

## **BRIEF RESULTS OF GRAY WHALE *ESCHRICHTIUS ROBUSTUS* RESEARCH OFF CHUKOTKA, RUSSIAN FEDERATION, 2012**

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### **ABSTRACT**

Totally in 2012 from May to December 141 gray whales were landed in Chukotka. The largest number of 63 whales was landed in the native village of Lorino (Mechigmensky bay). In June and September, scientists investigated 23 gray whales caught in the Mechigmensky bay.

Both the first (May, 22) and the last gray whales (December, 4) were caught in the village of Sireniki. In the sex structure the females were dominating (64%) with average size of 9.9 m. The average size of males was 10.2 meters. In the Mechigmensky bay females also dominated (60.9%), the basis of which was sub-adults (78.5%). Roughly the general ratio of mature and immature of harvested whales was equal. 3/5 of examined whales had a size between 7.6 and 9.5 m, the average size of harvested females was 9.7 m and males – 10.4 m. The maximum length of a whale was 13.2 m, and the lowest – 7.7 m. More than a half of whales (67%) had complete or half-full stomachs. The highest body condition index registered with yearlings (1.24÷1.43%) and the immature animals with 1+ age had the lowest (0.78%). There were no “stinky” gray whales in the Mechigmensky bay, however, during the 2012 whaling season the total number of six “stinky” whales with strong medical smell and taste were landed in Chukotka, which were unusable and excluded from the quota.

An immature 7.7 meters long female of gray whale with traces of milk in an almost empty stomach was landed in the Mechigmensky bay at June 15, 2013. Despite this the native hunters evidenced that it was not escorted by female, which prove that the whale has moved to independent feeding.

From June to August 40 coastal counts of gray whales were conducted using an observation point at the Mechigmensky bay coast, and the average of 7-8 gray whales were recorded during one observation.

**Key words:** Gray whale, distribution, number, harvest, sex-age and size structure, physiological state, body condition index

TINRO Center (Vladivostok) and ChukotTINRO (Anadyr) in 2012 continued collecting a biostatistical material from the gray whales harvested by the Native hunters off the Chukotka Peninsula (Chukotka, Russia). The aim of this work is to determine the demographic and spatial structure and the feeding conditions of whales in the Mechigmensky Bay (north-east coast of the Chukchi Peninsula).

In addition, in 2012, the coastal counts of gray whales in the Mechigmensky Bay was continued, the purpose of which was to detect changes in the local abundance and distribution of animals in this area.

From June, 23 till August, 15 the total of 40 Gray whale counts were conducted from observation point in Mechigmensky bay (Figure) by traditional methodic (Blokhin, et al., 2012).

In 2012, the Department of Industrial and Agricultural Policy Chukotka distributed the Federal permit to hunt gray whales (140 animals per year) between 20 Native villages of

Chukotka (Figure, Table 1-2). However, due to various reasons the Native whalers from seven villages did not get any whale. The first and the latest whale in 2012 was landed in the village of Syreniki (May 22 and December 4 respectively). Totally 141 strikes on gray whales were made, 4 attempts were struck-and-lost and 137 whales were landed. The largest number of whales were hunted by the biggest Chukotka Native village Lorino (63 or 46.3%), the second was the village of Inchoun - 15 or 11.0% (Figure, Table 2).

In 2012 the Native hunters of 13 villages 88 females (64%) and 49 (males 36%) were landed with an average size of 9.9 and 10.2 m, respectively.

Among gray whales harvested in the Mechigmen bay females slightly predominated (60.9%), the basis of which (78.5%) were immatures. The ratio of mature and immature animals of harvested males were roughly equal.

An immature 7.7 meters long female of gray whale with traces of milk in an almost empty stomach was landed in the Mechigmensky bay at June 15, 2013. Despite this the native hunters evidenced that it was not escorted by female, which prove that the whale has moved to independent feeding.

More than a half (60.8%) examined the whales had a size between 7.6 to 9.5 m. The average size of harvested females was slightly smaller than males from 9.7 to 10.4 m, respectively. The largest whale had a body length of 13.2, and the lowest - 7.7 m.

More than a half of whales (67%) had complete or half-full stomachs. The highest body condition index registered with yearlings (1.24÷1.43%) and the immature animals with 1+ age had the lowest (0.78%).

There were no “stinky” gray whales in the Mechigmensky bay, however, during the 2012 whaling season the total number of six “stinky” whales with strong medical smell and taste were landed in Chukotka, which were unusable, therefore excluded from the quota and annihilated.

Seven gray whales (30.4 %) had a chest or flukes injury, or/and scratches left by the killer whale teeth.

In June-August, 2012, in the Mechigmensky bay waters (Fig. 1) we have seen 7.5 whales per a count in average. Throughout the study period the number of whales in the waters of inspectable was not constant. Maximum sightings of 20 whales at a time were noticed in July, 8 and 27. Distribution of whales in the bay was uneven. More than half of registered animals (64%) were kept at a distance of 6-10 km from the coast.

Approximately half (54.2%) of the observed animals were kept individually. Distinct groups of 3 or more individuals were recorded.

The behavior of the whales in the bay are characterized by common features. Animals during the observation of them, usually held at about the same place, making rhythmic dives and showing flukes.

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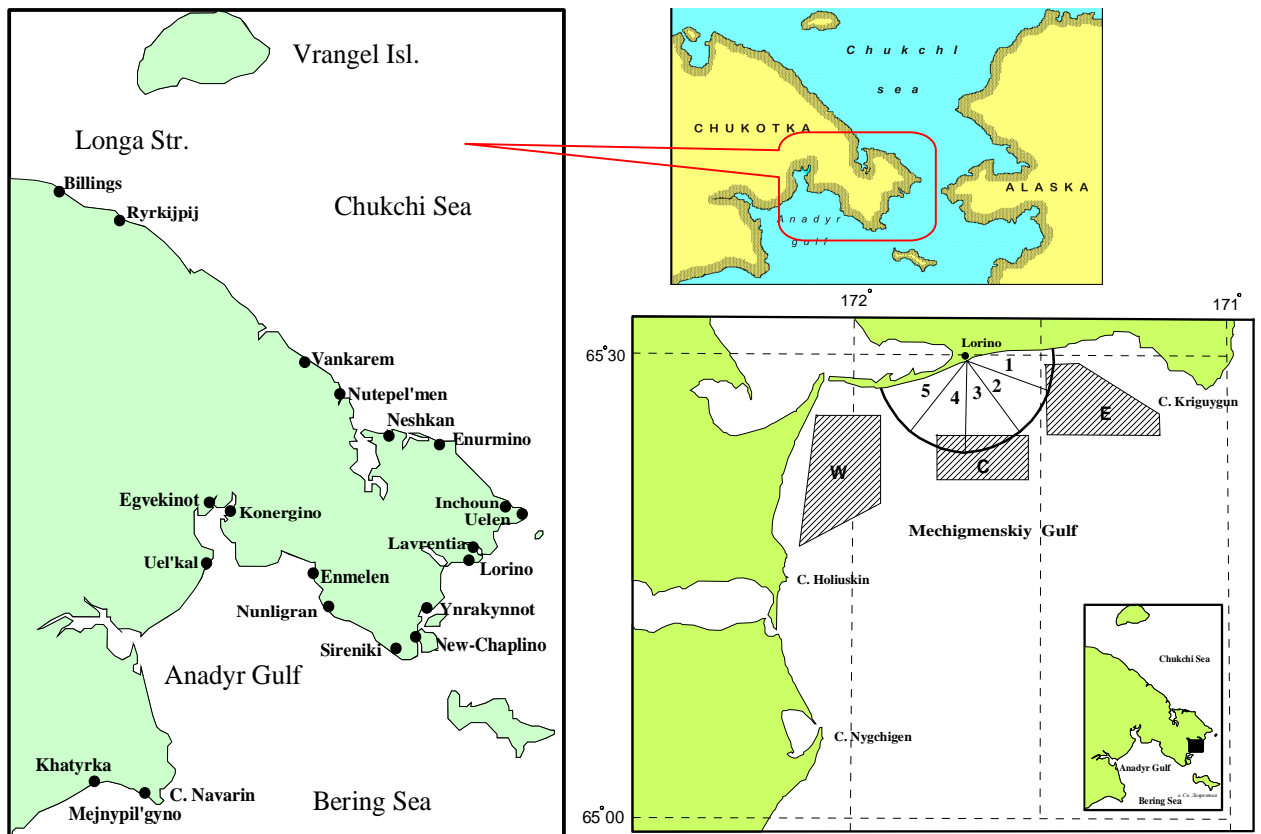


Figure - Native whaling villages of Chukotka in 2012, observation water area and observation sectors in the Mechigmenkiy Bay (Blokhin, Litovka, IWC 2009-2011)

Table 1. Morpho-physiology of grey whales, studied in Mechigmenkiy bay, June-August 2012

##	Date	Sex	Length, m	Ad/Subad	Age, years	Blubber thickness		Stomach fullness
						CM	%	
1	June-7	M	12.2	adult		9	0.74	Half
2	June-8	M	12.2	adult		11	0.90	Half
3	June-13	F	12.6	pregnant	13	14	1.11	few
4	June-15	F	12.9	adult	43	12	0.93	full
5	June-15	F	7.7	subadult	1	11	1.43	empty
6	June-27	M	12.4	adult		10	0.81	few
7	June-28	M	11.5	adult		10	0.87	few
8	July-9	F	13.2	adult	29	13.5	1.02	few
9	July-13	F	8.8	subadult	2	7.5	0.85	full
10	July-13	M	12	adult		10	0.83	full.
11	July-30	F	8.6	subadult	2	10	1.16	full
12	July-30	M	8.6	subadult	2	12	1.40	full
13	July-31	F	9.5	subadult	3	8	0.84	Half
14	July-31	F	8.9	subadult	3	7	0.79	Half
15	Aug-1	M	7.9	subadult	1	11	1.39	Half
16	Aug-2	F	9	subadult	3	7.5	0.83	Half
17	Aug-3	F	8.5	subadult	1	10	1.18	Half
18	Aug-7	F	8.6	subadult	1	11.5	1.34	Half
19	Aug-8	F	10.4	subadult	4	8.5	0.82	few
20	Aug-9	F	8.1	subadult	1	10	1.23	few
21	Aug-9	M	8.5	subadult	1	9	1.06	few
22	Aug-23	M	8.5	subadult	2	13	1.53	no data
23	Aug-23	F	8.8	subadult	2	10.5	1.19	no data

Table 2 – Number of grey whales, landed to Native villages of Chukotka, 2012

##	Native villages	# of whales
1	Neshkan	5
2	Enurmino	7
3	Inchoun	15
4	Uelen	10
5	Lavrentia	10
6	Lorino	63
7	Yanrakynnot	2
8	New-Chaplino	10
9	Syreniki	6
10	Nunligran	2
11	Enmelen	5
12	Uel'kal'	1
13	Khatyrka	1
<b>Total</b>		<b>137</b>

Table 3 – Sex-age structure of gray whales, caught in Mechigmensky bay, 2012

	Number	%	Subadults, %	Ave size, meters			Ave age, years		
				all	subad	adults	all	subad	adults
Females	14	60.9	78.5	9.7	8.8	13.1	7.7	2.1	28.3
Males	9	39.1	44.4	10.4	8.4	12.1	9.6	1.5	16
In total	23	100	65.2	10	8.7	12.4	8.4	1.9	20.6

Note: \*- from adults, \*\*- without adults