, at which time the breeding rookeries attain their maximum size and compactness.

6. The cows give birth to their young soon after taking their places on the harems. The period of gestation is between eleven and twelve months.

7. A single young is born in each instance. The young at birth are about equally divided as to sex.

8. The act of nursing is performed on land--never in the water. It is necessary, therefore, for the cows to remain at the Islands until the young are weaned, which is when they are four or five months old.

9. The Fur Seal is polygamous and the male is at least three times as large as the female. Each male serves 15 to 25 females.

10. Copulation takes place on land. Most of the cows are served by the middle of July, or soon after the birth of their pups. They then take the water and come and go for food while nursing.

11. The pups huddle together in small groups called 'pods', at some distance from the water. When six or eight weeks old they move down to the water's edge and learn to swim. The pups are not born at sea, and if soon after birth they are washed into the sea, they are drowned.

-4-

12. The cows are believed to take the bull first when two years old, and deliver their first pup when three years old.

13. Bulls first take stands on the breeding rookeries when six or seven years old. Before this they are not powerful enough to fight the older bulls for positions on the harems.

14. Cows when nursing, and the non-breeding seals, regularly travel long distances to feed. They are commonly found 100 or 150 miles from the Islands and sometimes at greater distances.

15. The food of the Fur Seal consists of fish, squids, crustaceans, and probably other forms of marine life also.

16. The great majority of cows, pups, and such of the breeding bulls as have not already gone, leave the Islands about the middle of November, the date varying considerably with the season.

17. The non-breeding male seals ('holluschickie'), together with a few old bulls, remain until January, and in rare instances even until February.

18. The Fur Seal as a species is present at the Pribilof Islands eight or nine months of the year, or from two-thirds to three-fourths of the time, and in mild winters sometimes during the entire year. The breeding bulls arrive earliest and remain continuously on the Islands about four months; the breeding cows remain about six months, and the non-breeding male seals about eight or nine months, and sometimes during the entire year.

SEALS KILLED ON THE PRIBILOF ISLANDS.

19. The only seals killed for commercial purposes at the Seal Islands are non-breeding males (under five or six years of age, called 'holluschickie'). They come up on the rookeries apart from the breeding seals, and large numbers are present by the latter part of May. They constantly pass back and forth from the water to the hauling grounds. These animals are driven by the natives (Aleuts) from the hauling grounds to the killing grounds, where they are divided up into little groups. Those selected as of suitable size are killed with a club by a blow on the head; the others go into the water and soon reappear on the hauling grounds. In this way about 100,000 young males have been killed annually on the Pribilof Islands for 20 years.

20. In addition to the commercial killing above described, a number of male pups were formerly killed each year to furnish food for the natives, but the killing of pups is now prohibited by the Government.

PRESENT NUMBERS COMPARED WITH FORMER ABUNDANCE.

The rookeries on both St. Paul and St. George Islands bear unmistakable evidence of having undergone great reduction in size during the past few years. This evidence consists (1) in the universal testimony of all who saw them at an earlier period, and (2) in the presence upon the back part of each rookery of a well-marked

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strip or zone of grass-covered land, varying from one hundred to five hundred feet in width, on which the stones and boulders are flipper-worn and polished by the former movements of the seals, and the grass is yellowish-green in color and of a different genus (Glyceria angustata) from the rank, high grass usually growing immediately behind it (Elymus mollis). In many places the ground between the tussocks and hummocks of grass is covered with a thin layer of felting, composed of the shed hairs of the seals matted down and mixed with excrement, urine, and surface soil. The exact year when this yellow grass zone was last occupied by seals is difficult to ascertain, but the bulk of testimony points to 1886 or 1887. The aggregate size of the areas formerly occupied is at least four times as great as that of the present rookeries.

CAUSES WHICH LED TO THE DEPLETION OF THE ROOKERIES.

The seals which move northward along the coast of the Northwestern United States, British Columbia, and southeastern Alaska from January until late in June are chiefly pregnant females, and about ninety percent of the seals killed by pelagic sealers in the North Pacific are females heavy with young. For obvious reasons many more seals are wounded than killed outright, and many more that are killed sink before they can be reached, and consequently are lost. As each of these contains a young, it is evident that several are destroyed to every one secured.

For several years the pelagic sealers were content to pursue their destructive work in the North Pacific, but of late they have entered Bering Sea where they continue to capture seals in the water

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throughout the entire summer. The females killed during this period are giving milk and are away from the Islands in search of food. Their young starve to death on the rookeries. I saw vast numbers of such dead pups on the Island of St. Paul last summer (1891) and the total number of their carcasses remaining on the Pribilof Islands at the end of the season of 1891 has been estimated by the United States Treasury Agents at not less than twenty thousand.

The number of seal skins actually secured and sold as a result of pelagic sealing is shown in the following table:

<u>Year.</u>	<u>No. of skins.</u>	<u>Year.</u>	<u>No. of skins.</u>
1872	1,029	1882	17,700
1873	---	1883	9,195
1874	4,949	1884	? 14,000
1875	1,646	1885	13,000
1876	2,042	1886	38,907
1877	---	1887	33,800
1878	264	1888	36,818
1879	12,800+	1889	39,563
1880	13,600	1890	51,404
1881	13,541	1891	62,500

Inasmuch as the number of seals annually secured by pelagic sealing represents but a fraction of the total number killed, a glance at the above figures is enough to show that the destruction of seal life thus produced is alone sufficient to explain the present depleted condition of the rookeries.

Pelagic sealing as now conducted is carried on in the North Pacific Ocean from January until late in June, and in Bering Sea in July, August, and September. Some sealing schooners remain as late as November, but they do so for the purpose of raiding the rookeries.

It has been alleged that overkilling of young males at the rookeries is a principal cause of the depleted condition of the rookeries.

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In reply to this contention it is only necessary to bear in mind that the number of male and female Fur Seals is equal at birth, that the species is polygamous, and that each male serves on an average at least 15 to 25 females. It is evident, therefore, that there must be a great superabundance of males, of which a large percentage may be killed annually forever without in the slightest degree endangering the productiveness of the herd. Furthermore, it has been shown that the killing of seals at the Pribilof Islands is completely under the control of man and is restricted to the superfluous males, for selection as to sex and age can be and is exercised so that neither females nor breeding males are killed. It is evident that this killing of non-breeding males could in no way affect the size or annual product of the breeding rookeries unless the number killed was so great that enough males were not left to mature for breeding purposes. There is no evidence that this has ever been the case. Moreover, all seals killed or wounded are invariably secured and their skins marketed--in other words there is neither waste of the seal herd, nor impairment of the productiveness of the breeding stock.

Pelagic sealing, on the other hand, is wasteful in the extreme and is directed to the fountain head or source of supply. From the very nature of the case selection cannot be exercised, and a large percentage of seals wounded are lost. Owing to the peculiar movements of the seal herds it so happens that about ninety percent of the seals killed in the North Pacific are females heavy with young, entailing a destruction of two seal lives for every adult seal killed. In Bering Sea also, large numbers of females are taken; these females are in milk and their young die of starvation on the rookeries.

-9-

Pelagic sealing as an industry is of recent origin, and may be said to date from 1878. The number of vessels engaged has steadily increased, as has the number of seals killed, until it appears that unless checked by international legislation the commercial extermination of the seal is only a matter of a few years. It seems a fair inference, therefore, that the only way to restore the depleted rookeries to their former condition is to stop taking seals at sea, and not only in Bering Sea, but in the North Pacific as well.

Having been selected by my Government solely as a naturalist, and having investigated the facts and arrived at the above conclusions and recommendations from the standpoint of a naturalist, I desire to know if you agree or differ with me in considering these conclusions and recommendations justified and necessitated by the facts in the case.

I shall be greatly obliged if you will favor me with a reply.

Very truly yours,

C. Hart Merriam

April 8, 1892.

Pres. D. S. Jordan,
Leland Stanford, Jr., University,
Menlo Park, Calif.

My dear Sir:

Have you ever published anything relating to the Fur Seal? You have been repeatedly quoted by Judge James G. Swan as expressing the opinion that Fur Seals are born in the neighborhood of Cape Flattery and that you do not believe the female seals killed in that general region in May, (1880) could traverse the distance from Cape Flattery to the Pribilof Islands before their young would have been born. The record kept by the Government Agents at the Pribilof Islands shows that during the past 20 years the date of birth of the first pup has varied from May 21 to June 25, the average date being about June 12. Many of the females do not give birth to their young before the latter part of July, and unusually belated individuals have been known to whelp in August. I do not suppose that a seal would have any difficulty in covering the distance from Cape Flattery to the Pribilof Islands in a week.

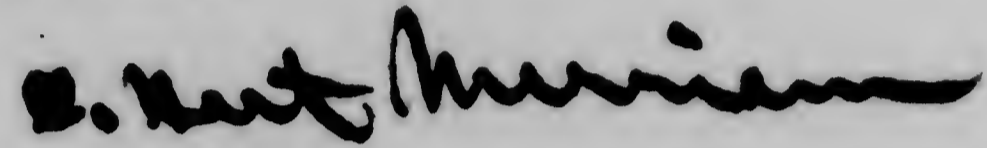
It is of course probable, if not absolutely certain, that a few among the many thousands of gravid females that are wounded each spring along the northwest coast of Washington, British Columbia, and southeastern Alaska must give birth to their young before reaching the passes in the Aleutian Chain, if indeed they are able to get so far north at all. This would explain the occasional finding of

Jordan 2.

pups along the northwest coast.

Since you have been quoted in support of the view that the Fur Seal breeds in the neighborhood of Cape Flattery, and since this expression of opinion is likely to be used to our disadvantage, I shall be obliged if you will favor me with a statement embodying your present views on the subject.

Very truly yours,



Bering Sea Commissioner.

April 15, 1892.

Mr. J. Stanley-Brown,
Department of State,
Washington, D. C.

My dear Stanley-Brown:

Glad to see the clipping respecting Tegetmeier's pamphlet on seals, and hope you will succeed in getting several copies of the document.

Tegetmeier is a well-known naturalist who has devoted most of his life to the study of domesticated animals, and is the leading authority in the world on breeds of poultry, &c. He has written the standard works on poultry, with large colored plates, and has a 20 page article in a recent number of the London *Ibis*, the leading ornithological journal of the world.

The clipping is herewith returned.

Very truly yours,

C. Hart Merriam

Original Defective

April 15, 1892.

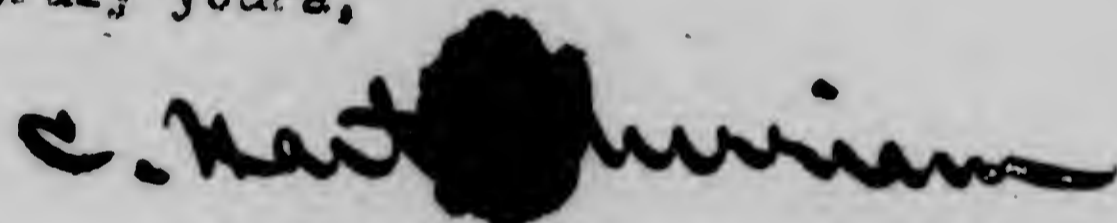
Mr. William B. Tegetmeier, F. Z. S., &c.,
16 Alexandra-Grove, North Finchley, N.,
England.

Dear Sir:

Having learned by the newspapers that you have recently written a pamphlet on 'Seal Life in Bering Sea', I take the liberty of writing directly to ask if you will be good enough to send me a copy.

I send you by this mail a copy of my presidential address before the Biological Society.

Very truly yours,



Chief of Division of
Ornithology & Mammalogy.

Submitted
April 19, 1892

THE BERING SEA FUR-SEAL
CALLORHINUS URSTINUS (Linnaeus)

The Northern or Bering Sea Fur-Seal or Sea Bear (Callorhinus .
urstinus) belongs to the amphibious group of Eared-Seals and Sea-
Lions (family Otariidae), which is intermediate in zoological posi-
tion between the terrestrial carnivorous mammals, as dogs, cats, and
bears, and the aquatic or true Seals, usually known as Hair Seals
(family Phocidae).

The Northern Fur-Seal is here discussed under five heads, as
follows:

- (1) Principal facts in the life history of the Fur-Seal
- (2) Present numbers compared with former abundance
- (3) The Fur-Seal Fisheries
 - a. Seal killing at the Pribilof Islands
 - b. Seal killing at Sea or Pelagic Sealing
- (4) Causes which have led to the depletion of the rookeries
- (5) Measures necessary for the restoration of the depleted
rookeries and for the permanent protection and preservation
of the Fur-Seal.

-2-

PRINCIPAL FACTS IN THE LIFE HISTORY OF THE FUR-SEAL.

1. The Fur-Seal is an inhabitant of Bering Sea and the Sea of Okhotsk, where it breeds on rocky islands. Only four breeding colonies are known, namely, (1) the Pribilof Islands belonging to the United States; (2) the Commander Islands belonging to Russia; (3) Robben Reef belonging to Russia; and (4) the Kuril Islands belonging to Japan. The Pribilof and Commander Islands are in Bering Sea; Robben Reef is in the Sea of Okhotsk near the Island of Saghalien, and the Kuril Islands are between Yezo and Kamtchatka. The species is not known to breed in any other part of the world. [The Fur-Seals of Lobos Island and the South Seas belong to widely different species and are placed in different genera from the Northern Fur-Seal.]
2. In winter the Fur-Seal migrates into the North Pacific Ocean. The herds from the Commander Islanders, Robben Reef, and the Kuril Islands move south along the Japan coast. The Pribilof Islands herd moves south through the passes in the Aleutian Chain. The old breeding males are not known to range much south of these Islands. The females and young reach the American coast as far south as California.
3. Returning, the herds of females move northward along the coasts of California, Oregon, Washington, and British Columbia in January, February, and March, occurring at varying distances from shore. Following the Alaska coast northward and westward they leave the North Pacific Ocean in June, traversing the passes in the Aleutian Chain, and proceed at once to the Pribilof Islands.

-3-

4. The old (breeding) males reach the Islands much earlier, the first coming the last week in April or early in May. They at once land and take stands on the rookeries where they await the arrival of the females. Each male (called a bull) selects a large rock on or near which he remains, unless driven off by stronger bulls, until August, never leaving for a single instant night or day, and taking neither food nor water. Before the arrival of the females (called cows) the bulls fight savagely among themselves for positions on the rookeries, and many are severely wounded. All the bulls are located by June 20.

5. The pregnant cows begin arriving early in June, and soon appear in large schools or droves, immense numbers taking their places on the rookeries each day between the middle and end of the month, the precise dates varying with the weather. They assemble about the old bulls in compact groups called harems. The harems are complete early in July, at which time the breeding rookeries attain their maximum size and compactness.

6. The cows give birth to their young soon after taking their places on the harems in the latter part of June and in July, but a few are delayed until August. The period of gestation is between eleven and twelve months.

7. A single young is born in each instance. The young at birth are about equally divided as to sex.

-4-

8. The act of nursing is performed on land--never in the water. It is necessary, therefore, for the cows to remain at the Islands until the young are weaned, when they are four or five months old.

9. The pups huddle together in small groups called 'pods', at some distance from the water. When six or eight weeks old they move down to the water's edge and learn to swim. Not only are the young not born at sea, but if soon after birth they are washed into the sea, they are drowned.

10. The Fur-Seal is polygamous and the male is at least five times as large as the female. Each male serves from 15 to 25 females.

11. The act of copulation takes place on land and lasts from 5 to 10 minutes. Most of the cows are served by the middle of July, or soon after the birth of their pups. They then take the water and come and go for food while nursing.

12. Many young bulls succeed in securing a few cows and establishing small harems behind or away from the breeding harems, particularly late in the season (after the middle of July, at which time the regular harems begin to break up). It is almost certain that many, if not most, of the young cows are served for the first time by these young bulls, either on the hauling grounds or along the water front.

13. The cows are believed to take the bull first when two years old, and deliver their first pup when three years old.

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14. Bulls first take stands on the breeding rookeries when six or seven years old. Before this they are not powerful enough to fight the older bulls for positions on the harems.

15. Cows when nursing, and the non-breeding seals, regularly travel long distances to feed. They are commonly found 100 or 150 miles from the Islands and sometimes at greater distances.

16. The food of the Fur-Seal consists of fish, squids, crustaceans, and probably other forms of marine life also.

One hundred and eighteen stomachs of Fur-Seals were examined jointly by the United States and British Bering Sea Commissioners at St. Paul and St. George Islands August 1 and August 3, 1891, with the following results:

All of the stomachs were opened immediately after the seals were killed. Ninety-three out of the 118 were empty, except for the presence of a little mucus, bile, frothy slime, dark-brownish blood, and parasitic worms. Blood in some form was present in five stomachs, and Nematode worms about three inches in length were found in most of the stomachs opened.

Twenty contained pebbles, or pebbles and beach-worn shells either alone or in connection with other contents, the quantity varying from a single small pebble to a handful.

Four contained beaks of squid or cuttle-fish (identified by Dr. William H. Dall as Gonatus fabricii), of which three sets were in one stomach, two sets in another, and one each in the remaining two.

Two contained fish bones, of which one consisted of the vertebrae and a few other bones of a Cod (Gadus morrhua); the other the ear bones of a similar fish.

One contained a large Isopod crustacean (identified by Prof. Sidney I. Smith as "apparently a species of Rocinela, a genus very close to Alga?).

17. The great majority of cows, pups, and such of the breeding bulls as have not already gone, leave the Islands about the middle of November, the date varying considerably with the season.

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18. The non-breeding male seals ('Holluschickie'), together with a few old bulls, remain until January, and in rare instances even until February.

19. The Fur-Seal as a species is present at the Pribilof Islands eight or nine months of the year, or from two-thirds to three-fourths of the time, and in mild winters sometimes during the entire year. The breeding bulls arrive earliest and remain continuously on the Islands about four months; the breeding cows remain about six months, and the non-breeding male seals about eight or nine months, and sometimes during the entire year.

20. As has been stated, the last of the body or herd of Fur-Seals leave the North Pacific and enter Bering Sea in the latter part of June. A few scattered individuals, however, are seen during the summer at various points along the northwest coast; these are probably seals that were ^{so} badly wounded by pelagic sealers that they could not travel with the rest of the herd to the Pribilof Islands. It has been alleged that young Fur-Seals have been found in early summer on several occasions along the coasts of British Columbia and Southeast Alaska. This would be expected from the large number of cows that are wounded each winter and spring along these coasts and are thereby rendered unable to reach the breeding rookeries and must perforce give birth to their young--perhaps prematurely--wherever they may be at the time.

PRESENT NUMBERS COMPARED WITH FORMER ABUNDANCE.

All the rookeries on both islands (St. Paul and St. George) bear unmistakable evidence of having undergone great reduction in size during the past few years. This evidence is of two kinds: (1) Evidence of eye witnesses, and (2) Intrinsic evidence afforded by the rookeries themselves.

(1) Evidence of eye witnesses.

The universal testimony of all who saw the rookeries a few years ago, and again in 1890 or 1891, is that they have suffered a great and alarming decrease within the past six or seven years. In the case of North East Point Rookery--the largest single rookery known and one from which about 30,000-35,000 non-breeding male Fur-Seals were taken annually for 20 years--the evidence is unequivocal and conclusive. This great rookery is several miles in length and its former boundaries can be distinctly seen, as will be described in detail presently. [See also accompanying photographs and map.] The area occupied by breeding seals in 1891 was a narrow strip along shore, while the zone of former occupancy varies from 100 to 500 feet in width. Mr. C. H. Townsend, resident naturalist of the U.S. Fish Commission Steamship 'Albatross' visited North East Point Rookery in company with the British and U.S. Bering Sea Commissioners August 5, 1891, and stated that when he visited the same rookery in the latter part of June, 1885, the broad zone here referred to was

covered solid with breeding seals." Lieutenant John C. Cantwell of the U. S. Revenue Steamship 'Rush', Dr. H. H. McIntyre, Capt. Daniel Webster, Mr. J. C. Redpath, and Mr. George R. Tingle corroborate Mr. Townsend's statement that the yellow-grass zone, or zone of former occupancy was densely covered with breeding seals in 1885.

The testimony of natives and others in regard to other rookeries agrees very well with the above, or places the time of abandonment at a still later date, some of the natives maintaining that the yellow-grass zone was covered with seals as recently as 1887. It is evident therefore that the extensive area here described as the yellow-grass zone behind the narrow strip at present occupied by the seals on the various rookeries, was thickly covered not longer ago than 1885 or '86 and in some cases perhaps as late as 1887.

(2) Intrinsic Evidence afforded by the rookeries themselves.

Behind each rookery is a more or less sharply defined strip or belt varying from 100 to 500 feet in width, which differs conspicuously in appearance from the ground on either side. It is covered with a short and rather fine grass of a yellowish-green color (Glyceria angustata) more or less mixed with tufts of a coarser species (Deschampsia cespitosa), both differing strikingly from the tall and rank rye grass (Elymus mollis) usually growing immediately behind. In many places the ground between the tussocks and hummocks of grass is covered with a thin layer of felting, composed of the shed hairs of the seals matted down and mixed with excrement, urine, and

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surface soil. This felting could not have been formed otherwise than by the movements of seals back and forth over the ground for many years. In the same zone the rough upper surfaces and angular projections of the rocks have been rounded off and polished by the former movements of the seals. This polishing, though now partly hidden by weathering and the growth of lichens, is still conspicuous and can be attributed to no other cause than to the movements of the seals on the rookeries during a long period of years. The fact that the sides of these same rocks remain in their original ^{rough} condition is sufficient proof that the smooth upper surfaces could not have been produced by sand-polish.

In some of the rookeries another zone may be discerned behind the yellow-grass zone, indicating the extent of the rookery at some still more remote period. The grass on this area is bunch-grass (Deschampsia caspitosa); the lichen-growth on the rocks is heavier than on the one just described, and the polished surfaces of the rocks show more weathering. This latter zone abuts against the more elevated turf bearing the characteristic tall grass of the islands, and marks the period of maximum abundance of the seals.

The aggregate size of the areas formerly occupied is at least four times as great as that of the present rookeries.

THE FUR-SEAL 'FISHERIES'.

The Fur-Seal 'Fisheries', so-called, may be considered under two heads: (a.) Seal killing on the Pribilof Islands, and (b.) Seal killing at sea, or Pelagic Sealing.

(a.) Seal killing on the Pribilof Islands.

The only seals killed for commercial purposes at the Seal Islands are non-breeding males (under five or six years of age, called 'holiushickie'). They come up on the rookeries apart from the breeding seals, and large numbers are present by the latter part of May, after which they constantly pass back and forth from the water to the hauling grounds. These animals are driven by the natives (Aleuts) from the hauling grounds to the killing grounds, where they are divided into little groups. Those selected as of suitable size are killed by a blow on the head with a club; the others are allowed to go into the water and soon reappear on the hauling grounds. In this way about 100,000 young males have been killed annually on the Pribilof Islands for 20 years.

In addition to the commercial killing above described, a number of male pups were formerly killed each year to furnish food for the natives, but the killing of pups is now prohibited by the Government.

(b.) Seal killing at Sea or Pelagic Sealing.

Pelagic Sealing is carried on chiefly by means of schooners, each of which is provided with a crew of 20 to 25 men and several

small boats for hunting. When seals are encountered the hunters put out in the small boats and approach them as quietly as possible, and when near enough shoot them with the shot gun or rifle. When a seal is wounded the oarsmen pull toward it as rapidly as possible in the hope of reaching it before it sinks. By the aid of an iron hook on the end of a light pole many seals are secured after they have sunk below the surface but have not yet passed out of reach. Some of the sealing vessels use steam power, but most of them depend on sails.

Formerly, Indian crews were taken almost exclusively, and the spear was used instead of firearms in order not to frighten the seals. This method had the great advantage of securing nearly all seals wounded. Now both Indian and white hunters are employed and the use of the spear has been almost wholly superseded by the use of firearms. The shot gun is more used than the rifle for the reason that fewer wounded seals are lost thereby.

In addition to the destruction wrought by the sealing schooners, pelagic sealing is still carried on along shore by the native Indians in their canoes, but the number of Fur-Seals thus killed is small.

Pelagic sealing has been carried on fortuitously and on a small scale for many years, but it was not until the present decade that numerous vessels engaged systematically in the enterprise. The profits are so great in comparison with the capital invested that, as the results of the annual catch became known each year, a constantly

increasing number of vessels was led to engage in the industry, with a corresponding increase in the number of seals killed in the open sea. The Fur-Seals which move northward along the coast of the Northwestern United States, British Columbia, and southeastern Alaska from January until late in June are chiefly pregnant females, and about ninety percent of the seals killed by pelagic sealers in the North Pacific are females heavy with young. For obvious reasons many more seals are wounded than killed outright, and many that are killed sink before they can be reached, and consequently are lost. As each female contains a young, it is evident that several seals are destroyed to every one secured.

For several years the pelagic sealers were content to pursue their destructive work in the North Pacific, but of late they have entered Bering Sea where they continue to capture seals in the water throughout the entire summer. The females killed during this period are giving milk and are away from the Islands in search of food. Their young starve to death on the rookeries. I saw vast numbers of such dead pups on the Island of St. Paul last summer (1891) and the total number of their carcasses remaining on the Pribilof Islands at the end of the season of 1891 has been estimated by the United States Treasury Agents at not less than twenty thousand.

Pelagic sealing is now carried on in the North Pacific Ocean from January until late in June, and in Bering Sea in July, August, and September. Some sealing schooners remain as late as November, but they do so for the purpose of raiding the rookeries.

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The number of seal skins actually secured and sold as a result of pelagic sealing is shown in the following table:

<u>Year</u>	<u>No. of skins.</u>	<u>Year.</u>	<u>No. of skins.</u>
1872	1,029	1882	17,700
1873	---?	1883	9,195
1874	4,949	1884	? 14,000
1875	1,646	1885	13,000
1876	2,042	1886	38,907
1877	--?	1887	33,800
1878	264	1888	36,818
1879	12,500+	1889	39,563
1880	13,600	1890	51,404
1881	13,541	1891	62,500

CAUSES WHICH LED TO THE DEPLETION OF THE ROOKERIES.

Inasmuch as the number of seals annually secured by pelagic sealing represents but a fraction of the total number killed, a glance at the figures contained in the above table is enough to show that the destruction of seal life thus produced is alone sufficient to explain the present depleted condition of the rookeries.

It has been alleged that overkilling of young males at the Islands is a principal cause of the present scarcity of seals.

In reply to this contention it is only necessary to bear in mind that the number of male and female Fur-Seals is equal at birth, that the species is polygamous, and that each male serves on an average at least 15 to 25 females. It is evident, therefore, that there must be a great superabundance of males, of which a large percentage may be killed annually forever without in the slightest degree endangering the productiveness of the herd. Furthermore, it has been shown that the killing of seals at the Pribilof Islands is completely under the control of man and is restricted to the superfluous males, for selection as to sex and age can be and is exercised so that neither females nor breeding males are killed. It is evident that this killing of non-breeding males could in no way affect the size or annual product of the breeding rookeries unless the number killed was so great that enough males were not left to mature for breeding purposes. There is no evidence that this has ever been the case. Moreover, all seals killed or wounded are invariably secured and their skins marketed--in other words there is neither waste of the seal herd, nor impairment of the productiveness of the breeding stock.

Pelagic sealing, on the other hand, is wasteful in the extreme

and is directed to the fountain head or source of supply. From the very nature of the case selection cannot be exercised, and a large percentage of seals wounded are lost. Owing to the peculiar movements of the seal herds it so happens that about ninety percent of the seals killed in the North Pacific are females heavy with young, entailing a destruction of two seal lives for every adult seal killed. In Bering Sea also, large numbers of females are taken; these females are in milk and their young die of starvation on the rookeries.

Pelagic sealing as an industry is of recent origin, and may be said to date from 1879. In 1880, according to the official report of the Canadian Minister of Marine and Fisheries, seven vessels and 213 men were engaged in pelagic sealing in the North Pacific, securing 18,600 skins valued at \$163,200. The same authority states that in 1886 twenty vessels and 459 men secured 38,907 skins valued at \$889,070. In 1891 the number of vessels had increased to about 100; upwards of 2000 men were engaged, and more than 62,000 skins were secured.

Thus it appears that for ten years after the Alaska Purchase the Fur-Seals of the Pribilof Islands were practically undisturbed in passing to and from their breeding grounds; that in 1879 seven vessels and 213 men attacked them in the sea along the northwest coast securing 18,600 skins; that the industry proved so remunerative that in twelve years the number of vessels had increased from seven to one hundred; the men from 213 to upwards of 2,000; and the skins secured from 18,600 to more than 62,000! When it is remembered that this number is but a fraction of the number of seals destroyed it becomes evident that unless checked by international legislation,

the commercial extermination of the seal is only a matter of a few years.

For 18 years after the Alaska Purchase about 100,000 bachelor seals were secured annually without difficulty and without impairing the productiveness of the breeding rookeries, but the decrease brought about by pelagic sealing made it extremely difficult to obtain this number after 1887, and the standard of size was lowered several times in order to obtain the full quota. In 1890 the rookeries and hauling grounds had fallen off to such an alarming extent that the Treasury Agent in charge ordered the killing to stop on July 20, at which date only 21,000 seals had been secured--and it may be added that this number was taken only after the greatest exertion on the part of the Company's Agents. The young males were driven and re-driven day after day from the same hauling grounds, and the percentage of seals^{of} killable size was so small [15-20 %] compared with the percentage of yearlings, that it is not surprising that the Treasury Agents on the islands were impressed with the scarcity of young males, and being new men, inexperienced in matters relating to seal life, were easily led to mistake effect for cause, and attributed the decrease to the killing of too many young males at the islands in previous years--instead of to the destruction of the mothers and young by pelagic sealers--an error they were quick to correct after another year's experience.

The number of seals killed each day during the killing season may be taken as a rough index to the rapidity of the decline of the

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rookeries in the past few years. Treasury Agent Charles J. Goff, in charge of the Seal Islands in 1889-1890, states in his official report that the average daily killing in 1890 was 522, while in 1889 it was 1,974 for the same period.

In his report for 1889, Treasury Agent Goff states: "The alarming decrease in the daily, weekly, and monthly receipts of [skins by] the Alaska Commercial Company, and as a dernier resort by said company to secure their 100,000 skins, the killing of smaller seals than was customary, attest conclusively that Mr. J. P. Manchester's observations were undoubtedly correct, that there is a scarcity of seals and that within the last year or so they are, from some cause, decreasing far beyond the increase." He states further: "I regard it absolutely essential, for the future of the rookeries, that prompt actions be taken by the Department for the suppression of illegal killing of seals in Bering Sea, and that the utmost economy be observed in taking the seals allowed by law."

MEASURES NECESSARY FOR THE RESTORATION OF THE DEPLETED ROOKERIES
AND FOR THE PERMANENT PRESERVATION OF THE FUR-SEAL.

As already explained, pelagic sealing is the primary cause of the decrease of the Fur-Seal and the depletion of the rookeries. So long as the sealing schooners are permitted to continue the destruction of pregnant and nursing females, not only will it be impossible to increase the number of seals on the rookeries, but it will be impossible to preserve the numbers now there present, even if no seals are killed at the Islands. The restoration and permanent preservation of the rookeries, therefore, demands the perpetual prohibition of pelagic sealing.

The number of non-breeding males that may be safely killed at the Islands will vary from year to year, and should be determined each season by competent Government agents on the ground.

April 22, 1892.

The Honorable
John W. Foster,
State Department.

My dear Sir:

Referring to our conversation of this morning, I beg to say that it is important to secure data respecting the numbers of seals driven and killed from the various rookeries on St. Paul and St. George Islands from 1870 to 1891. A statement of this kind for 1890, you will find in the Senate Ex-Doc. 49, 51st Congress, 2d Session, 'Letter from the Acting Secretary of the Treasury transmitting reports concerning the condition of the Seal Islands of Alaska,' February 10, 1891, pp. 10--12. For our purposes, it is not necessary that these tables should be so full as the tables published in this report. In fact, the last column alone (comprising a statement of the total number of seals killed daily at the various rookeries) would be sufficient.

You will find Palmer's lecture on the 'Fate of the Fur-Seal in America' in Forest & Stream for October 29, 1891, pp. 287--288; and in the same issue an editorial (p. 285) which contains an erroneous

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statement concerning remarks made by Dr. Dall. The next issue (Nov. 5, 1891, p. 307) contains an important letter from Dall in contradiction of the erroneous statement contained in the editorial referred to. Dall's letter, in turn, is criticized by Henry W. Elliott in Forest & Stream for November 19, 1891, pp. 347--348.

Palmer's lecture contains the following important statement respecting dead pups: "The numbers of dead pups about the shores of St. Paul's began to attract my attention about the middle of July last year. On August 2d, I stood on Zoltoi beach and counted 17 dead pups within 10 feet of me, and a line of them stretched the whole length of the beach. Many of them starved to death on the rookeries, but by far the greater number sunk in deep water along the margin of the rookeries." The lecture contains other statements not so favorable to our side.

The article to which I particularly referred in Petermann's Mittheilungen is by Capt. Melsom, and is entitled: 'Der Seehundsfang im nordlichen Bismeer' (1871, pp. 341--343). Other references I will send later.

Respectfully,

C. Hart Merriam

April 25, 1892.

The Honorable
John W. Foster,
State Department.

Dear Sir:

I have the honor to request that a statement be sent me showing the first and all subsequent dates at which the size of skins taken by the Alaska Commercial Co. was lowered in order to secure the full quota, together with the minimum weight fixed for each lowering.

Respectfully,

E. H. Derr

SUPPLEMENTARY INSTRUCTIONS FOR 'THE ALBATROSS'.

Proceed westerly from Queen Charlotte Sound to longitude 190° latitude 52° N, for the purpose of finding the herd of old bull seals or such part of this herd as has not already passed into Bering Sea. If successful, ascertain the eastern, western, and southern limits of the herd, and the passes through which they enter Bering Sea.

Visit Attoo Island; and proceed thence along the south side of the Aleutian Chain to Unalaska, stopping at all settlements on the Aleutian Islands for the purpose of questioning natives with a view to ascertaining the whereabouts and limits of distribution of old male Fur-Seals in winter and spring. We desire to show that the old bulls spend the winter in the neighborhood of the Aleutian Islands, and that they do not go far enough west to mix with the Commander Island herd.

Ascertain the westernmost and easternmost passes through which these seals move, and whether in migration or winter they ever mix with females or younger males.

Preserve in alcohol the ovaries of the female seals secured.

April 26, 1892.

SUPPLEMENTARY INSTRUCTIONS FOR THE 'ALBATROSS'
RESPECTING PELAGIC SEALING IN BERING SEA.

At what distance from the Pribilof Islands are most of the seals killed ?

About what proportion of the total pelagic catch are males and what females ?

What proportion of seals killed at sea 10 miles away from the Islands are nursing cows (i.e., giving milk) ?

What proportion are nursing cows at 20, 30, 50, 100, and 150 miles ?

Are barren cows ever killed in Bering Sea in any considerable numbers ? If so, in what part of the sea (what distance and direction from the Seal Islands, etc.), and at what dates ?

Do such barren cows herd by themselves or do they mix with other seals.

April 25, 1892.

April 26, 1892.

Mr. Richard Rathbun,
U. S. Fish Commission.

My dear Rathbun:

I hand you herewith a draft of a letter to Townsend, and shall be greatly obliged if you will incorporate the substance of it with such modification as you see fit, or as Col. Mc Donald may suggest, in a letter addressed to him at Port Townsend. This letter should be mailed as early as possible, as the 'Albatross' is due at Port Townsend the last of this week.

Very truly yours,

C. Hart Merriam

Washington, D. C., April 26, 1892.

Mr. C. H. Townsend, Resident Naturalist,
U.S. F.C. S.S. Albatross.

Sir:

You are hereby instructed to proceed at once to San Diego by rail. At San Diego, you will endeavor to hire a small schooner for a six weeks cruise to Guadaloupe and San Benito Islands, and Elephant Beach on the coast of Lower California, touching at other points on the Lower California coast where seals are likely to be found.

The special object of this cruise is to secure specimens of the Fur Seal that breeds on Guadaloupe Island, and is reported to have bred recently on San Benito Islands. It is important also to secure specimens of all species of Fur and Hair Seals, Sea Lions, and Sea Elephants frequenting these coasts, though it is distinctly understood that special effort will be made to secure the so-called Fur Seal of Guadaloupe Island, this being the most important and principal object of the trip.

From your former experience in collecting Sea Elephants in this general region, it is believed that you will know just what localities to visit, and that you will be more likely to succeed than any other man who could be sent on this mission. It is of the utmost importance that the Guadaloupe Fur Seal be secured, and if possible, that both young and old and both sexes be obtained. You are expected to learn as much as possible concerning the habits and present haunts of these animals and to report in full respecting same immediately

Townsend 2.

upon your return.

Your expenses will be paid by the Department of State.

Telegraph the probable date of your arrival at San Diego and the amount of cash you will need there before starting, including your transportation from Puget Sound.

Respectfully,

Commissioner.

INSTRUCTIONS FOR THE 'ALBATROSS'
RESPECTING PELAGIC SEALING IN BERING SEA.

Detailed instructions will be sent by mail to Unalaska at a later date, but the general plan and object of the investigations in Bering Sea is here outlined. We desire to know at what distance from the Pribilof Islands most of the seals are killed; and about what proportion of the total pelagic catch are males and what females. Information under these heads will have been obtained from persons engaged in pelagic sealing.

You are expected to traverse Bering Sea in various directions along lines radiating from the Pribilof Islands, killing seals at various distances up to 200 miles or more, for the purpose of ascertaining positively the sex and age of seals occurring at such distances; the food of such seals (as determined by examination of stomach contents); and in the case of females, whether virgin, barren, or nursing (i.e., in milk).

It is important to ascertain whether seals are found in any particular localities or spots more frequently than in other parts of the sea at equal distance from the islands.

It is desirable to know if the distribution of seals when away from the Islands bears any relation to the fishing banks, or whether feeding seals follow schools of surface fish, squids, or crustaceans.

It is hoped that your investigations will enable you to answer

the following questions:

What proportion of seals killed at sea 10 miles away from the Islands are nursing cows (i.e., giving milk)?

What proportion are nursing cows at 20, 30, 50, 100, 150, and 200 miles ?

Are barren cows ever killed in Bering Sea in any considerable numbers . If so, in what part of the sea (what distance and direction from the Seal Islands, etc.), and at what dates ?

Do such barren cows herd by themselves or do they mix with other seals?

It is possible that you will be instructed to visit the Commander Islands later in the season, for the purpose of obtaining specimens of Fur-Seals from that herd.

April 26, 1892.

Mr. F. W. True,

Acting Director, U.S. National Museum.

Dear Mr. True:

Will you have the kindness to inform me whether there are any skins of seals in the National Museum from Guadaloupe or San Benito Islands, and if so what species? Can you tell me further, what seals were taken by Townsend at the Galapagos during a recent cruise of the 'Albatross'?

Respectfully,

C. Hart Merriam

April 26, 1892.

Dear Professor Mendenhall:

I send you herewith a memorandum of instructions suggested for the 'Albatross' on her Bering Sea trip. Will you kindly make any suggestions and additions that occur to you and return to me?

Since there does not seem to be any very pressing work for the 'Albatross' during a large part of the month of June, would it not be worth while to send her to the Commander Islands for the purpose of securing a good series of specimens of the different categories of seals from those Islands, so that she can return to Unalaska and ship the same to us before entering upon her regular work in Bering Sea?

Arrangements have been completed for sending Townsend to Guadeloupe Island, and a letter of instructions was mailed to him today.

Very truly yours,

C. Hart Merriam

Prof. T. C. Mendenhall,
Superintendent, Coast Survey.

INSTRUCTIONS FOR THE 'ALBATROSS'
RESPECTING PELAGIC SEALING IN BERING SEA.

You are now so familiar with the general plan and objects of the investigation that detailed instructions are not deemed necessary.

Your original instructions remain in force except where clearly inapplicable to Bering Sea.

The particular object of the investigation in Bering Sea is to ascertain what proportions of the pelagic catch consist of males, barren females, and females in milk at different distances from the Pribilof Islands.

You are expected to traverse Bering Sea in various directions along lines radiating from the Pribilof Islands, killing seals at various distances up to 200 miles or more, for the purpose of ascertaining positively the sex and age of seals occurring at such distances; the food of such seals (as determined by examination of stomach contents); and in the case of females, whether virgin, barren, or nursing (i.e., giving milk).

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Do such barren cows herd by themselves or do they mix with other seals ?

April 26, 1892.

Dear Doctor Dawson:

The negatives, which you were good enough to return by registered post, reached me today, for which I am very much obliged. I am glad to know that you succeeded in obtaining satisfactory enlargements ~~for~~ the same.

Very truly yours,

C. Hart Sherrin

Dr. George M. Dawson,
Assistant Director, Geological Survey,
Ottawa, Canada.

April 26, 1892.

Mr. Richard Rathbun,
U. S. Fish Commission.

My dear Rathbun:

The recent Fish Commission Report on the 'Fisheries of the Pacific Coast' for 1888, contains important information respecting the pelagic catch of Fur-Seals from San Francisco and Puget Sound, showing that 9,806 skins were brought in by American vessels from the ports of San Francisco, Port Townsend, Seattle, and Dungeness. Can the Fish Commission supply similar information for the years 1889, 1890, and 1891? And also for previous years? If so, I shall be very glad to get this information as early as may be.

Is it at all likely that the Census office has any data of this kind?

Very truly yours,

E. Hart Merriam

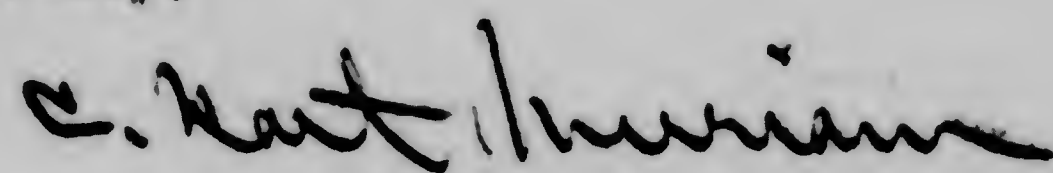
April 27, 1892.

The Honorable
The Secretary of the Treasury.

Sir:

I have the honor to acknowledge the receipt of your communication of the 25th instant, transmitting a copy of the Report of the Revenue Steamer 'Corwin' for 1884, and also a copy of the Report for 1880, which latter you wish returned. I have copied the seal matter from this Report, and return it herewith with many thanks.

Respectfully.



Bering Sea Commissioner.

April 27, 1892.

The Honorable

The Secretary of the Treasury.

Sir:

I have the honor to acknowledge the receipt of your communication of the 25th instant, transmitting a copy of the Report of the Revenue Steamer 'Corwin' for 1884, and also a copy of the Report for 1880, which latter you wish returned. I have copied the seal matter from this Report, and return it herewith with many thanks.

Respectfully,

C. Hart Merriam

Bering Sea Commissioner.

T e l e g r a m .

Walter E. Bryant,
Academy of Sciences,
San Francisco, California.

Will you take small schooner and go to Guadalupe to investigate,
secure, and report upon Seals. Return in one month. If so, will
you start from San Diego, or where. Pay, one hundred dollars and all
expenses.

Murison

Washington, D.C.

April 27, 1892.

April 27, 1892.

Dear Professor Mendenhall:

Many thanks for your promptness in returning my draft of instructions for the 'Albatross', respecting her trip in Bering Sea, with additional clauses which I have incorporated.

I shall be greatly obliged if you will return the draft of my part of the report I left with you a few days ago, making such marginal notes and suggestions as occur to you. Do not hesitate to mark up the copy as freely as you like.

If you have printed the new map of the Fribblef Islands on thinner paper, I should be obliged for one copy in order to cut it out and paste in my note-book.

I should be obliged also, if you will kindly send me the Coast Survey chart of Lower California.

Very truly yours,

C. Hart Merriam

Prof. T. C. Mendenhall,
Superintendent, Coast Survey.

This + the following 2 pages (3 in all) are substituted for p. 86 of this copy book.

THE BERING SEA FUR-SEAL

CALLORHINUS URSINUS (Linnaeus)

The Northern or Bering Sea Fur-Seal or Sea-Bear (Callorhinus ursinus) belongs to the amphibious group of Eared-Seals and Sea-Lions (family Otariidae), which is intermediate in zoological position between the terrestrial carnivorous mammals, as dogs, cats, and bears, and the aquatic or true Seals, usually known as Hair Seals (family Phocidae). The distinguished Director of the British Museum, Professor Flower, states: "The Fur-Seals or Sea-Bears . . . form a transition from the Fissiped [terrestrial] Carnivora to the Seals. When on land the hind feet are turned forwards under the body, and aid in supporting and moving the trunk as in ordinary mammals As might be inferred from their power of walking on all fours, they spend more of their time on shore, and range inland to greater distances, than the true Seals, especially at the breeding time, though they are always obliged to return to the water

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Retake of Preceding Frame

to seek their food. They are gregarious and polygamous, and the males are usually much larger than the females". He states further: "The resemblances between the skull and other parts of the body of the Fur-Seals and the Ursoid [i.e., Bear-like] Carnivora is suggestive of some genetic relationship between the two groups, and Professor Mivart expresses the opinion that the one group is the direct descendant of the other." It may be added that the Fur-Seals travel on land with considerable facility and speed, the body being lifted high above the ground and the gait suggesting the ambling pace of the bear. On the contrary, the true Hair Seals cannot turn their stiff hind flippers forward to aid in progression on land, but ~~drag~~ drag their bodies heavily over the ground, moving by a series of vertical curvatures and extensions of the spine which suggests the method of locomotion of the measure worm, accompanied by a slight lateral wriggling.

The Fur-Seals spend fully half of their lives on land while the Hair Seals spend most of the time in water, and some species hardly visit the shore at all.

Article Mammalia in the Encyclopædia Britannica (1883, p. 442), and again in his most recent work on Mammals (Flower and Lydekker, Introduction to the Study of Mammals, London, 1891, p. 593-594).

The Northern Fur-Seal is here discussed under five heads, as follows:

- (1) Principal facts in the life history of the Fur-Seal
- (2) Present numbers compared with former abundance
- (3) The Fur-Seal 'Fisheries':
 - a. Seal killing at the Pribilof Islands
 - b. Seal killing at Sea or Pelagic Sealing
- (4) Causes which have led to the depletion of the rookeries
- (5) Measures necessary for the restoration of the depleted rookeries and for the permanent protection and preservation of the Fur-Seal.

* The term 'fishery' as applied to the industry of taking seals is strictly speaking incorrect and objectionable, the Fur-Seal being in no sense a fish but a warm-blooded mammal. The term is here used because of its general acceptance as applied to the business of taking any form of animal life of commercial importance from waters or coasts, and to places where such industries are conducted, as the 'Pearl Fisheries', the 'Oyster Fisheries', 'Lobster Fisheries', 'Whale Fisheries', and so on.

April 29, 1892.

Dear Professor Mendenhall:

In compliance with your suggestion, I return herewith my part of the report which you were good enough to send me last evening, so that you can incorporate with your own part the matter subsequent to page 6.

You will notice that I have rewritten the first three pages in order to incorporate Prof. Flower's remarks respecting the relationships of the Fur Seals, which you will remember you thought ought to come in at the beginning of the natural history part of the report. A few slight changes in the text have been made at General Foster's suggestion. He has made one or two other suggestions, concerning which I would like your judgment.

In our instructions for the work of the 'Albatross' in Bering Sea you added the following clause: "What is the classification of all seals taken in Bering Sea as to sex alone?" The meaning of the word classification here troubled me at first, and in looking at it again it seems to me that you must mean: What is the percentage of males or females to the total number of seals taken in Bering Sea? Am I right in this? Ought we to say anything about the Pribilof Islands in the introductory part of the report--as to their position, number, size, and so on?

Very truly yours,

C. Hart Merriam

Prof. T. C. Mendenhall,

Superintendent, Coast Survey.

SUPPLEMENTARY INSTRUCTIONS FOR THE 'ALBATROSS'.

Aleutian Islands.

Proceed westerly from Queen Charlotte Sound along latitude 52°N, for the purpose of finding the herd of old bull seals or such part of this herd as has not already passed into Bering Sea. If successful, ascertain the eastern, western, and southern limits of the herd, and the passes through which they enter Bering Sea. Stop at Unalaska for interpreter.

Visit all native settlements on the Aleutian Islands from Atka westward, including Attu, for the purpose of questioning natives with a view to ascertaining the whereabouts and limits of distribution of old male Fur-Seals in winter and spring. We desire to show that the old bulls spend the winter in the neighborhood of the Aleutian Islands, and that they do not go far enough west to mix with the Commander Island herd.

Ascertain the westernmost and easternmost passes through which these seals move, and whether in migration or winter they ever mix with females or younger males.

Preserve in alcohol the ovaries of the female seals secured.

Ascertain if any seals rest on the shores of the Aleutian Chain in the southward journey in the fall. It is said that gray pups are killed in the passes and on the shores in the fall especially when they are resting from the effects of a severe storm. Ascertain whether they habitually haul out at well defined localities on the Archipelago year after year. By means of the general letter to the

-2-

Alaska Company's Agents at the villages you may be able to ascertain the age, condition and proportion of the sexes of any seals taken in the passes.

Employ interpreter at Unalaska; if possible same one employed by the British Commissioners on the 'Danube' last year.

We believe that you will find that no seals are seen west of Four Mountain Islands and Amutka Pass. This, if true, will support our contention that the Pribilof herd do not go far west and never mix with the Commander Islands herd.

In visiting the native settlements procure affidavits wherever you can to support the position of our Government, as indicated in the enclosed memorandum.

To insure a friendly reception by agents, traders and natives, a request will be sent by telegraph to the Alaska Commercial Company in San Francisco, to send to Capt. Tanner at Port Townsend a general letter to their various stations, asking their agents to facilitate his inquiries.

The affidavits taken can be sworn to before Capt. Tanner as an officer of the Navy, affixing his official title. His own reports of the results of the investigations of the 'Albatross' need not be sworn to, but merely signed by him attaching his official ~~name~~^{title}. All papers and affidavits should, if possible, be taken in duplicate, and forwarded to Washington by two different methods or times of transmission.

All reports and affidavits should be in the hands of the Treasury Agent at Unalaska on or before June at which date it is expected a vessel will leave that place for Port Townsend or San Francisco.

-3-

Determine, so far as you have time, by killing seals in the water, the dates at which the various categories begin to go through the passes, especially the holluschickie or killable males.

It is not positively known whether the holluschickie, yearlings, two year olds, and pregnant cows enter Bering Sea by the same passes and at the same time, by the same passes at different times, or by different passes. Information as to these points is desirable.

On leaving Attu (not earlier than May 28) proceed direct to the Commander Islands for the purpose of obtaining specimens of the different categories of seals, and of learning as much as practicable concerning the rookeries. It is desirable to bring back several specimens of each kind (sex and age) of seal from these Islands. Photographs of the rookeries are desirable if no objection is made by the Governor.

• Returning from the Commander Islands you should reach Unalaska not later than June in order to connect with steamer sailing for Port Townsend on that date. Ship by this steamer all specimens of all kinds collected to that date (including skins, skulls, stomachs, uteri, ovaries, &c.).

In making the return trip from the Commander Islands to Unalaska, and in subsequent work in Bering Sea, it is important to record observations showing the eastward limit of distribution of the Commander Islands herd and the western limit of the Pribilof herd.

[Instructions for Bering Sea follow].

May 2, 1892

INSTRUCTIONS TO CORWIN.

Visit native settlements at Umnak, Keshega, Chernofsky, Makushin, and Akutan for the purpose of securing affidavits from natives respecting the presence and movements of the different categories of Fur-Seals in the vicinity of the Aleutian Islands, with special reference to ascertaining:

1. The whereabouts and limits of distribution of the old male Fur-Seals in winter and spring, and the passes by which such seals leave Bering Sea in fall and return in spring, with inclusive dates if possible.
2. The passes through which the breeding cows enter and leave Bering Sea, with inclusive dates.
3. The passes through which the "holluschickie" enter and leave Bering Sea, with inclusive dates.
4. The passes through which yearlings leave and enter Bering Sea, with inclusive dates.
5. The passes through which pups leave Bering Sea in fall (with inclusive dates), and whether these pups are alone or in company with older seals. If with other seals, state category.
6. Do pups stop to rest on shore on any of the Aleutian Islands in fall? If so, do they haul out in the same places each year?

May 2/92

April 30, 1882.

Mr. F. W. True,
Acting Director,
U. S. National Museum.

Dear Mr. True:

Your letter of yesterday has just come to hand. I am very much obliged for the information it contains respecting the seals and Sea-lions from the Galapagos Islands obtained during the cruise of the 'Albatross' in 1887-'88. Since the Museum has no specimens from Guadaloupe Island I shall make a special effort to secure specimens from that Island during the next month or six weeks.

Respectfully,

E. Hart Merriam

Bering Sea Commissioner.

May 3, 1892.

Prof. T. C. Mendenhall,
Superintendent, Coast Survey.

Dear Professor Mendenhall:

Can you send me a chart of the Santa Barbara Islands? If so, I should be greatly obliged for two copies--one to retain in this office, the other to send to our Field Agent who is now at work on these Islands.

Very truly yours,

E. W. Mendenhall

May 3, 1892.

The Honorable

Colonel Marshall McDonald,

U.S. Commissioner of Fish & Fisheries.

Dear Sir:

Your letter of April 30 has this moment reached me. I am very glad to know that you have the figures showing the pelagic catch of San Francisco vessels in 1889, and shall be greatly obliged if you will kindly send me a copy of the same. Do you know if any part of this catch was sold in Victoria? I have the total number of skins sold in Victoria by Canadian and American vessels in 1889, but have no record of the number sold in San Francisco.

I am obliged for your courtesy in writing to the West Coast ~~to~~ to secure the information desired for 1890 and 1891.

Respectfully,

C. Hart Merriam

Bering Sea Commissioner.

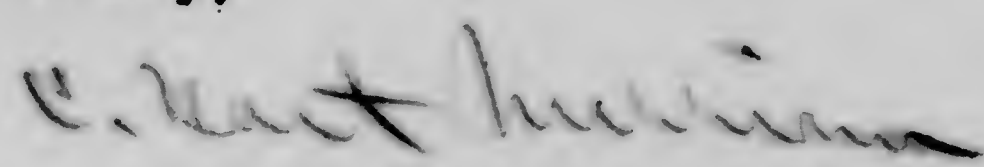
May 3, 1892.

Lieut. Commander Richardson Clover,
U. S. Hydrographic Office.

Sir:

Will you have the kindness to send me one copy each of the
Hydrographic Office Charts of Lower California, Guadaloupe Island,
and the Santa Barbara Islands.

Respectfully,



Bering Sea Commissioner.

Mr. Richard Rathbun,
U. S. Fish Commission.

May 3, 1892.

My dear Rathbun:

Many thanks for your promptness in again letting me have the Canadian Fish Commission Reports, 4 volumes of which (1882-'85 inclusive) were delivered today by messenger. I am particularly indebted for your calling my attention to the errata on p. 199 of the volume for 1883.

Have you any means of finding out the exact dates, or at least the years, in which the several volumes of the quarto Fisheries Reports were actually issued? The dates on the titles pages of documents coming from the Public Printer are so apt to be wrong that little confidence can be placed on them unless backed up by other evidence.

In Section 2 of these Reports, dated 1887, Jordan gives the number of seal skins taken in Washington as 6268. Is it certain whether these figures refer to the year 1879 or the year 1880?

In the same Report Dr. Bean states (p. 630) that 147450 seal skins were taken in Alaska, without mentioning the year. Jordan in the same Report gives the number as 155718, presumably for the same year (p. 592). There seems to be a lack of explicit statement as to the years to which the returns relate in these volumes, and I am unable to reconcile the above statements or attach them with certainty to a particular year.

Very truly yours,

C. Hart Merriam

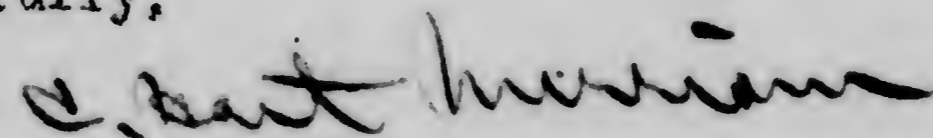
May 3, 1892.

Prof. David S. Jordan,
President, Leland Stanford Junior University.
Menlo Park, California.

Dear Sir:

Since writing you respecting the birth of Fur-Seals at Neah Bay, I have discovered what I believe to be the original source of the oft published statement that you are authority for the breeding of the Fur-Seal in that vicinity. The record referred to is in Appendix B to Allen's monograph of North American Pinnipeds, 1880, page 773, and reads as follows: "Prof. D. S. Jordan, the well-known ichthyologist, to whom the letter [from Judge Swan] was addressed, adds: 'I may remark that I saw a live Fur Seal pup June 1 [1880], at Cape Flattery, taken from an old seal just killed, showing that the time of bringing forth was just at hand.'"

Respectfully,



Bering Sea Commissioner.

May 3, 1892.

Prof. David S. Jordan,
President, Leland Stanford Junior University,
Menlo Park, California.

Dear Sir:

Since writing you this morning, I have received your letter of April 26th, and am very much obliged for what you say respecting my letter of April 2d.

Owing to my official connection with the Bering Sea controversy, I am not permitted to make public any statement until after the Board of Arbitration meets in Paris. I must ask you, therefore, not to publish the letter referred to, since its publication might be considered as implying a breach of faith on my part. I sent a similar letter to Blanchard of Paris, who cabled for permission to present it before the Zoological Society of Paris. The Department of State, while exceedingly anxious to secure the opinion of this society, felt obliged to deny the request because of the publicity that would certainly follow the course suggested.

Very truly yours,

C. Hart Merriam

Bering Sea Commissioner.

BRITISH CONTENTIONS RESPECTING SEALS AND SEALING.

It has been alleged:

1. That the annual killing of too large a number of young males at the Pribilof Islands, together with frequent re-driving, over-driving, and faulty methods of driving, have resulted not only in reducing the number of breeding males below the requirements of the females on the rookeries, but also in injuring and rendering impotent a considerable percentage of those remaining.

2. That this insufficiency and impotency of breeding males on the rookeries has resulted in such an increase in the number of cows on each harem that the bulls cannot fertilize them all. Those not fertilized go off to sea and never return--becoming barren. For this reason the number of barren cows is abnormally great at the present time.

3. That a large percentage of the seals killed in Bering Sea at a distance from the Pribilof Islands are such barren cows.

4. That a large percentage of the seals killed in Bering Sea at a distance from the Pribilof Islands, in addition to the barren cows just mentioned, are other non-breeding seals, chiefly young.

5. That neither of these categories feel the breeding impulse or desire and consequently remain at sea, not visiting the Islands at all during the entire season, and not going ashore anywhere. In other words the Fur-Seal when not impelled by the breeding instinct is a purely aquatic animal.

6. That the old bulls in taking their stands on the rookeries in spring do not fight so much as formerly, because they are not so crowded, being much fewer in number.

7. That nursing cows do not go far from the islands to feed, seldom more than 10⁻¹⁵ miles.

8. That there is great danger of driving the seals away from the Pribilof Islands altogether and forcing them to seek new breeding grounds.

9. That the effects of raiding the rookeries are most disastrous, disturbing the breeding seals which ought never to be molested, and tending to drive them from the Islands.

10. That the passes in the Aleutian Chain should be guarded during the spring migration to prevent worrying the seals when they are trying to enter Bering Sea. Harassing them at this time is likely to cause them to go elsewhere to breed.

11. That evidence exists of former rookeries on the Aleutian Islands and at various points south to the islands off Lower California.

12. That Fur-Seals are found along the coasts of British Columbia and South Eastern Alaska all summer, and young pups are occasionally found with them.

13. That the greatest injury inflicted upon the seal herd by pelagic sealing is done by killing gravid females on their way to the rookeries in April, May, and the early part of June.

14. That if no seals were killed at the Islands, pelagic sealing could not possibly result in commercial extermination of the Fur-Seal.

15. That pelagic sealing formerly was much more wasteful than now. Rifles are more wasteful than shotguns. The latter have now largely superseded the former. The hunters are more careful now than formerly.

16. That seals killed in the water rarely sink.

17. That the annual killing of a "reasonable number" of females is not more destructive to the herd than the killing of males exclusively. That normal reproduction results in an excess of both sexes, and that in poultry and stock raising the surplus of both sexes are killed.

18. That the most destructive killing of Fur-Seals, so far as the future of the herd is concerned, has been and may continue to be at the Pribilof Islands.

19. That if it is agreed to kill annually a certain specified number of males, why not kill part of them in the water as well as all on land?

20. That the number of seals on the Pribilof Islands is increasing, the number in 1891 being much greater than in 1890. This is the natural result of checking the excessive killing on the Islands that continued throughout the entire lease of the Alaska Commercial Company (to 1889).

21. That secret killing is done to an unknown extent by the *redskins*.

22. That the dead pups on the Islands in 1891 did not die of starvation but of pneumonia and ^{from} other causes.

23. That unborn pups cut out of their mothers and thrown into the sea swim freely.

24. That the intrinsic-evidence of the former extent of the rookeries (polished stones, felting, &c on the yellow-grass zone) does not prove that there were ever more breeding seals on the rookeries than now, the yellow-grass zone showing merely the limits of range of the holluschickie and of other seals after the regular breeding harems break up late in July. In August and September large groups or 'pods' of Seals wander over this area, and there is no evidence that it was ever covered at any one time.

25. That a large percentage of the seals killed on the Fair-weather grounds the latter part of June are holluschickie.

26. That there is no record in the history of the world of the destruction or even serious injury of breeding rookeries of seals as a result of pelagic sealing. On the other hand, all the now ruined breeding grounds in the South Seas and elsewhere owe their present condition to wanton destruction on land.

May 9, 1892.

The Honorable
General John W. Foster,
Department of State.

Dear Sir:

At the time of my visit to the Newfoundland and Labrador seal fisheries in 1883, and for many years previously, the vessels engaged in these fisheries habitually made two trips to the ice. On the first trip the seals were killed with clubs on the ice floe, and in the case of Harp Seals consisted chiefly of young, called 'White Coats.' In the case of the 'Hoods,' the catch consisted of both old and young, the seals being found on the ice in families, each family consisting of a male, female, and young.

On the 'second trip' the catch consisted mainly of fullgrown Harp Seals, most of which had not yet assumed the adult pelage, but were in the spotted coat worn by this species for several years, and in this condition they were known as 'bedlimers.' The method of taking these seals differs radically from the method employed on the first trip, for the reason that the seals have now taken to the water and cannot be killed with clubs on the ice. They are shot both in

Original Defective

Foster 2.

correctly informed, are shot from boats manned by the ship's crew. It is evident, therefore, that the 'second trip' at the Newfoundland and Labrador seal fisheries is a species of pelagic sealing. I am not aware that any other case of pelagic sealing on so large a scale is to be found anywhere in the world.

When I was in Newfoundland, it was pretty generally conceded by those engaged in seal fisheries that the second trip was most pernicious and was causing a rapid decline in the industry, likely to commercially exterminate the seals. For this reason, it was urged by many that the second trip be abandoned. I am not positive, but am of the opinion that this trip has been abandoned. It occurs to me that it is of importance in our case to ascertain the facts respecting this matter from our representative at St. Johns, Newfoundland. We should like to obtain from him also a list of the seals killed each year since 1883.

He could easily obtain any amount of information from the sealers themselves, the sealing season for this year being over, and the sealers fairly swarming in the town of St. Johns. By conversation with these sealers, he should be able to draw up a brief description of the 'second trip', covering as far as possible the percentages of the seals taken, by sex and age, and stating also what percentage sink when killed in the water. It would be of much value if we could establish that the Newfoundland and Labrador seal fisheries were depleted by pelagic sealing during the so-called 'second trip', for the

Foster 8.

reason that adult, or nearly adult seals, constituted the main part of the catch, and that a large percentage of them were females.

It would be desirable for our representative at Newfoundland to make special effort to secure comparative statistics showing the numbers of seals killed annually on the second trip, as compared with the numbers killed on the first trip for a number of years.

Respectfully,

C. West Murrian

Washington, D. C., May 9, 1892.

Mr. Charles H. Townsend,
Resident Naturalist, U.S.F.C.Str. 'Albatross'.

Dear Sir:

In your report entitled 'Notes on the Natural History and Ethnology of northern Alaska', published in the Cruise of the Revenue Steamer 'Corwin' for 1885, you state that you were at St. Paul Island nearly three weeks in June 1885 and were taken on board the 'Corwin' June 21, bound for the north.

When you visited Northeast Point rookery on St. Paul August 5, 1891, in company with the American and British Bering Sea Commissioners, you stated that the yellow grass-zone, formerly occupied by Fur-Seals, was covered solid with breeding seals at the time of your visit in June 1885. The area referred to is shown in the accompanying photograph taken from Hutchinsonian Hill, August 5, 1891, by Dr. Herring. I shall be obliged if you will make affidavit on this photograph to the effect that in the latter half of June ¹⁸⁸⁵ you saw this broad yellow grass-zone, shown in the photograph as reaching from the water's edge back to the dark area (the irregular edge of which is shown between A and B in the photograph), covered uniformly with breeding seals, while in 1891, very few seals were seen on this zone except along the water front, as shown in the photograph.

I should be obliged further if you will make a separate affidavit covering as many points in the accompanying suggestions as you feel sure about.

Respectfully,

Original Defective

e. knot murian

REPLY. San Diego, Calif.,

Can charter twelve ton schooner with naptha engine for
or for transportation to and from Guadalupe

Clark P. Streator

TELEGRAM.

Washington, D. C., May 7, 1892.

Clark P. Streator,
San Diego, California.

Can you charter schooner to visit Guadalupe Island for six
weeks? If so, at what price?

e. knot murian

REPLY. San Diego, Calif., May 7, 1892.

Can charter twelve ton schooner with naptha engine for six
weeks at \$600. or for transportation to and from Guadalupe at dates
needed for \$250.
needed for \$250

Clark P. Streator

TELEGRAM.

Washington, D. C., May 8, 1892.

Clark P. Streator,

San Diego, California.

Price too high. Can you not get sailing schooner?

C. Eastman

REPLY.

San Diego, Calif., May 8, 1892.

Can charter sloop of eight tons for six weeks at \$350. Lowest
figures to be paid.

Clark P. Streator.

TELEGRAM.

Washington, D. C., May 9, 1892.

Clark P. Streator,
San Diego, California.

Can you charter naphtha schooner for three weeks at one hundred per week for you and Townsend. If so, how much cash do you need in advance.

C. Hart Hurnam

REPLY.

San Diego, Calif., May 9, 1892.

Yes. One hundred and fifty dollars in advance.

Clark P. Streator.

TELEGRAM.

Washington, D. C., May 9, 1892.

Clark P. Streator,

San Diego, California.

Can you charter naphtha schooner for three weeks at one hundred per week for you and Townsend. If so, how much cash do you need in advance.

C. Hart Merriam

REPLY.

San Diego, Calif., May 9, 1892.

Yes. One hundred and fifty dollars in advance.

Clark P. Streator.

TELEGRAM.

Washington, D. C., May 10, 1892.

Clark P. Streater,

San Diego, California.

Positively engage naphtha schooner at one hundred per week.
Townsend of Albatross will join you tomorrow. Help him carry out
instructions and spend spare time collecting. Money will be sent
you or Townsend by telegraph today. Start tomorrow if possible.

C. Hart Merriam

T e l e g r a m.

C. H. Townsend,

Bohemian Club, San Francisco, California.

Proceed by first train to San Diego where you will meet Clark
P. Streater who has secured schooner. Telegraphic instructions will
be sent you at San Diego.

Washington, D. C.

May 10, 1892.

T e l e g r a m .

C. H. Townsend,
San Diego, California.

Proceed direct to Guadalupe. Stay ten days or two weeks if
necessary to accomplish object of trip as per letter dated April 27.
If not successful go to San Benito Islands but return to San Diego
in three weeks.

Washington, D. C.
May 10, 1892.

T e l e g r a m.

C. H. Townsend,
San Diego, California.

Proceed direct to Guadalupe. Stay ten days or two weeks if
necessary to accomplish object of trip as per letter dated April 27.
If not successful go to San Benito Islands but return to San Diego
in three weeks.

Washington, D. C.

May 10, 1892.

May 10, 1892.

Dr. Tarleton H. Bean,
U. S. Fish Commission.

My dear Doctor Bean:

In an article on the Fishery Resources of Alaska, published in the quarto Fisheries Reports, Sec. 3, you state: "Quite a number of young fur-seals are caught by natives of Umnak, as they travel southward from Bering Sea. The people of Makushin, too, secure between one thousand and thirteen hundred of these animals yearly on their way through Umnak Straits in the fall. The inhabitants of Berka capture from twelve hundred to fourteen hundred young fur-seals in favorable seasons as they go through Oonalga Pass."

Can you give me any dates to connect with the above statements? I am anxious to find out when the young fur-seals appear along the Aleutian Islands in fall; how far west they extend; and how long they stay, and find it very difficult to secure reliable information under this head. Anything you may be able to contribute will be greatly received.

Very truly yours,

C. Hart Merriam

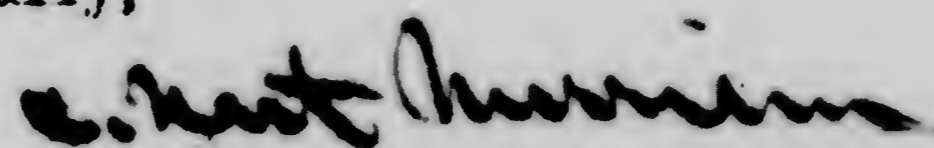
May 11, 1892.

Dr. John G. Ames,
Superintendent of Documents,
Department of the Interior.

Sir:

I have the honor to request for use in connection with the Report of the Bering Sea Commission a copy of the Report on Relations with Canada, forming Volume 10, No. 1,530, Part I and II of the Senate Reports of Committees, First Session of the Fifty-first Congress.

Respectfully,



Bering Sea Commissioner.

P.S. Is it possible to secure a set of the quarterly Bulletin
Reports published by the Fish Commission? The
Fish Comm. has no more for distribution.
EAM

May 12, 1892.

Mr. Richard Rathbun,
U. S. Fish Commission.

My dear Rathbun:

Many thanks for the list you were good enough to have copied for me of the seals taken at the Newfoundland Seal Fisheries during the past few years, and also for the list of photographs taken by the 'Albatross' at the Pribilof Islands last summer.

Very truly yours,

E. West

May 14, 1892.

Mr. Amzi Smith,

Superintendent, Senate Document Rooms.

Sir:

Can you send me the following documents, all of which contain important matter relating to Bering Sea and the Seal Fisheries?

Report on Relations with Canada &c. (Senate Reports of Committees, Vol. X, No. 1580, Part I and II, Fifty-first Congress, 1st Session).

Quarto Fisheries Reports, published by the U. S. Fish Commission (except Sec. II and the plates of Sec. 5, which I have).

Bulletins of the U. S. Fish Commission (except Vols. VII and VIII, which I have).

I have the honor to remain,

Very truly yours,

C. Hart Merriam

Bering Sea Commissioner.

May 14, 1892.

The Honorable

Colonel Marshall McDonald,

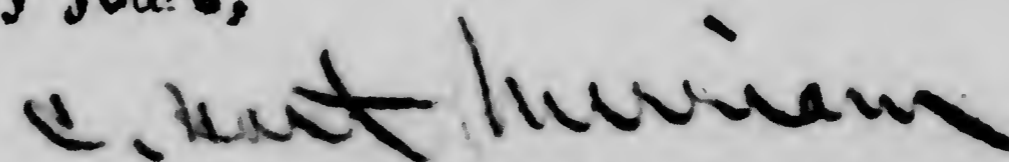
U. S. Commissioner of Fish & Fisheries.

Dear Sir:

Your communication of the 12th instant is at hand, together with the copy of notes on the Pinnipeds of Lower California by Mr. C. H. Townsend, for which I am very much obliged. These notes contain much information of interest and importance, and their arrival just now is very opportune.

Thanking you for your promptness in transmitting them, I remain,

Very truly yours,



Bering Sea Commissioner.

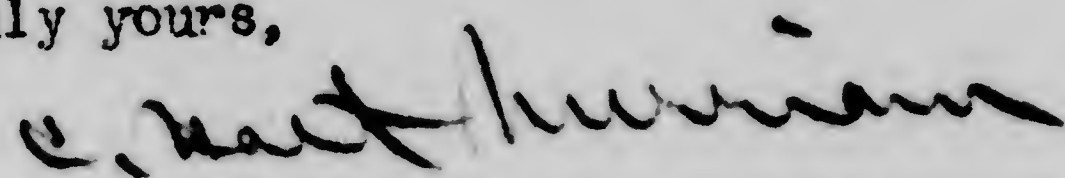
May 14, 1892.

Dr. John G. Ames,
Superintendent of Documents,
Department of the Interior.

Sir:

Your communication of the 12th instant is before me, and I am obliged for the information respecting the documents asked for.

Very truly yours,



Bering Sea Commissioner.

May 16, 1892.

Dr. T. H. Bean,
U. S. Fish Commission.

Dear Doctor Bean:

Many thanks for your letter of the 15th instant, respecting the dates at which Fur-Seals have been seen along the Aleutian Chain. Should you learn any additional facts concerning this matter, I shall be greatly indebted if you will let me know.

Very truly yours,

C. Hart Merriam

May 21. 1892.

The Honorable
John W. Foster,
Department of State.

Sir

At the request of Dr. Merriam, I send you herewith lists of the vessels engaged in seal fishery previous to the year 1886. I have examined the Reports of the Canadian Department of Fisheries for 1874-1885 inclusive (with the exception of the years 1877 and 1878, which are not at present in this office), and have included in these lists all data relating to this subject. You will notice that no detailed lists of vessels are given ^{previous to 1880} for the years 1884 and 1885. I have also completed the table showing the catch of the British Sealing Fleet for these same years (1874-1885), so far as it is possible.

In the absence of Dr. Merriam, I take the liberty of enclosing herewith a letter addressed to him by Colonel Marshall McDonald, transmitting certain information respecting the catch of Fur-Seals in the North Pacific Ocean and Bering Sea during the seasons of 1890 and 1891, thinking that possibly it may be desirable to utilize this data before Dr. Merriam returns.

Respectfully,

J. S. Salomon

Acting Chief of Division of
Ornithology & Mammalogy.

T e l e g r a m.

C. H. Townsend,

San Diego, California.

Get sworn statements from one or more sealers about seals at
Guadalupe and San Benitos as to numbers, time of breeding, and
whether migratory or resident. Arrange for specimens from San
Benitos, cost not exceeding one hundred.

C. Hart

Washington, D. C.

June 1, 1892.

June 6, 1892.

General John W. Foster,
Department of State.

Dear Sir:

Your letter of the 4th instant is at hand, together with the letters from Stockholm and Prague.

In compliance with your request, I submit the following list of foreign naturalists from whom replies have been received:--

Prof. Dr. Alfred Nehring, Berlin
Dr. Gustav Hartlaub, Bremen
Robert Collett, Christiania
A. Milne-Edwards, Paris
Dr. Leopold von Schrenk, St. Petersburg
Prof. T. Salvadori, Turin
Dr. Raphaël Blanchard, Paris
Prof. Henry H. Giglioli, Florence
Baron A. E. Nordenskiöld, Stockholm
Prof. W. Lilljeborg, Upsala
Dr. Emil Holub, Prague.

I have also copies of statements from Huxley and Selater, and a preliminary letter from Prof. Dr. Wilhelm Blasius, of Brunswick, stating that he will soon furnish the letter desired.

Respectfully,

C. Hart Merriam

June 8, 1892.

Hon. Thomas N. Molloy,
United States Consul,
St. Johns, Newfoundland.

Sir:

Your letter of the 1st instant has just come to hand, together with the two enclosures, for which I am exceedingly obliged. I had previously a complete list of the sealing returns from 1805-1883, and the matter you have kindly forwarded brings the statement down to date. The new law which you were good enough to enclose we had not heard of. Can you give me the exact date of its passage?

Very respectfully yours,

W. H. ...
Bering Sea Commissioner.

June 11, 1892.

Prof. Raphaël Blanchard,
Rue du Luxembourg, 32
Paris, France.

Dear Sir:

On returning from a brief absence in the West I find your letter of May 3d awaiting attention.

It is needless to say that I feel under great obligations for the trouble you have taken in preparing such a comprehensive and excellent reply to my communication respecting the Fur-Seal of Bering Sea, and I am delighted to find that your views respecting the threatened commercial extermination of the species, if pelagic sealing continues, agree so fully with my own.

Again thanking you for your great kindness in this matter, I have the honor to remain, with expressions of esteem,

Very truly yours,

C. Hart Merriam

June 10, 1892.

Dr. Leopold von Schrenck,
Imperial Academy of Science,
St. Petersburg, Russia.

Dear Sir:

Your much valued reply to my communication respecting the Fur-Seal of the North Pacific and Bering Sea is before me and I hasten to thank you for the promptness and character of your reply. It is gratifying to know that you agree with me in the conclusion that pelagic sealing if continued must result in the commercial extermination of the species.

If it is not asking too much, I should be under great obligation if you will have the kindness to send me a photograph of yourself.

Very truly yours,

Walter M. ...

June 10, 1892.

Dr. Gustav Hartlaub,
Bremen, Germany.

Dear Sir:

Your letter of April 23d, which you were good enough to send in reply to my communication respecting the Fur-Seal of Bering Sea, is now before me and I desire to thank you for your courtesy in sending me so valuable a reply.

With best wishes, I remain,

Very truly yours,

C. Hart

June 10, 1892.

Prof. A. Milne-Edwards,
Director, Museum of Natural History,
Paris, France

Dear Sir:

On returning from a brief absence in the West, I find your courteous reply to my communication respecting the Bering Sea Fur-Seal.

I desire to thank you both for your promptness in replying and for the trouble you have taken in preparing so excellent a letter on the subject.

With best wishes, I remain,

Very truly yours,

C. Hart Merriam

June 11, 1892.

Dr. Henry H. Giglioli,
Director, Zoological Museum,
Royal Superior Institute,
Florence, Italy.

Dear Sir:

On returning from a brief absence in the western states and territories, I find your letter of May 2d awaiting attention.

I hardly know how to express my gratitude and the obligation you have placed me under in sending so important and elaborate a reply to my communication respecting the Fur-Seal of Bering Sea. You have described the inevitable consequences of pelagic sealing with much clearness and vigor.

In acknowledging your courtesy, I beg to thank you not only personally, but in the name of my Government, for the trouble you have taken in our behalf.

With best wishes, believe me,

Very truly yours,

C. Hart Merriam

1/2
I shall be pretty indebted if you will have the kindness to send me your photograph

June 11, 1892.

Dr. Emil Holub,
Sudafrikanische Ausstellung,
Prag, Austro-Hungary.

Dear Sir:

It is with great pleasure that I hasten to acknowledge the receipt of your interesting and important letter of May 18th in reply to my communication of April 2d respecting the Fur-Seal of Bering Sea.

I am glad to find that you agree with me in the conclusion respecting the outcome of a continuance of pelagic sealing. I am obliged further for the trouble you have taken in suggesting a number of articles of agreement for international adoption with a view to the preservation of the seal herd not only as a species, but as a source of commercial revenue and importance to the whole world.

In thanking you for your valuable letter, I beg to express the hope that I may have the pleasure of seeing you next year in America during the Chicago Exposition.

Very truly yours,

C. Hart Merriam

June 11, 1892.

Prof. Dr. Alfred Nehring,
 Invalidenstrasse, 42,
 Berlin N., Germany.

My dear Sir:

Your esteemed communication of the 21st instant in reply to my letter respecting the Fur-Seal of Bering Sea, I found awaiting attention on my return from a brief trip in the West.

I hasten to assure you of my appreciation of your kind letter and to thank you for the trouble you have taken in preparing it. It is very gratifying to me to find that you agree with me so thoroughly in the conclusion respecting the inevitable fate of the Fur-Seal if pelagic sealing continues as during the last few years.

With best wishes, I remain,

Very truly yours,

C. Hart Merriam

I am greatly obliged for your kindness in continuing to send me your publications, which I prize highly. Your new *Arctoccephalus gracilis* is most interesting. Your 'Stiffen and Zundren' is a great monument to your zeal and industry.

June 11, 1892.

Prof. Baron Adolph E. Nordenskiöld,
Stockholm, Sweden.

Dear Sir:

The letter which you have been good enough to prepare and forward through our Consul, and to which you have taken the trouble to secure the additional signature of Prof. Lilljeborg of Upsala, has just reached me, and I hasten to express my thanks and appreciation for the trouble you have taken in preparing so important a reply to my communication respecting the Fur-Seal of Bering Sea.

I am sure that you will be glad to know that I have just succeeded in obtaining skulls of the Fur-Seal that breeds on Guadalupe Island off the coast of Lower California, and find that it is not a Callorhinus at all, but a true Arctocephalus. The species is now nearly extinct. This discovery seems to me of much importance as showing that the Bering Sea Fur-Seal never did breed along the west coast of the United States, although in its winter migrations it sometimes reaches very near to localities where the Arctocephalus occurs as a permanent resident.

In closing, permit me to assure ^{you} of the very high value I place upon your letter of May 14th, and to thank you both for your personal trouble in preparing it, and also for your kindness in obtaining the joint signature of Prof. Lilljeborg.

With great respect, believe me,

Very truly yours,

C. Hart Merriam

June 11, 1892.

Dr. A. Th. von Middendorf,
Dorpat, Hellenorm,
Livland, Russia.

My dear Sir:

Your esteemed letter of May 18th in reply to my communication of April 2d respecting the Bering Sea Fur-Seal Callorhinus ursinus has just reached me, having been transmitted through Mr. W. Wurts, and I hasten to express to you my pleasure at receiving so valuable a document from your hand, being well aware of the effort it must cost you even to dictate such an important communication in your feeble health. The parallels you draw with the destruction of the American Bison and the Great Rhytina are most significant.

Again thanking you for your great kindness in this matter, I have the honor to remain, with expressions of esteem.

Very truly yours,

C. Hart Merriam

June 11, 1892.

Prof. Dr. Wilhelm Lilljeborg,
Upsala, Sweden.

Dear Sir:

The joint reply of Baron Nordenskiöld and yourself to my communication of April 2d respecting the Fur-Seal of Bering Sea has just been placed in my hands, and I desire to thank you very sincerely for your kindness in the matter.

With best wishes, I remain,

Very truly yours,

C. Hart Merriam

June 10, 1892.

Prof. Tommaso Salvadori,
Zoological Museum,
Turin, Italy.

Dear Sir:

I desire to thank you for your reply to my communication respecting the Bering Sea Fur-Seal.

In connection with the enormous increase in the number of seals taken by pelagic sealers during the last few years, as stated in my former communication, it should be observed that the number of vessels has increased even more rapidly. In 1880, according to the official report of the Canadian Minister of Marine and Fisheries, but seven vessels and 213 men were engaged in pelagic sealing, securing 13,600 skins. The same authority states that in 1886, 20 vessels and 459 men secured 38,907 skins. In 1891 the number of vessels had increased to more than 100, and upwards of 2,000 men were employed and more than 62,000 skins were secured.

The evidence of the decrease in the number of seals is found in the size of the breeding rookeries, as stated in my letter of May 2d, the area covered by breeding seals in 1891 being less than one-fourth the size of the area covered in 1884 or 1885. Moreover, the destruction of the female seals by pelagic sealers has already shown itself so forcibly upon the number of young born at the Islands that in

Prof. T.S. 2

1890 the Company in charge was not able to secure more than 21,000 seals up to July 20th, although the lease permitted them to kill 60,000, and the number obtained was secured only by the greatest effort and by repeated drivings from the same rookeries, which had not been necessary in previous years. The lease to the new company which went into effect in 1890 restricts the killing on the Islands to 60,000 seals, but from present appearances some years are likely to elapse before this number can be obtained. In 1891 only about 10,000 seals were killed at the Islands and during the present year the number has been fixed at 7,500.

With best wishes, I remain,

Very truly yours,

C. Hart Merriam

June 10, 1892.

Prof. Robert Collett,
Zoological Museum,
Christiania, Norway.

Dear Sir:

Your reply to my communication respecting the Bering Sea Fur-Seal reached me duly and I desire to thank you for responding to my request so promptly.

I am pleased to find that you agree with me in the conclusion that pelagic sealing is ruinous to the seal herd.

With best wishes, I remain,

Very truly yours,

C. West

June 15, 1892.

The Honorable
Colonel Marshall McDonald,
U. S. Commissioner, Fish & Fisheries.

Dear Sir:

I have the honor to acknowledge your communication of the 11th instant, transmitting a copy of Mr. Townsend's report on his recent trip to Guadaloupe Island, and also a sketch map of Guadaloupe Island showing the track of the vessel and so on, for all of which I am very much obliged.

Respectfully,

C. Eastman

June 15, 1892.

Mr. Richard Rathbun,
U. S. Fish Commission.

My dear Rathbun:

Thanks for your note of the 14th instant just received, together with the sketch map of Guadaloupe showing Townsend's route and so on, which I am very glad to have.

Do you know when Townsend sailed for the north? I have not heard whether he got off on the vessel leaving San Francisco on the 4th instant. Neither have I learned whether or not he succeeded in perfecting arrangements to secure Fur-Seals from the San Benitos. Has he written you anything relating to this matter?

Have you data respecting the temperature of the water and atmosphere at Guadaloupe Island and at the Pribilof Islands in June and July?

Very truly yours,

E. Hart Merriam

June 18, 1892.

Dear Mr. Lansing:

If you will be kind enough to look over these photographs and number them in the order you wish them to appear in the Report, and also furnish the legend you desire to have printed under each one, I will send them to New York today to have them reproduced.

Hastily yours,

C. Eastman

June 18, 1892.

The Moss Engraving Co.,
535 Pearl Street,
New York City.

Dear Sirs:

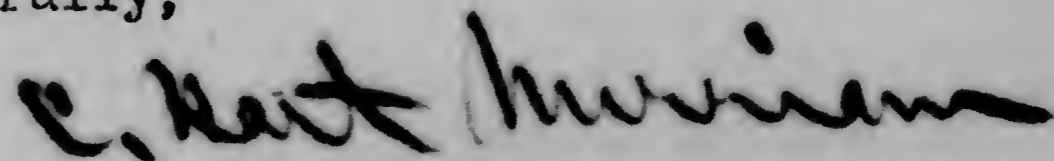
I am obliged for your letter of the 10th instant informing me of the price at which you will furnish electrotypes of illustrations about 7 X 4 1-2 inches, namely \$14. each; electros at 90 cts. and printing 100 copies each at \$2.

I ~~enclose herewith~~ ^{send in separate packages} 9 illustrations, one of which is to be reproduced by photo-engraving; the remaining 8 by half-tone process. The amount of reduction is marked on each.

In the case of the photographs, the legend that should be printed under each is on a separate slip of paper fronting the illustration and bearing in each case the same number.

I shall be greatly obliged if you will send me at your early convenience 110 copies of each of these illustrations with duplicate electros of all. Please send the same to me by express at the Department of Agriculture. Make out your bill in the name of the U. S. Department of State and send to me with the illustrations.

Respectfully,



Bering Sea Commissioner.

June 18, 1892.

Mr. Richard Rathbun,
U. S. Fish Commission.

My dear Rathbun:

Thanks for your letter just received.

In looking over 'Land and Water' for seal notes, I find a series of articles entitled 'Game Preservation and Game Laws' which you may or may not have seen. At all events, I will give you the first reference. A sort of introductory article on the general subject and principles of game legislation appeared in 'Land and Water' for August 28, 1875, p. 153.

Very truly yours,

C. Hart Merriam

June 20, 1892.

General John W. Foster,
Department of State.

Dear Sir:

Replying to your letter of the 18th instant respecting the Canadian Fishery Reports prior to 1886, I beg to say: You and Mr. Lansing told me that you desired these reports solely to enable you to complete your table showing the catch of the British sealing fleet and to complete your lists of the vessels, small boats, and so on engaged in the seal fishery previous to 1886. This material was compiled by my Assistant, Mr. T. S. Palmer, and sent you on May 21 during my absence.

The data for the years 1877 and 1878 were not included in this statement because at that time we lacked the reports for those years. These reports have been since examined, but do not contain any of the information desired except the number and value of seal skins, which for 1877 is 5700, valued (at \$4.50 each) at \$25650.; and for 1878, 9593 skins (at \$4.50 each) at \$43168.50.

Respectfully,

E. A. Mearns

June 20, 1892.

General John W. Foster,
Department of State.

Dear Sir:

Your letter of the 18th instant enclosing a copy of a letter from Mr. James C. Carter has just come to hand, and I have read Mr. Carter's remarks with much interest. He has hit upon our weak points in a manner that would do credit to the other side. Should he read our instructions to the 'Albatross' and 'Corwin', he would see that we are trying to secure most of the information he desires.

I shall endeavor to meet you and Professor Mendenhall at such time as you see fit to designate.

Respectfully,

E. A. Mendenhall

June 21, 1892.

General John W. Foster,
Department of State.

Dear Sir:

Mr. C. H. Townsend in his report on his recent trip to Guadalupe Island states that he was informed that Captain Samuel Smith, of San Francisco, killed 1200 Fur-Seals at Guadalupe Island within two or three years and sold their skins in San Francisco for \$7. each. Is it not practicable to obtain a statement from Captain Samuel Smith respecting this matter?

Very truly yours,

E. West

June 22, 1892.

General John W. Foster,
Department of State.

Dear Sir:

Again referring to Mr. Carter's letter of the 15th instant, I desire to jot down a few memoranda. It appears from this letter that Mr. Carter has not seen the joint report of the British and American Commissioners. This he ought to have.

1. Referring to his numbered paragraphs, it may be said as a general proposition that the habits of fur-seals of the genera Callorhinus and Arctocephalus do not differ materially, though some of the species of Arctocephalus are non-migratory. Probably they remain the year round wherever the climatic conditions are suitable to their needs.
2. The information under this head will be much fuller when Mr. Lansing has collated the data received from the 'Albatross' and 'Corwin' respecting the whereabouts of the seals along the north-west coast at different dates during their migrations.
3. It can hardly be stated positively whether the females are first served when two or three years of age, though we think

Gen. J.W.F. 2

the second year is the rule. The females do not haul up separately from the young males and bachelor seals (holius-chickie) until they take their places regularly on the harems. The young seals undoubtedly go off to feed, but how often and how long they remain away, we do not know.

4. We do not make any distinction between the conditions obtaining at the North-east Point rookery and on other rookeries. Respecting the size of the harems present and past, the available information is so unsatisfactory that it does not seem safe to make any very positive statements.
5. Young pups shortly after birth collect together in small groups called 'pods', and these groups gradually work together until they unite to form large pods. While the harems are breaking up, these pods move down to the water's edge.
6. Since we did not visit North-east Point rookery until after the harems had broken up, it is impossible for us to state the width of the breeding zone in 1891.
7. The first part of this paragraph is a reiteration of the very contention that has been made by the British Commissioners. The second part is based on a misapprehension of what the 'yellow grass zone' really is. This zone does not exist on the areas at present used by the seals, but brings into prominence the areas formerly used as rookeries, but now abandoned.

poor imprint

Gen. J.W.F. 3

8. Referred to Professor Mendenhall.

9. It is true as a general proposition that the higher orders of mammals are "more under the dominion of man, and consequently more easily destroyed by him than the lower orders", though exceptions particularly among the smaller carnivorous forms are not rare.

We have no information that will enable us to discriminate in the statistical table referred to between the numbers of seals captured in Bering Sea and those in the North Pacific except for the year 1891. Mr. Lansing may possibly have additional information under this head.

Respectfully,

E. Hart Merriam

June 24, 1892.

General John W. Foster,
Department of State.

Dear Sir:

I send you herewith 40 pages of typewritten matter respecting pelagic sealing by Canadian sealers, extracted from the Annual Reports of the Commissioner of Fisheries of Canada. All of the matter contained in this series of Reports relating to the Fur-Seal is believed to be included in the present document.

Respectfully,

C. Hart Merriam

RESULTS OF PELAGIC SEALING BY CANADIAN VESSELS
(from official reports on Canadian Fisheries)

Year	Skins	Value	Vessels	Men	Remarks
1877	5700 @ \$4.50	\$25650			
1878	9593 @ 4.50	43168			
1879	12500 @ 8.	100000			Probably a low estimate
1880	18300 @ 12.	163200	7	213	
1881	13641 @ 12.	162492	10	338	Boisterous weather
1882	17700 @ 10.	177000	13	454	Moderately successful
1883	1195 @ 10.	91950	10	336	Boisterous weather
1884		156419	10	336	
1885		150019	10	336	
1886	88907 @ 10	389070	20	459	Weather exceedingly fine.
1887	33800 @ 7.	236600	27	468	3 schrs. seized; boisterous weather
1888	27988 @ 10.	279880	20	388	
1889	38670 @ 10.	386700	23	559	
1890	44751 @ 11.	492261	29	678	
1891			94		

Fur Seals caught by Foreign Vessels and disposed of in Victoria, B.C.
(Not included in above returns of Canadian Fleet.)

Year	Vessels	Skins Bering Sea	Skins Brit. Columbia	Total	Value
1888	American 9 German $\frac{1}{10}$	4870	2558	7428	74280
1890	American 6 German $\frac{1}{6}$	3474	294	3768	41448

June 25, 1892.

The Honorable

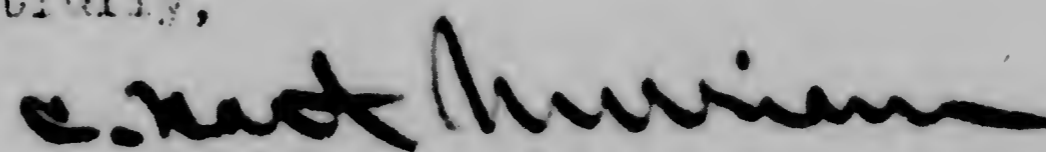
Colonel Marshall McDonald,

U. S. Commissioner, Fish & Fisheries.

Dear Sir:

I beg to acknowledge the receipt of your communication of the 24th instant, transmitting notes respecting pelagic sealing on the Pacific coast, for which I am very much obliged. One record contained in these notes astonishes me very much because it differs so widely from the information in our possession for the same year, namely, the year 1879. You state that 18500 skins were landed in British Columbian ports in 1879. The Canadian Fisheries Reports give the number as 12500,—6000 short of your estimate. If you have any information that will substantiate this record, I shall be greatly obliged if you will send me a copy of the same.

Respectfully,



Bering Sea Commissioner.

poor imprint

June 25, 1892.

General John W. Foster,
Department of State.

Dear Sir:

In compliance with your request, I send you herewith by messenger the original official reports from the United States Naval Vessels cruising in Bering Sea in 1891, comprising seven 'archive documents' Nos. 2411-2417 inclusive, of Section IX, Box 2, Hydrographic Office, U. S. Navy.

I send you also copies of letters from the Commanding Officers of the 'Marion' (August 18); the 'Thetis' (July 11 and August 15); the 'Mohican' (July 28, September 5, and September 12); also, extracts from the logs of the U. S. N. Ships 'Mohican', 'Thetis', and 'Marion', relating to their cruise in Bering Sea in 1891.

Also: Tabular list of vessels boarded and warned in Bering Sea by United States and British Naval Vessels, and United States Revenue Vessels June 28 to July 25, 1891, inclusive, and a continuation of the same from July 21 to August 30, 1891, inclusive.

Also: Extracts from the logs of Revenue Steamers 'Corwin' and 'Rush', respecting seals seen in Bering Sea in 1891.

Also: Evidence regarding pelagic sealing in Bering Sea taken before Lieutenant Newcomb, of the 'Rush', on ~~the~~ St. Paul Island.

Also: Four documents relating to dead pups, being copies of statements from Officers of the 'Rush'.

Gen. J.W.F. 2

Also: A letter from Captain Healy of the Revenue Steamer 'Bear', addressed to the Secretary of the Treasury, respecting seal life in Bering Sea.

Also: The list of sealing vessels boarded, warned, and seized in Bering Sea by the Revenue Cutters 'Rush' and 'Corwin' during the season of 1891, together with a chart showing the positions of said vessels when seized or warned.

In addition to the documents mentioned, I send you the seal logs of the British Fleet cruising in Bering Sea in 1891, namely, H.M.S.S. 'Nymph', 'Pheasant', and 'Porpoise'; and also the seal log of the 'Danube'--the vessel which carried the British Commissioners. This latter is the most complete and important of all the seal logs kept during the season of 1891.

Besides the documents enumerated, I send you a batch of track charts, a list of which is enclosed.

Respectfully,

C. Hart Merriam

June 25, 1892.

General John W. Foster,
Department of State.

Dear Sir:

I hand you herewith, in compliance with your request, a number of track charts of the American and British Fleets cruising in Bering Sea during 1891 as follows:--

Four (4) track charts containing no information on seals.

Three (3) photographs of track charts showing positions of vessels warned and seized.

Five (5) photographs of track charts showing where seals were observed by U. S. Vessels (some of these show also vessels warned and seized).

Eight (8) tracings of track charts showing positions and abundance of seals observed by British Fleet, namely,

1. The track chart of H.M.S. 'Pheasant' (July to September).
2. Track of H.M.S. 'Nymph' (July to September).
3. H.M.S. 'Porpoise' (August 7-19).
4. " " (August 26 to September 8).
5. Combined track chart of British Vessels 'Nymph', 'Porpoise', 'Danube', and 'Pheasant', for 1st period ending August 15.
6. The same for the American Vessels 'Corwin', 'Alert', 'Thetis', 'Mohican', 'Rush', and 'Marion' (compiled by Dr. Dawson).
7. Combined track chart of British Vessels 'Nymph', 'Porpoise',

Gen. J.W.F. 2

'Danube', and 'Pheasant' for 2d period ending September 17.

8. The same for the American Vessels 'Corwin', 'Thetis', 'Mohican', 'Rush', and 'Marion' for 2d period ending September 3 (compiled by Dr. Dawson).

Seal charts of 'Alert', 'Marion', and 'Bear', showing positions of seals observed.

I have the honor to request that all of the information respecting the presence or abundance of seals on these charts be compiled on the Hydrographic Office chart of Bering Sea. It seems desirable to compile the data by months, so as to show the range and relative abundance for July, August, and September separately. Afterward the three charts could be combined in one, if desirable. It is very important to show by means of these charts that the range of the Fur-Seal does not extend westward across Bering Sea from the Pribilof Islands to the Commander Islands, but that the seals are comparatively abundant within 100-150 miles of the Pribilof Islands, becoming less and less abundant at greater distances, and that a few isolated records are all that we possess to show that Fur-Seals occur at all in the middle part of Bering Sea between the Pribilof and Commander Islands.

Respectfully,

C. Hart Merriam

June 25, 1892.

General John W. Foster,
Department of State.

Dear Sir:

I enclose herewith a statement of the catch of American pelagic sealers in 1891, given me by the British Commissioners in March last and received by them from the British Consul at San Francisco.

I enclose also a statement from the Alaska Commercial Company, dated San Francisco, September 29, 1891, respecting the catch by pelagic sealers. These documents may not contain any new information, but I thought Mr. Lansing would be glad to have them.

The copy of affidavits of six pelagic sealers from San Francisco collected by Major Williams, February 1, 1892, which you loaned me sometime ago, is herewith returned.

Respectfully,

C. Hart Merriam

June 27, 1892.

General John W. Foster,
Department of State.

Dear Sir:

Colonel Marshall McDonald has just sent me the enclosed miscellaneous data respecting boats engaged in pelagic sealing, the number of seals taken, and so on. I forward the same at once, thinking it may contain something of use to Mr. Lansing.

Respectfully,

C. A. M. M. M.

of my Report
 Revised draft handed Gen. Foster
 June 28, 1892 - C.S.M.

THE BERING SEA FUR-SEAL

CALLORHINUS URSINUS (Linnæus)

The carnivorous mammals are divided by naturalists into two principal groups, one comprising the terrestrial wolves, cats, weasels, and bears; the other, the amphibious eared seals and walruses, and the aquatic seals. The second division (suborder Pinnipedia) is in turn subdivided into three groups called families, namely, the eared seals, comprising the sea-lions and sea-bears or fur-seals (Otariidæ), the walruses (Odobenidæ), and the true seals (Phocidæ). The fur-seals and sea-lions form the connecting link between the terrestrial carnivores and the true seals, as recognized by all naturalists. The distinguished Director of the British Museum, Professor Flower, says: "The Fur-Seals or Sea-Bears . . . form a transition from the Fissiped [terrestrial] Carnivora to the Seals When on land the hind feet are turned forwards under the body, and aid in supporting and moving the trunk as in ordinary mammals As might be inferred from their power of walking on all

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fours, they spend more of their time on shore, and range inland to greater distances, than the true Seals, especially at the breeding time, though they are always obliged to return to the water to seek their food. They are gregarious and polygamous, and the males are usually much larger than the females" * He states further: "The resemblance between the skull and other parts of the body of the Fur-Seals and the Ursoid [i.e., Bear-like] Carnivora is suggestive of some genetic relationship between the two groups, and Professor Mivart expresses the opinion that the one group is the direct descendant of the other." All the Fur-Seals have conspicuous external ears, similar to those of most terrestrial mammals except that they are folded lengthwise to keep out the water. The Hair Seals have no external ears. It may be added that the Fur-Seals, owing to the greater length and mobility of their flippers and to their structural peculiarities, travel on land with considerable facility and speed, the body being lifted high above the ground and the gait suggesting the ambling pace of the bear. The true Hair Seals (family Phocidae) on the contrary are wholly unfitted for progression on land. From the natural history standpoint they represent the extreme of differentiation or departure from the ancestral stock among the terres-

* Article Mammalia in the Encyclopædia Britannica (1883, p.442); and again in his most recent work on Mammals (Flower and Lydekker, Introduction to the Study of Mammals, London, 1891, p.593-594).

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trial carnivorous mammals. In accordance with their aquatic habits the fore legs have been so modified that they are little more than stiff paddles like those of the whale; the hind flippers stick out behind and cannot be turned forward for use in terrestrial locomotion or in climbing over rocks, and their bodies drag heavily over the ground. Their movements on land or ice are awkward and laborious, and consist of a series of vertical curvatures and extensions of the spine, suggesting the method of locomotion of the measure worm.

The amphibious Fur-Seals are not only intermediate between the Hair Seals and terrestrial carnivorous mammals in structure and means of locomotion, but also in habits, for they spend fully half of their lives on land; they climb steep and high hills with comparative ease, and have been known to travel ^{inland} fully three miles. The Hair Seals are strictly aquatic, spending most of the time in water, and some species hardly visit the shore at all.

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The Northern Fur-Seal is here discussed under five heads, as follows:

- (1) Principal facts in the life history of the Fur-Seal.
- (2) Present numbers compared with former abundance.
- (3) The Fur-Seal 'Fisheries'
 - a. Seal killing at the Pribilof Islands.
 - b. Seal killing at Sea or 'Pelagic Sealing'.
- (4) Causes which have led to the depletion of the rookeries.
- (5) Measures necessary for the restoration of the depleted rookeries and for the permanent protection and preservation of the Fur-Seal.

The term 'fishery' as applied to the industry of taking seals is strictly speaking incorrect and objectionable, the Fur-Seal being in no sense a fish but a warm-blooded mammal. The term is here used because of its general acceptance as applied to the business of taking any form of animal life of commercial importance from waters or coasts, and to places where such industries are conducted.

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PRINCIPAL FACTS IN THE LIFE HISTORY OF THE FUR-SEAL.

1. The Northern Fur-Seal (*Callorhinus ursinus*) is an inhabitant of Bering Sea and the Sea of Okhotsk, where it breeds on rocky islands. Only four breeding colonies are known, namely, (1) on the Pribilof Islands belonging to the United States; (2) on the Commander Islands belonging to Russia; (3) on Robben Reef belonging to Russia; and (4) on the Kurile Islands belonging to Japan. The Pribilof and Commander Islands are in Bering Sea; Robben Reef is in the Sea of Okhotsk near the Island of Saghalien, and the Kurile Islands are between Yezo and Kamtchatka. The species is not known to breed in any other part of the world. The Fur-Seals of Lobos Island and the South Seas and also those of the Galapagos Islands and the islands off Lower California, belong to widely different species and are placed in different genera from the Northern Fur-Seal.

2. In winter the Fur-Seals migrate into the North Pacific Ocean. The herds from the Commander Island, Robben Reef, and the Kurile Islands move south along the Japan coast, while the herd belonging to the Pribilof Islands leaves Bering Sea by the eastern passes of the Aleutian Chain.

3. The Fur-Seals of the Pribilof Islands do not mix with those of the Commander and Kurile Islands at any time of year. In summer the two herds remain entirely distinct, separated by a water interval of several hundred miles; and in their winter migrations those

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from the Pribilof Islands follow the American coast in a southeasterly direction while those from the Commander and Kurile Islands follow the Siberian and Japan coasts in a southwesterly direction, the two herds being separated in winter by a water interval of several thousand miles. This regularity in the movements of the different herds is in obedience to the well-known law that migratory animals follow definite routes in migration and return year after year to the same places to breed. Were it not for this law, there would be no such thing as stability of species, for interbreeding and existence under diverse physiographic conditions would destroy all specific characters.*

The pelage of the Pribilof Islands Fur-Seals differs so markedly from that of the Commander Islands seals that the two are readily distinguished by experts, and have very different values, the former commanding much higher prices than the latter at the regular London

The home of a species is the area over which it breeds. It is well-known to Naturalists that migratory animals, whether mammals, birds, fishes or members of other groups, leave their homes for a part of the year because the climatic conditions or the food supply become unsuited to their needs; and that wherever the home of a species is so situated as to provide a suitable climate and food supply throughout the year such species do not migrate. This is the explanation of the fact that the northern Fur-Seals are migrants while the Fur-Seals of tropical and warm temperate latitudes do not migrate.

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4. The old breeding males of the Pribilof herd are not known to range much south of the Aleutian Islands, but the females and young appear along the American coast as far south as northern California. Returning, the herds of females move northward along the coasts of Oregon, Washington, and British Columbia in January, February, and March, occurring at varying distances from shore. Following the Alaska coast northward and westward they leave the North Pacific Ocean in June, traversing the eastern passes in the Aleutian Chain, and proceed at once to the Pribilof Islands.

5. The old (breeding) males reach the Islands much earlier, the first coming the last week in April or early in May. They at once land and take stands on the rookeries where they await the arrival of the females. Each male (called a bull) selects a large rock on or near which he remains until August unless driven off by stronger bulls, never leaving for a single instant night or day, and taking neither food nor water. Both before and for sometime after the arrival of the females (called cows) the bulls fight savagely among themselves for positions on the rookeries and for possession of the cows, and many are severely wounded. All the bulls are located by June 20.

6. The bachelor seals (holluschickie) begin to arrive early in May, and large numbers are on the hauling grounds by the end of May or first week of June. They begin to leave the Islands in Nov-

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ember, but many remain into December or January and sometimes into February.

7. The cows begin arriving early in June, and soon appear in large schools or droves, immense numbers taking their places on the rookeries each day between the middle and end of the month, the precise dates varying with the weather. They assemble about the old bulls in compact groups called harems. The harems are complete early in July, at which time the breeding rookeries attain their maximum size and compactness.

8. The cows give birth to their young soon after taking their places on the harems in the latter part of June and in July, but a few are delayed until August. The period of gestation is between eleven and twelve months.

9. A single young is born in each instance. The young at birth are about equally divided as to sex.

10. The act of nursing is performed on land--never in the water. It is necessary, therefore, for the cows to remain at the Islands until the young are weaned, which is not until they are four or five months old. Each mother knows her own pup and will not permit any other to nurse. This is the reason so many thousand pups starve to death on the rookeries when their mothers are killed at sea. We have repeatedly seen nursing cows come out of the water

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and search for their young, often traveling considerable distances and visiting group after group of pups before finding her own. On reaching an assemblage of pups, some of which are awake and others asleep, she will rapidly move about among them, sniffing at each, and then gallop off to the next. Those that are awake advance toward her with the evident purpose of nursing, but she repels them with a snarl and passes on. When she finds her own she fondles it a moment, turns partly over on her side presenting her nipples and it promptly begins to suck. In one instance we saw a mother carry her pup back a distance of 15 meters (50 feet) before allowing it to nurse. It is said that the cows sometimes recognize their young by their cry--a sort of bleat.

11. Soon after birth the pups move away from the harems and huddle together in small groups called 'pods', along the borders of the breeding rookeries and at some distance from the water. The small groups gradually unite to form larger groups which move slowly down to the water's edge. When six or eight weeks old the pups begin to learn to swim. Not only are the young not born at sea, but if soon after birth they are washed into the sea, they are drowned.

12. The Fur-Seal is polygamous and the male is at least five times as large as the female. As a rule each male serves about 15 or 20 females, but in some cases as many as 50 or more.

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13. The act of copulation takes place on land and lasts from 5 to 10 minutes. Most of the cows are served by the middle of July, or soon after the birth of their pups. They then take the water and come and go for food while nursing.

14. Many young bulls succeed in securing a few cows behind or away from the breeding harems, particularly late in the season (after the middle of July, at which time the regular harems begin to break up). It is almost certain that many, if not most, of the young cows are served for the first time by these young bulls, either on the hauling grounds or along the water front.

These bulls may be distinguished at a glance from those on the regular harems by the circumstance that they are fat and in excellent condition, while those that have fasted for three months on the breeding rookeries are much emaciated and exhausted. The young bulls, even when they have succeeded in capturing a number of cows, can be driven from their stands with little difficulty, while (as is well known) the old bulls on the harems will die in their tracks rather than leave.

15. The cows are believed to take the bull first when two years old, and deliver their first pup when three years old.

16. Bulls first take stands on the breeding rookeries when six or seven years old, before this they are not powerful enough to fight the older bulls for positions on the harems.

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17. Cows when nursing regularly travel long distances to feed. They are frequently found 100 or 150 miles from the Islands and sometimes at greater distances.

18. The food of the Fur-Seal consists of fish, squids, crustaceans, and probably other forms of marine life also. (See Appendix F.)

19. The great majority of cows, pups, and such of the breeding bulls as have not already gone, leave the Islands about the middle of November, the date varying considerably with the season.

20. Part of the non-breeding male seals ('holluschickie'), together with a few old bulls, remain until January, and in rare instances until February or even later.

21. The Fur-Seal as a species is present at the Pribilof Islands eight or nine months of the year, or from two-thirds to three-fourths of the time, and in mild winters sometimes during the entire year. The breeding bulls arrive earliest and remain continuously on the Islands about four months; the breeding cows remain about six months, and part of the non-breeding male seals about eight or nine months, and sometimes throughout the entire year.

22. During the northward migration, as has been stated, the last of the body or herd of Fur-Seals leave the North Pacific and enter Bering Sea in the latter part of June. A few scattered individuals, however, are seen during the summer at various points

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along the northwest coast; these are probably seals that were so badly wounded by pelagic sealers that they could not travel with the rest of the herd to the Pribilof Islands. It has been alleged that young Fur-Seals have been found in early summer on several occasions along the coasts of British Columbia and Southeast Alaska. While no authentic case of this kind has been found, it would be expected from the large number of cows that are wounded each winter and spring along these coasts and are thereby rendered unable to reach the breeding rookeries and must perforce give birth to their young--perhaps prematurely--wherever they may be at the time.

23. The reason the Northern Fur-Seal inhabits the Pribilof Islands to the exclusion of all other islands and coasts is that it here finds the climatic and physical conditions necessary to its life wants. This species requires a uniformly low temperature, an overcast sky, and a foggy atmosphere to prevent the sun's rays from injuring it during the long summer season when it remains upon the rookeries. It requires also rocky beaches on which to bring forth its young. No islands to the northward or southward of the Pribilof Islands with the possible exception of limited areas on the Aleutian Chain are known to possess the requisite combination of climate and physical conditions.

All statements to the effect that Fur-Seals of this species formerly bred on the coasts and islands of California and Mexico are erroneous, the seals remaining there belonging to widely different species.

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PRESENT NUMBERS COMPARED WITH FORMER ABUNDANCE.

All the rookeries on both islands (St. Paul and St. George) bear unmistakable evidence of having undergone great reduction in size during the past few years. This evidence is of two kinds: (1) Evidence of eye witnesses, and (2) Intrinsic evidence afforded by the rookeries themselves.

(1) Evidence of eye witnesses.

The universal testimony of all who saw the rookeries a few years ago, and again in 1890 or 1891, is that they have suffered a great and alarming decrease within the past six or seven years. In the case of Northeast Point Rookery--the largest single rookery known and one from the hauling grounds of which about 20,000-35,000 non-breeding male Fur-Seals were taken annually for 20 years--the evidence is unequivocal and conclusive. The great rookery is several miles in length and its former boundaries can be distinctly seen, as will be described in detail presently. [See also accompanying photograph] The area occupied by breeding seals in 1891 was a narrow strip along shore, with a small area in the rear used as 'hauling grounds'; while the zone of former occupancy varies from 100 to 500 feet in width. Mr. C. H. Townsend, resident naturalist of the U.S. Fish Commission Steamship 'Albatross' visited Northeast Point Rookery in company with the British and U.S. Bering Sea Commissioners August 5, 1891, and stated that when he visited the same rookery in the latter

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part of June, 1885, the broad zone here referred to "was covered solid with seals." Lieutenant John C. Cantwell of the U.S. Revenue Steamship 'Rush', Dr. H. H. McIntyre, Capt. Daniel Webster, Mr. J. C. Redpath, and Mr. George R. Tingle corroborate Mr. Townsend's statement that the yellow-grass zone, or zone of former occupancy, was densely covered with seals in 1885.

The testimony of natives and others in regard to other rookeries agrees very well with the above, or places the time of abandonment at a still later date, some of the natives maintaining that the yellow-grass zone was covered with seals as recently as 1887. It is evident therefore that the extensive area here described as the yellow-grass zone behind the narrow strip at present occupied by the seals on the various rookeries, was thickly covered not longer ago than 1885 or 1886 and in some cases perhaps as late as 1887.

(2) Intrinsic Evidence Afforded by the rookeries themselves.

Behind each rookery is a more or less sharply defined strip or belt varying from 100 to 500 feet in width, which differs conspicuously in appearance from the ground on either side. It is covered with a short and rather fine grass of a yellowish-green color (*Glyceria angustata*) more or less mixed with tufts of a coarser species (*Deschampsia cespitosa*), both differing strikingly from the tall and rank rye grass (*Elymus mollis*) usually growing immediately behind. In many places the ground between the tussocks and hummocks of grass

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is covered with a thin layer of felting, composed of the shed hairs of the seals matted down and mixed with excrement, urine, and surface soil. This felting could not have been formed otherwise than by the movements of seals back and forth over the ground for many years. In the same zone the rough upper surfaces and angular projections of the rocks have been rounded off and polished by the former movements of the seals. This polishing, though now partly hidden by weathering and the growth of lichens, is still conspicuous and can be attributed to no other cause than to the movements of the seals on the rookeries during a long period of years. The fact that the sides of these same rocks remain in their original rough condition is sufficient proof that the smooth upper surfaces could not have been produced by sand-polish.

In some of the rookeries another zone may be discerned behind the yellow-grass zone, indicating the extent of the rookery at some still more remote period. The grass on this area is bunch-grass (*Deschampsia cespitosa*); the lichen-growth on the rocks is heavier than on the one just described, and the polished surfaces of the rocks show more weathering. This latter zone abuts against the more elevated turf bearing the characteristic tall grass of the islands, and marks the period of maximum abundance of the seals.

The aggregate size of the areas formerly occupied is at least four times as great as that of the present rookeries.

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THE FUR-SEAL 'FISHERIES'.

The Fur-Seal 'Fisheries', so-called, may be considered under two heads: (a.) Seal killing on the Pribilof Islands, and (b.) Seal killing at Sea, or Pelagic Sealing.

(a.) Seal killing on the Pribilof Islands.

The only seals killed for commercial purposes at the Seal Islands are non-breeding males (under five or six years of age, called ('holluschickie')). They come up on the rookeries apart from the breeding seals, and large numbers are present by the latter part of May or first week in June, after which they constantly pass back and forth from the water to the hauling grounds. They are driven from the hauling grounds to the killing grounds by the native Aleuts, who have been trained in this work from generation to generation. Here the seals are divided into little groups. Those selected as of suitable size are killed by a blow on the head with a club; the others are allowed to go into the water and soon reappear on the hauling grounds. In this way about 100,000 young males have been killed annually on the Pribilof Islands for 20 years.

In addition to the commercial killing above described, a number of male pups were formerly killed each year to furnish food for the natives, but the killing of pups is now prohibited by the Government.

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(b.) Seal killing at Sea or Pelagic Sealing.

Pelagic Sealing is carried on chiefly by means of schooners, each of which is provided with a crew of 20 to 25 men and several small boats for hunting. When seals are encountered the small boats put out and the hunting begins. If a seal is seen on the surface the hunter approaches it as quietly as possible, and when near enough shoots it with the shot-gun or rifle; but most seals are shot as they rise within range of the boat. When a seal is shot the oarsman pulls toward it as rapidly as possible in the hope of reaching it before it sinks. By the aid of an iron hook on the end of a light pole many seals are secured after they have sunk below the surface but have not yet passed out of reach. Some of the sealing vessels use steam power, but most of them depend on sails.

Formerly, Indian crews were taken almost exclusively, and the spear was used instead of firearms in order not to frighten the seals. This method had the great advantage of securing nearly all seals wounded. Now both Indian and white hunters are employed and the use of the spear has been almost wholly superseded by the use of firearms. The shot-gun is used more than the rifle for the reason that fewer wounded seals are lost thereby.

In addition to the destruction wrought by the sealing schooners pelagic sealing is still carried on along by the native Indians in their canoes, but the number of Fur-Seals thus killed is relatively small.

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Pelagic sealing has been carried on fortuitously and on a small scale for many years, but it was not until within the present decade that numerous vessels engaged systematically in the enterprise. The profits are so great in comparison with the capital invested that, as the results of the annual catch became known each year, a constantly increasing number of vessels was led to engage in the industry, with a corresponding increase in the number of seals killed in the open sea. The Fur-Seals which move northward along the coast of the Northwestern United States, British Columbia, and southeastern Alaska from January until late in June are chiefly pregnant females, and about ninety percent of the seals killed by pelagic sealers in the North Pacific are females heavy with young. For obvious reasons many more seals are wounded than killed outright, and many that are killed sink before they can be reached, and consequently are lost. As each female contains a young, it is evident that several seals are destroyed to every one secured.

For several years the pelagic sealers were content to pursue their destructive work in the North Pacific, but of late they have entered Bering Sea where they continue to capture seals in the water throughout the entire summer. The females killed during this period are giving milk and are away from the Islands in search of food. Their young starve to death on the rookeries. We saw vast numbers of dead pups on the Island of St. Paul last summer (1891) which, from their emaciated condition, had evidently died of starva-

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tion. The total number of their carcasses remaining on the Pribilof Islands at the end of the season of 1891 has been estimated by the United States Treasury Agents at not less than twenty thousand.

Pelagic sealing is now carried on in the North Pacific Ocean from January until late in June, and in Bering Sea in July, August, and September. Some sealing schooners remain as late as November, but they do so for the purpose of rairding the rookeries.

The number of seals secured by pelagic sealers is exceedingly difficult to ascertain, because no complete record has been kept of any except those sold in Victoria, B. C. # Many thousands have been sold in San Francisco concerning which we have not been able ^{eight} to obtain reliable information.

-20- *recorded as*

The number of seal skins actually ~~reported~~ sold as a result of pelagic sealing is shown in the following table:

Year	No. of skins	Year	No. of skins.
1872	1,029	1882	17,700
1873	---	1883	9,195
1874	4,949	1884	? 14,000 (number estimated from value given)
1875	1,646	1885	13,000
1876	2,042	1886	38,907
1877	5700	1887	33,800
1878	1512	1888	37,789
1879	12,500	1889	40,998
1880	13,600	1890	48,519
1881	13,541	1891	62,500

The figures for the years 1872 to 1878 inclusive, and 1891, are from the London Trade Sales. Those from 1879 to 1887 inclusive are from the official reports of the Minister of Marine and Fisheries of Canada and probably fall short of the actual catch because the catch of the United States vessels is not included. The figures for 1888 are from the same source (27,983), plus the United States pelagic catch (9,806) as stated in the report of the U. S. Commissioner of Fish and Fisheries for that year. The figures for 1889 and 1890 are from the Canadian Fisheries Reports and comprise both the catch of the Canadian fleet (33,570 for 1889 and 44,751 for 1890) and of other vessels which sold their skins in Victoria, B.C. (7,428 in 1889 and 3,768 in 1890). The catch of American vessels sold in San Francisco is not included.

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CAUSES WHICH LED TO THE DEPLETION OF THE ROOKERIES.

Inasmuch as the number of seals annually secured by pelagic sealing represents but a fraction of the total number killed, a glance at the figures contained in the above table is enough to show that the destruction of seal life thus produced is alone sufficient to explain the present depleted condition of the rookeries.

It has been alleged that overkilling of young males at the Islands is a principal cause of the present scarcity of seals.

In reply to this contention it is only necessary to bear in mind that the number of male and female Fur-Seals is equal at birth, that the species is polygamous, and that each male serves on an average at least 15 or 20 females. It is evident, therefore, that there must be a great superabundance of males, of which a large percentage may be killed annually forever without in the slightest degree endangering the productiveness of the herd. Furthermore, it has been shown that the killing of seals at the Pribilof Islands is completely under the control of man and is restricted to the superfluous males, for selection as to sex and age can be and is exercised so that neither females nor breeding males are killed. It is evident that this killing of non-breeding males could in no way affect the size or annual product of the breeding rookeries unless the number killed was so great that enough males were not left to mature for breeding purposes. There is no evidence that this has ever been the case. Moreover, all seals killed or wounded are invariably

-21-

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secured and their skins marketed--in other words there is neither waste of the seal herd, no impairment of the productiveness of the breeding stock.

Pelagic sealing, on the other hand, is wasteful in the extreme and is directed to the fountain head or source of supply. From the very nature of the case selection cannot be exercised, and a large percentage of seals wounded are lost. Owing to the peculiar movements of the seal herds it so happens that about ninety percent of the seals killed in the North Pacific are females heavy with young, entailing generally a destruction of two seal lives for every adult seal killed. In Bering Sea also, large numbers of females are taken; these females are in milk and their young die of starvation on the rookeries.

Pelagic sealing as an industry is of recent origin, and may be said to date from 1870. In 1880, according to the official report of the Canadian Minister of Marine and Fisheries, seven vessels and 213 men were engaged in pelagic sealing in the North Pacific, securing 18,600 skins valued at \$162,200. The same authority states that in 1883 twenty vessels and 459 men secured 38,907 skins valued at \$369,070. In 1891 the total number of vessels had increased to about 100; upwards of 2000 men were engaged, and more than 62,000 skins were secured.

Thus it appears that for ten years after the Alaska Purchase the Fur-Seals of the Pribilof Islands were practically undisturbed

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in passing to and from their breeding grounds; that in 1879 seven vessels and 213 men attacked them in the sea along the northwest coast securing 18,000 skins; that the industry proved so remunerative that in twelve years the number of vessels had increased from seven to one hundred; the men from 213 to upwards of 2,000; and the skins secured from 18,000 to more than 62,000. When it is remembered that this number is but a fraction of the number of seals destroyed it becomes evident that unless checked by international legislation, the commercial extermination of the seal is only a matter of a few years.

For 18 years after the Alaska Purchase about 100,000 bachelor seals were secured annually without difficulty and without impairing the productivity of the breeding rookeries, but the decrease brought about by pelagic sealing made it extremely difficult to obtain this number after 1887, and the standard of size was lowered several times in order to obtain the full quota. In 1890 the rookeries and hauling grounds had fallen off to such an alarming extent that the Treasury Agent in charge ordered the killing to stop on July 20, at which date only 21,000 seals had been secured-- and it may be added that this number was taken only after the greatest exertion on the part of the Company's Agents. The percentage of seals of killable size was so small [15-20%] compared with the percentage of yearlings, that it is not surprising that the Treasury Agents on the Islands were impressed with the scarcity of young

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males, and being new men, inexperienced in matter relating to seal life, were easily led to mistake effect for cause, and attributed the decrease to the killing of too many young males at the islands in previous years--instead of to the destruction of the mothers and young by pelagic sealers--an error they were quick to correct after another year's experience.

The number of seals killed each day during the killing season may be taken as a rough index to the rapidity of the decline of the rookeries in the past few years. Treasury Agent Charles J. Goff, in charge of the Seal Islands in 1889-1890 states in his official report that the average daily killing in 1890 was 722, while in 1889 it was 1,974 for the same period.

In his report for 1889, Treasury Agent Goff states: "The alarming decrease in the daily, weekly, and monthly receipts of [skins by] the Alaska Commercial Company, and as a dernier resort by said company to secure their 100,000 skins, the killing of smaller seals than was customary, attest conclusively that there is a scarcity of seals and that within the last year or so they are, from some cause, decreasing far beyond the increase." He states further: "I regard it absolutely essential, for the future of the rookeries, that prompt actions be taken by the Department for the suppression of illegal killing of seals in Bering Sea, and that the utmost economy be observed in taking the seals allowed by law."

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**MEASURES NECESSARY FOR THE RESTORATION OF THE DEPLETED ROOKERIES
AND FOR THE PERMANENT PRESERVATION OF THE FUR-SEAL.**

As already shown, pelagic sealing is the primary cause of the decrease of the Fur-Seal and the depletion of the rookeries. So long as the sealing schooners are permitted to continue the destruction of pregnant and nursing females, not only will it be impossible to increase the number of seals on the rookeries, but it will be impossible to preserve the numbers now there present, even if no seals are killed at the Islands. The restoration and permanent preservation of the rookeries, therefore, demands the perpetual prohibition of pelagic sealing.

The number of non-breeding males that may be safely killed at the Islands will vary from year to year, and should be determined each season by competent Government agents on the ground.

APPENDIX A.

SEALS SINK WHEN KILLED IN THE WATER.

It is well-known that seals in general sink when killed in the water. To prevent the loss of such seals various devices are employed. In the Newfoundland and Labrador Seal Fisheries the great majority of the seals killed are taken on the ice, but some are shot in the water. In order to secure the latter, each hunter is provided with a reel of stout cord to which is attached a lead weight bearing several large hooks. When a seal has been shot, the hunter holds the coil of loose cord in one hand and swings the weight with the other until it attains sufficient momentum, when he lets it fly in the direction of the seal hoping to overreach the animal, in which case the lead weight carries the hooks rapidly downward on the far side of the seal. By means of a strong pull on the cord, the hooks are made to take hold of the seal and he is drawn in.

In the North Pacific the pelagic sealers are provided with slender poles, each bearing an iron hook at one end, with which they secure many seals that have begun to sink. In order to use this pole, the hunter in his boat approaches the seal to within shotgun range; after firing, the oarsman propels the boat rapidly to the spot thus enabling the hunter in an uncertain percentage of cases to reach the seal with his long-handled gaff.

Mr. Hinckelmann, Royal Superintendent of Fisheries, in an article entitled 'Injuries to the Fisheries in the Baltic by Seals' states: "The Seal when mortally wounded invariably sinks to the bottom, where, at least in deep water, it cannot be reached....The huntsman can only in very rare cases prove that his shot has been successful, as the dead Seal cannot be taken from the surface of

-2-

the water, but sinks to the bottom."--Translated in Bull. U. S. Fish Commission, Vol. VII, for 1887, 1889, p.81.

Capt. Musgrave, who was shipwrecked on the Auckland Islands and for a year and a half subsisted largely on the flesh of seals and sea-lions, states: "When they are killed in the water they sink like a stone." (Quoted by R. A. A. Sherrin in 'Handbook of the Fishes of New Zealand, 1886, p. 248).

Payer and Copeland, in their account of "Hunting and Animal Life in East Greenland", state respecting seals: "When dead they sink very quickly."--The Zoologist, No. 124, 1876, p. 4744.

Robert Warren, in a note in The Zoologist for 1880 (3d series, Vol. IV, pp. 358-359) states that a Gray Seal (Halichærus gryphus) was shot in Killala Bay while in the act of devouring a fine salmon. "On receiving the ball through the hinder part of his head he sunk out of sight, but was thrown ashore by the next tide, and even then retained a part of the salmon between his jaws."

The reason seals in general sink when killed in the water is that the specific gravity of their flesh and bones collectively is considerably greater than that of water; while the specific gravity of the layer of fat beneath the skin is less than that of water. This layer of blubber is much thicker in the Hair Seals than in the Fur-Seals, but is not thick enough to float the body; consequently even the Hair Seals sink when killed at sea. It is true that a certain percentage of seals killed in the water float long enough to be recovered. Such seals, as a rule, are shot through the lungs, permitting enough air to escape from the lungs into the body cavity to cause them to float. Pelagic sealers admit that seals shot in the head, when the rest of the body is under water, are almost certain to sink before they can be reached.

Appendix B
Dates of arrivals of seals at Pribilof Islands, 1871-1891.
 First arrivals of Bulls, Cows, and Pups at St. Paul Island, Bering

Sea, 1872-1891 inclusive (from official records).

	<u>Bulls</u>	<u>Cows</u>	<u>Pups</u>
1872	May 13	June 3	June 13
1873	April 24	8	25
1874	23	May 24	11 "arriving in fair numbers"
1875	28	June 7	10
1876	May 3	5	No record
1877	17	May 25	May 29
1878	6	June 8	No record
1879	April 29	16	June 18
1880	30	No record	10
1881	May 5	June 8	12
1882	April 26	No record	No record
1883	May 6	do	do
1884	April 30	do	do
1885	27	do	do
1886	16	do	do
1887	May 1	do	do
1888	1	do	May 21
1889	3	June 10 "good many reported"	June 10 "good many reported"
1890	April 28	6	10
1891	May 1	11	13

on June 21 rockeries rapidly filling up

First arrivals of Bulls, Cows, and Pups at St. George Island, Bering
Sea, 1871-1891 inclusive (from the official record).

	Bulls	Cows	Pups
1871	May 4	No record	No record
1872	6	do	do
1873	10	do	do
1874	1	June 7	June 7
1875	April 26	9	No record
1876	Feb. 15 large nos. in water	13	do
1877	May 8	8	do
1878	10	No record	do
1879	10	June 9	do
1880	1	No record	do
1881	6	June 9	June 9
1882	2	9	11
1883	7	6	6
1884	4	7	10
1885	April 29	1	No record
1886	May 4	8	June 8
1887	7	No record	No record
1888	8		May 31
1889	5	May 31	No record
1890	April 26	No record	do
1891	May 5	June 8	June 10

Appendix C

YOUNG SEALS ARE BORN ON LAND OR ICE, DO NOT SWIM AT FIRST, AND CANNOT NURSE IN THE WATER.

No species of seal in any part of the world gives birth to its young in the water; either among the Sea-bears and Sea-lions (Otariidae or among the true Seals (Phocidae). In the great majority of species the young are brought forth on rocks along the shore, but in a few kinds of Hair Seals, notably the Erps and Hoods, they are born on the ice flows of the far north.

Not only are all kinds of seals born on land (or ice) but they remain there while nursing, for seals cannot suckle their young in the sea: The young are unable to hold their breath long ~~enough~~ and would drown if they attempted to nurse in the water.

However strange it may seem to those unfamiliar with the facts, all young seals are afraid of the water at first and enter it with great reluctance. At the Island of St. Paul, ~~we~~ ^{have} seen mother seals take their young by the skin of the back and carry them out into the water, much against the will of the young, and have seen this repeated several times before the young were permitted to land, which they did in a state of great excitement and fatigue. Capt. Bryant, who spent many years at the Pribilof Islands as Chief Government Agent, states: "It seems strange that an animal like this, born to live in the water for the greater portion of its life, should be at first helpless in what seems to be its natural element; yet these young Seals, if put into it before they are five or six

weels old, will drown as quickly as a young chicken. They are somewhat slow, too, in learning to swim, using at first only the fore flippers, carrying the hind ones rigidly extended and partially above water. As soon as they are able to swim (usually about the last week of August) they move from the breeding-places on the exposed points and headlands to the coves and bays, where they are sheltered from the heavy surf, and where there are low sand-beaches. (Bryant in Allen's Pinnipeds, 1880, p. 387.)

Capt. Musgrave, who was shipwrecked on the Auckland Isles for more than a year and a half, has published some important notes respecting the sea-lions of those Islands. Concerning the young, he states: "It might be supposed that these animals, even when young, would readily go into the water--that being one of their natural instincts, but, strange to say such is not the case; it is only with the greatest difficulty, and a wonderful display of patience, that the mother succeeds in getting her young in for the first time. I have known a cow to be three days getting her calves down half-a-mile and into the water, and, what is most surprising of all, it cannot swim when it is in the water."

APPENDIX D

NATURAL ENEMIES.

The only important enemy of the Fur-Seal known to man is the Killer-whale (Orca gladiator). These Killers visit the Islands on their way north about the end of April, and return in September. In the fall they hug the shore, keeping in the kelp or moving about the rocks as near in-shore as they find sufficient water to float in. They are sometimes seen in squads circling round and round the Islands, catching young pups by dozens. At first the pups are said to pay no attention to the enemy, sometimes swimming right into the Killer's mouth, but before the end of the season they learn what the presence of the Killer means, and rush out of the water and up on the rocks whenever one comes near shore. The Killers generally arrive early in September, and remain as long as the pups stay, which is usually until the latter part of November.

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omitted

APPENDIX E

SEX OF SEALS KILLED IN BERING SEA.

In the Canadian Fisheries Report for 1886 (published at Ottawa, 1887, p. 268), Mr. Thomas Mowatt, Inspector of Fisheries for British Columbia, states respecting the pelagic catch of that year (1886): "The greatest number were killed in Behring Sea, and were nearly all cows or female seals. This enormous catch, with the increase which will take place when other vessels fitting up every year are ready, will, I am afraid, soon deplete our fur seal fishery, and it is a great pity such valuable industry could not in some way be protected."

In the Canadian Fisheries Report for 1888 (published in Ottawa, 1889, p. 241) it is stated: "The majority of our hunters contend that, there are over 7 per cent. of pups in the entire catch of fur seals on the coast; while in Behring Sea the catch does not exceed 1 per cent. But, they cannot deny the fact, that over 60 per cent. of the entire catch of Behring Sea is made up of female seals."

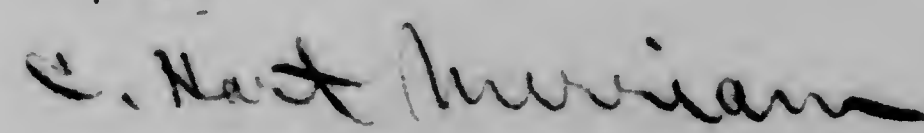
July 16, 1892.

Moss Engraving Co.,
535 Pearl Street,
New York City.

Dear Sirs:

The proofs of the reproductions of the Seal Island photograph sent you some time ago have just reached me, having been sent by you to the wrong address. As a whole, they are rather unsatisfactory, the seals in all cases being very much less distinct than in the originals. In the one showing part of Lukannon Rookery your artist has taken the liberty to paint the backs of the seals white, which gives them a very wrong appearance. The reproduction of the pen drawing of the Fur and Harp Seals on one plate is particularly poor and must be done over. The original is clear and ought to give a perfect reproduction. Please submit another set of proofs as early as possible. The plates are needed at once to illustrate a document that will be ready for the printer shortly. Please send these proofs to me at the U. S. Department of Agriculture.

Respectfully,



Bering Sea Commissioner.

July 18, 1892.

Dr. J. A. Allen,
American Museum, Natural History,
New York City, N. Y.

Dear Doctor Allen:

Mr. Lansing handed me the enclosed this morning with the alterations you will observe. He thinks it necessary to specify Guadalupe Island in each instance and requests ^{us} to sign the substitute, which is herewith enclosed. Please sign and return to me.

Mr. Lansing states further that he has received two reports from you, which he supposed had been acknowledged--the one on the seal fisheries he has read and is much pleased with; the other (on the Synopsis of Pinnipeds) has not yet been read. He says that in the first report you speak of a large number of dead seals on some island and suggest an epidemic or a sand storm. With your permission, he will omit this paragraph altogether.

We have just unpacked 7 Fur-Seals from the Commander Islands and 12 from the Pribilof Islands (nearly all males of different ages, some very old). On examining them in the salt, I have found no differences, but they are now being cleaned up and made into skins, and I shall examine them with great care as soon as they are in proper condition and will let you know the result.

Very truly yours,

C. Hart Merriam

See p. 227

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APPENDIX B

FOOD OF THE FUR-SEAL

Contents of stomachs of Fur-Seals killed at the Pribilof Islands
August 1-8, 1891.

One hundred and eighteen stomachs of Fur-Seals were examined jointly by the United States and British Bering Sea Commissioners at St. Paul and St. George Islands August 1 and August 3, 1891, with the following results:

All of the stomachs were opened immediately after the seals were killed. Ninety-three out of the 118 were empty, except for the presence of a little mucus, bile, frothy slime, dark-brownish blood, and parasitic worms. Blood in some form was present in five stomachs, and Nematode worms about three inches in length were found in most of the stomachs opened.

Twenty contained pebbles, or pebbles and beach-worn shells either alone or in connection with other contents, the quantity varying from a single small pebble to a handful.

Four contained beaks of squid or cuttlefish (identified by Dr. William H. Dall as probably Gonatus fabricii), of which three sets were in one stomach, two sets in another, and one each in the remaining two.

Two contained fish bones, of which one consisted of the vertebrae and a few other bones of a Cod (Gadus morrhua); the other the ear bones of a similar fish.

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One contained a large Isopod crustacean (identified by Prof. I. Smith as " apparently a species of Rocinela, a genus very close to Aega ").

One contained a small bit of kelp.

Contents of stomachs of Fur-Seals killed in the North Pacific Ocean ,
April 22-May 1, 1892.

The stomachs of 104 Fur-Seals killed by Pelagic Sealers in the North Pacific off southeastern Alaska April 22-May 1, 1892, between lat. 56° 45' and 58° 58' and mostly 60-80 miles from shore, were examined by the Naturalist of the U. S. Fish Commission Steamer 'Albatross'. Of the 104 stomachs, 67 or 64½ percent were empty. Of the remaining 37, 30 contained 37 fishes, and 18 contained 728 squids or cuttlefish.

Most of the stomachs containing food have been submitted to us for examination, and the fishes have been identified by Dr. Tarleton H. Bean, Ichthyologist of the U. S. Fish Commission.

Of the 30 containing fishes, 15 contained red rock fish or rock cod (Sebasticthys, 5 of which were found in 1 stomach, making 19 in all); 2 contained salmon, 2 pollock (Pollachius chalcogrammus), 2 ling, 1 stickleback (Gasterosteus cataphractus), and 9 small fishes too much digested to admit of ready identification. Two contained pebbles; and several, intestinal worms.

Although squids were found in only 18 of the 37 stomachs con-

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taining food, a large number were generally found in each stomach-- as many as 419 beaks in one instance, and 319 in another. In all, 1456 beaks, representing 728 squids, were found in the 18 stomachs, an average of $40\frac{1}{2}$ to each seal. Owing to the small size of the individual beaks, particularly those of the younger squids, many were probably lost in emptying and transferring the stomach contents, so that the number here given is certainly below the number originally contained.

The examination of these stomachs shows that the Fur-Seals are chiefly surface feeders, the only food found from moderate depths being the red rock fish or rock cod (Sebasticthys), of which all the specimens obtained belong to a species of whose haunts and habits nothing is known.

July 21, 1892.

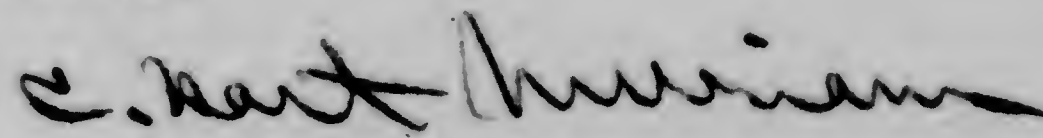
The Moss Engraving Co.,
535 Pearl Street,
New York City.

Dear Sirs:

The second set of proofs of the Bering Sea illustrations has just come to hand and ~~are~~ ^{they} are not so good as I had hoped. I accept them in order to save time, as we need the prints at once. They should have wider margins than these proofs or they will be smaller than the text. The pages should measure at least $6\frac{1}{2}$ X $10\frac{1}{2}$ inches.

Please send the prints and electros ordered at your earliest possible convenience, addressed to me at the U.S. Department of Agriculture. Send your bill to me also, but make it out in the name of the U. S. Department of State.

Respectfully,



Bering Sea Commissioner.

July 22, 1892.

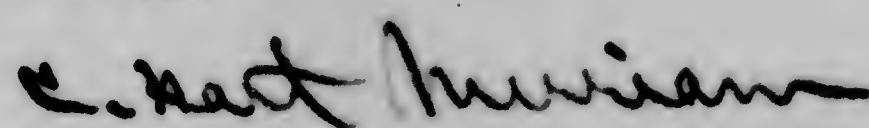
The Honorable
Thomas N. Molloy,
U. S. Consul General,
St. Johns, Newfoundland.

Dear Sir:

Owing to my absence from the city your last communication transmitting statements respecting second trip has remained unanswered. We are very much obliged for the trouble you have taken in securing this information.

I regret to trouble you further, but there still remains one item of information which I very much desire, namely, a list of the vessels wrecked at the Newfoundland Seal Fishery subsequent to 1882. I have a complete list from 1870-1882 inclusive. I enclose a blank form and shall be greatly indebted if you will be good enough to have it filled with the information desired, bringing it down to date.

Respectfully,



Bering Sea Commissioner.

P. S. In your statement of the skins and oil for the various years subsequent to 1883, you give the data for 1892 to June 25. Have any additional returns come in since, or are the data as recorded complete for the year?

I was greatly pained to learn of the terrible calamity that has again befallen St. Johns.

July 27, 1892.

The Honorable

John W. Foster,

Secretary of State.

Sir:

In compliance with your request, I transmit herewith by messenger the original letters received from 12 foreign naturalists, as per accompanying list, in reply to my letter dated April 2, 1892. The letters from Dr. Allen and Prof. Jordan also are enclosed, though I do not suppose you will use them.

Respectfully,

C. Hart Merriam

LIST OF FOREIGN NATURALISTS FROM WHOM REPLIES HAVE BEEN RECEIVED.

- Prof. Dr. Alfred Nehring
Invalidenstrasse, 42,
Berlin N.
Germany
- Dr. Gustav Hartlaub,
Osterhors-steinweg, 50,
Bremen,
Germany.
- Prof. Robert Collett,
Zoological Museum,
Christiania,
Norway.
- Prof. A. Milne-Edwards,
Director, Museum of Natural History,
Paris,
France.
- Dr. Leopold von Schrenck,
Imperial Academy of Sciences,
St. Petersburg,
Russia.
- Dr. A. Th. von Middendorf,
Dorpat, Hellenorm,
Livland,
Russia.
- Prof. Count Tommaso Salvadori,
Museo Zoologico,
Turin,
Italy.
- Prof. Raphaël Blanchard,
Rue du Luxembourg, 32,
Paris,
France.
- Dr. Henry H. Giglioli,
Director, Zoological Museum,
Royal Superior Institute,
Florence,
Italy.

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Prof. Baron A. B. Nordenskiöld,
Stockholm,
Sweden.

Prof. Dr. Wilhelm Lilljeborg,
Upsala,
Sweden.

Dr. Emil Holub,
Sudafrikanische Ausstellung,
Prag,
Austro-Hungary.

July 28, 1892.

Mr. Robert Lansing,

U. S. Department of State.

Dear Sir:

The only copy of the "New Review" containing Baden-Powell's article that I have ever seen was in the possession of J. Stanley Brown. I believe it was published in February, 1891. Copious extracts from this article (covering nearly four typewritten pages) are contained in a document submitted to General Foster by N. S. Jeffries, February 4, 1891. Fearing the original may have been mislaid, I send you herewith my copy. The quoted matter from Baden-Powell begins on page 8.

I send you also the original and only copies I have of the three maps prepared by Dr. Dawson to show the distribution of the Fur-Seals at different dates. I shall be greatly obliged if you will kindly return these to me when you have done with them.

Has the Report of the American Commissioners been put in type yet? It seems to me important for me to read the proof of this Report with some care. This I could not do without considerable delay unless it is received shortly, as I am about to leave the city for some weeks.

Very truly yours,

C. Hart Merriam

October 7, 1892.

Captain W. C. Coulson,
U. S. Revenue Steamer 'Rush',
San Francisco, Calif.

Dear Sir:

Your letter from September 6th from Unalaska has just come to hand, and I am glad to know that the seal skins and other material taken by the 'Rush' has been packed and shipped east, with the catch of the 'Corwin.' Doubtless it will reach us shortly in good condition.

With best wishes, I remain,

Respectfully,

C. M. H. H. H.

Bering Sea Commissioner.

October 14, 1892.

Mr. A. B. Alexander,
U.S. Fish Commission Steamer 'Albatross,'
Mare Island, California.

Dear Sir:

I am glad to learn from your letter of the 7th instant that so much valuable material in the way of seal skins is on its way to Washington. It will prove a valuable accession to our National Collection aside from any special importance it may have in connection with the Seal Controversy.

With best wishes, I remain,

Very truly yours,

C. Hart Merriam

October 17, 1892.

Hon. Thomas N. Malloy,
U. S. Consul,
St. Johns,
Newfoundland.

Dear Sir:

On returning from the field, I find your letter enclosing the additional record of seal oil and seal skins exported from June 25 to August 5, and also stating that "a considerable quantity of skins and oil are yet to be exported." If all have now been exported, so that a complete statement for the year can be made, I shall be obliged for the same.

I am greatly pained to learn of the severe loss you have sustained by the late fire.

Respectfully,

E. W. Merriam

Bering Sea Commissioner.

October 18, 1892.

The Honorable

The Secretary of State.

Sir:

Mr. J. Stanley Brown informs me that a number of specimens of seals, collected by the United States vessels in Bering Sea during the past summer, are on their way to Washington, and that you desire me to look after the same on their arrival here.

I respectfully beg to be relieved from this duty, having no official connection with the National Museum, to which institution the custody of such material naturally belongs. I would suggest, therefore, that the specimens be delivered direct to the authorities of the National Museum.

Respectfully,

W. Hart Merriam

November 19, 1892.

The Honorable John W. Foster,
Secretary of State.

Dear Sir:

Replying to your letter of today, I regret to say that owing to pressure of other duties I have not yet completed my notes on the British Commissioners' Bering Sea Report. For 10 days past I have been constantly engaged in the Tenth Congress of the American Ornithologists' Union held in this city. This work is finished tonight, and I shall at once return to the British Commissioners' Report.

Respectfully,

C. Hart Merriam

November 23, 1892.

Mr. W. Williams,
U.S. Department of State.

Dear Sir:

In reply to your inquiry respecting "a copy of the paper which Daniel Webster gave to the British Commissioners," I beg to say that to the best of my knowledge and belief Capt. Webster gave no paper or document of any kind to the British Commissioners or any one else. He was interviewed jointly by the British Commissioners and myself, and I carefully wrote down his answers to the questions put to him by the British Commissioners. A typewritten copy of his statement was given to General Foster by me about a year ago, and I believe that several copies of it were made at the State Department. Mr. Lansing knows all about it.

Respectfully,

C. W. Merriam

poor imprint

December 2, 1892.

The Hon. John W. Foster,
Secretary of State.

Dear Sir:

I transmit herewith my reply to the Report of the British Bering Sea Commissioners, received about a month ago (October 31).

In this reply I have not touched on the statistical matter, affidavits, appendices, and statements as to times at which the seals are present at various points along the coast, Mr. Lansing being familiar with all these matters. Neither have I attempted to explain the statements of Government Officers at the Islands, contained in their reports for 1889 and 1890, quoted by the British Commissioners.

In the matter of 'raids' the British Commissioners seem to have collected evidence and details of a considerable number not included in the list published in our Case, which if correct does not reflect much credit on our side.

The cross-references, of which a large number are given, refer both to the section numbers in the British Commissioners' Report, and to my remarks thereon herewith submitted. In order to avoid additional delay I have not given many references to the evidence contained in our Case, particularly since the same ground has been covered in all probability in your own office. The absence of an index to the British Commissioners' Report has rendered the labor of making the cross-references exceedingly tedious, and has greatly delayed my reply.

The Hon. John W. Foster 2

It seems to me that the evidence on our side is sufficient in nearly every case to answer the points made by the British Commissioners; but in a few instances where additional evidence seems necessary I have indicated the same in the remarks on the paragraph. Except in the single case of the alleged non-existence of 'stagey' seals at sea I think our Treasury Agents (Stanley-Brown, Capt. Williams, Col. Murray, and Capt. Lavender) can supply all the information needed. In the case of the 'stagey' seals it would be well to have evidence from the furriers who handle the Northwest Coast catch. Perhaps you have already obtained this evidence.

It seems to me that important aid might be had from Dr. Dall by asking him to read parts of the British Commissioners' Report.

The Migration Chart (Map No. 3) accompanying our Case is very misleading, and should be recalled and replaced by another, or else should be accompanied by an explanation which will make its meaning clear. I have studied over it a good deal, but am still in the dark as to whether it means what it seems to mean, which would be very unfortunate for our side, or whether it is susceptible of some other interpretation.

The Sealing Chart (Map No. 4 of our Case) shows only the positions of seals observed by United States vessels. In transmitting to you the data from which this map was compiled (on the 25th of June last) I turned over to you the Seal Logs of the British Fleet cruising in Bering Sea in 1891, namely, H.M.S.S. 'Nymph,' 'Pheasant,' and 'Porpoise,' and also the Seal Log of the 'Danube,' the vessel which carried the British Commissioners, the latter being the most complete and important of all the 'seal logs' kept during

The Hon. John W. Foster 3

the season of 1891. These documents were accompanied by track charts already prepared, showing the positions and abundance of seals observed by the British Fleet, and I particularly requested that all of the information respecting the presence and abundance of seals on these charts be placed on a single map of Bering Sea. For some unaccountable reason, only the United States' records were used, the resulting map being of very little value. This map, as I understand it, is intended to show the positions and relative abundance of seals in Bering Sea, not the observations of any particular vessel or set of vessels. The data contained in the British logs and charts were particularly valuable as supplementing ours, covering considerable areas to the north and west of the Pribilof Islands not traversed by our vessels.

Mr. C. H. Townsend, Naturalist of the 'Albatross,' has recently showed me a photograph of a female Fur-Seal killed in Bering Sea at a long distance from the Islands. The skin of the belly has been laid open, and the photograph shows the enormous development of the mammary glands, which were so full of milk at the time that it may be seen trickling therefrom. It occurred to me that you might desire to use this photograph in connection with the "evidence in rebuttal."

Respectfully,

C. Hart Merriam

The Hon. John W. Foster 3

the season of 1891. These documents were accompanied by track charts already prepared, showing the positions and abundance of seals observed by the British Fleet, and I particularly requested that all of the information respecting the presence and abundance of seals on these charts be placed on a single map of Bering Sea. For some unaccountable reason, only the United States' records were used, the resulting map being of very little value. This map, as I understand it, is intended to show the positions and relative abundance of seals in Bering Sea, not the observations of any particular vessel or set of vessels. The data contained in the British logs and charts were particularly valuable as supplementing ours, covering considerable areas to the north and west of the Pribilof Islands not traversed by our vessels.

Mr. C. H. Townsend, Naturalist of the 'Albatross,' has recently showed me a photograph of a female Fur-Seal killed in Bering Sea at a long distance from the Islands. The skin of the belly has been laid open, and the photograph shows the enormous development of the mammary glands, which were so full of milk at the time that it may be seen trickling therefrom. It occurred to me that you might desire to use this photograph in connection with the "evidence in rebuttal."

Respectfully,

E. A. Mearns

R E P L Y

to

REPORT OF BRITISH BERING SEA COMMISSIONERS

By

C. Hart Merriam.

Dec. 2. 1892.

The numeral in front of each paragraph refers to the same number in the Report of the Bering Sea Commissioners.

The cross-references refer to both the British Commissioners' Report and the remarks herein contained bearing the same numbers.

26. Statement incorrect that the Fur-Seal is "essentially pelagic," and that "during the greater part of each year [it] has no occasion to seek the land, and very rarely does so." As to the amphibious nature of Fur-Seals, and the fact that "they spend fully half of their lives on land" see Rept. Am. Comms. (pp. 320-322), and statements by Flower and Allen. The unanimous and unquestioned testimony of Govt. and Company's Agents and natives shows that fur-seals as a species are present at the Pribilof Islands at least eight, and often nine or ten months of the year.

26. (last sentence). Not true that "adults of both sexes" "abstain from food" during breeding season. The females feed after birth of pups. Capt. Daniel Webster told us that the females go 60 miles or more to feed when nursing, beginning about the middle of July or first of August. (Respecting feeding while at the islands, see § 26, 232, 242, 243, 307). *See also testimony in U.S. case.*

27. Alleged interchange of Fur-Seals between Commander and Pribilof Islands does not occur. See Rept. Am. Comms., p. 323. (Also, present doc., § 170, 198, 216, 220, 453, 454.)

28. Statement that Fur-Seal has "two habitats or homes" absurd from Natural History standpoint. No ~~animal~~ animal has more than one home, which is the place where it breeds. This is true of birds, fishes, insects, and all kinds of animals. See Rept. Am. Comms., etc. note, p. 324.

30. Statement as to dates not over accurate and somewhat ambiguous, but implies that the breeding females "migrate to their winter habitat" in July or August, when in reality they do not leave the islands before the middle or end of November.--See Rept. Am. Commrs. 329 419;+

Under same head see British Commissioners' Rept. § 30, 133, 174, 192, 442.

31. Accuracy of statement that the Bering Sea Fur-Seal "shows a considerable range of adaptability" to climatic conditions depends upon elasticity of the word 'considerable'. The climatic conditions under which it exists are remarkably uniform.

34. Complete extermination of Fur-Seals on breeding islands anywhere alleged to be unknown. Depends on how literally this statement is accepted. No species is known to have been exterminated but breeding colonies have been exterminated in several instances.

43. Capt. Daniel Webster told us distinctly that females were not killed during the excessive killing of 1868, and that the breeding rookeries were not disturbed, the killing being restricted to the 'holluschickie.' [See note under § 808, which Morgan must have furnished, though both Morgan and Webster are quoted together. Webster testified to the contrary.]

44. The excessive killing at the islands ceased with the close of the year 1868; the increase off the British Columbia coast alleged to be shown "by the figures elsewhere given for the catch" did not take place till two years later--in 1870 and particularly in 1871. (See table 2, p. 213). It should have occurred in 1869 according to the theory advanced.

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46. A good deal is asserted here and elsewhere about "changes of habits" brought about by interference; but very little proof is anywhere brought forward in support of these assumptions. The mere circumstance that an animal becomes more wary the more it is hunted hardly deserves to rank as a change in habits. For additional remarks on 'change in habits' see ¶ 56, 297, 396 et seq.

54. Bryant really says: "In the average there are about 15 females to one beachmaster"--Pinnipeds, 385, 15 lines from the top of page. See postea 293, 294, 483.

54. Such large harems as here described must be exceedingly rare; at all events I never saw one.

55. Ask Stanley-Brown if true that "it is no uncommon event to find a single male seal with a harem numbering from forty to fifty, and even as many as sixty to eighty females" as here claimed by the British Commrs. Also see evidence on this point in U.S. Case.

56. What evidence have the British Commrs. submitted in substantiation of their oft repeated assertions respecting the "increasing number of barren females;" the "change in the habits of seals," and the "driving of 'killables' from the very margins of the breeding rookeries." ? See also ¶ 46, 56, 297, 356 a, 396, 716.

60. Pelagic sealing admitted to be "a new factor also tending towards decrease"; see also ¶ 63, 71, 99, 122, 583.

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67. For statistics respecting development and growth of pelagic sealing, and number of vessels engaged in different years, see statements in U.S. Case, pp.

68. For number of skins taken by pelagic sealers in different years see U.S. Case, pp.

71. An important admission that pelagic sealing made it necessary to restrict killing at the islands in order to prevent the rapid decrease consequent upon the introduction of this "new factor tending towards diminution." See also § 60, 63, 71, 99, 122, 583.

72. Lowering of standard is strong evidence of the rapid decline in numbers of seals following the steady increase of pelagic sealing.

74. (iii). Where is the evidence of stampedes on breeding rookeries "caused by efforts to secure 'drives' too close to their borders"? For similar assertions respecting driving from edges of breeding rookeries see § 856 a, 716, 56.

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74. (v). Statement that "surreptitious killing of seals by unauthorized persons on the islands" "is known to have occurred." Evidence should be demanded.

78. Important admission that "it is undoubtedly true that a considerable proportion of the seals taken at sea are females." See also 138, 633, 645, 648, 653.

79. Alleged "great surplus of females" frequently reiterated but not proved.

85. Alleged "great paucity of males" contrary to fact. See also 117, 434, 436. See Case of U.S., pp.

Alleged effects of 'raids' greatly overestimated.

Alleged "strictly pelagic" habits not sustained by evidence, and contrary to the well-known facts of the life history of the Fur-Seals.

86. An ingenious though feeble attempt to explain decrease at the islands without reference to the true cause and unsupported by any evidence.

87. A good deal may be said respecting the alleged non-decrease in the number of seals at sea. In the first place our evidence shows a real and decided decrease; in the second place, since all of the seals are in the water at the same time, and since they are restricted to a comparatively narrow belt, this belt must be occupied at

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the proper season as long as any seals are left, and would not show much decrease until a vast diminution in the total number of seals had taken place. The British Commissioners themselves admit that "the seals when at sea occupy a given area of surface, and there is thus a natural limit to the number of boats or canoes which can work that area without interfering to a certain extent with each other's success" (118). In other words, decrease at sea would not become apparent until the total number of seals had undergone a very great reduction.

90. True.

91. Assertion that rookeries were in as good condition in 1891 as in 1890 proved to be incorrect by testimony of agents and natives. See Case of U.S., pp.

95. Admission favorable to our contention.

Assertion (last line) that undue 'disturbance' will "tend to cause them to abandon their present haunts," though guarded, is unsupported by facts. The British Commissioners assert over and over again that the seals have been persecuted at the Pribilof Islands for many years both off and on the breeding rookeries. At the same time a most diligent and painstaking search has failed to reveal a single instance in which any part of the Pribilof herd has abandoned its ^{time} honored haunts.

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99. An important admission, for "the increased activity in killing and hunting which now appears to threaten the industry" can refer only to pelagic sealing, since there has been no "increased activity in killing" at the Seal Islands. See also 60, 63, 71, 99, 122, 583.

101. Two of the three fundamental propositions in this paragraph are contrary to fact, namely, "that there are too few males on the breeding islands;" and that the seals may take to other breeding places (see remarks on § 95). The only remaining proposition, "that too many seals are or may be killed," is in complete accord with our views.

117. Respecting the statement that "it is chiefly by the persistent killing of all males between certain ages" at the islands "that the sealing industry is immediately threatened", consult our Case and evidence. See Rept. Am. Comms., p. 345 et seq., and Case of U.S., pp.

118. The statement that "the seals when at sea occupy a given area of surface, and there is thus a natural limit to the number of boats or canoes which can work that area" is very important as an admission that the seals do not scatter promiscuously over the ocean and consequently must be common when present until their numbers are very greatly reduced. In other words, decrease at sea would not be noted until the total number of seals had undergone a very great reduction. See antea § 87.

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122. Important admission that protection at the seal islands is futile in the face of pelagic sealing. See also 60, 63, 71, 99, 122, 583.

122. Old error reiterated that the Fur-Seal is "an essentially pelagic animal."

133. Renewed attempt to shorten the period during which the Fur-Seals are present at the islands. As a matter of fact they begin to arrive in April or the first week in May, and remain in greater or less numbers through December, and frequently through January and February. Hence the period of residence at the Pribilof Islands, instead of "five or five and a half months" as here asserted, is at least 8 months, and often longer. See also 30, 133, 174, 192, 442.

134. The statement that seals never become 'stagey' at sea is absurd. The word 'stagey' means molting, or shedding the hair. All mammals and birds renew their pelage and plumage respectively at least once a year. Do seals at sea form an exception to this universal rule? If so, what becomes of the old hair? As a matter of fact this wholly unwarranted assumption is merely a pre⁺ense made for the evident purpose of attempting to show that the individual seals killed by pelagic sealers in Bering Sea have no connection with the Islands. See 134, 202, 281, 631-632.

The reason for this strained attempt to prove that the breeding seals do not go far from shore is found in the latter half of 135 where it is frankly admitted that a close time during the 'stagey' period "would practically break up the sealing voyages." Nevertheless such close time would be imperatively demanded if pelagic sealing were to be permitted at all, and should begin about the middle of August.

As to the fact of stagey skins at sea, consult evidence of furriers who handle the Bering Sea pelagic catch. See also 202 (p. 33) 281, and 631.

138. Admission favorable to us, that spring catch "includes a considerable proportion of gravid females." See also § 138, 633, 637, 648, 645, 653.

The further admission is likewise favorable to our contention, namely, that "it is on similar grounds and at corresponding seasons that protection is usually accorded to animals of any kind, and, apart from the fact that these seals are killed upon the high seas, the same arguments apply to this as to other cases." As well known this is the theory upon which the protective legislation of game laws generally is based. The British Commissioners admit that the seals taken by pelagic sealers in the northern part of Hecate Strait are "chiefly females" up to the 1st of June (See § 639), and that speaking of the northwest coast generally "a considerable proportion of gravid females are found among the seals taken in the early part of each sealing season" until "about the 20th May, or, at latest, the 1st June." (See § 648). This being admitted, the close time recommended by them (See § 155 c) should extend to June 1 instead of ending at May 1.

150. The alleged 'restriction' to be brought about by "prohibition of the use of rifles in shooting seals at sea" is empty, rifles having been already discarded voluntarily in favor of the shotgun, as admitted by the British Commissioners themselves (See postea, 604.)

Most pelagic sealers also are opposed to the use of steam, so that the system of licenses is really the only restriction suggested.

155 (c.) Close season proposed at sea from Sept. 15 to May 1. By natural limitation pelagic sealing is known to cease on or before Sept. 15 ~~at sea~~; and it is admitted that comparatively few seals are taken before April --hence the 'close season' here proposed really curtails effective pelagic sealing by only a single month; and this month [April] is of less importance to pelagic sealers than May, June, July, or August. Just where the "just scale of equivalency" is to be found in this "compensatory feature" of restriction on pelagic sealing is not apparent.

Moreover, in view of the acknowledged hurtfulness of killing gravid females when on their way north to drop their young, and the admission that the spring catch contains "a considerable proportion of gravid females" (antea, p. 22, §138), it would hardly seem that the above recommendation [§155 (c.)] were made in good faith--particularly since May and June are well-known to be the months in which the largest numbers of gravid females are killed, for the reason that they are at that time so heavy with young as to be less able to escape the pelagic sealers. (See § 689 and 648).

Another evidence, if any were needed, of the unfairness and injustice of the plan of "compensatory adjustment" recommended may be found in the proposal that for every weeks curtailment of the open sealing for pelagic sealers, a reduction be made of 10,000 seals in the number killed at the islands! [§158.] This implies that the weekly catch of the pelagic sealers averages 10,000^{seals}, which would give

*In another place (§192, p. 31) the British Commissioners themselves admit that "during a great part of the time in which the seals are off this coast [British Columbia] the weather is so tempestuous as to prevent successful pelagic hunting."

197,140 seals for the 19-²/₇- weeks of the open season [May 1-Sept. 15] proposed on a "just scale of equivalency" as "fair or 'compensatory' offset for the privilege of taking a maximum of 50,000 seals at the islands. [§155 (a.)]

Furthermore, "the additional provision that no sealing vessel shall enter Bering Sea before the 1st ~~of~~ July in each year" [§155 (c).] has no real significance except to mislead the uninformed, for Pelagic Sealers when free to go and come as they please do not ~~do not~~ enter Bering Sea before July 1st, and for the excellent reason that they would find few or no seals if they did. July 15 is the usual date according to the British Commissioners themselves (See §212.)

161. Just how successful "the successful application of measures such as these here proposed" ^{in the years at} ~~have found~~ "the Jan-Mayen and Newfoundland hair-seal fisheries" may be ascertained by reference to a letter from Capt. David Gray of Peterhead, quoted by the British Commissioners in Appendix D (No. 14) of their report, in which Capt. Gray states: "To sum up, the position is this: At Greenland the close time will prevent the seals being exterminated, but it will not allow them to increase. At Newfoundland their present mode of fishing means, in a few years, extermination." (p187).

170. Assumption that there is an "interchange^{of seals} between the eastern and western breeding islands of Bering Sea" ^{is} wholly unwarranted by the facts, as elsewhere shown. (See postea, §198, 216, 220, 453, 454,

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174. Respecting dates of leaving the seal islands the statement here made is incorrect, few seals leaving before the latter part of November, and many, through December and even into January and February, according to the severity of the weather. For additional erroneous statements as to the length of the period seals are present at the islands see § 30, 133, 174, 192, 442.

190. The Guadalupe Island Fur-Seal has been shown to belong to another genus, and consequently is a widely different animal from the Bering Sea Fur-Seal (See Case of the U.S., Appendix, vol. I, p. 586; and vol. II, pp. 373-374, 406)

192. (Top of p. 31). A remarkable statement in view of the well known fact that Fur-Seals arrive at the Pribilof Islands the latter part of April or first week in May and remain from 8 to 10 months. (See remarks under § 30, 133, 174, and 442).

193. Stated that old males are unknown south of Lat. 50°. The limit might have been put much further north.

197. The admission that pelagic sealing is "practically unknown" off the Asiatic coast is important in connection with statements elsewhere made in this Report to the effect that a large percentage of the skins sold in Victoria by pelagic sealers were taken on the west side. See § 110 (3).

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198. Alleged commingling of Pribilof and Commander herds in Bering Sea. (See § 170, 198, 216, 220, 453, 454.)

202. The quotation from Grebnitsky to the effect that non-breeding seals come on shore because "during the 'shedding' or 'stagey' season their pelage becomes too thin to afford a suitable protection from the water", is interesting in connection with the contention of the British Commissioners that seals at sea never become stagey! (See § 184, 202, 281, 631.)

208. The "breeding stations formerly occupied on the Californian coast" belonged to a widely different species. § 190. (See Case of the U.S., Appendix, vol. I, p. 586; and vol. II, pp. 373-374, + 406.)

E.C. - Both references are in vol. I.

208. In connection with the permanent residence of Fur-Seals in tropical and sub-tropical latitudes, and the migratory habits of the Bering Sea Fur-Seal, it should be borne in mind that in pre-glacial times the climate of Arctic America was sub-tropical, and that the migratory habits of the animal in question are probably the result of the Glacial Epoch. The retreat of cold after the Glacial Epoch was incomplete, and North America has never regained its former warmth. As a consequence, animals that have regained their former summer homes (breeding ranges) in the north are forced to migrate to avoid the cold of winter. In view of these facts it is not strange that in mild winters Fur-Seals have been known to spend

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the entire winter about both the Commander and Pribilof Islands.

209. In reply to this argument against the gregarious habits of the Fur-Seal, see Flower and Lydekker, 'An Introduction to the Study of Mammals.' 1891, p. 594 (quoted in Rept. of U.S. Bering Sea Comms., Case of the U.S., p. 320). See also letter from Prof. Flower in present report (p. 189, 9 lines from bottom), in which he particularly reiterates his former statement that Fur-Seals "are gregarious"--a statement in which all naturalists concur. Furthermore, the British Commissioners themselves, in another part of the present report (§323), speak unqualifiedly of "the gregarious habits of the Fur-Seal." The same thing is implied in §215.

212. Brings out incidentally the length of the period ("about two months") during which pelagic sealing is ordinarily carried on in Bering Sea (July 15-Sept. 15.) This is interesting in connection with "the additional provision", kindly allowed by the British Commissioners, "that no sealing vessel shall enter Bering Sea before the 1st of July" (See §155, c). A somewhat contradictory statement is made in §649 where pelagic sealers are said to enter Bering Sea "between the 20th June and the 1st July."

215. This paragraph goes to prove that the Fur-Seals are gregarious in habit. (See §209 and §323).

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216. Implies commingling of Pribilof and Commander herds. See §170, 198, 220, 453, 454.

220. Maximum radius of abundance said to be not more than 180 miles.

221. Assumed average of two Fur-Seals to each square mile within area of abundance in Bering Sea.

227. The statement that the squid or cuttle fish "may be classed as a special food of the Fur-Seal" is in entire accord with the results of our examinations of stomachs. *See Case of the U.S., p. 395.*

230-231. The statement that the Fur-Seal "is not usually a bottom feeder" but is essentially a "surface feeder" agrees with our conclusion as to its general food habits. See Rept. of U.S. Comms., p. 396.

232. The fasting period assumed for breeding females is altogether too long. See Case of U.S., pp. 115-116. Similar erroneous assumptions "respecting the abstention from food of the fur-seals while remaining upon or about the breeding islands" may be found in §26, 232, 242, 243, 307, and my comment thereon.

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233 & 234. The inference that seals eat little or nothing while at the breeding islands, because when killed after driving their stomachs are usually empty, is wholly unjustified, as proved by the following facts:-

(1). Digestion is very rapid in all carnivorous mammals, and ^{particularly} is so in the case of such food as raw fish* and the soft parts of squids, which are known to constitute the chief food of the Fur-Seal. Hence under normal conditions it would be impossible to find food in any quantity in the stomachs several hours after eating.

(2). There is no evidence to show how long the seals have been out of water before the drive began--in other words, the length of time after feeding is wholly unknown.

(3). The period between the beginning of the drive and the time of killing is much longer than assumed by the British Commissioners--usually ^{at least} 5 or 6 hours.

Hence in the case of the seals killed after driving, it is certain that the length of time between feeding and killing is several times longer than necessary for the complete digestion of the food.

In the particular instances cited by the British Commissioners (233 & 234) I made the examination in company with Dr. Dawson. Many squids' beaks were probably overlooked, as they are so small and inconspicuous as to escape detection (except in case of the larger beaks) unless the hand is passed over the walls of the stomach; and

** Raw fish as well as shellfish are well known to be digested in the human subject within two hours, & it is only reasonable to suppose that in belted fish-eaters the process is even more rapid.*

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we did not learn to find them till toward the end of the examinations.

235. There is nothing in this statement to show how long these seals had been out of water before they were killed. A few hours time is sufficient for the complete digestion of their food. (See remarks on 233+234)

242. Alleged absence of excrement from rookeries and hauling grounds surprising. From its liquid and oily nature it escapes superficial observation, but was often noticed by us. In the water about the islands it is very conspicuous, because it rises to and remains upon the surface.

243. This so-called 'evidence' that nursing mothers abstain from food because of the alleged absence of excrement on the rookeries has been shown to be without foundation (§ 242). As a matter of fact all nursing mothers require frequent and full meals to supply the great drain upon their tissues incident to the formation of milk. If they do not eat, from what source is their rich milk derived? The young pups are well-known to take no food besides the mother's milk and yet they grow rapidly in size and weight. Where does this milk come from? A quart a day (of 24 hours) for the first two months would be a very small allowance, but would weigh at least 12 lbs., or nearly double the weight of an adult female Fur-Seal! According to the theory of the British Commissioners the mother must be able to

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manufacture out of air or fog double her own weight of rich milk for the support of her young during the first two months and before she takes any food! The British Commissioners further state their belief, based on "the evidence thus afforded [alleged absence of excrement], that the females do not feed to any notable extent until the young are practically weaned, or, at all events, until very late in the sucking season" (§243). This would extend the period of joint fasting and nursing by several months, as the pups are not weaned before October and frequently not until late in November.

However, it is not necessary to discuss this question upon theoretical grounds, since the United States has secured ample testimony to prove not only that nursing females do travel long distances to feed, but also that they comprise a large percentage of the seals killed in Bering Sea. For instance, Chr. Clausen, master sealer, who hunted in Bering Sea two seasons states "fully 85 percent of the seals I took in Bering Sea were females that had given birth to their pups and their teats would be full of milk. I have caught seals of this kind from 100 to 150 miles away from the Pribilof Islands" (U.S. Case App. II, 320). The United States Revenue Steamer 'Corwin', during her recent cruise in Bering Sea, captured 37 seals between July 31 and August 13. Of this number no less than 19 (or 51 percent) were nursing females, 6 were virgin females, and 12 males. Of the nursing females 10 were killed at distances ranging from 100 to 200 miles from the Pribilof Islands, the remaining 9 within 50 miles.

[§ 245 continued]

In this connection see other statements of British Comms. in § 26, 232, 234, 242, 243, 307 and my comments thereon.

246. Pelagic coition claimed. See also 246, 287, & 295-296. (Evidence alluded to under § 296 should be asked for.)

281. Alleged that no 'stagey' skins are taken at sea and consequently that 'the seals frequenting the islands do not go to any great distance from their shores.' See § 134; 202, 281, 631.

293. "Obvious and generally acknowledged deficiency of virile males." (See § 54, 117, 277, 293, 294, 434, 436, 483.)

Under this head consult U.S. Comms. Rept., p. 350; & U.S. Case, p. 174, &c.

297. Reiteration of assumed irregularity in the date of birth of pups. Already answered. See 46, 297, 396.

307. Empty stomachs of seals killed at islands, in connection with alleged absence of excrement, taken as evidence that little or no food is eaten.--Already answered, see remarks on 233, and 234; also on general subject of food of females 26, 232, 242, 243.

314. In reply to the statement that it is scarcely credible that "the females engaged in feeding their young can navigate to great distances from the islands on erratic ~~courses~~^{courses}, and subsequently return punctually and without fail to their rookeries" it may be observed that no claim respecting either "erratic ~~courses~~^{courses}", or "punctuality" is made by the U.S. But that the females do travel considerable distances and return without fail to their rookeries is clear from the evidence presented, and is in accord with well authenticated facts in the life histories of other animals. It is well-known in all parts of the world that various animals (not mammals alone, but birds and fishes as well) travel considerable distances in search of food and return unerringly to their young. The precise distance covered will vary according to the powers of locomotion of the particular animal and the necessities of the case as determined by the abundance and location of the food supply. In animals possessing the superior means and swiftness of locomotion of the seals, 16 miles an hour would be a very slow pace when actually traveling, and yet at this rate 180 miles would be compassed in 12 hours!

In the report of the Canadian Minister of Marine & Fisheries (1876, 267) it is stated that fur seals travel 100 to 200 miles a day.

317-322. The well established fact that the female Fur-Seal, like the female of most other mammals, suckles her ^{own} young exclusively, is doubted by the British Comms. ~~Continued by~~ Capt. Bryant states that pups whose mothers are killed "perish by starvation". He adds: "As evidence of this fact I will state that I have taken stray, motherless pups, found on the sand beaches, and placed them upon the breeding rookeries beside milking females, and in all instances those pups have finally died of starvation" (U.S. Geol. Surv. Rep. 1875, p. 5.)

[317-322 continued]

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In view of the accumulated testimony of naturalists and others the world over respecting the well nigh universal habit of mothers, among both mammals and birds, to refuse to feed any but their own young, and particularly in view of the evidence bearing directly on the present case, the attempt of the British Commrs. to cast doubt upon these well-known facts is hardly worthy of reply. Our personal observations on this point, made at the Pribilof Islands in July and August, 1891, are published in the Rept. of the U.S. Commrs., p. 326, §10.

The vastly increased difficulty the British Commrs. have pictured for the mothers of twins need hardly disturb us seriously in view of the extreme rarity of this accident, which has hardly ever been observed even by persons who have spent many years on the islands. Mr. Samuel Falconer, for six years Assistant Treasury Agent in charge of St. George Island, states that during his entire experience he never heard of but one instance in which two pups were born at a time. (Case of U.S., Appendix, vol. II, p. 165.)

323. The suggestion that the nursing mother in selecting a young to suckle "may merely seek a young one which does not carry the smell of fresh milk about it" is hardly worthy of serious consideration. (See remarks of N. J. Allen, U.S. Rep., Appendix I, 409.)

323. (5th and 6th lines.) "The gregarious habits of the fur-seal" here mentioned unqualifiedly are contradictory of the statement previously made in §209, which see.

325. The memorandum here referred to from "Sir Samuel Wilson, M.P., the eminent Australian sheep-breeder" may be found on page

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184 ^{of the} ~~after~~ British Comms. Rept (Appendix D, No. 11). Sir Samuel Wilson states that ewes may be made to suckle other ewes' lambs "by putting the skin of the ewe's dead lamb on the lamb she is desired to adopt, or by holding her and getting the lamb to suck her for a few days." He states further: "Ewes always know their own lambs by smelling them. A ewe will not allow a strange lamb to suck her if she notices it." This should be conclusive proof, if any analogy exists between sheep and seals (and the British Comms. tacitly assume that it does), that the mother in ~~the~~ state of nature never nurses any young but her own.

336. While true that the Killer Whale frequents "the summer haunts" of the Fur-Seal, the inference that it does so in summer is incorrect, the Killers never reaching the seal islands before September.

353. Admitting that the pups died in Sept., it must be evident that their mothers were killed in August, for death by starvation does not come quickly. The British Comms. were not present at the Pribilof Islands later than the middle of Sept.

346. Dead pups were first observed by the British Commissioners July 29, 1891, at Tolstoi rookery. [See also § 355 (4)].

355 (1). In connection with the statement that the death of so many pups on the islands in 1891 "was wholly exceptional and unprecedented" consult case of U.S., pp. 213-215. The additional and in this case very misleading statement that "every effort was being made to drive all pelagic sealers from Bering Sea" need only be met by

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[the fact that 25,000 seals were secured in Bering Sea by Pelagic Sealers in 1891. ³¹⁵² How many additional thousands were killed and lost will never be known.

355 (4). Dead pups were first observed in 1891 on July 29 (See §346). In reply to the statement that this date was too early "to be reasonably explained by the killing of mothers at sea", it may be said that the official records at the islands show that new born pups were recorded three times as early as the latter part of May (May 21, 29, and 31) and usually on or before June 10; ^{→ in the following year inspection (1890) on June 10th 1891 + June 15 in St. Ad.} Mr. J. Stanley-Brown states that births of pups were of constant occurrence after the middle of June, 1892, and were witnessed in large numbers. Hence it appears that great numbers of pups were six weeks old or older by the end of July, and as a consequence that their mothers must have been out to sea to feed during nearly the whole of this period. [Consult Stanley-Brown and others as to date at which females are actually known to leave the islands to feed.]

356 (a.). Statement that seals have been driven from the edges of the breeding rookeries in late years untrue, --Ask Stanley-Brown, Williams, Murray, & Lavender. Ask same persons if true that "the driving and killing in the early part of the season of 1891 was pushed with unwonted energy."

The same paragraph assumes that large numbers of breeding seals were driven from the edges of the rookeries to the killing grounds in 1891. Secure testimony from Government Agents above mentioned in respect to this allegation. Further assertions of the

-24-

same kind may be found in § 74 (iii), & 716.

356. (c.) & (d.). The 'stampede' and 'raid' theories here advanced as accounting for the death of so many pups may be promptly disposed of by the simple statement that the stomachs of the dead pups were always empty. Had these pups been killed by being run over during stampedes a large percentage of their stomachs would have contained milk.

383. This and the preceding paragraph are contradictory. The fact is that along the rear of many of the occupied rookeries, as at Northeast Point, a broad zone of former occupation is well marked by the presence of "a felted coat of mud and hair" while the flipper-polished rocks over the same area, particularly toward the back part of the area, are well covered by scattered tufts and patches of lichen. If it is true that "in the damp climate of the Pribilof Islands this characteristic ['felled coat'] does not endure very long, ^{it becomes evident that the rocks on the rocks are not of greater age,} and that only a few years have passed since the areas in question were covered with seals.

391. (Last line.) The admission that "the longer grass in the course of a year will probably show no trace of its occupation" is sufficient evidence of the temporary effects of such temporary 'occupation' as that here described, contrasted with the lasting evidences of real occupation as rookery or hauling ground.

395. Where are the facts on which this assumption is based.

-25-

that the yellow grass zone has "never simultaneously been occupied by seals"?

432. The statement that "nearly all the adult females got in Bering Sea" are barren, should be met by our evidence. Out of 37 seals secured by the Revenue Steamer 'Corwin' in Bering Sea from July 31 to August 13, no less than 19 (or 51 per cent) were nursing females ("cows in milk") and 6 were virgin females. No barren females were taken. Ten of the nursing females were killed at distances ranging from 100 to 200 miles from the Pribilof Islands.

434. The oft reiterated assumption of a "paucity of virile males" is here accompanied by the equally unwarranted assumption that the times of birth and impregnation are later and more irregular than formerly. As a matter of fact no change in date can be shown, the comparatively insignificant percentage of late births and impregnations observed in recent years having always occurred, as shown by early published records, and as would be expected from fortuitous circumstances. Where the number of breeding animals is so great as in the case of the Fur-Seals, accidental causes always result in a small percentage of unseasonable births.

436. Since in 1890 no less than 21,000 nonbreeding male seals were killed up to July 20 (at which date the killing was stopped) how could there have been a scarcity of male seals? The unquestioned fact that nearly all of the killable seals are virile males, ready and anxious to seize every opportunity to serve unsatisfied females, is in itself a complete refutation of this absurd contention.

-26-

441. The statement that the 'holluschickie' "lie close to the rookery edges for protection" is contrary to our observations. Consult Treasury Agents on this point.

442. The statement that the dates of arrival "especially that of the arrival of the females, is becoming on the average later each year" is completely disproved by the record of arrivals kept for 20 years by the Government Agents (See Rept. U.S. Commrs., Appendix . p.). On the general subject of the period during which seals are present at the islands consults remarks on §30, 138, 174, 192, 442.

448. A very pretty theory, but unsupported by so much as the shadow of a fact!

453. An important admission that the Commander and Pribilof herds are practically distinct. (See also § 216, 220, 198, 170.)

483. An interesting quotation from the 'Penny Cyclopaedia' of 1841, stating that the Fur-Seals "are polygamous, and live in families, every male being surrounded by a crowd of females (from fifty to eighty), whom he guards with the greatest jealousy." The article in question was written by W. Ogilby, a well-known British Naturalist. (On size of harems see also § 52, 55, 213, 214, 412.)

583. An important admission that the sealing interests of the Alaska Commercial Co. were "notably affected" by pelagic sealing.

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See also § 60, 63, 71, 99, 122, 583.

By whom was pelagic sealing "spoken of as a commendable new industry"?

584. The shotgun is here admitted to be "the usual hunting weapon" of pelagic sealers. (See also § 604.)

586. Stated that pelagic sealing proper began in 1866.

588. Stated that Bering Sea was entered by pelagic sealers in 1884.

604. Repeated admission that the shotgun "has superseded the rifle." See § 150, 584. Gaff used by pelagic sealers said to be 15 ft. long.

605. Admission that "it has been learned by experience that seals may easily be lost if shot in the neck....and the carcass then may sink much more rapidly than usual." The reason alleged is that "in this case the muscular contraction of the body often forces most of the air from the lungs." This is only a partial explanation, the real reason being that the specific gravity of the seal is greater than that of water. Seals that float or sink slowly when killed do so shot through the lungs in such a way as to let air escape into the tissues, as happens not infrequently when the shotgun is used. See also § 624 & 629.

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624. Admission that Fur-Seals "often do" sink when killed at sea. (See also § 605, 629.)

629. Respecting sinking of seals killed at sea. (See also § 605 & 624).

The British Commissioners seem inclined to resent the idea "that the fur-seal should not float" when killed at sea, and chiefly on the assumed ground that the evidence of its sinking is derived from analogy with the hair-seals. It is not necessary to bring the hair-seals into the case. The British Commissioners state on another page that "when the seals sink after being killed, as they often do, they sink slowly on a 'slant', so that it is usually quite easy to gaff them" (§ 624). [The gaff in question is 15 ft. in length (§ 604).] They admit further that seals shot in the neck usually sink so rapidly that they are lost (§ 605), and quote a Vancouver sealing master as stating that "green hands" might lose as much as 25 per cent of the seals shot." (§ 625). The evidence collected by the U.S. from a large number of professional pelagic sealers demonstrates that the proportion lost is really very much greater, amounting to at least two-thirds of the number shot. (See Case of U.S., pp. 194-196, and references there given.) See also Rept. of U.S. Commrs., pp. 381-383; and article by J. A. Allen, U.S. Case, Appendix, vol. I, p. 409.)

631-632. Alleged non existence of stagey seals at sea. When are these seals supposed to molt? Or must we regard seals killed by pelagic sealers as constituting an exception to all laws of nature? (See § 134, 202, 281.)

-29-

633. Deprecates killing gravid females at sea. See also § 138, 639, 645, 648, 651, 653, 653 (4th paragraph.)

634. Admission that evidence of pelagic sealers is not "entirely untinged by motives of personal interest."

639. Important admission that "in the northern part of Hecate Strait the seals obtained are chiefly females" until June 1. (See also § 138, 639, 645, 648, 651, 653 (4th paragraph). *See absolute proof of the high percentage of females killed along the western coast, in testimony of British American Service, Case of U.S. Fr. 118-215.*)

645. States that in Bering Sea the cows with young "will not average 1 in 100, for the reason that as soon as the cows reach the sea they go to the breeding islands, where their young are born", thus implying that most of the female seals killed in Bering Sea are nursing mothers.

648. A practical admission that a large percentage of the seals killed at sea are pregnant females up to the end of May. (See also § 138, 639, 645, 648, 651, 653).

649. The unqualified statement is here made that "Bering Sea is now usually entered by the pelagic sealers between the 20th June and the 1st July." This contradicts the statement made with equal precision in § 212, namely that "seals are ordinarily taken by pelagic sealers in Bering Sea" "from the middle of July to the middle of September."

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658. (4th paragraph). Important admission that British Commissioners examined a parcel of skins in London of which "all of the skins, with the exception of three, were female, and most of them badly shot-marked." The further remark that "there was no evidence to show whether these seals were obtained at sea or on the rookeries by raids" is somewhat strained in view of the well-known fact that seals killed in 'raids' are killed with clubs and not shot. On the general subject of killing gravid females at sea, see 138, 633, 639, 645, 648, 651, 653.

675. Would it not be well to have the name of the gentleman?

677. Capt. Daniel Webster's experience, authority, and honesty admitted--important ~~fact~~ in view of the high value of his testimony in our case.

693. Condition of rookeries in 1891 alleged to be better than in 1890. Contrary proved by testimony of Government and Company Agents, which see.

698. Alleged killing of "large numbers of females" at the islands in 1889. Consult Government Agents.

710. The particular drive mentioned as witnessed on St. George Island by the British Commissioners, was witnessed by me also. Respecting the statement that some of the seals released from the killing grounds "from weakness were unable to go more than a few

-31-

yards at a time' it may be said that Fur-Seals rarely move many yards at a time without stopping to rest, and that in the present case fear and bewilderment rather than weakness and exhaustion explain the action of the seals.

716. This reiterated assertion that drives are made from the edges of the breeding rookeries, and that "in late years considerable and increasing numbers of breeding females have been driven to the killing grounds with the killables" is wholly without foundation, so far as I am aware. Get evidence on this point from recent Government Agents (Stanley-Brown, Capt. Williams, Col. Murray, and Capt. Lavender, one or the other of whom have supervised all killing for several years. (See also § 356 (a), 56, 74 (iii).

763. Speaking of the ease with which raids can be made at the Pribilof Islands, the British Commissioners state: "We are by no means assured that bribery by money or drink has not been actually practiced over some of the distant guards." Proof should be demanded for such a serious accusation.

December 14, 1892.

5
Mr. W. Williams,
Department of State.

Dear Sir:

Replying to your letter of yesterday, I beg to say that Miss Scidmore did not give me her consent to the publication of the letter referred to from Judge Swan. Miss Scidmore's address is Miss E. R. Scidmore, 1502-21st Street, Georgetown. You might communicate with her on the subject.

Respectfully,

C. Hart Merriam

January 13, 1893.

The Honorable John W. Foster,
Secretary of State.

Dear Sir:

Replying to your letter of the 10th instant respecting the habit of polygamy among animals, I would state that this habit is not general, but is restricted to certain groups, and in a few instances to certain species in monogamous groups. So far as I am aware there are no polygamous species in the great orders comprising the Bats, Edentates, Insectivores, and Rodents, and among terrestrial Carnivores the Lion is the only polygamous species I know of. Among pelagic Carnivores, on the contrary, polygamy is the rule, particularly among the Eared-Seals. In the case of the Hair Seals there seems to be some doubt as to whether certain species are polygamous or monogamous. From personal observation I know positively that the Hooded Seal is monogamous, and I am almost equally certain that the Harp and Harbor Seals are monogamous. The Sea Elephant of the South Seas, though a Hair Seal, is known to be polygamous, maintaining harems comparable in some respects with those of the Fur-Seals. This is the only well authenticated instance of polygamy among Hair Seals, so far as I am aware, and it may be remarked that the Sea Elephant is the most aberrant and highly specialized member of the whole family as well as the one in which there is the greatest discrepancy in size between the sexes.

Hon. John W. Foster 2

Among Ungulates polygamy is the rule. The Ungulates embrace the cattle, sheep, deer, antelopes, wild horses, and so on, most of which possess horns or antlers and are remarkable for their fighting propensities.

It seems to be a principle among polygamous animals that the males are much larger than the females or possess superior means of carrying on aggressive warfare, since the males of all polygamous species fight among themselves for the possession of the females.

This leads to your last question respecting the causes that have led to the development of the polygamous habit. Polygamy is a factor in sexual selection, but it does not represent the first stage in sexual selection, being preceded by promiscuity and the acquisition of superior fighting powers in the male sex. Among the males of gregarious species possessing superior means of defense the struggle for the possession of the female results in excessive development of such parts of the body as are used as weapons of defense or offense. The increasing development of these weapons goes hand in hand with increasing sharpness in the struggle for the females until polygamy follows promiscuity in many of the gregarious species. In our own country the Elk and Buffalo are notorious examples of polygamous animals, single bulls possessing large harems, which they defend with the most jealous vigilance at the cost of many bloody battles and not rarely at the cost of their lives, for other vigorous bulls continually beset the masters of these harems whom they meet in battle from time to time, the victor always claiming the harem, unless, as is sometimes the case, both combatants are killed in the conflict, in which case a new vigorous male at once

Hon. John W. Foster 3

takes possession.

That domestication tends to produce or hasten the polygamous habit is well-known, but in this case the determining cause is man's selection, not natural selection, since purely economic reasons make it desirable that one male should serve as many females as possible. At the same time, domestication even though incomplete has an undoubted tendency to bring about polygamy. The common House Rats and Mice are believed to be polygamous, thus constituting a notable exception among the great order of Rodents. Darwin states: "It deserves notice that the instinct of pairing with a single female is easily lost under domestication. The Wild Duck is strictly monogamous. The domestic Duck, highly polygamous." (Darwin, Sexual Selection, Appleton's American edition, 1875, p. 220).

In reply to your specific question as to amphibious mammals, I would state that so far as I know the Seals are the only amphibious mammals in which the polygamous habit exists.

Respectfully,

C. Hart Merriam

January 27, 1893.

The Hon. John W. Foster,
Secretary of State.

Dear Sir:

Prof. Henry H. Giglioli, Director of the National Museum of Florence, Italy, makes the following remarks in a letter dated January 11th, instant:--

"I was very glad to hear that my reply on the Bering Sea Fur-Seal question met with your approbation, and that of the U. S. Government; all I can say is that it was conscientiously done. I should indeed be most happy if I could be of further use to your country in that important matter, and some months ago I had the hope of being in a position to fulfill my wish, for I was very near being named Italian arbitrator; but alas! they required that the arbitrator named should be a lawyer, and that is a quality I have not. The person named is Marquis Visconti Venosta, who certainly does not know what a Fur-Seal is like and who can hardly realize the economic value of the Seal-fishery. I much fear that if the Bering Sea question be tackled with merely from a legal point of view, the results of the discussions of the Arbitration Commission will hardly settle the matter as it should be settled."

Respectfully,

C. Hart Merriam

April 29, 1893.

The Honorable

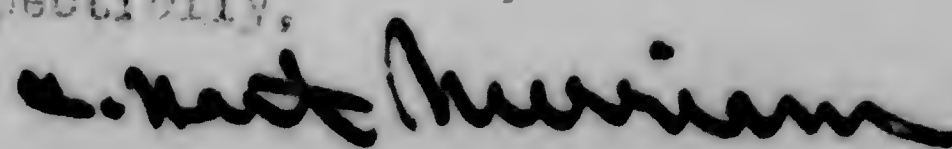
The Secretary of the Treasury.

Sir:

During the investigations in the North Pacific and Bering Sea relative to the controversy between this country and Great Britain, a number of skins of fur seals were collected and informally turned over to me for examination. Nine (9) of these skins are flat pelts taken from animals killed in pelagic sealing south of the Aleutian Islands. The others, 19 in number, were taken on the Commander and Pribilof Islands (7 on the former and 12 on the latter) by Prof. E. W. Evermann of the Fish Commission, and Major W. H. Williams, Treasury Agent in charge of the Pribilof Islands. All of these skins were complete and were accompanied by skulls. Several of them have been converted into exhibits to be laid before the Tribunal of Arbitration at Paris. The remainder are now in the National Museum, but have never been formally placed in charge of anyone, and no one is at present responsible for them. I would suggest, therefore, that these specimens be turned over officially to the custodianship of the National Museum. I would suggest further that the stomach contents and other alcoholic specimens of parts of seals, procured by the Revenue Steamers in connection with the same investigation, be turned over to the Fish Commission.

I have the honor to remain,

Very respectfully,



Bering Sea Commissioner.

May 12, 1893.

Mr. F. W. True,
Curator-in-charge,
U. S. National Museum.

Dear Mr. True:

Sometime ago I addressed a letter to the Secretary of the Treasury requesting that the specimens of fur-seals informally sent me for examination in connection with the Bering Sea investigation be formally turned over to the National Museum. These specimens comprise 9 flat pelts of fur-seals obtained by pelagic sealing off Sitka, and 19 complete skins with skulls obtained on the Pribilof and Commander Islands, excepting such of the latter as have been utilized as exhibits for the Tribunal of Arbitration. I have just received a reply authorizing me to turn over these specimens to the Museum, which I now take pleasure in doing. I hand you herewith the 9 flat pelts; the other skins are already in the custody of the Museum--part of them in the Fish Commission Building, and part I believe in the taxidermist's shop.

Very truly yours,

C. Hart Merriam

Chief of Division of

Ornithology and Mammalogy.

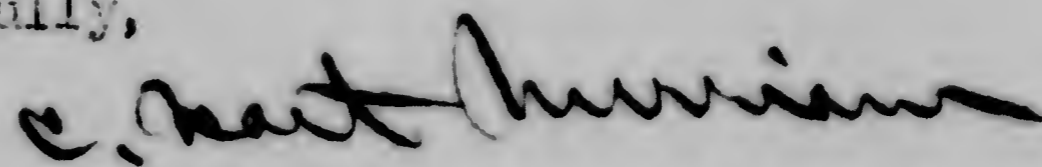
May 12, 1893.

Mr. C. S. Hamlin,
Assistant Secretary, Treasury Department.

Dear Sir:

Referring to your letter of the 8th instant, I would state that I have this day turned over to the officer in charge of the National Museum the specimens of fur seals referred to. The alcoholic specimens of stomachs and other parts of seals are already in possession of the Commissioner of Fish and Fisheries.

Respectfully,



Bering Sea Commissioner.

May 12, 1893.

The Honorable
The Secretary of State,
Washington, D. C.

Sir:

Before Mr. Foster's departure for Paris I had received a part of the volumes comprising the Bering Sea case, and was promised the remaining volumes as soon as they should be ready for distribution. Part of them at the time were in the hands of the Public Printer. The volumes I have received are the Case of the United States with Appendix and portfolio of maps (4 volumes in all); the Report of the British Bering Sea Commissioners (1 volume), and the British Counter case (in part). I have not received the Counter-case of the United States, nor the Arguments on either side, nor the corrected charts submitted with our counter-case, and shall be greatly obliged if you will order copies of the same sent to my address, together with any other documents forming a part of the case. I have recently received from Paris a copy of the Supplementary Report of the British Bering Sea Commissioners.

Respectfully,

C. Hart Merriam

Bering Sea Commissioner.

June 1, 1893.

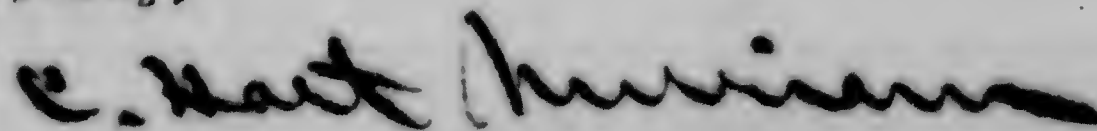
Col. Marshall McDonald,
U.S. Commissioner of Fish & Fisheries,
Washington, D. C.

Dear Sir:

Replying to your letter of the 27th ultimo, referring to a letter from C. S. Hamlin, Assistant Secretary of the Treasury, respecting certain alcoholic specimens of parts of seals procured by Revenue Steamers in the North Pacific and Bering Sea: I beg to say that in writing the Honorable the Secretary of the Treasury respecting the disposition of some skins of fur seals that had been informally placed in my charge, I added, at the suggestion of Mr. Rathbun, that the stomachs and other alcoholic specimens collected be formally turned over to the Fish Commission. None of these specimens are or ever have been in my possession, except the beaks of squids and a few other articles taken by me from stomachs in the Fish Commission building. These are sent to you herewith by messenger.

Before closing I want to congratulate you on the magnificent display of live fishes and other marine animals in the aquaria at the World's Fair in Chicago. At the time of my visit some three weeks since no other object or exhibit was half so crowded with interested spectators as the Aquarium building.

Respectfully,



Bering Sea Commissioner.

January 17, 1894.

Mr. Justice Harlan,
Supreme Court,
Washington, D. C.

Dear Sir:

I have the honor to acknowledge the receipt of a copy of your important 'Opinions' in the Bering Sea Case, for which I am greatly obliged.

In compliance with your request I enclose herewith a list of Naturalists, most of whom contributed letters to our side of the Case.

I have the honor to remain,

Very respectfully,

C. West Chubb

- Dr. Carlos Berg, Dir. National Mus., Buenos Ayres, Argentine Republic.
(Casilla 470)
- Prof. Raphaël Blanchard, Rue du Luxembourg, 32. Paris, France.
- Dr. Eugen Buchner, Zool. Mus. der Kaiserlichen Acad. Wiss. St. Petersburg, Russia.
- Prof. Robert Collett, Zoological Museum, Christiania, Norway.
- Dr. Henry Hillyer Giglioli, Royal Superior Institute, Florence, Italy
19 via Romana.
- Dr. F. A. Jentink, Dir. Museum Natural Hist., Leiden, Netherlands.
- Prof. Wilhelm Lilljeborg, Upsala, Sweden.
- Prof. Alphonse Milne-Edwards, Administrateur Menagerie au Musée
d'Histoire Naturelle, Jardin des Plants,
Paris, France.
- Prof. Alfred Nehring, Invalidenstrasse 42, Berlin, N., Germany.
- Prof. Baron Adolf E. Nordenskjöld, Academy of Science, Stockholm,
Sweden.
- Dr. Leopold von Schrenck, St. Petersburg, Russia (Academy of Sciences)
- Dr. J. A. Allen, Am. Mus. Nat. Hist., 77th St. & 8th Ave., N.Y. City.
- William Brewster, 145 Brattle St., Cambridge, Mass.
- Prof. David S. Jordan, Pres. Leland Stanford Univ., Stanford University,
California.

February 10, 1894.

Lieut. Richard Wainwright,
Acting Hydrographer, U. S. Navy,
Washington, D. C.

Dear Sir:

Replying to your letter of the 9th instant I beg to state that the documents and track charts referred to were delivered by me to Gen. John W. Foster at the Department of State, June 25, 1892, in compliance with his request.

Respectfully,

C. Witt

Late Bering Sea Commissioner.

December 14

Hon. W. W. Rockhill,

Third Assistant Secretary of State.

Dear Sir:

I have the honor to acknowledge the receipt of your communication of the 7th instant, informing me that the Department will send out under its frank on my behalf, five sets of the published 'Proceedings of the Tribunal of Arbitration in the Fur Seal Case'.

I wish to express my appreciation of this courtesy, and shall be greatly obliged if you will have sets of the Proceedings sent to the following five addresses:

Dr. Eugen Buchner, Zool. Museum
Kaiserl. Acad. Wiss., St. Petersburg, Russia

Dr. Francisco Moreno, Director Museo de La Plata
La Plata, Argentine Republic

President D. S. Jordan
Stanford University, California

Dr. J. A. Allen, American Museum Nat. History
77 Street & 8 Avenue, New York City

Hon. C. L. Merriam, Locust Grove, New York.

When engaged in the preparation of the case of the United States I addressed a circular letter to the best known naturalists in various countries, requesting replies involving certain matters of importance respecting the preservation of the fur-seal. Answers were received from a number of the most distinguished naturalists of the world, which answers were strong arguments on our side of the case. These are published in full in the Arbitration Proceedings. I beg to

poor imprint

Hon. W. W. R. 2

suggest, therefore, that it would be an appropriate and highly appreciated courtesy if sets of the Proceedings were sent by the Department to these naturalists, as a recognition of services rendered. A list of seven of these naturalists with their addresses is enclosed on a separate sheet.

Respectfully,

C. Hart Merriam

Late Bering Sea Commissioner.

CONTENTS OF STOMACHS OF FUR-SEALS KILLED IN THE NORTH PACIFIC OCEAN BETWEEN LAT. 56° 45' AND 58° 58', AND MOSTLY 60-80 MILES OFF SHORE, APRIL 22, - MAY 1, 1892.

No. 9. ♀ April 22.

19 heads of squids, 177 extra beaks, 87 extra eyes, and the vertebrae of 2 small fishes.

No. 11. April 22.

One small fish, a stickleback (Gasterosteus aculeatus).

No. 12. April 22.

Beak and flesh of a squid.

No. 19. April 22.

One fish, a ling.

No. 20. April 22.

Two fishes, a ling and a red rock fish (Sebasticthys).

No. 22. April 22.

A red rock fish (Sebasticthys).

No. 26. April 22.

A red rock fish (Sebasticthys).

No. 27. April 22.

Bones of small fish.

No. 28. April 22.

A red rock fish (Sebasticthys).

-2-

No. 30. April 22.

A red rock fish (Sebasticthys).

No. 32. April 22.

Bones of small fish.

No. 34. April 22.

A red rock fish (Sebasticthys).

No. 35. 3 April 22.

One nearly entire body of squid (a little over 6 inches long without head or fluke); also 11 heads (4 with arms attached); a few pieces of squid flesh; 34 loose eyes and 40 loose beaks of young squids; the vertebrae of a small fish, and a handful of bones of larger fish. 62

No. 38. 3 April 22.

Eight beaks and 11 eyes of squids; and a few fish bones, probably pollock (Pollachius chalcogrammus).

No. 41. 3 April 22.

Bones of a red rock fish (Sebasticthys).

No. 42. 2 April 22.

419 beaks and 369 eyes of squids.

-3-

No. 45. ♀ April 22.

17 beaks and 6 eyes of squids and red rock fish (Sebasticthys).

No. 46. ♂ April 22.

10 heads of squids with arms and large fleshy pieces of body, and 75 extra beaks and 70 eyes; also vertebrae of small fish.

No. 52. April 23.

A red rock fish (Sebasticthys).

No. 54. April 23.

Red rock fish (Sebasticthys).

No. 55. April 23.

Red rock fish (Sebasticthys) and remains of squids.

No. 56. April 23.

Red rock fish (Sebasticthys).

No. 57. ♂ April 23.

Bones of red rock fish (Sebasticthys).

No. 60. April 23.

Flesh and bones of small fish.

No. 63. ♂ April 23.

5 red rock fish (Sebasticthys) and 1 pollock (Pollachius chalcogrammus).

Same as page 300

Faint, mostly illegible text, possibly describing biological specimens or findings. Some legible fragments include:

- ... 20 eyes.
- ... 50 plates each, and a few
- ... remains of squid.
- ... 2 heads, 8 extra heads.

same as page 300

No. 28 April 21.

Remains.

No. 29 April 21.

118 heads and 117 sets of beaks.

No. 30 April 21.

100 heads of fish (robust forms).

No. 31 April 21.

11 small heads, 30 extra heads and 82 eyes.

No. 32 April 21.

11 small heads, 30 extra heads, 81 extra eyes, and a few other remains.

No. 33 April 21.

100 small fish, and remains of squids.

No. 34 April 21.

The vertebrae of a fish about 8 inches long; of another fish about 4 inches long; 1 squid without heads, 2 heads, 8 extra beaks, and 27 small fish.

No. 35 April 21.

Remains.

Retake of Preceding Frame

-4-

No. 64 April 24. (Killed near shore a little south of Cape Fairweather)
Salmon.

No. 66 ♂ April 29.

313 beaks and 197 eyes of squids.

No. 67 ♂ April 29.

Bones of red rock fish (*Sebasticthys*).

No. 68 ♂ April 29.

9 small squids, 40 extra beaks and 32 eyes. 58

No. 73 ♂ April 29.

35 heads of squids, 73 extra beaks, 56 extra eyes, and a few
intestinal worms. 143

No. 78 April 29.

One salmon, 1 small fish, and remains of squids.

No. 80 ♂ April 29.

The vertebrae of a fish about 8 inches long; of another fish
about 6 inches long; 5 squids without heads, 2 heads, 8 extra beaks,
and 20 extra eyes.

No. 90 April 30.

Squids.

-5-

No. 91 5 April 80.

30 small squids.

No. 92 April 80.

Squids.

*About 40 miles
off Barn of Island
Lat 56° 45'*

No. 100 2 May 1.

11 heads of small squids, 2 extra beaks, and 13 extra eyes.

No. 102 6 May 1.

6 beaks and 1 eye of squids.

TEXT RESUMES.

May 6, 1892.

Major J. W. Powell,
Director, U. S. Geological Survey.

Dear Sir:

A year and a half ago you kindly agreed at my request to cooperate with the Biological Survey of the Department of Agriculture by detailing a topographer to accompany the Death Valley Expedition, for the purpose of determining altitudes and making a topographic map of the region traversed. The topographer so detailed failed to furnish altitudes, whereupon I mentioned the matter to Prof. Thompson and Mr. Douglas, both of whom assured me that they would instruct him at once to work out approximate altitudes and give them to the party in the field. But no altitudes were ever furnished.

After two or three months it became evident that the topographer would never be able to make a map of the region. I explained this to you and Prof. Thompson and asked if another and more experienced man could be spared to complete the work undertaken. To this also you kindly consented, and the new man joined the expedition in April. Since the topographers could not keep up with the rest of the expedition, they were provided with an independent outfit and man, and remained in the field until sometime in July, when they were called away, not only without having completed the work, but without having attempted to visit the area in which their services were most needed.

Powell 2.

On discussing the matter with you and Prof. Thompson about January 1, the latter promised to furnish me the list of altitudes promptly, and a compiled map of the general region by February 15. Up to the present time, neither altitudes nor map have been received. A month ago I wrote the following letter to Prof. Thompson, to which no reply has been received:

Dear Professor Thompson:

Will you kindly inform me when I may expect the list of altitudes determined by Dikeman and Bartlett on the Death Valley Expedition? Also, at what date the compiled map on which you are engaged is likely to be finished?

The field expenses of this topographic work cost the Department of Agriculture about \$1800., for which up to the present time we have received absolutely nothing except a memorandum dated February 1, respecting the probable depth of Death Valley below sea level.

It is with great reluctance that I bring this matter to your notice again, but I think you will appreciate my embarrassment in the absence of altitudes with which to fix the results of our field work, and also in the absence of the long promised map on which to show the distribution of the various species inhabiting the region. I am frequently asked as to the cause of the delay, with special reference to its bearing on promised exhibits for the World's Fair, and am at a loss as to what reply to make.

Respectfully,

C. Hart Merriam

Chief of Division of

Ornithology & Mammalogy.

END OF REEL.
PLEASE
REWIND.

