2006

Scientific Reports of Soviet Whaling Expeditions in the North Pacific, 1955-1978

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Issued by the International Whaling Commission, 2006

SC/59/ForInformation 43

Scientific Reports of Soviet Whaling Expeditions

in the North Pacific, 1955-1978

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Soviet factory ship Slava*, ca. 1965 (photographer unknown)*

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September 2006

ABSTRACT

The translated and annotated materials in this volume constitute a collection of 18 formerly secret internal reports written by Soviet scientists working aboard whaling factory ships in the North Pacific. The reports cover the period from 1955 to 1978. During most of this time, the USSR was engaged in a massive campaign of illegal whaling worldwide; these illegal catches continued until introduction of the International Whaling Commission's International Observer Scheme in 1972. The reports were copied from the archives of the Pacific Research and Fisheries Center (TINRO) in Vladivostok by Alfred A. Berzin, the former director of TINRO's marine mammal program.

The reports were all separately produced; the represent the introductory and summary sections of much larger annual reports that are probably no longer available. The authors were all scientists who worked at different times with the whaling fleets concerned; most were affiliated with TINRO.

The reports document dramatic declines in abundance, disappearances of whales from previously populous feeding and breeding areas, and a continual decline in the average size and age of animals in the catch as the over-exploitation reached critical levels. Also recorded are the repeated warnings of the reports' authors that the catch levels could not be sustained without severe damage to (or extirpation of) the populations concerned. However, it is apparent that all such warnings were routinely ignored by the Soviet authorities in their quest to meet high production targets.

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INTRODUCTION

The materials in this volume represent a collection of internal reports written by Soviet scientists working aboard whaling factory ships in the North Pacific (and, in a few cases, elsewhere). At the time that these reports were written, the USSR was engaged in a massive worldwide campaign of illegal whaling which began in 1947 and continued until introduction of the International Whaling Commission's (IWC) International Observer Scheme (IOS) in 1972. During this period, in the Southern Hemisphere alone the Soviets killed almost 100,000 whales that they did not report to the IWC (Yablokov et al. 1998). Illegal catches in the Northern Hemisphere (primarily in the North Pacific) were smaller but still very substantial, and were equally or more damaging to some of the whale populations concerned (Yablokov & Zemsky 2000).

Consequently, these scientific reports were secret and were intended solely for Soviet governmental consumption. They did not become available until after the Cold War, when they were provided to Robert L. Brownell Jr. (Southwest Fisheries Science Center, Pacific Grove, California) by the former Soviet biologist Alfred A. Berzin. Berzin was director of the marine mammal program at the Pacific Research and Fisheries Center (TINRO) in Vladivostok and the overall scientific leader for the whaling operations. He retrieved copies of the reports from TINRO archives; they are translated into English here for the first time.

The reports document the decline of many populations of whales due to over-exploitation, and they state over and over the warnings of the authors that high levels of catches cannot be sustained without seriously depleting or even extirpating certain stocks. From the repeated laments of the authors from year to year it is apparent that these warnings, and all other scientific advice that conflicted with the Soviet government's production targets, were routinely ignored by the authorities.

The decline of whale populations in the North Pacific and elsewhere as a result of illegal catches was in part an inevitable consequence of the Soviet system of industrial planning. The government set annual targets for quantities of whale products to be obtained from the hunt, and paid factory fleet crews a bonus only if these targets were exceeded.[1] But when this occurred (as it did in many of the earlier years), the following year's whaling plan would contain targets that had been racheted up to match the production level of the previous season. Consequently, whaling crews were forced to kill more and more whales to obtain their bonuses, and the populations concerned inevitably crashed under the pressure of over-exploitation.

The reports document dramatic declines in abundance, disappearances of whales from previously populous feeding and breeding areas, and a continual decline in the average size and age of animals in the catch as the over-exploitation reached critical levels. The fleets took everything, regardless of size, age or reproductive status, and this disregard for the sustainability of the populations concerned became increasingly pronounced as whales became harder to find. Indeed, in 1971, the year before the IOS came into effect, more than 45% of the mature female sperm whales (*Physeter macrocephalus*) killed were lactating (i.e. accompanied by a calf); as Berzin notes in Report XVI,

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[1]Initially, blubber was the only product derived from the catch; the rest of a carcass was discarded because the refrigeration capacity of the first factory ship, the *Aleut*, was small. With the introduction of the larger factory ships *Vladivostok* and *Dalniy Vostok*, both blubber and meat were processed and stored, and sometimes bonemeal was also prepared. Meat was separated into that fit for human consumption and that which could be fed only to animals; interestingly, all sperm whale meat was in the latter category (N.V. Doroshenko, pers. comm.)

this was essentially equivalent to the birth rate.

When the IOS was introduced in 1972, it was accompanied by a relaxation of the IWC regulation regarding the minimum length for sperm whale catches (from 11.6m to 9.2m). This decision was made because of a concern by the IWC that too many males were being caught, and therefore that the length limit should be lowered to encourage more catches of females. Tragically, this conclusion was based largely upon falsified data from the USSR, which had been greatly over-reporting catches of males to cover up long-standing over-hunting of females. Ironically, therefore, the Soviets - now prevented from illegal hunting by the presence of international observers aboard their factory ships - were suddenly permitted to continue the exploitation of this prime reproductive portion of the population. As Fred Berzin noted in his report for 1977 (Report XVII here), "The result of this was that some breeding areas for sperm whales became deserts."

Soviet whaling practices were ruthlessly efficient. Each fleet consisted of a factory ship, catchers, scouting boats and supply vessels. The number of catchers varied: the small factory ship *Aleut* had only three, while the newer and larger *Vladivostok* and *Dalniy Vostok* each had twelve. The huge Southern Ocean factory ship *Sovetskaya Ukraina* was accompanied by as many as twenty-five catchers.

In many cases, catchers would spread out in a line, horizon to horizon, a technique which allowed them to search vast areas of ocean. When whales were found, some or all of the catchers would converge and kill as many of the whales as they could. In cases where many whales were encountered, carcasses would be inflated with compressed air, flagged and left for later retrieval; Berzin notes in Report XVIII that at times in 1978, whales were killed faster than the factory ships could butcher them, and some carcasses were left for two or three days before they could be processed.

It was this efficiency which precipitated the dramatic declines in many populations. Sperm whales suffered heavily virtually throughout the North Pacific. However, the most notable example is that of the North Pacific right whale (*Eubalaena japonica*): the slowly recovering eastern population of this species was virtually extirpated by a Soviet catch of 372 whales, primarily between 1963 and 1967 (Doroshenko 2000, Brownell et al. 2001). Today, with perhaps only tens of animals remaining, this is arguably the most critically endangered population of large whales anywhere in the world.

A note on the reports

Although a few of the reports refer to the Antarctic, the principal focus is the North Pacific. They cover the period from 1955 to 1978; Soviet whaling in the North Pacific ceased in 1979. The reports were all separately produced, but they have been gathered together here in a single volume for convenience. The materials translated here were merely the introductory and summary sections of much larger annual reports that were often 200-250 pages in length (N.V. Doroshenko, pers. comm.). The remainder of this material is not available, as is apparent from various references to tables that are missing here; it is not clear whether any of the full reports still exist in Russian archives. Three copies of each report were produced: one for the Pacific Research and Fisheries Center (TINRO), one for the Russian Federal Research Institute of Fishery and Oceanography (VNIRO), and a final copy for the Ministry of Fisheries. The authors were all scientists who worked at different times with the whaling fleets concerned; most were affiliated with TINRO.

A note on the translation

For the sake of clarity and easier reading, some of the language in the reports is not transliterated, but rather has been amended to convey in clearer English the intent of the original text, which in many places is somewhat confusing. If there is any question with regard to meaning, this is indicated by a footnote. The original Russian reports are bound in at the end of the volume.

In virtually all of the reports, the unit of measurement given is the old term *tsentner* (центнер) which is 100 kilograms; for the sake of convenience, this has been converted to metric tons throughout.

Yulia Ivashchenko, Phillip Clapham & Robert L. Brownell, Jr.
St. Petersburg, Russia, September 2006

Acknowledgments

We thank Nikolai Doroshenko for his help in clarifying details of Soviet whaling operations in the North Pacific. We also acknowledge the contributions of other former Soviet biologists who (sometimes at considerable personal risk in the Soviet system) kept their own records of true catch data and thus have been instrumental in the correction of the scientific record in recent years. These translations were funded through Alaska Fisheries Science Center contract number AB133F06SE4829 to Atemar Corporation.

Citations

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THE REPORTS

Note: The authors of these reports were all scientists who worked at different times with the whaling fleets concerned; most were affiliated with the Pacific Research and Fisheries Center (TINRO) in Vladivostok. The publication date of each reports is assumed to be the same year being summarized.

I. Report of the expedition on marine mammals in the Far East in 1955

S.K. Klumov

It is clear that the data are not entirely precise; however, the overall trend of a decline in the number of whales observed around the Kurils is clearly apparent and is not the result of coincidence. The following data support this conclusion. Although there were intensive plans for whale catches in the area around the Kuril Islands in 1955, the declining number of observed whales led to a significant increase in the amount of time to find a whale. As a result, this forced the whalers to take any whales encountered in the target area regardless of size. This would explain the large numbers of "small" sperm whales taken.[2]

	Number of sperm whales									
	total		small size		size = 10.7m[3]		all sub adults[4]		all adults	
Station	N	%	N	%	N	%	N	%	N	%
Podgorniy	91	100	20	22.0	3	3.3	23	25.3	68	75.0
Skalistiy	186	100	62	33.3	21	11.3	83	44.6	103	55.4
Kosatka	114	100	75	65.8	5	4.3	80	70.0	34	30.0
Total	391	100	157	40.1	29	7.5	186	47.6	205	52.4

Only whales personally measured by the scientists at the land stations are included in the table above (the land stations and scientists working at them were as follows: "Podgorniy": Ivanova, Skryabin, Businov; "Skalistiy": Chuzhakina, Derviz, Klyashtorin, Bazhina; "Kosatka": Zelenova, Klyashtorin). Moreover, measurements were made for all sperm whales brought to the land stations for processing, without any selectiveness among the whales. These data are absolutely correct and the scientists concerned all affirm that they are reliable.

The question arises regarding the expediency of this manner of whaling. First, this trade leads to the further depletion of stocks; second, it is not expedient and not profitable from an economic point of view.

It is necessary to mention that this question was raised to the USSR Ministry of Fisheries Resources in 1951 by B.A. Zenkovich, who, in his letter to the Minister wrote: "After I became familiar with the data on the catches of sperm whales, I was convinced that the majority of hunted whales are young, immature sperm whales that in 3-5 years' time would have yielded twice as much blubber. At present, the whaling trade in the Far East is pursued in a manner which is not right and not expedient." (B.A. Zenkovich, letter from 5 Jan 1951)

[2]Translator's note: Small sperm whales = whales with a body length below the legal IWC limit of 11.6 m.
[3]Translator's note: The reason for separating whales of this length category in the table is not clear.
[4]Translator's note: The first figure in this column is given as 25 in the original text, but this appears to be an error of addition and has been changed to 23 accordingly.

We wish to highlight that Zenkovich was raising this question at a time when the mean yield of a sperm whale was 22.2 – 27.1 tons (Table 8[5]), because in January 1951 Zenkovich had available data on the catches only for the previous years 1948, 1949 and 1950.

The average weight of raw products from a single sperm whale declined to 20.9 tons, as shown in Table 8, becoming much smaller then it was in 1950. At the same time the catch of small-sized whales is not decreasing.

As we mention above, each of these small whales yields half the products it would give if it were somewhat bigger in size. This means that in the last few years (1952-1955) the products obtained from the hunted whales declined by 25,200 tons. Would it not be more profitable, from the point of view of saving resources and with regard to the proper management of sperm whale populations, to take half the number of whales and get more raw products? This could be achieved only by a strict ban on the catching of small (undersized) sperm whales.

[5]Translator's note: This table was not available when the document was translated.

II. Preliminary report of the 1956 expedition on marine mammals of the Far East, by the Institute of Oceanography (Russian Academy of Science), and the Pacific Institute of Fisheries and Oceanography

S.K. Klumov

I think that the whaling plan established for 1957 with a target of 47,000 tons of raw products is overestimated and does not reflect the real condition of whale populations in the area around the Kuril Islands. The assumption that in 1957 the whaling fleet could take 2,000 whales is unrealistic for the industry working with whaling products, and will force whaling ships to take whales that are not of full value in terms of the business.[6]

Statistics on the previous years of whaling around the Kurils show that the number of full-value sperm whales taken never reached 1,000 (not including 1952 and possibly 1956, for which we do not yet have complete data), but instead ranged from 780 to 950 whales per year.

In order to make the work of the whaling fleet profitable for improving the economic status of the whaling department, and to compensate for the lower number of animals taken, it is necessary to develop a complete and rational way of using all whale products.

How long will we continue to discard in the sea great wealth? When will a sensible process be established on the factory ships, which work poorly despite their superficial success?

All these questions were raised repeatedly before the USSR Ministry of Fisheries and other organizations. However, no one seems to think it is important to correct defects and abnormalities in the whaling industry, nor to discuss this topic in any detail instead of simply counting the quantity of final products. They ignore outrages taking place in the whaling industry regarding the huge loss of blubber, and the poor use of graksa[7] and other whaling products.[8]

Translator's note: there follows a hand-written note at the bottom of the page which reads:
In other words, all other important details of our work are ignored. Evidently we have too great an abundance of natural resources, so we can waste them and manage them so poorly.

[6]Translator's note: in other words, undersized whales below the legal limit that yielded less "product".
[7]Translator's note: graksa was made during secondary processing of the oil rendered from blubber and was a principal component of margarine.
[8]Translator's note: the rest of the report is missing and there is no final report for 1956.

III. Untitled partial report for 1964

(Author unknown)

(Translator's note: Page 1 of this document was not available for translation, so this begins with page 2.)

Whale catch, by species, by factory ships "Dalniy Vostok" and "Vladivostok" in 1964. page 2

Area	blue whales	fin whales	humpback whales	sei whales	right whales	gray whales	total baleen whales	sperm whales	total
northwestern Pacific	1	3	-	-	-	-	4	96	100
northeastern Bering Sea	-	1,090	459	4	113	-	1,666	283	1,949
Gulf of Alaska and Fox Islands (Pacific side)	88	873	566	259	65	5	1,856	1,841	3,697
Bering Sea slope	-	11	-	-	-	1	12	207	219
western Aleutian Islands (Bering Sea side)	-	42	-	1	-	-	43	86	129
Commander Islands	-	264	-	-	-	-	264	1431	1,695
Anadyr Bay	-	43	72	-	-	3	118	-	118
Olyutorskii Bay	-	30	-	-	-	-	30	207	237
Kuril Islands	3	12	-	1	-	-	16	155	171
Total	**92**	**2,368**	**1,097**	**265**	**178**	**9**	**4,009**	**4,306**	**8,315**

The data presented on blue whales show a rapid decline in the North Pacific, so now whalers are taking immature animals. It is time to consider a ban on the catching of blue whales in the North Pacific.

IV. Whale stock structure in the North Pacific: data from factory ships "Dalniy Vostok" and "Vladivostok" in 1965

N.V. Doroshenko

In 1963 Soviet and Japanese pelagic factory ships caught 6,606 baleen and 7,567 sperm whales.

In 1964, 7,858 baleen and 9,496 sperm whales were killed. By the end of July the factory ship "Vladivostok" moved to the area east of the Pribilof Islands, where a lot of baleen whales were found.

In the last two days of July they caught 25 right whales.

Of the total catch of sperm whales by the three fleets ("Vladivostok", "Dalniy Vostok" and "Aleut"), 3,678 (67.5%) were undersized animals.[9] The factory ship "Sovetskaya Rossia" caught 866 small sperm whales. Japanese factory ships were not taking small sperm whales.[10]

Thus, of 9,043[11] sperm whales caught in 1964, half of them (4,544)[12] were small-sized whales. These data indicate that the fleets should take no more than 4,000 whales.[13]

Analysis of all available data shows that humpback whale stocks in the North Pacific and Bering Sea are in a critical state.

After one more year of such intensive catches, whale stocks will be so depleted that it will be impossible to continue any whaling. Because of this, we consider that the most rational decision at this time is a temporary complete ban on humpback whale catches in the North Pacific for both pelagic and shore-based operations, in coordination with the other countries who have whaling interests in these areas.

During the 1964 whaling season the factory ships "Vladivostok" and "Dalniy Vostok" caught 92 blue whales, representing 1% of the total catch. It is important to note that catch data on blue whales indicate an obvious decline in abundance. Of the total catch by "Vladivostok" in 1963, blue whales made up 6.9%; this factory ship alone caught 299 blue whales. The overall blue whale catch by all fleets in the North Pacific declined by almost half compared to 1963 (from 348 to 178).

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[9]Translator's note: The original text here reads: "If this number - 67,5% - would be applied to all catches by "Vladivostok", "Dalniy Vostok" and "Aleut" this would result in 3,678 undersized sperm whales." This is very confusing language but appears to indicate that 67.5% of all sperm whales caught were undersized whales. The figure given here (3,678) is 67.5% of 5447, which presumably represents the total catch of sperm whales for the year by the three fleets combined. The combined catch for the *Vladivostok* and *Dalniy Vostok* fleets is given elsewhere as 4,306 (see the table in the report for 1964), so presumably the remainder (1141) represents the total sperm whale catch by the *Aleut*.

[10]Translator's note: This statement was not based upon first-hand knowledge, but is taken from Japanese scientific reports to the IWC. Given that the Japanese are known to have falsified data on sperm whales taken by land stations, the veracity of these reports must be viewed with suspicion.

[11]Translator's note: The discrepancy between this figure and the 9496 given in the second line on this page presumably reflects the inclusion of Japanese catches in the latter, but this is not stated in the text.

[12]Translator's note: This total represents 3,678 + 866 (the latter being the catch by the *Sovetskaya Rossiya*).

[13]Translator's note: Presumably this constitutes a recommendation that no more than 4,000 sperm whales should be taken per year in future whaling seasons.

V. Scientific group report for "Vladivostok" and "Dalniy Vostok" in 1965 in the North Pacific

N.V. Doroshenko and V.L. Vladimirov

Whale catches in 1965.

	sperm whales	fin whales	sei whales	humpback whales	blue whales	right whales	gray whales	beaked whales	all whales
males	4,809	315	203	120	88	6	1	1	5,543
females	5,123	327	214	120	75	7	4		5,870
total	9,932	642	417	240	163	13	5	1	11,413

As the result the total catch by two fleets in 1965 was 11,413 whales, 9,932 of which were sperm whales (87.15%). The baleen whale portion of the catch was 12.85%.

VI. Untitled partial report for 1965

(Author unknown)

(Translator's note: This report had no title and began with a page number of "2". It is possible that it is the second page of Report V, above; but the original of the latter was stapled to report IV. Given that there is no consistent logical structure to these reports, it is not possible to determine whether Reports V and VI do indeed belong together).

Since the beginning of July the fleets moved to a new area, 41°-45° N and 170° E-170° W, and worked on large concentrations of male sperm whales.

The mean size of male sperm whales for the whole period was 10.8 m, and that of females was 10.3 m. Compared to the previous year female size stayed approximately the same, while the mean body size for males declined by more than half a meter (0.6 m).

The mean body size of males in 1964 was 11.4 m and in this season was 10.8 m.

Number of males and females caught, by size

	?(year)[14]		?(year)		?(year)		?(year)		?(All years)	
length, m	N	%	N	%	N	%	N	%	N	%
≤ 11.5	1,896	93.1	2,798	96.2	618	83	453	84	5,765	92.5
11.6-12.5	82	4	77	2.6	62	8.4	56	10	279	4.5
≥ 12.6	60	2.9	37	1.2	61	8.2	28	5.2	186	3
Total	2,038		2,912		741		537		6,228	

Thus, based upon analysis of the data in this particular region compared to previous years, we found significant changes in the status of the sperm whale population, as caused by whaling. A decrease in the mean body size, increasing numbers of small whales hunted (mostly because of the increasing number of females in the catch), and increasing numbers of young animals all indicate that the condition of the population in this area is of concern. There is a possibility that intensive hunting will severely damage and seriously deplete[15] sperm whale stocks. To save them and to increase the number of whales, there should be a complete prohibition on whaling in this area, as it appears to be a breeding area with concentrations of females and immature males.

The whaling season in this area was from July through October 1965. According to the data from the factory ships, the approximate boundary for this area lay between 40-47° N, at about 170° W. We cannot pinpoint the exact boundaries of the area, since whaling there was conducted for the first time and it is possible that the distribution of whales continues farther south of the 40th parallel, and perhaps to the east and west also. It is known that sperm whales are found north as far as the Aleutian Islands (the Rat and Adrianovsky island groups).

The maximum size of males was 17.0 - 17.3 m. It has been a long time since whales of this size were caught.

[14]Translator's note: The original text gives no headings, and while it is apparent that these columns refer to specific years, the years concerned are not indicated.

[15]Translator's note: The original text says "completely deplete".

Of the total catch of all Soviet fleets working in 1965 in the North Pacific, only about 5% (4.9%) were baleen whales.

The proportion of baleen whales in the catch declined to less than a tenth compared to 1963-1964.

For the two fleets, the overall total catch for the season was about 1500 whales, including: 638 fin whales, 417 sei whales, 240 humpbacks, and 163 blue whales. In addition, 13 right and 5 gray whales were killed.

The total baleen whale catch for all fleets in the North Pacific was 2,500 animals. When this is compared to 1964, when a single fleet ("Vladivostok") caught about 2,200 baleen whales, the decline in catches of baleen whales during the last season becomes evident.

The number of immature fin whales increased 2-3 times compared to previous years.

Two large whaling fleets, the "Vladivostok" and "Dalniy Vostok", caught only 240 humpback whales, which was a great reduction from the previous year's catch.

At present the fleets are working primarily in the pelagic area, where large concentrations of baleen whales, including blue whales, were discovered in the eastern Pacific (Gulf of Alaska[16]). However, in two years (1963-64) the blue whale stock was much depleted. Although in 1963 all Soviet fleets caught 350 blue whales, in the following year this catch was only half of this, and totaled 180 whales.

Analyzing the catch of blue whales we would say that at the present time this species is commercially extinct. Any continuation of whaling, without conservation efforts, would lead to the extinction of blue whales.

Without doubt it is necessary to ban whaling for blue whales in the North Pacific, together with the other whaling countries.

The most alarming situation is with humpback and blue whale populations. Uncontrolled catches could lead to their complete extinction.

Undisputedly it is necessary to ban whaling on humpback and blue whales in the North Pacific.

The data from this report show significant depletion of the whale stocks in the North Pacific and Bering Sea. It is important to note that intensive whaling by such large fleets in a limited area over the last few years has had inevitable results on the condition of the whale stocks concerned.

With continued intensive whaling in the northern part of the Pacific Ocean and the Bering Sea the economic value of these stocks will be lost. Only proper management coordinated with all interested countries will help to increase the number of whales (or at least would stabilize the population as a first step).

[16]Translator's note: Here and elsewhere the Russian term "Alaska Bay" has been changed to "Gulf of Alaska" for the convenience of North American readers.

VII. Whale stock status in the North Pacific from data by "Vladivostok" and "Dalniy Vostok" in 1966

V.M. Latishev

The decline in mean body length [for sperm whales] by year is as follows:

Year	1962	1963	1964	1965	1966
mean length of sperm whales (m)	12.9	12	11.2	11.1	10.8

The significant decline in the mean body length together with an increasing number of young whales and the large number of females in the catch, indicates that in the future the combined catch total for all fleets should be no more than 3,000 to 4,000 large-sized sperm whales.

Year	Number	mean size, m
1960	?	12.6
1961	333	12.6
1962	1,215	12.4
1963	2,625	11.5
1964	1,376	11.4
1965	468	11
1966		*10.8*
1967		*10.6*

[17]The decline in the catch and mean size indicates that the humpback whale stock in the North Pacific is highly depleted and in future years will represent an insignificant part of the catch.

The intensive catch of humpback whales has severely damaged their abundance.

The declining numbers of blue whale catches and the lower mean body length (62 cm less than last year) indicates that the status of the stock in the different regions of North Pacific covered by modern whaling is poor. Of all examined blue whales, 57.1% were immature.

These data prove that blue whales in the North Pacific are an endangered species.

Handwritten note at the bottom of the page: "Three right whales were caught in this year: 1 male (13.6 m) and 2 females (13.5 m). Right whales in the North Pacific are almost extinct."

[17]Translator's note: The figures for 1966 and 1967 in this table were added in handwriting, and appear to be an error since the table refers to humpback whales (at least that is the implication from the following paragraph), yet the figures for these two years are those given for sperm whales in the previous table (1966) and in the report for 1967 (see Report VIII for 1967 by Latishev).

VIII. Scientific report from factory ships "Vladivostok" and "Dalniy Vostok" in 1967

V.M. Latishev

Year	1962	1963	1964	1965	1966	1967
Mean body length of sperm whales (m)	12.9	12	11.2	11.1	10.8	10.63

The decline in mean body length of sperm whales was due to a drop in the mean sizes for both males and females.

Since 1963, the central and eastern regions have been a regular area of operation for moderate-sized factory ships. More than 20,000 sperm whales were caught during this period and there is no doubt that this will remain the main whaling ground in the future.

At the present time undersized sperm whales, determined as having a body length below 11.6 m, make up 75-85% of the total sperm whale catch for the pelagic fleets. In some months, especially in the eastern region, this percentage rises to as much as 90% when mostly females are hunted; these females do not reach the legal IWC minimum body length[18] even by old age. Based on this information, it could be recommended that the number of sperm whales taken should not exceed 3,500-4,500, with a biomass of approximately 100,000 tons of raw products. These numbers should be used as the total catch by all Soviet fleets combined.

There is no doubt that now, as never before, the question regarding the future of the whaling industry in the North Pacific should be addressed. If Russia and Japan, the two main whaling countries in this area, do not immediately begin joint negotiations regarding the future management of the whale stocks, the situation will be absolutely disastrous: whaling, as one of the most profitable businesses, would cease for many years.

In a short period of time (5 years) baleen whale abundance in the North Pacific has severely declined. These data support earlier ideas that baleen whale stocks in the North Pacific are very small and conservative management is required. The main areas of baleen whale concentrations – Gulf of Alaska and the Bering Sea - have lost all value for whalers. The scouting vessel "Zadorniy" conducted an intensive search in Gulf of Alaska but could not find even small concentrations; only single fin and sei whales totaling 5-7 animals.

Bristol Bay, previously the site of a successful hunt for fin and humpback whales, is now empty.

The majority of whales caught were immature: females - 72%, males - 73%.

The data on the biological characteristics indicate a very poor, catastrophic condition of fin whale stocks in all whaling areas of the North Pacific. The most effective method to conserve and recover the remaining fin whale stocks is to immediately cease whaling on this species.

The terrible condition of the blue whale stock is obvious. Any future catches would lead to the complete extinction of this valuable species.

A total of 126 right whales were caught in 10 days on the eastern side of Sakhalin Island. During the 10 days of this successful hunt, catch numbers declined, and despite intensive searching the remainder of the population was not found. It is possible that the animals moved

[18]Translator's note: 11.6 m, as noted above.

to the northern part of the Okhotsk Sea or (more realistically) that this stock has been exterminated.

Sperm whale groups in these areas primarily consist (sometimes up to 95%) of females, the reproductive part of a population that determines its abundance. Every year more than 10,000-12,000 of these animals have been caught, with the size mainly below the legal limit; in 1967, 72% and 86% of the whales caught by “Vladivostok” and “Dalniy Vostok” (respectively) were undersized. If we add to this number all prohibited species under the whaling convention, including right, gray, blue, humpback and small-sized fin and sei whales, the picture of modern whaling appears in a very dark light.

The study of biological parameters for the previous years supports the idea of very poor condition for much-depleted stocks (including right, blue and humpback whales) and predicts the future for the others (fin, sei and sperm whales).

IX. Scientific report from the factory ships "Slava" and "Dalniy Vostok" in the 1968 season

V.L. Vladimirov

Mean body length of sperm whales (Table 23):

Year	1962	1963	1964	1965	1966	1967
Mean body length of sperm whales (m)	12.9	12	11.2	11.1	10.8	10.63

In the 1968 season, 7,380 small-sized sperm whales were caught (representing 75.6% of the total catch). In some months, especially in the eastern, central and Kuril regions this number could reach 88% when mainly females were hunted. Based on that, it could be concluded that at most 3,500-4,000 sperm whales could be caught without violating the regulations of whaling[19]. If these catch numbers are applied for all factory ships working in the North Pacific, it would result in a catch of about 1,200 sperm whales for each factory ship.

Physiological condition of female sperm whales caught by "Slava" and "Dalniy Vostok" in the 1968 season.[20]

Physiological condition	For the season	
	N	%
pregnant	851	41.4
lactating	292	14.3
immature	169	7.6
Total	*1,312*	-

Number of small-sized sperm whales caught in 1968.	
N	% small-sized sperm whales
7,380	75.6

[19]Translator's note: In other words, without taking undersized whales.
[20]Totals on last line added by translator.

X. Scientific report for "Dalniy Vostok" and "Slava" for the 1969 season

V.L. Vladimirov

The eastern region constitutes the area of the North Pacific from 160°W to the U.S. and Canadian coastline. Exploration of this region by Soviet whalers began in 1963 with the use of moderate-sized factory ships. Prior to the present time the eastern region was one of the main whaling areas during the summer for the Far East whaling fleets. However, in recent years we have seen a reduction in the area in which these fleets have worked. The fleets have visited the Gulf of Alaska and Kodiak Island for a few years, where numerous baleen whales used to be, especially humpbacks. After only a few years (2-3 years) of whaling, the abundance of humpback, fin and blue whales was reduced to a minimum. The area off the Queen Charlotte Islands was no longer of value for whaling. Currently, the fleets are working in an area between 40° and 50°N, more frequently 40°-45°N; on rare occasions and for short periods the fleets move north of 50°N.

Thus, in 7 years of work the area of the eastern region has been reduced to a ten-degree zone of latitude, and operations have moved to the southern part of an area that was once larger. In addition, the fleets are beginning to work south of 40°N. There is a chance that at some point the fleets would work farther and farther to the south, to 35°-30°N; that has already happened in the central region.

A single conclusion arises from analysis of the status of baleen whale populations. As a result of unlimited catches by the factory ships (which did not follow scientific recommendations), annual exceeding of quotas in the plans (which were too high to begin with) and other things, baleen whale abundance in the eastern region declined to the minimum (sei and fin whales), and blue and humpback whales are at the edge of extinction.

Despite the [IWC] ban of hunting blue whales, a few were taken each year. These catches were not important to the industry and were opportunistic in nature. Because of this, the last tens of whales (and maybe single individuals) have disappeared, and if strict protection is not applied now this species could become extinct in the North Pacific.

XI. Scientific report for "Dalniy Vostok" and "Vladivostok" for the 1970 season

V.I. Prevalichin

Despite the decision of the Commercial Consulate[21] for the whaling fleet to work all of August and part of September in the central region, the captain–director Kamenev I.M. made a unilateral decision to move into the southern part of the central region in the main breeding ground. In the period from 23rd August through 7th October this factory ship was whaling in the southern part of the central region and then moved to the southern portion of the western region. With 16 catchers working, the total catch for a day could reach 100 animals. With this number of catches the factory ship could not keep up with the processing of the whales, and some of the carcasses would stay in the water for up to 33 hours after the kill; at the same time the killing of new whales did not cease.[22] At the beginning of September, with the directorate's approval, factory ships began to falsify data on whale lengths and also to hide original data on the whale catches from the scientists on board, with the excuse that inspectors from the State Inspection Board would use data from the scientists' reports.[23] Consequently, the scientists had to measure the whales themselves, which took time away from their main goal of collecting data on biological parameters.

The September target for whale catches and products was set at 260% of that in the initial plan, and was achieved only by catching undersized sperm whales including many lactating females. In previous years, ships would go south only when they had failed to reach the target catches set by government plans and, having caught up with these targets, would then return north and look for large-sized whales; however, this did not happen this year.

Even though by the middle of October they had exceeded all plan targets, the factory ship continued whaling in the [southern] area, catching small-sized whales and lactating females.

Every year (during the combined meeting of the scientific committee) TINRO and the directorate of the Whaling Coordination Department [of the Ministry of Fisheries] raised the question of reducing the targets in government plans. [This year finally] the Ministry of Fishery Resources reduced the plan to 160,000 tons. Nonetheless, as a result of intensive and destructive whaling, the quantity of products produced in the 1970 season reached almost 300,000[24] tons. Only one factory ship, the "Dalniy Vostok", exceeded the target by 10,000 tons of raw products; as was noted above, this occurred mostly because undersized sperm whales were caught.

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[21]Translator's note: This body was a gathering, under the whaling fleet commander, of all officers and scientists working with the fleet; they met annually to discuss the previous season and to make decisions about where to search and catch, but were not involved in setting catch targets.

[22]Translator's note: According to N.V. Doroshenko, factory ships had varying numbers of catchers: 12 each for *Vladivostok* and *Dalniy Vostok*, and 20 for *Slava*; the number for *Aleut* is not known but was likely fewer than a dozen given her relatively small size. Factory ships worked 24 hours a day, and could process 20-25 fin or humpback whales during that period.

[23]Translator's note: It appears that the factory ships and the directorate wanted to exclude scientists and not let them see original data, using any excuse they could manufacture. The logic behind the specific excuse regarding the State Inspection Board is not clear from the text.

[24]Translator's note: the first digit in this number has been overstruck in the report (i.e. both a 2 and 3 were in the same place), so the total here could be either 200,000 or 300,000. Based upon the targets and figures given here, it seems likely that 300,000 is the correct figure.

Since 1964, for a few years the main target of the whaling has been small-sized sperm whales, and because of this their abundance has significantly declined everywhere north of 40°N. All the pressure of the last 3 years of whaling had been focused on under-sized sperm whales in the southern parts of the central and western regions, including large numbers of pregnant and lactating females. In this way the main reproducing part of the population is destroyed.

Despite the prohibition and the annual TINRO recommendations regarding ending catches of blue, humpback and other protected species of whales, the fleets still continue to catch a few of them. Inevitably, even with these small numbers being caught, blue and humpback whales could be wiped out as a species within a few years.

Year	1963	1964	1965	1966	1967	1968	1969	1970
% of sperm whales of the total catch	48.4	56.5	87.1	93.7	91.3	92.4	92.5	96.6

Year	% pregnant females	% lactating females
1966	38.5	14.3
1967	54.2	14.0
1968	41.4	14.3
1969	36.4	18.2
1970	26.4	25.9

Despite being illegal, some lactating females continue to be caught, which is a serious violation of the international whaling convention.

The low number of blue whale catches is testament to their severe depletion in the whole North Pacific. It is necessary to completely stop the hunting of blue whales because of the danger of their extinction.

Numbers and mean body length of blue whales for the few years[25].

Year	N
1963	348
1964	178
1965	216
1966	60
1967	94
1968	53
1969	40

This fluctuation in the catch and mean body length, and the decline in abundance, testifies to the dire situation regarding the blue whale population, and supports the belief that this species is disappearing.

[25]Translator's note: Despite the table's title, no data are given on mean body length. Indeed, a hand-written note in the margin says "Where are the mean body lengths?"

Humpback whales, that a few years ago were taken in the thousands in the North Pacific, are almost extinct and during the 1969 season only four animals of this increasingly rare species were caught.

Intensive whaling during these few years in the North Pacific has severely damaged this resource. The biological status and abundance of the whale stocks are in a highly depleted condition and a significant decrease in whaling pressure is required in this area.

Humpback and blue whales in the North Pacific can be considered to have been practically eliminated.

XII. Scientific report for "Dalniy Vostok" and "Vladivostok" for 1971

A.A. Berzin

The western coast of Kamchatka, the area around the Aleutian Islands through 180˚W, and part of the Bering Sea were all searched.

The search results showed that the low abundance of whales in these areas could not provide sufficient work for the factory ships.

Single whales and small groups of sperm whales were seen.

Year	% lactating females
1968	31.8
1969	26.4
1970	31.2
1971 (only F/S "Dalniy Vostok")	26.9

Of 178 examined mature females, 81 (45.5%) were lactating.

1964	1965	1966	1967	1968	1969	1970	1971	total
336	314	4,529	2,729	2,760	1,509	1,405	1,881	15,463

(Translator's note: No explanation is given regarding what this table is about; it presumably summarizes annual catches, but of what is not stated).

To support the contention that whale numbers have declined we give the following table for fin whale catches in the period 1968-1971:

Year	1968	1969	1970	1971
N	377	161	120	27

XIII. Scientific report for the Factory Ships "Dalniy Vostok" and "Vladivostok" in 1972 Subject No. 12: "Whale stock status in the North Pacific and Antarctic"

G.I. Isakov, M.I. Labotsevich, E.Z. Koval and V.S. Ryabov

Whaling operations in 1972 were significantly different from previous years not only in terms of the lower target in the initial whaling plan (reduced to 50,000 tons [of whale products]) but also by the presence of international and state inspectors on both the factory ships.

The central region, which was formerly the area with many large sperm whales, is now losing its economic value; there are no sperm whale concentrations to be found in small working areas. The work in 1972 was based on small groups and even single whales, distributed over a large area in the North Pacific.

Introduction in October of the new [IWC] minimum size limit of 9.2 m, allowed the fleets to catch small whales [especially females] on the breeding grounds.

Comparison of this year's sperm whale catches in this area with those for previous years indicates that, for example, in 1965 and 1969 the majority of males were in the size category 14.6-15.0 m; in 1972 sperm whales taken were in the category 15.1-15.5 m. This could be explained by relatively low target levels in government plans, which allowed the catches to be selective. The percentage of males in the 15.1-15.5 m category in 1972 was also high (23.4%) compared to 1965 and 1969 with 10.4% and 11.6%, respectively.

Mean body length of sperm whales in the central region [of the North Pacific], by year.[26]

Sex\year	1965	1969	1972
males (m)	13.4	13.4	14.1
females (m)	10.2	10.6	10.5
by species (m)	11.8	12.0	12.3

Physiological [reproductive] condition of female sperm whales in the central region, by year.

Year	Lactating females	
	N	%
1965	no data	
1969	123	26.4
1972	32	24.5

[26]Translator's note: The mean size for the species in the last line was apparently calculated just as an average of the male and female means above, rather than averaging the individual data for each sex category. The manuscript of the report contains some hand-written calculations at the bottom of the page relating to this "mean of the means".

Physiological [reproductive] condition of female sperm whales in the eastern region, by year.

Physiological condition/year	1965	1969	1972
pregnant (%)	59.6	38.2	31.4
resting (%)	24.9	47.8	68.6
lactating (%)	15.5	14.0	-

By comparing the physiological condition of females by year we can clearly see a constant increase in the number of resting females in the stock, and a decline in the proportion of pregnant and lactating females. All this indicates the constantly declining reproductive capability of the sperm whale stock in the eastern region.

In June and October the factory ships worked in the area around the Kuril Islands and the west coast of Kamchatka.

The factory ship "Vladivostok" worked off the Japanese coast south of 40°N on the Pacific side in October.

Beginning in October a new minimum size limit for whales (9.2 m) was instituted, and this is reflected in the catch results.

Of 529 sperm whales caught in the area, 397 (71%) whales were killed in October after the new size limit was applied: 9.2 m instead of 11.6 m previously.

Overall review of the status of sperm whale stocks in the North Pacific

In 1972 the majority of sperm whales were caught in the central region, as in previous years; far fewer were taken in the eastern area and a small portion of the catch occurred in the western regions.

For the season a total of 1,642 sperm whales were caught, representing 80.8% of the total catch [of all whales] for this year.

A high percentage of resting females is common in the catch over the last few years.

This indicates the significant decline of reproductive capability; this, and the anomalous sex ratio seen in the stock is because of over-hunting of sperm whales in previous years.

Mean body length of sperm whales, by year.

Year	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972
Size	12.9	12.0	11.2	11.1	10.8	10.6	11.0	11.2	10.9	10.9	13.0

XIV. Subject No. 12: Whale stock status in the North Pacific in 1973

A.A. Berzin

The decline in baleen whales meant that the only way to meet the targets set by the industry plan (which was twice higher than recommended by TINRO) would be to take an increasing number of sperm whales. Already by 1965, sperm whales represented 87.1% of the total catch.

If we compare annual sperm whale catch levels one can see that the increase in the sperm whale catch was not gradual, and since 1966 the sperm whale component of the total catch was more than 90% (except for 1972).

It seems that the term "whaling industry", meaning a hunt for generally similar numbers of whales of different species, does not correspond to the real situation and, in an analogy with different fish cruises, should be renamed the "sperm whale industry".

With the growing pressure on the sperm whale stocks the sex ratio in the catch has changed: the number of females has significantly increased.

Together with this the working areas have changed. Because female sperm whales concentrate south of 50°N, the whaling area moved south from its initial position between 40° and 50°N. The greatest hunting pressure occurred in the eastern region (sperm whales of the American population),[27] and within a few years this became the standard hunting area. Since 1965 the fleets have also hunted sperm whales in the central area (northwest of Hawaii), where the population was in a healthy state and where, initially, large males comprised the majority of the catch.

Since 1966-67 the main working areas moved south to latitudes 30°-40°N, from the coast of Japan to the American coast. Because these are breeding areas where females give birth and nurse calves, their representation in the catch increased to 61-68% and with some minor fluctuations it remained at this level until 1971.

From 1963 to 1972 (in 10 years) in the North Pacific Soviet fleets caught more than 70,000 sperm whales, and Japanese whalers caught 36,000 in 18 years (in the period 1952-1970).

During 10 whaling cruises the size of female sperm whales was in the category 10.1-10.6 m, comprising more than one-third of the total catch. About 40% of the total was females of a length less than 10.1 m. Given that the minimum legal length for sperm whales was 11.6 m, 90% of the female catch violated this regulation.

The mean sizes of whales for recent years (except for 1972) remained at a very low level from 10.7 to 11.1 m, and this is below the legal size. We suggest that the mean size of sperm whales is now at the lowest possible level and that this will not decrease further but the number of whales caught will rapidly decrease.

Despite international and domestic bans, there is a continuing increase in the number of lactating female sperm whales in the catch (except for 1972).[28]

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[27]Translator's note: It is not clear what "American" means in this context.

[28]Translator's note: In 1972, the International Observer Scheme was introduced, making it much more difficult for the Soviets to take protected animals.

Year	1965	1966	1967	1968	1969	1970	1971	1972
Lactating females (% of catch)	15.5	14.3	14.0	14.3	18.2	25.9	28.3	13.7

In the central region in some years (1968-69), lactating females comprised more than 30% of the catch, and in October 1971 it was 45%.

As the scientific data show, the age of females in the population has continually declined, and the catch now includes more and more females who have only recently attained sexual maturity. More than half of the females gave birth from 1 to 3 times, and mean reproductive activity of females is 4.5 (corpora lutea scars)[29]; that is not very high.

The age structure of the population supports the reduction in female age. Since 1964 the number of young females (< 9.5 years of age) in the catch increased to 31.8%, and with some fluctuations over the years remains high (37.4%). At the same time the number of old females has declined and since 1969 only a few females older than 25 years have been caught. The mean age of female sperm whales is 11 years and this is highest in the central region.

While the mean age of male sperm whales increased in some years and declined in others, there is a clear and consistent decline in this variable.

The high percentage of pregnant and lactating females in the catch (as occurred last season) will rapidly lead to exhaustion of the sperm whale stocks.[30]

The high percentage of lactating female Bryde's whales (35.75% of the catch) is obvious. In one case a female with a calf was brought to the factory ship; the stomach of calf contained milk. No more catches were made that day[31].

In this last season, there has been a major change in the profitability of whaling. The main reason for this was uncontrolled exploitation of baleen whales in the past.

[29]Translator's note: this rather confusing sentence is assumed to relate to analysis of the reproductive tracts of sexually mature females in the catch, specifically that the mean number of corpora lutea detected was 4.5. Scars from corpora lutea in the uterus were used as a measure of the frequency of pregnancy over the life history of an individual whale.

[30]Translator's note: This paragraph was the last in the report, but has been moved here for more logical reading.

[31]Translator's note: The meaning here is not entirely clear but it is likely that the lack of further catches related to poor luck and absence of whales, not to the fact that they had just killed a mother and calf.

XV. Untitled partial report

Page2[32]

(Year and author unknown)

Large concentrations of this species [Bryde's whale] are commonly observed in the north-western and south-eastern parts of the western region and in the south-western part of the central region.

May-June is the best whaling period for Bryde's whales. In later months the abundance of this species in the working area is not very high because the whales migrate south.

The amount of effort required for each whale catch[33] increases every year.

Conclusions

1. Whaling in the central region is more and more based upon groups of male sperm whales, the abundance of which is gradually declining.
2. The breeding areas are losing their economic value because of excessive whaling.
3. The amount of effort per whale catch has abruptly increased.

Despite the use of "whale-searching stations"[34] on half of the catcher vessels, the amount of effort to catch one whale is still growing. This could be explained by the fact that most of the time the fleets have been working on groups of large males, the density of which is much lower than in the area which has mixed groups. The other reason possibly relates to the decline of sperm whales in the area.

Conclusions

1. Sperm whale abundance in the North Pacific continues to decline. It is especially obvious in the breeding areas, where the abundance of the reproductive portion of the population has been reduced to a minimum by whaling.
2. The quota on the catch for sperm whales remains very high and these targets are now not being met; future quotas need to be reduced.

Together with some positive changes (lower plan targets, international whaling inspection), the ill-considered decision to reduce the minimum legal length for sperm whales to 9.2 m [in 1972] should be mentioned. That allows whalers to catch almost everything and is particularly damaging with regard to female sperm whales.

Because of this, TINRO objects to this new regulation regarding size and insists on a reintroduction of the previous minimum size limit of 11.6 m.

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[32]Translator's note: No page 1 was available for translation, so this report begins with page 2. The year is unknown but it is clear from the text regarding the change in the sperm whale minimum length regulation that it is sometime after 1972.

[33]Translator's note: In other words, catch per unit effort.

[34]Translator's note: This is the transliteration of the term used here; it likely refers to sonar equipment that some catchers or scouting vessels used to help detect whales.

After the extermination of baleen whales in Gulf of Alaska, around the Pribilof Islands and in other areas, large aggregations of baleen whales in the rest of the North Pacific have not been found, and these whales have been encountered opportunistically in small numbers during transits and during searches for sperm whale concentrations.

XVI. Whale stock status and distribution in the North Pacific in 1975

A.A. Berzin

Within a short period of time the abundance of populations of different whales species – humpback, right, blue whales - declined to a size at which they cannot recover and inevitably would be extinct in a few generations.

The beginning of this report period coincided with a critical period in the whaling industry in which an international control system[35] was established in 1972, an international quota was established for all legally hunted species of whales, and the targets in the whaling plan for the North Pacific were reduced by half in the first year.[36] It is necessary to mention that, prior to the establishment of an international quota and control for whaling, the annual catch targets, and accordingly the actual catch, was 2-3 times higher than the numbers recommended by TINRO. This led to an abrupt over-hunting of whales in the North Pacific together with many types of violations of domestic and international whaling regulations. Only in 1972 did the plan target and the actual amount of whale products obtained correspond to the levels recommended by science.

In 1971, as in previous years, there was a practically uncontrolled catch of a large number of females; this catch was twice the number of males, and in total represented 67% (3,700) of all whales taken.

The catch included females that had recently attained maturity, and decreasing number of pregnancies were observed for each female. An analysis of the age structure (scientists on the factory ships analyzed age for about 1,000 sperm whales) showed that by 1972 females of the older age class (> 25 years) had disappeared from the catch, which contained increasing numbers of juvenile females.

There was a similar reduction in the average age of males in the population, and males from the oldest age group (> 23.5 years) had disappeared.

The percentage of females who were pregnant varied between 40% and 54%, and their numbers increased with the number of females caught, totaling 2,500-3,000 animals.[37] The worst part was a continued increase in the number of lactating female sperm whales caught, despite the domestic and international prohibitions on such catches. In previous years, given the proportion of lactating females in the catch (e.g. in 1965 it was about 10%), we would talk about these as opportunistic catches; however, in the last years before the international controls were established it is necessary to call this a directed hunt of lactating females. These numbers increased in some southern areas up to 32% of the mature females taken, and in some periods (in 1971) up to 45% - in other words, the maximum number of lactating females that were available in the population. The mean body length of sperm whales increased to 13.0 m, which was the greatest mean length seen in 10 years of whaling, but this was before the IWC permitted the hunting of whales above 9.2 m after September 1972. As a result, the unthinkable happened. This occurred mainly because of huge misrepresentation of the statistical catch data for the

[35]Translator's note: In other words, the International Observer Scheme introduced by the IWC.
[36]Translator's note: Presumably this means the first year after introduction of the IOS in 1972.
[37]Translator's note: It is not clear from the text whether the 2,500-3,000 figure refers to pregnant females in the catch, or all females taken.

Soviet fleets, which led to the wrong conclusion[38] that male sperm whales had been greatly over-exploited while females had been under-represented in the catch in all areas (in the Northern as well as in the Southern Hemisphere); yet this was not even close to the reality of the situation. In support of this, we give the following example involving a few numbers for just 2 years of catches, and only for the North Pacific.

Altogether, in just two years before the beginning of international controls, 9,011 females were caught and only 1,789 were reported. The opposite was true for males: 5,725 were caught and 12,290(!)[39] reported. This is the reason for the fatal decision of the IWC regarding sperm whale populations. A similar situation was happening with annual reports from Antarctica.

Mean body length and many other data reported to IWC also had nothing in common with the real data, but we will not give examples of this here.

With the implementation of the new minimum size regulation for whaling on sperm whales, the fleets again went to the south, and the proportion of females in the catch increased from 26.7% in 1972 to 51.3% in 1973, and last season (1975) was 53.1%.

Thus, hunting of the prime reproductive portion of the population became legal.

At present, the analysis of the status of whale stocks has been conducted by whaling areas, which are assumed from current understanding to correspond to separate populations. In the last year of a 5-year period, the central region [of the North Pacific] almost completely lost its economic value relative to the past. The number of whales caught there was the lowest, relative to the western and eastern regions; half of the males were in the youngest age class (less than 7 years old), and all females were less than 12 years old.

The percentage of pregnant female sperm whales in the catches varied depending on the area and the season, reaching a maximum of 40.2%.

It is important to mention that the catch still contains a very high percentage of lactating females (almost 13%), which is again much higher than has been reported to IWC.

Thus, even with international observers on the factory ships there has been a continued decline in the mean age of sperm whale populations in the North Pacific. The indicators from other biological parameters are also getting worse, showing that the population is in an unbalanced condition.

TINRO again must object to keeping the minimum size limit at 9.2 m for sperm whale catches, as erroneous and not compatible with the proper management interests for sperm whales in all oceans.

The Bryde's whale population in the central region [of the North Pacific] could be considered heavily depleted. For this case a warning should be given: now, after the prohibition on hunting fin and sei whales, five fleets will obviously hunt other baleen whales like Bryde's whale only in the western region, and that could have serious consequences for the western population.

A few blue and pygmy blue whales were caught. All baleen whales in the Southern Hemisphere were caught in violation of international agreements regarding timing [of catches], size or species of whales. Opportunistic catches of minke whales also took place there.

[38]Translator's note: In other words, the wrong conclusion on the part of the IWC.
[39]Translator's note: The parenthetical exclamation point is in the original text.

In addition, the composition of the catch was dictated not only by IWC rules and quotas (both of which were ignored by Soviet whalers until 1972, the time when international controls began) but mostly by availability of these resources.[40]

The factory ship "Sovetskaya Rossia" provides an obvious example of the influence of intensive whaling on the local populations. Thus, the sperm whale population east of the Chatham Islands[41] which was found in this reporting period, is now depleted[42]. Over the last three years of particularly intensive whaling, the mean body length of males declined from 13.85 m to 12.7 m. Numerically...[43]

[40]Translator's note: In other words, catches were determined not just by quotas but by what could be found.

[41]Translator's note: The identity of these islands is not clear. The Russian word given here is Четем which has been interpreted as an attempt to render "Chatham" phonetically, but this cannot be confirmed.

[42]Translator's note: This sentence is very confusingly written, and its meaning is not clear. Specifically, the phrase "reporting period" may mean the current period of this report, the period since international controls were instituted, or something else.

[43]Translator's note: This word (which can mean "numerically" or "quantitatively", among other things) stands alone here, indicating that another page followed in the report; however, this was not available for translation.

XVII. Whale stock status and distribution in the North Pacific and Antarctica in 1977

A.A. Berzin

The last whaling season for Bryde's whales was characterized by the inability of the whaling fleets to reach the full quota (500 animals) for this species. Only 55.2% of the quota was taken. This was caused by depletion of the resource as well as the introduction of a 200-mile EEZ around Marcus Island.[44] We warned about a possible decline in abundance and recommended that no more than 300 whales be taken in the area. However, the industry would not listen to our warning and did not take it into account. As a result, the resource collapsed even earlier then we supposed. In 1973 (the first year in this area) the daily catch was 30-60 whales, but in the 1977 season the daily catch, with rare exceptions, was on average 5-10 animals. Of 180 Bryde's whales caught in this area, 6.6% were caught in violation of regulations[45] (Table 5).[46]

However, we believe the main and undoubted reason for failure to meet the quota is the depletion of stocks by over-exploitation in previous years, when catches were made without studying the reproductive capability of the population.

So what we fail to understand is why we give annual recommendations for whaling if they are not accepted by industry, and if the hunt is planned without considering any assumptions regarding the whale's reproductive rate.

As before, the data on the catches of male and female sperm whale are being falsified. If females are caught, in the official documents they become males. On the factory ship "Dalniy Vostok" this did not occur, but this was happening on the "Vladivostok". Sometime ago [in 1972] similar misrepresentations led to the decision by the IWC to permit female catches with the minimum size of 9.2 m; this was an attempt to protect the males that had been reported as caught in thousands[47] when in actual fact even greater numbers of females had been taken. The result of this was that some breeding areas for sperm whales became deserts. Whale concentrations west of Honshu Island, where catches would comprise 80-120 females and small males, were destroyed, as were aggregations at Mellish Bank[48], north of Milwaukee Bank northwest of Hawaii, off the Queen Charlotte Islands, and in a number of other areas. The whale resources around Marcus Island are significantly depleted; previously, the fleets had worked very successfully there during the summer-fall period.

At present, the hunt for sperm whales, primarily females and juveniles, moved south of 30°N, and especially in the fall the fleets continue to work on the breeding grounds. In the future, whaling will probably move to around the equatorial zone, where whales will be completely destroyed. Some might say that I am painting a very dark picture, but the situation with whales is so serious that it is time to make decisions to protect and recover these resources; otherwise, the time may come when even a plan target of just 30,000 tons of raw products could not be met by the whaling fleets.

Conclusions

1. Sperm whale abundance in the North Pacific continues to decline.

[44]Translator's note: The identity of this island is not clear; it may be Minami Torishima (24° 18'N), which is also called Marcus Island.
[45]Translator's note: In other words, the minimum size limit.
[46]Translator's note: No tables were available.
[47]Translator's note: The point here is that made in report XVI, that catches of males were greatly over-reported.
[48]Translator's note: The identity of this shoal feature, which is probably represented phonetically here, is not clear; in Russian the word is Меллиш. It may be Mellish Seamount.

XVIII. Scientific report from the factory ships "Dalniy Vostok" and "Vladivostok" in 1978

A.A. Berzin

During this season the fleets caught more whales than they could process. Whales were processed 2-3 days after the kill.

Despite the 50% lower plan target for Soviet fleets, they spent more time to fulfill it. In 1976 it took 40 ship-days[49] of work time to catch 679 Bryde's whales; in 1977, 31 ship-days were required to catch 276 whales, and in the last season they spent 49 ship-days to catch 216 whales.

Working effort for one whale catch increased relative to 1977 by 0.384 ship-days, and relative to 1976 by 1.313 ship-days (Table 6.2)[50].

The size distribution of Bryde's whales was distributed as shown in Tables 6.3, 6.4. As was the case in the last few years the main hunting pressure was on the size category 12.1-13.5 m for females, which represents 77.7% of all females taken; and in the category 12.1-13.0 m for males, or 79% of all males caught. This is the most productive part of the population. Eventually, this will impact the population's abundance in future years. Even with the lower quota, a continued decline in whale abundance can be expected.

Females of these size categories total 87.0%[51] and it shows that the most important reproductive portion of the population has been caught.

A comparison of the percentage of females in the catch in 1978 and 1977 shows that the proportion of young females is increasing.

However, there was an increase in the number of immature males from 5.7% in 1977 to 12.3% in 1978 (Table 6.3). This supports to some extent our previous conclusions, of an increasing number of immature whales and as a result a decline in the mean age of the population.

[49]Translator's note: This presumably refers to catcher boat days rather than factory ship days, but this is unclear in the text.

[50]Translator's note: Tables referred in the text were not available for translation.

[51]Translator's note: It isn't clear what this figure of 87% refers to (i.e. 87% of what?)

APPENDIX

ORIGINAL RUSSIAN TEXT OF THE REPORTS