

Rough Copy. Pastors
no further use.

March 30th 92

Rough

Remedies

①

Can be met.

duplicate

March 17

Corrections made in annex 2 reduced draft furnished in this

Feb. 25.

see P. 96

17

The principal evils to be met, are therefore the excessive killing which has been and may continue to be practised, together with the harassing and disturbance of the seals, which may cause the animals to seek new breeding grounds and feeding places, either the diminution in numbers or the change in habits being likely to endanger existing sealing industries.

18

as minor but not negligible evils, we class such killing of seals as alters the ^{family} normal proportion of the various sexes and ages, the killing of gravid females and generally all killing of seals directly engaged in breeding

under principles?

General idea of remedies.

19

We believe that, especially in view of the possible expansion of the sealing industries in the future, it is absolutely necessary:

under principles?

- (i) to ^{limit} set effective limits to the total number of seals which may be killed in each year, including both shore and sea killing.
- (ii) that such limits should be readily

readily

adaptable to changing circumstances and capable of checking any undue increase of killing at any time.

Under principles?

20 20. Suitable regulations under these heads if adopted at once should, in our opinion prove sufficient to guarantee the continued importance of the industries dependent on the fur seal.

fall

21. We ~~have dealt~~ deal with the question of the measures necessary for the proper protection and preservation of the fur seal under the two heads of —

- (i) improvements in the methods of taking seals and
- (ii) restrictions in the numbers taken, the latter class including those of greatest effect and importance.

Those of the latter class are the most important, but those of the first class being the most seriously dealt with, may be first ~~mentioned~~ mentioned.

Draft

Improvements in
Methods of
Killing ON SHORE

22 Referring to the class
of improvements in methods
of taking seals, we recommend
the following measures. —

~~21 We are of opinion that the following improvements should be made in the methods of taking seals now practised on shore and at sea and in their environments.~~

On Shore.

22 ~~20~~ On shore, we are of opinion that much waste of seal life would be avoided if adequate steps were taken to secure the following, among other, improvements.

On shore.

On shore,

~~22~~ ~~21~~ ²³ The actual clubbing of the seals should be performed with greater care, especially in view of avoiding injury and even death to seals that are not intended to be killed.

~~21~~ ~~22~~ ²⁴ In regard to driving driving :-
! The distance should be reduced to the smallest possible limits
and

On shore the drives should be made as short as possible, say not to exceed half a mile as a maximum. Drives should be conducted with due consideration & under the personal supervision of a responsible officer & all seals not intended to be killed should as far as possible be cut out of any single slope in each drive. Care should be exercised to avoid disturbing the actual breeding ^{in any way} rookeries. Seals not yielding marketable skins should not be killed. The islands should be fully secured against ~~unauthorized~~ ^{breeding} raids. A competent person must authority to report any attempts at landing, say punched, while some armed men should remain on the islands 25. 25th It shall be strictly forbidden during the whole sealing season, say from Jan 1 to Nov 30

- and it should not exceed half a mile as a maximum.
- ii. Every effort should be made at the earliest stage in the drive to, as far as possible, cut out seals which are ~~not~~ unsuitable for killing.
 - iii. Excessive ^{pace} speed or hurry in driving ~~should~~ ^{should} be avoided.
 - iv. All drives, from beginning to end, should be made under the personal supervision of a competent officer.
 - v. In driving the utmost care should be exercised to avoid disturbing the breeding rookeries and no seals should ever be driven from within the areas of such breeding grounds.

25. 25th It shall be strictly forbidden to kill any seals except such as ^{offer} ~~have~~ marketable skins.

26. 26th It is of the utmost importance, in our opinion, that adequate measures

measures be provided to secure the breeding islands against disturbances and ~~raids~~ ^{raids} and illegitimate sealing. all forms of marauding and raids.

us. hold all
helped illegitimate
raids

27. all measures taken for this purpose should as far as applicable include all four islands of the Pribyloff group, and ~~be~~ ^{be} of the following nature.

applicable

~~27. For this purpose it is necessary to adopt measures to include all the four islands of the Pribyloff group of the following purport; -~~

- (a.) A competent guard to be organised and stationed at proper points with authority to repel ^{any} attempts ~~to land~~ ^{at landing}.
- (b.) The rookeries should not be visited except by persons residing ~~on~~ upon the islands under direction of the proper officials, or by non-residents authorised by the Secretary to the Treasury.

is this not rather strong for a port report.

- (c.) It is imperative that one Revenue Cutter or other armed Government vessel should be present at the Islands during every day of the Sealing Season say from 1st June to 30th November.

throughout the entire

A7. SEA

28

28. At sea, the methods of taking seals necessarily differ categorically from those adopted on shore, and as most of the improvements in methods practiced at sea must partake of the character of restrictions which may tend directly to reduce the number of seals taken such improvements require to be considered in connection with the general question of the number of seals killed.

29

29. The following appear to us to be the most important improvements or restrictions which ^{can} ~~may~~ be ~~approached~~ ^{treated} on the side of 'methods'.

are the prohibition of the use of rifles & of nets in the capture of seals; & in the event of the adoption of a system of licences for sealing vessels & white hunters, such licences to be renewable annually & revocable for cause. ^{whenever} ~~vessels~~ ^{whenever} ~~prohibited~~ by ~~restriction~~ ^{restriction} must also be wholly excluded from the ~~list~~ ^{list}.

- i. ~~the~~ Prohibition of the use of rifles in shooting seals at sea.
- ii. Prohibition of the use of nets for the capture of seals.
- iii. In the ^{event} of the adoption of a system of licences and licence-fees for sealing vessels and white hunters, -



- (d) Such licences to be ~~re~~ renewable annually and to be revocable for proved breach of any regulations provided.
- (B) vessels propelled by machinery to pay an increased licence fee or to be totally excluded from sealing.

to be copied

Restrictions on numbers taken.

~~Restrictions of numbers taken.~~
30. Referring to measures providing for restrictions in the numbers taken: I am already stated on behalf of the number of seals killed must be regarded as limited & restricted, we proceed to outline the manner in which such control & restriction may most effectively be applied. In so doing it is

with respect to measures providing for restriction in number of seals killed.

necessary to assume certain fundamental ideas, & this is done by Mutual Consent, without prejudice calling in question various claims of right which have been advanced by various branches of the industry ~~to the effect~~.

It appears to me to be clear, however, that the commercial preservation of the fur seal requires that any measures confined to the breeding islands, or to the sea sealing areas alone must fail to be effective in securing the proper commercial preservation of the fur seal in the common interest.

31. Any ^{effective} ~~such~~ measures thus involve some mutual rights or acknowledgment of ~~assumed rights~~ in the common interest, such as may

Enable protective measures both on shore & at sea to be included. In actually formulating practical measures, it would ~~be necessary~~ obviously be necessary to postulate the ^{relative} ~~comparative~~ ~~importance~~ ~~weights~~ which may properly be accorded to shore & ^{respectively (but)} to sea seedling, with due regard to the wellbeing of seed life as a whole ~~at each of these interests~~

~~pages detached here~~

32. 32. In considering such general

~~several~~ measures it is apparent that the conditions prevailing, respectively ~~at the circumstances of seasons~~ on shore and at sea are so diverse ~~that as a general rule while restrictions~~ that as a general rule while restrictions ~~such factors to be effectively controlled~~ in numbers are directly applicable on shore, ~~at sea~~ at sea the less strict methods of restrictions in time or area had best ~~be~~ be adopted.

33. Thus, on shore it is perfectly feasible for the Territorial Governments to initiate and execute provisions for limiting the killing in regard to numbers ⁱⁿ conformity with the actual circumstances of each season.

32. Thus, ~~on shore the number killed~~ ~~should be limited in each year in~~ ~~conformity with the actual circumstances~~ at sea, the reciprocal measures

33. ~~to provide~~ ~~the~~ ~~fact~~ ~~a~~ ~~most~~ ~~important~~ should include as a first and important measure ~~appears to be~~ the absolute

34 At sea one of the most important measures is

prohibition of the taking of seeds during season in a zone or reserved ^{within}

area ^{around} ~~about~~ the breeding islands.
 The ~~size~~ ~~of~~ ~~the~~ ~~discontinuity~~ of this
 area depends upon a variety of circumstances,
 but its value arises not only from
 the ~~fact~~ ~~of~~ ~~the~~ ~~protection~~ which it ^{would} ~~offer~~
 give to the animals in any way connected
 with breeding on the islands, but also
 from the added security which it
 offers against 'raids' or illegal
 killing by outsiders, ^{and} especially the
 taking of seals along the ^{main} ~~rocks~~ ~~of~~ ~~the~~ ~~islands~~

35. 34. We are further of opinion, as the
result of evidence obtained, that
 the provision should be made for
 prohibiting the taking of seals at
 sea before a given date in each
 year. A restriction of this nature
 would ^{have the effect} ~~not only~~ ~~effectively~~ ~~control~~ the
 of ~~control~~ ~~the~~ ~~total~~ number taken, but would ~~also~~
 minimize or prevent ~~the~~ sealing
 at the period during which some
 considerable proportion of the catch
 usually consists of gravid females.

by the various
 Powers concerned

of controlling the total

36. ~~35~~. As our views are not entirely in accord on the details of such measures of restriction as have been outlined, & particularly in relation to the quantitative volume which should be adopted in each case, we have agreed that we can not conveniently state our respective conclusions on these matters in detail in the several reports which it is provided may be sent in for our respective comments.

Deimination

(1)

News prepared
in discussion,
but not introduced
at conference

1. Has occurred
2. Began many years ago
3. Has been more rapid in later years
4. Stayed or recovered in 91 as compared with 90.

(1867 75,000 - 1868 242,000 - 1879 87,000

(2). (3) Killing on islands fixed too high
(Killing (including pups ^{2d originally admitted as} & actually) ^{separated}
amounted over 103,000 annually.

(Various numerical returns dis. during ^{undisputedly}
"Keeping the decrease dark"

(Good condition then turned over by Russia

(In 1875 the number of whales allowed to
grow up first reported as too small,
by Report. Mon. N.A. Rev. Allen. 399.

(In 72-74 heavy loss of whales seen
driven from

(1879 Zepherus & Polaris Rodman's
driven from. Difficulty of getting 100,000 then
began

(Many says steadily decreasing since
1880

(Whales first noted serious in 82 or 83

(1885 & 86 were worked.

(1888 Mc Selze first reported the
considerable decrease on islands
adding, too few bulls to keep the stock up
in good condition

Size of skins.

{ Lower of standard weight of skins in 1883
& constantly decreased thereafter. In *Selge's F.S.*
Federus of Alaska, p. 118.

{ Culminated in 1889 some 3 1/2 lb. skins.

{ In all these years they were sold but
yearly a Scotchie = Killede

Original specimens becoming accepted

2)

Site of Mass.

{
 a contract between the
 of the State of Mass. p. 118.
 of the State of Mass. p. 118.
 of the State of Mass. p. 118.

{
 of the State of Mass. p. 118.
 of the State of Mass. p. 118.

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 of the State of Mass. p. 118.
 of the State of Mass. p. 118.

Original return to the State of Mass.

Joint Report

d - Conducted inquiries

B - Find Diminution ^{Gradual} ~~General~~ - 2 years before
Pelagic. Also on Commander where no
Pelagic.

4 - Causes Raids as in South Seas

Killing too many

Bad methods driving survivors

Pelagic never before. and more females than ever seen
See more seals than ever (e.g. Neah Bay)

8. Remedies - Stop Raids

- Kill fewer

- Improve methods

} or Prohibitions of seals will go
elsewhere

Kill fewer by Pelagic

9. Concurrent regulations inside Behring Sea

* no such case materially checked

- by themselves no use

- especially as Foreign flags could easily violate

- but in combination

&

A joint investigation has been ~~conducted~~ completed by us in accordance with the agreement settled in the Diplomatic Correspondence between the Governments of Great Britain & the United States, to the effect that "Each Government shall appoint two Commissioners to investigate conjointly with the Commissioners of the other Government all the facts bearing relation to seal life in Behring Sea & the measures necessary for its proper ~~preservation~~ protection & preservation".

While it has certainly been impossible within the limits of time imposed to make the investigation entirely exhaustive, no sources of information known to us have been neglected & the inquiry is so complete as to render it sufficient for the purposes in view.

The several breeding places on the Pribilof Islands have been examined & the management & mode of conducting the taking of seals upon these islands have been investigated.

Previous records bearing on these & other points connected with the fur-seal have been studied.

Information respecting the distribution & habits of the fur-seal at sea has been collected & the

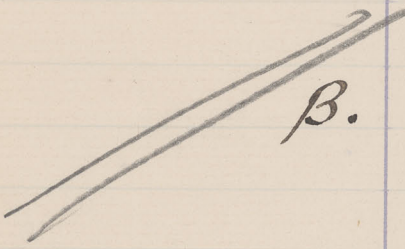
This is a draft for a joint Report by U.S. Commission & British Commission in this form.
 Presented by the joint Commission March 20, 1922.
 & report by [unclear]

copy - original to the table of seal at sea

observations made on this subject by the various Cruisers engaged in carrying out the Modus Vivendi of 1891 has been exchanged for the purpose of eliciting several conclusions to be arrived at on this point.

My own personal and
my friend's inquiries

Information of value has also been obtained from many persons with experience & knowledge now or formerly engaged or interested in the fur-sealing business.



B. Though essentially pelagic in general habits as pelagic animal, the fur-seal when engaged in breeding ^{naturally resorts} ~~resorts~~ to ~~resort~~ ~~resorts~~ to the land for a certain period of each year. Being at this season ~~not only~~ ~~naturally~~ dependent, but in capable of flight the breeding places of the fur-seal ~~are~~ ~~naturally~~ require to be ~~except~~ ~~from~~ as far as possible exempt from disturbance & have therefore been found, as a rule, upon uninhabited islands & rocks. The principal breeding places of the fur-seal of the North Pacific (viz Pribilof & Komandouki Islands) are islands remote from the lands & untroubled by predatory animals & uninhabited by man till the last century. The fur-seals resorting to these islands, have

escaped the fate which has overtaken
 that of the Southern Hemisphere as a
 direct result of protective regulations,
 but, other things being equal, the inauguration
 of Commercial Killing must from the
 fact, & under whatever regulations, have
 tended to reduce the total number of
 fur-seals resorting to the islands as
 compared with the number ~~in~~ before
 such killing began.

Without endeavoring to trace the fluctuations
 in number of seals thus resorting to the
 Pechelov Islands ~~in~~ during the
 period of the Russian Control, it may be
 stated that according to the available
 evidence it notwithstanding the general
 effect of commercial killing above alluded
 to, these islands were, during the breeding
 season of each year, tenanted by very
 large numbers of fur-seals.

In 1868 an injurious effect was
 produced by an excessive slaughter of
 seals. This was followed by a ~~continued~~
 the ~~annual~~ killing of taking a large
 annual quota of skins, & it appears
 probable from the information available,
 that the total number of seals resorting to

amount to more
 than 400. in 3 years

The islands has been been quite so large since 1868 as before that year.

by different observers

Karr's Estimates of the total number of seals visiting the islands, made from time to time, ~~are~~ from inherent defects of method, ~~or~~ want of uniformity in execution & other causes do not afford of trustworthy ^{Criteria} ~~Criteria~~ of the state of the breeding islands even for the ^{few} years for to which they can be found to apply.

all are & general

Evidence of other kinds, circumstantial or collected indicates that a well marked decrease ^{was observed} ~~set in~~ in 1879 or 1880 which has since continued. It is probable, however, that a gradual ^{general} decrease was in progress in still earlier years though it may have been occasionally interrupted or even temporarily reversed.

Being of a Cumulative Character, it was to be expected that such ~~increases~~ decreases, under a continuance of the same circumstances, would become more & more rapid, & this has been particularly observed since 1885. This may however be in part due to the concurrent effect of pelagic sealing, which about this time began to grow with increased importance. That it was

at 1889
in that part of the

not solely due to this Cal Western
 Cause, is proven evident from the
 fact that ~~the~~ a similar, though less wanted
 & more recent decrease has been observed
 in the number of seals frequenting the
 Komandurki Islands, ~~where~~ whereas
 pelagic fishing proper has scarcely if at all
 been a factor on the western side of the
 North Pacific.

Great difficulty was experienced in obtaining
 the legal quota of seal-skins in the Pribilof
 Islands in 1889, & in order to
 make up the number, the standard of weight
 of skins was lowered, so as to enable
 younger seals than had previously been
 customary to be killed.

In 1890, the number of skins to be taken
 was ~~again~~ reduced to 60,000, in consequence
~~of~~ of Reproductive Trade by the agents of the
 U.S. Government on the islands, but it
 was found to be practically impossible to
 take the number & the resident agents
 stopped a further killing on July 20th, after
 21,000 skins only had been secured,
 having ~~then~~ ~~just~~ ~~pre~~ ~~ceded~~ ~~for~~ ~~his~~ ~~action~~
 on the explaining this action on their
 part by stating that ~~that~~ any further

so early as
 months
 in
 as necessary
 to make up
 the number
 as to the
 kills

✓

2/

endeavour to secure the legal justice
would entail further serious detriment
to Seal life on the islands in consequence
of the driving & reducing of ~~the~~
great numbers of seals of the Kittolde
Classes.

In 1891 the adoption of the modus
vivendi put a stop to killing on the islands
before the total number of skins which
might have been obtained had been
ascertained.

of Kittolde ages /

There can be no doubt that the number of
wale seals visiting the islands has in
late years been much decreased, but
the number of seals of all classes to be
found at sea has not similarly declined
in so far as any evidence is obtainable.

Dr Croftland is made on this score of
pelagic sealers & the statisticians of the
number of seals obtained to the number of
boats & men employed show that no
such complaint is possible.

It is therefore ^{chiefly} a decrease in the
number of seals of the wale sex & of
Kittolde ages on the Pelly Islands
~~which is to be explained~~ of which the
Cause is to be sought.

✓
In which case
nearly as the
found

9. One Cause of the decrease just alluded to is doubtless to be found in a change of habits of the seals, resulting from disturbance & leading these animals to avoid the shores when it is not actually necessary for them to land.

It appears certain, however, that in addition to this ~~is~~ however, that the whole amount of the decrease observed on the islands is not explicable by such change of habits, but that there has been ~~an~~ occurred on the whole a real diminution in the total number of fur-seals of the North Pacific, which depends on the fact that in the aggregate too many seals have been killed, as well as on the circumstance that wasteful & injudicious methods of killing have been employed.

The depletion of the fur-seals of the ~~Southern Hemisphere~~, has been brought about ^{wholly} by the practice of sealers landing on the breeding islands & digging in the promiscuous slaughter of seals there, & notwithstanding the laws affording protection to the Prizler Islands, ^{sub} raids of precisely the same character have been made upon the breeding places upon

Subsequent
raids

Expire show the
the most wasteful
method
plan
of seals is by

their shores for almost every ^{Season} ~~year~~
 for the past 20 years. In such
 cases, besides the actual number of seals
 killed the disturbance to the breeding
 seals is of such a character as to produce
 the worst possible effects.

The killing of a sufficient number of
 seals to yield 100,000 skins in each
 year, which has been legally ~~permitted~~
 authorized for the ~~past~~ twenty
 years since which expired ~~1888~~

with 1889, was when first institutes
 admitted by the but authorities to be
 Experiments & the results noted
 even before the pelagic sealing assumed
 any notable proportions, are such as to
 lead to the belief that it was too high
 & did not admit a sufficient margin
 of safety to allow for exceptional
 unfavorable natural conditions. The
~~the~~ annually increasing number of skins
 taken at sea by pelagic sealers has
 of course in its degree, added
 to the deficit thus produced.

Other, but subordinate causes which
 help to explain the observed decrease,
 are to be found in the circumstances

It should be a
 kind of a
 thing as
 away and take
 did not and 25,000

that many wonderful methods have been practiced in taking skins both on the islands, where 'stogey' ~~the~~ unmarketable seals & 'gay' 'pops' have been allowed to be killed for food purposes, & at sea, where a certain proportion of the catch has consisted of female females.

✓ bring
detailed
seal

5

To remedy the state of affairs now existing, ~~which~~ ~~ought~~ ~~about~~ ~~by~~ ~~such~~ ~~means~~ ~~as~~ ~~the~~ ~~present~~ ~~system~~ ~~of~~ ~~which~~ if not already threatening premises to threaten ~~the~~ ~~future~~ great injury to the seal fishery as a whole, commercially regarded, the obvious causes, or some of them as may be possible merit special attention: (1) ~~These~~ ~~measures~~ ~~upon~~ ~~the~~ ~~breeding~~ ~~islands~~ Thus measures should be taken to prevent the possibility of raids being made upon the shores of the breeding islands. (2) The total number of seals killed upon the islands should be reduced & annually decided & fixed in accordance with circumstances & in conformity with the catch which these will fairly stand. (3.) The methods employed upon the islands should be improved

especially for protection
of islands - for seals
as in the case of
doubt the seal
should

in such a manner as to render it impossible to avoid having the breeding seals there for the purpose of obtaining the desired number of 'killables'.

If such measures are not adopted, apart from any regulations of sea sealing, it is practically certain that the change in habits already alluded to will continue & become perpetuated to the great detriment of the interests of the owners of the breeding islands.

Further, it is equally obvious that the number of seals taken at sea cannot be allowed to continue to increase each year indefinitely, without war & more seriously affecting the well-being of the seal life of the North Pacific for a while. Measures should be adopted if possible by which some regulation of the number of skins taken by pelagic sealers shall be brought about & by which the more injurious features of ~~the~~ the pelagic hunting — particularly the killing of gravid females — shall be minimized or done away with.

But it is
automatically

E.

In considering the forms which such regulations might take, it is clearly apparent from ~~such study of the subject~~ our examination of the whole question, that to ensure efficient protection to the fur-seal concurrent measures are necessary. Any diminution in numbers killed or improvement in methods, however partial, will of course not be worth its effect. Measures such as this object in view would naturally be not easily devised & enforced upon the breeding islands themselves, but apart from a certain ~~interest~~ ^{principle of} ~~tendency~~ ^{the} ~~the~~ ^{seal-} ~~system~~ inherent in the methods of pelagic sealing (which would have a tendency to render this industry unattractive should the number of seals to be met with at sea be ~~greatly~~ ^{greatly} reduced,) the effect of such measures might to a great extent be nullified by increased hunting at sea. Similarly, measures applied to Behring Sea ~~alone~~ ^{alone} might be ~~wholly~~ ^{only} ~~would~~ ^{would} only to a ~~very~~ ^{limited} extent act as ~~a check~~ ^a ~~partial~~ ^{partial} ~~bar~~ ^{bar} in appreciable extent limit the catch of pelagic seals, while the number of seals killed upon

unintentional
consequences
of rights

but such effort
may not be
then understood
by absence of regulations
by children & that
fail to act in
real effort in
to prevent
seal ship

?/

the islands or the methods in use there might more than counteract any serious loss effected.

To afford a practicable ~~and~~ ~~an~~ effective method of regulation & protection of the fur-seal industry of the North Pacific as a whole & one which would bear with at least approximate equality on the various interests involved, requires the adoption of measures which shall be coextensive with the ~~entire~~ entire migration range of the animals, ~~based~~ ~~in accordance~~ with due consideration to the life history of the animal, now better understood than before. ~~It~~ Further, ~~desirable~~ to give to such measures the fullest degree of utility they ~~may~~ should as far as may be possible include provisions for ready change & adaptability to the varying conditions of seal life from year to year, which to a great extent depend upon natural causes which though it is impossible to control ~~and~~ might thus be provided against.

First draft

Rideau Club,
Ottawa.

Irregularity & overlapping of dates affecting general totals & distribution of seals. Cause of lack of birds under in sufficient number.
Effect produced in several years early weaning & old bulls many years with

Alittle over 7% of seals lost in winter catch during 20 years term of A.C. Co., without any incident losses, such as ~~was~~ required in during stampede in workers & animals killed & bonus Ruiss,

Pelagic seals has changed circumstances under which seal fisheries are carried. Old methods no longer applicable.

Demonstration or disunity that seals live off & about B.C. Coast when not on islands, changes aspects of case. Greatly strengthens plea of right for B.C. seals to enjoy fair share of catch apart from general right to high seas.

1. Breeding places found in uninhabited ^{along busy coasts} where seals protected, not from man.

On these breeding islands no laws have been unrestricted, & in ~~most cases~~ in depletion high in few if any cases in cores within historical complete extermination of the seal.

Low Islands & Commanche are continued to be used by seals for more than 100 years & distance in regulations restricting ~~them~~ by Russian fort & carried out by Russian the case of Pelly Islands captured by U.S. Govt. in both cases a less efficient & varying in this respect. distance of these two groups of Commanche Islands in 1786) they were doubtless,

Rideau Club,
Ottawa.

in the average of years, fully peopled
 with seals up to ~~normal~~ limits
 impaired by conditions of food, area of
 suitable rookery & hauling grounds, &
 destruction by natural enemies such
 particularly as the Killer Whale, hunting by
 hunters elsewhere than on islands, &
 the occasional destructive effect of
 storms such as violent tempests, when
 the islands or some of them remained
 long ice-bound, storms fatal to pups,
 & probably recurrent diseases of an
 epidemic or infectious character.

Separate or concurrent effect of one or
 more of these causes doubtless have before
 now produced great fluctuations in
 number of seals. We attribute this, not
 this, but analogously with well known
 other animals show that inevitable &
 special causes affect the seal
 hunting.

About 4 hunters introduced bears &
 were fatal cause of affecting seals. Several
 seals killed, ^{entirely} ~~entirely~~ & decrease.
 In early years of Russian tenure
 the conditions of seal life were ^{very} imperfectly
 understood & but little attention given to
 the subject. This gradually improved.
 Discovered, particularly, that a large excess
 of water born on the water actually
 required for service. Killing of females
 practically stopped on Pulylov Islands in
 — on Commander Islands in —
 Required that killing of pups for food, &
 of which skins of 20 value, by wasteful
 & was prohibited Commander Is. —
 but on Pulylov Islands, ^{though strongly protested against in 1881} but late present
 year.

Under Russian control, in early years, the
 hunting killed on Pulylov Is. was often
 irregular, but seasons of best of 'Zapovodka'
 were twice ~~prohibited~~ ordered, when seals
 were to examine Kelly, with other causes
 became ^{notable} ~~serious~~ reduced. Disregarding some
 exceptional years of good Kelly, of which
 no details available. Killings averaged
 (see averages in 1 series of years)

In first year of U.S. Control (1868?)
great promiscuous slaughter of seals. Then
under Act of U.S. Gov, number to be
killed fixed at 100,000, empirically. This
admitted to be reprehensible (juste objections)

but fixed for 20 years, though the population
fixed by Act of Congress in 1870 as follows at Point &
original intention by Kelly to wear food
in because & under any regulations interfered
with tolerance of nature. The killing of 100,000
seals (by law captured & males) much heavier

Continuum drop than was before in seal life as found
on Pribilof Islands. ^{Whomment, of very doubtful character} Results naturally
were serious & so far as we have been
able to form opinion (from what evidence
exists regarding Bering etc?) led to ^{early} Culture was
decreased which possibly interrupted or
even ruined in some species for several
years, but eventually recovers.

The true
condition
of weather
during U.S.
tenure needs
to be read
between lines
of reports
which would
appear to
indicate a
contradictory

The allowance or provision was made for
unprofitable years. Effects on the whales
annals & accelerating toward diminution.
Special needs from the great slaughter of seals
& consequent scarcity (Substantially Kelly's idea of
proper number) but possible that seals would
lay with strand Culture Kelley at this note,
Actual extermination prevented by spouting parasites

no allowance
changes
in culture

Rideau Club,
Ottawa.

5
a serious
change a very distinct
produced by under
slaughter of seals
(? in part here)
see p. 6.

but decrease inevitable certainly).
When conditions thus, a new factor, also
tending to depletion, appeared in pelagic
sealing. This a perfectly legitimate development
of Indian Coast Sealing & Indians from
the first have been largely engaged in it <sup>(to what
development
must)</sup>
a novelty in sealing, for not produced &
it accounts in very measure for depletion
of Southern fur-seals.

Under circumstances above noted, could not,
however, result in still greater acceleration
of diminishing numbers of ^{Seals wintering E.} Polyler Workers.
Pelagic sealing began about (sketch history)
Evidence shows that decrease of Polyler
Workers on whole ^{somewhat} ~~was~~ rapid since —

Thus probable that sea effort wasteful
effort of pelagic superabundance & captures
high slaughter on islands, though its
effect in itself not so deleterious as it
would have been had there not been a
great surplus of females ~~as had not~~
~~changes occurred in habits of seals owing to~~

~~There present on islands & disturbances there.~~

High price of seal skins, stimulating Indian coast natives also had its effect. Incomplete or wholly inadequate protection of islands, usually in numerous unimproved roads on rockeries, also stimulated by high price also operated.

These causes cooperated, for we think in causing seals to change habits. Disturbance by drivers & killings on islands, by raids on islands & by hunting at sea during migration along coast northward, resulted in rendering seals more bold in habit.

These at length did not resort to ^{perhaps in Curonian islands, where some protection} did not stay on islands. ^{thus given, instead} under seal it was on islands ^{increased} wholly reduced, while all evidence shows that no decrease, possibly increase in skins found at sea.

While it appears certain that bottles decrease in last - years in total number of seals, both on Pribilof & Commander Islands & while remarkable that the decrease is greater under all the circumstances, accurate data of a

Case
In fact so much that they disturbance of seals in islands or commonly find fully there, effects directly in fact number of seals taken at sea (?)

7

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transiently kind are not amenable to
measure the decrease quantitatively.
A study of the various reports on
Pulley Islands published as of the
~~various~~ character of the various journals
themselves, shows that some if not all
the earlier estimates of numbers were largely
exaggerated, while reports made in
1890 have generally suggested the
diminution & precocity of condition of
workmen made in that year for 1891
has not been supported by results derived.
If some of statements made for 90 correct
workmen too much improved the year
while all evidence leads to show that
they are at least in equally good condition.
While therefore there is no immediate
danger of depletion of ~~the~~ ^{the} ~~fish~~ ^{seeds}
of E side of N. Pacific ^{of Kelly in various places proposed.} ~~of~~ ^{explored} while, if
but by capture & pelagic the would

bees occur to very serious

degree as pupae to latitudes and
proportionately or would then proportionately with number of seals
decrease so as to delay history &

thus naturally check, it is without doubt
certain increase of pelagic sealing with
constant heavy drift in islands

stimulus will in ~~all~~ all probability if
continued unbedded
lead to ~~some~~ depletion. Danger from

Kelly in islands under improper
introduction specially great, because

circumstances allow practically all locally
Killeli seals — ^{which, important to me} Enfranchising all wolves

about 4/5 parts of certain gas — which
most 2- islands being taken, while in

Contrary, if only seal under, regulated
from year to year taken from breeding places

as seals will properly stand, depletion
can run down by serious & total.

Numbers may be increased at will.

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2. The price of Seal skins ^{appears to} depends largely upon the uncertainty regarding rules of purchase & the O.C. Co., partly because of the Seal islands during this time ~~and~~ took various measures to ~~reduce~~ seal - skins for sale. While the ~~practice~~ high prices cause ~~undoubtedly~~ official mode of regulation of fisheries found business is in ~~recession~~ that a ^{matter} with the annually increasing activity of pelagic fishes combined with large loss in islanders, depletion of Seal life must result.

If on contrary the price of seal skins should fall below ~~the~~ or nearly to the amount of the tax ^(8/10) imposed on the N. Am. Com. Co. for the period of 20 years beginning in 1891, that company would be unable to take skins except at a loss, & the inducements & consequently the number of men engaged in pelagic sealing would also be largely reduced.

As for ~~seals~~ skins is an article of real value, but probable that the price will be

So reduced & thus on its own merits, the seal party appears to call for suitable regulation if it is to be preserved as important.

3. In considering the possible or appropriate modes of preservation of the birds upon which seal should be preserved. Obvious that the only simple method is that of regulating & reducing each year to suitable number, the Killeys on the breeding islands. The Control of Killeys on these islands may best be rendered absolute, as their area is small & they are solely (as to Puffin's) the property of the U.S. Any method of protection extending beyond these islands & usual 3 mi. limit would seem implied agreement by all maritime nations. As the possibly necessary limit of Killeys on islands may however, call for reduction of their numbers, administration or laws for terms of years total cessation of Killeys on them, & as this would imply charge on U.S. Govt, including possibly support of 300? "notions", can hardly be

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Expected that U.S. will ~~take~~ entertain
such proposition formally, though
it may be pointed out that under such
arrangement U.S. Citizens would have
equal right with ^{all} others to take seals
at ~~open~~ sea (or shall be) & that
in consequence of ^{of their territory} ~~protection~~ would
be in better position for this industry
than any other country.

It is probably necessary to anticipate
the much more difficult problem of
international agreement to certain restrictions.
As this would imply the curtailment of
undoubted rights on all sides, but
particularly on the part of U.S. & ~~Canada~~
Britain — the two powers now specially
interested — desirable that such
voluntary curtailment should operate
as nearly as possible equally on all
concerned. It must be pointed out,
however, that all nations possess the
free right of fishery on the high seas
while ~~was~~ ^{practically} the U.S. ~~only~~ & Russia

are directly interested in the
 breeding islands of the seals.
 Under the circumstances, however, &
 in view of the fact that British & U.S.
 vessels now are largely interested to date
 in pelagic sealing, it ~~would probably~~
 should ~~probably~~ be satisfactory to both
^{nations} ~~nations~~ principally concerned & would
 probably be concurred in by other nations
 of regulations could be framed such as
 to afford ^{catches} ~~catches~~ ^{equal} ~~equal~~
 in ~~average~~ ^{average} of years, to pelagic sealers
 & to land ~~seal~~ ^{seal} slaughter.
 It is obvious that if the full rights
 of ~~seal~~ ^{seal} ~~fisheries~~ ^{fisheries} ~~with~~ ^{with} ~~the~~ ^{the} ~~seal~~ ^{seal}
 fisheries will be reduced so as to
 cause ~~to~~ ^{to} ~~be~~ ^{be} ~~of~~ ^{of} ~~commercial~~ ^{commercial} ~~importance.~~
 This might be accomplished by a few
 years of ~~unrestricted~~ ^{unrestricted} slaughter on the islands,
 & in a longer period of years by increased
 number & activity of pelagic sealers. The
 latter result would probably follow soon
 if all sealing in Behring sea & on
 the breeding islands stopped, for the killing
 of seals at sea ~~before~~ ^{before} along the coast to
 the southward is ~~undoubtedly~~ ^{undoubtedly} the most
 destructive.

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Is in effect an order under (the
provisions of the Seal Fisheries (Canada) Act
to induce them to prevent the extermination of the fur seal.

The greater share thus given to us
in the general arrangement justified
by fact that Chief Cade, shot of islands,
devoids open storm, & from the
obvious circumstance that their ~~and other~~
right of unlicensed Kelly on islands
is fully secured unless in few years
lead to abandonment of seal fishing &
^{and} ~~consequently~~ ^{consequently} in considerable
^{sections} islands being exempt from
Kelly seals would, though in
larger time of years be depleted, is unknown,
Pelagic seals of ^{Confederated} a new industry,
which in ~~expressions~~ prolonged experience,
but possible that without result would
be depletion of water & a density of
pelagic seals indefinitely increased
& that this might occur even if all
Kelly both on islands & otherwise in
Behring sea prohibited, as ~~is~~
Cade to south of sea undoubtedly
the worst destructive.

4. Protection might be afforded to the fur-seals of the North Pacific (1) either in that part of the Pacific to the south of the Aleutian Islands, or, (2) in ~~between~~ the waters of Behring sea or (3) on the breeding islands themselves or (4) various parts of these seals & islands may be grouped under a measure of protection for purposes of protection.

~~The protection to be resorted to may be~~
 The principal modes of protection which appear to be practicable & which have been suggested by various authorities, may be ^{classified} grouped under ~~two~~ ^{three} heads
 (a.) Limit of time of sealing in each year (b.) limit of number of catch each year. (c.) limit of area of sealing. ~~The~~

Of these, the time limit is especially applicable to the pelagic seals, as the number of seals taken by them bears a direct ratio, other things being equal, to the length of the period of hunting, while on the breeding islands, ^{though} ~~where~~ certain

Circumstances call for a time
 limit, ^{effective} the policy limit is one of
 number. To limit the number of
 seals to be taken by each vessel or by
 pelagic seals as a whole, does not
 appear to be practicable in execution.
 The limitation of the area in which
 sealing shall be permissible might
 best be accomplished in the breeding
 islands, as both on the U.S. &
 Russian sides of Bering sea two
 islands are needed & by the seals
 & one of these might in each case be
 strictly preserved as a reserve of
 seal life. It is also applicable,
 with the aid of a sufficient marine
 police force, ~~to~~ & the cooperation
 by the various nations interested, to
 such areas of the high seas as may
 be fixed by international consent.

} suggest

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Upon the Pukler Islands, the seals
legally killed since 18th about 1847 have
been males only, & no evidence has
been found of the killing of females in
large numbers in recent years. The
excursion Kelley & Cullen was during
carried on on these islands ~~since~~
about uninterruptedly since 1868 has
shown result in the depletion of
~~breeds~~ male males.

The pelagic catch, on the contrary, has
been composed of a considerable extent
of females & probably ^{is} an increasing
~~ratio~~ ratio as the total number of
males has become smaller & the
females have been less constantly
attracted to the islands. The pelagic
catch is ~~made~~ ~~under~~ ~~the~~ ~~best~~ ~~of~~ ~~the~~ ~~best~~ ~~of~~ ~~the~~
~~best~~ ~~of~~ ~~the~~ ~~best~~ ~~of~~ ~~the~~ ~~best~~ ~~of~~ ~~the~~
made in that part of the
North Pacific to the south of the
Aleutian Islands in the spring & early
summer & while the seals are travelling
in pup & are travelling northward to

The breeding islands, is
 undoubtedly the most destructive
 to seal life as a whole, & should
 therefore receive special attention in
 connection with any provisions to
 regulate pelagic sealing. I very often
~~find~~ have seen in this part of the
 Pacific a certain number of seals
 are known, killed by the Indians
 of the ^{of the S.E. Alaska} ~~of the S.E. Alaska~~ ^{islands} ~~islands~~ ^{of food},
 and along the coast, these people
 employ their own canoes, without
 the assistance of boats, & thus it
 under present circumstances, impossible
 effectively to control. The number thus
 taken is, however, inconsiderable & may
 be ignored in any general ~~report~~
 proposed for the regulation of the seal
 fishery without serious loss.

might be discouraged
 by decreasing or other industries
 increase.

Notes explanatory & illustrative of the Table of
Annual Killings of seals on the Pribilof Islands.
(Note. Some of these to be separated in form of notes
explanatory of sources of figures given in various years)

Further notes
& precise letters of
writing wanted

Verify
lookovers

1786. Pribilof discovered islands in
June. The 31,100 fur-seal skins with
which he returned, doubtless taken in this
year. Elsewhere stated that he took in islands
but 40,000 skins this first year.
Bancroft pp. 185, 192, 193.

1786 Discovery of Pribilof Islands. From this
date to 1797 (10 years) no record whatever
of number of fur-seals killed. Seven or eight
different companies were engaged in taking seals till
1799, without count or list. Elliott. p. 70.

"In the first years" (after discovery
of islands) seals on St George
only 5026 times less than those
on St Paul = 1/6 of St Paul, Vancouver
in Elliott. p. 147

In the first years (after discovery) 50,000 to
60,000 seals taken annually on St Paul
Characterized this as "horrible killing"
of 40,000 to 50,000 on St George, Vancouver.
In Elliott. p. 147.

1787 to 1805 inclusive, Killing of seals
on islands progressed without count or
lists & without responsible heads or
Chiefs. Several rival Companies at work.
Elliott p. 140.

1799 Pribilof Islands came under control
of United American Co which was
organized in 1798 August, 1798.

1800 First year of control of Russian
American Co, ^{was organized in the previous year} which superseded an
outgrowth of the United American Co.

See explanation of figures.

Superseded?

From 1797 to 1816, inclusive, an average number of seal skins shipped is derived from aggregate number given by Tschernianov & quoted by Elliott (p. 90) for 1797 to 1821 (24 years). The average number (44,499) is obtained by deducting the number accounted for 1817 to 1820 (both inclusive) in Veniaminov's table from the total & also deducting 5000 annually to represent the catch on Commander Islands, as indicated by Elliott. Tschernianov is reported as stating that the figures given by him represent only the number of skins taken from Sitka for sale. It thus appears that the figure arrived at for the annual average catch from 1797 to 1816 is nearly approximate, but as Tschernianov's figures are official the average number of skins is probably not far astray. Seals killed for food (pups etc) would however probably increase the figures considerably.

Between 1801 & 1804 the Russian American Company had accumulated about 800,000 skins, many of which were lost through want of care
Bancroft. p. 477.

1803. Baranof ordered Banner to go to Pribilof Islands which "had not been visited for many years" & where a vast number of skins must have been accumulated by the natives. Bancroft p. 417.

1803 800,000 skins said to have accumulated of which 700,000 destroyed.

1805. Veniaminov states that the cause is the harassment of seal-life taken till 1805. Quoted by Elliott. p. 141.

1806. Resanof visited St Paul Island in July. Found very wasteful killing of seals had occurred & that 30,000 had been killed for their flesh alone, while one 1,000,000 in all had been killed up to date. Was informed that seals had decreased 90% in number since earlier years. Concluded that if killing was not ordered a few years would witness extirpation of seals & few orders accordingly to stop the killing. It is probable from the date of his visit, that some seals had been killed that year ~~before~~ his arrival. See Bancroft Vol ~~III~~, pp 445-446.

Vol 33.

1806 & 1807 no seals were taken on the Pribilof Islands, following Resanof's order, & nearly all the people returned to Unalakleet. Elliott. p. 140. Some food killing?

1808 Killing recommenced at St George & in 1810 close on St Paul, but not till 1812 did the killing amount to half the number previously killed. ^{Veniaminov} Elliott. p. 140.

Cows were taken as well as seals. Id.

Quoted by Elliott p. 140.
This character of killing cont. 67822, without proper supervision.

1817-37 gradual diminution of seal life on the islands. See letter Elliott p. 143. Diminution very gradual & visible in each year, but not always equal. Veniaminov. Id. p. 147.

1819. Seals on St George 1/4 of those on St Paul, St Paul being decreased even in proportion. Veniaminov in Elliott p. 147

1820 Veniaminov characterizes the killing of 50,000 as excessive & leading to diminution. This work special reference to killing in 1820 & neighboring years.

1822 First year of Second Census of Russian American Co

1822 Moosayper ordered killing the limited, so that instead of 40,000 or 50,000 not more than 8,000 or 10,000 taken. (This statement of Veniaminov does not)

This part cont. from 22-25 on St Paul, 1826-27 on report.

1824. Elliott states that between 1822 & 1824 the seals were estimated to have doubled in number. Condition of affairs in Alaska. p 107.

then St Paul since 1817. Veniaminov in Elliott p. 147.

1826. Veniaminov states that owing to destruction, Chetyakhov estimating that seals had doubled in number, ordered 40,000 killed annually. With all efforts this number could not be got. Seals, however continued to decrease, Greder continues in killing females & ordered that did not permit decrease. Veniaminov. quoted by Elliott p. 140.

Statement of condition or

1832 Veniaminov incidentally states that in this year a large number of females were observed on the islands without young.

??

1835 for 6 or 7 years thereafter the marked reduction in figures of catch shows the result of the destructively severe season of that date.

1835-37 ^{incl.} not on St Paul ? of between both islands. Veniaminov in Elliott p. 142 not as stated

1834 Great reduction ^{ordered} ~~in number~~ on St Paul ^{4000 killed instead of 12,000} killed ~~x~~ This severity from toll, toll effect in 1835.

1836. Winter of 1835-1836 unusually severe. Much ice came down & remained piled along shores till Aug. 36. Great mortality of seals. According to native count only 4,100 seals of all classes, exclusive of pups, on St Paul Rookeries. Elliott Monograph. p. 49. According to U.S. note by Elliott (1890) based on journal of Rev. Kerguelen Iharinknickter, only 100 hollowchickies were killed in 1836, the remainder of number given ~~being~~ (4040 or 4052) being pups.

(Note. There appears to be some doubt as to whether the ~~great~~ great mortality occurred in 1835 or 1836 so far as Elliott's account of it goes. (See Monograph pp 48-49) Veniaminov's

1836. Elliott states that seals were being exterminated by ice remaining long on islands in that year. Census Report. p. 49.

(Great reduction caused in part place of order of 1834-5 that effect & does not show that the severe winter was original)

1842 1841 (1st year of Russian Am. Co 3rd term) rules adopted for alteration of hunting grounds. Resulted in a remarkable increase, particularly in the Pribilof Islands. In 1851 30,000 & in 1861 70,000 could be killed on St Paul Island alone without fear of exhaustion? Bancroft, p. 582.

1842 First year of third term of Russian American Co.

1842-1861 inclusive the Company's statements show a large decrease in fur-seal (skinner) skins, as compared with the previous period of 20 years. This is mainly attributed to the overcatchment by foreign traders - particularly American whalers. Bancroft p. 582.

See Sect. 7 figures

~~1862 to 1867, both inclusive. This gap in the records has been filled hypothetically by Elliott as here entered. Elliott explains, that guided by information from the natives he has proportioned the number of skins in hand in salt barrels on Pribilof Islands in 1867 (40,000 to 48,000) back to the last year of Zechmanov's record (1861). The figures are therefore far from satisfactory, but probably the best that can be set. It may be presumed that they again represent only the skins marked, - not including stray skins, Tupsis etc.~~

1862. The figure given is Elliott's estimate also explained. Referring to this particular year, however, Zechmanov says "In earlier times more were taken than in the later; at present (1862) there are taken from the islands of

St Paul 70,000 annually without deduction of the number for future killing; on St George 6000." Elliott p. 165.

As confirmation of approximate accuracy of Elliott's rough figures, Dall may be quoted. Writing in 1888 he says that of late years the Russians here will be allowed to take more than 50,000 annually. (Alaska & its Resources p. 496.) Allen also says (Pinnacledia p. 389) that for many years the Russians took but few seals but they increased so that in one year 40,000 were taken.

left out.

1867. See note in Allen p. 389.

5

In 1867 (or 1862 - 1867) and 500
beats killed on Commander Islands.
Pish. that cheap killing on Peshy low ls.
in three (or four?) years were done
by boys, for which market called
(not in 1828, however, cf. see Elliott p. 141.)

1868.

Under the Russian regime (prior to 1868) the selection of
seals killed was left to natives & most of those killed
were under 3 years old, including many yearlings. The
killing being from this source numerous cubs, an abundance
of males were left to reach maturity & the 'bookies' were
well supplied with active males. The males of all ages not
included in actual breeding were about equal in number
to the 'beachmasters' & females so engaged. Of these
excluded males 30% were capable of breeding. Thus
one efficient male to every 3 or 4 females, or
about 3 times as many as required. In consequence

1869. Bryant estimated total number of seals on
islands at 3,230,000. Allen, loc. cit. p. 390.
Pinnipedia, p. 390.

first year of lease of Alaska Comm. Co.
Bryant, in Allen's Pinnipedia of N.A.

1871. Discovered that skins of 3, 4 & 5 year olds in
greatest demand. Method of killing changed to suit, but
no material change observed in habits of seals. p. 392,
Bryant, in Allen's Pinnipedia of N.A.

1872. The killing as far as possible confined to
4 to 6 year olds & some 7 year olds killed. The
killing last 2 this year diminished number of 'reserves'

1872. Lieut. Maynard, accepts method of killing seals
advocated by Elliott while number was 6,000,000.
Maynard's Report p. 5.
in increasing
in Allen's Pinnipedia
of N.A.

1872 ~~1871~~ Elliott estimates that seals on St George are 1/18 of whole number (or = 5/107 of those on St. Paul) Elliott p. 157.

1873. Now found that 3 year olds not valuable, & killing directed to them. The 'cubs' became reduced to one-half original number & each 'teamote' averaged 15 females. When 'rookeries' broke up at close of breeding season, females lingered on them instead of leaving them as before, & in September & October a few young were born, showing that ~~the~~ ^{same} females had not been served at proper time in 1872. Females still increasing 5% annually. Bryant, in Allen's Pinnipedia of N.A.

This I think the year in which Capt. Lewis is quoted as saying that seals were abundant off V.I. that was before the time it should coincide with year of change in rookeries.

1874. Resembled 1873. 'Cubs' in about the same numbers but contained more young as compared with old animals. Females in about same number. On whole without improvement in condition of 'rookeries' Bryant, in Allen's Pinnipedia of N.A.

1874. Lieut. Waynard states that the number of bulls in the rookeries was not more than one-tenth that of females. Waynard Report.

1874. Lieut. Waynard states that there was no decrease in the number of seals between 1872 & 1874. report. p. 6.

1874. Elliott estimates number of breeding seals on islands at 3,193,420. Total number of seals 4,700,000. Census Report. p. 57.

1874. Elliott checks the number of seals did not alter materially in the 12 or 15 years previous to this date. Census Report. p. 67.

1875. The killing confined to animals less than 5 years old & more 2 year olds taken than in former years since 1870, which left a larger number of whales to mature. Many young seals, however, born as late as August. Bryant, in Allan's *Pennipedia of N.A.*

1876. No marked change in conditions, but many females landed to bring forth young after 20 July. Great number of pups lost in bad weather & autumn storm in October (Forced to sea & then lost) Bryant anticipates that result of this loss will appear in 1880, when the pups should reach maturity. Bryant, in Allan's *Pennipedia of N.A.*

1876. A gale with snow on Oct 30 etc drove all the seals from the islands into the water & only a small number returned. Allen, *N.A. Pennipedia*, p 397.

1876. Bryant states that he thinks the number 100,000 fixed for Kelly was too high & that he had recommended in his report that it be reduced to 15,000. Report on Alaska Com. Com. p. 99.

1876. Miller says 'our reports report a very considerable increase in the number of females since 1871. We cannot tell that there is much increase in the number of whales. Report on A.C.C. Com. p. 41.

1877. States evident increase in number of breeding whales, but it appears that he was not that year on the islands. Bryant, in Allan's *Pennipedia of N.A.*

1877. There were about 1,800,000 breeding seals on the Pelly Islands as against 1,130,000 in 1869 Bryant, in *Ann. of N.A. Pennipedia*, p. 410.

1880 The number of seals on the Pribilof Islands was said to be greater than ever before, the increase being particularly noticeable among young seals. Report of Cruise of Casuarina p. 55.

1881 Elliott in his report printed in this year ~~as the result of observations~~ ~~made on the Pribilof Islands in earlier~~ ~~years~~, strongly protests against wantonly slaughtering seals for food, particularly ~~the~~ ^{the} Kelly's fur has been continued for 10 years thereafter if forbidden only in 1891 Elliott p. 170

1881. In Census report, Elliott states that breeding colonies have been gradually increasing since 1857. p. 119.

^{Taylor}
1881. ~~For~~ states, that from information received from those who had been a number of years on the island of St George, there were as many seals there as there had ever been. Fur-Seal Fisheries of Alaska p. 44.

1882 McJury states that since 1870 the number of seals on Pribilof Islands increased every year. Fur-Seal Fisheries of Alaska p. 116.

1883 Moulton says, between 1877 & 1883 there was, he thinks, an increase in number of seals on Pribilof Islands. Fur-Seal Fisheries of Alaska p. 255-

1882-1885. No change in number of seals on St Paul was noticed, but they lay in different years, especially on St George. Ely dden in Fur-Seal Fisheries of Alaska p. 27.

1885 Moulton says, between 1883 & 1885 there was an increase of the seals on the Pribilof Islands. Fur-Seal Fisheries of Alaska p. 255.

1886. Fejlske states that frequent inspection of rookeries showed decided increase in number of cubs with an ample supply of bulls. Seal-Fisheries of Alaska p. 174.

1886-1887. Fejlske using Elliott's mode of estimating seals makes number on Pelly Islands 6,357,750. states that he considers this too great by $\frac{1}{4}$ the which would make actual number about 4,768,300. Fur-Seal Fisheries of Alaska p. 197.

1888. Mr. Sutzler, Sept. on islands for A.C. Co. at time, states that number of seals has decreased since 1882. Says the rookeries do not produce enough to rear the strain of ^{Kelly's} 100,000 by wanderers in addition to the 100,000 killed annually. Fur-Seal Fisheries of Alaska pp. 116-132.

1888. Dr. Sutzler, Sept of Alaska Commercial Co. states that the premises accorded to Kelly's pups for food should be reserved. Fur-Seal Fisheries of Alaska p. 127.

In 1888 Wargen states that there was a large increase in the number of seals on Pelly Islands since 1868 & also since 1874. The breeding rookeries occupy some territory. Fur-Seal Fisheries of Alaska p. 69.

1888. Dwyer says there may be 3,000,000 or 7,000,000 seals on the islands. his estimate can be made within a million or six of the actual number. Fur-Seal Fisheries of Alaska. p. 12.

1888. Wargen estimates that the seals on St. George numbered 165,000 ^{at least} that in Kelly's 20,000 are left of that after taken yearly. This number of seals has been overestimated. Fur-Seal Fisheries of Alaska. p. 39.

1890. Col. J. Murray says that seals have been steadily decreasing since 1880 & attributes this decrease to excessive slaughter of males 2-5 years old. Further Correspondence respecting N.S. Seal Fisheries. London, June 1891, p. 20.

1890. Goff states that there were not more than 250,000 seals ^{in all} on Pelly low islands. Further Correspondence respecting N.S. Seal Fisheries. London, June 1891, p. 17.

1890. Goff says that seals are rapidly decreasing in numbers. Further Correspondence respecting N.S. Seal Fisheries. London, June 1891.

1890. Elliott estimates number of seals on Pelly low islands in this year at 959,393. Further Correspondence respecting N.S. Seal Fisheries. London, June 1891, p. 61.

1890. Elliott attributes decrease in number of seals to (1) overdriving on islands begun in 1879, dropped till 1882 & suddenly renewed then & carried on to date. (2) Fox pelagic sealing, which he states was begun as a business in 1886 & carried on to date. Further Correspondence respecting N.S. Seal Fisheries. London, June 1891, p. 56.

1890. Lytle states that late in the season there was a marked increase of arrival of seals at Pelly low islands. Further Correspondence respecting N.S. Seal Fisheries. London, June 1891, p. 43.

1890. Semler states that large schools of killer whales were about the islands, destroying in large numbers, in October. Further Correspondence respecting Bering Sea Seal Fisheries. London, June 1891, p. 57.

X look