SC/69A/NH/04Rev1

Sub-committees/working group name:

Encounters of the North Pacific right whale (Eubalaena japonica) off the east coast of Kamchatka

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ENCOUNTERS OF THE NORTH PACIFIC RIGHT WHALE (*Eubalaena japonica*) OFF THE EAST COAST OF KAMCHATKA.

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The North Pacific Right whale (NPRW) has been the main target of coastal whaling in Japan from the 10th century until late in the 19th century (Omura, 1986) and was heavily hunted in the 19th and 20th centuries by the international whaling industry in the Okhotsk Sea (Omura 1958; Miyashita and Kato 1998; Brownell et al. 2001; Clapham et al. 2009; Wade et al. 2011). Prior to the arrival of foreign whaling fleets in the North Pacific in 1835, the population of the NPRW, at least in the eastern part of the range, was probably at the level of 20,000–30,000 individuals. Between 21,000 and 30,000 right whales were taken in the North Pacific Ocean, the Okhotsk Sea and the Bering Sea in just the one decade of 1840–1849 (Scarff, 1991).

In the Northern Pacific Ocean, the NPRW whale is represented by two populations: the eastern one living off the coast of North America and the western one, common off the Asian coast. In the northeast Pacific, sightings of the NPRW have become so rare that studies conducted over the years by US scientists and annual scientific cruises do not allow us to establish the size of this population. At the same time, recent data on sightings of the NPRW in the western Pacific suggest that this population is tending to increase in numbers and has enough individuals to ensure its reproduction (Brownell et al. 2001). However, the NPRW in the eastern North Pacific is the world's rarest large whale (Wade et al. 2011) and is listed as "Endangered" (EN) on the IUCN Red List, while the eastern population is classified as Critically Endangered. A recent estimate of the eastern population based on photo-ID data and genetic studies was only 31 individuals (Wade et al. 2011). The current state of the western population coming to feed in Russian territorial and offshore waters is much better, with a recent estimate of about 300 individuals. However, they too are listed on the IUCN Red List as Endangered.

The International Whaling Commission's Scientific Committee recognizes two populations of NPRWs that should be regarded as separate management units. However, the degree of isolation of these two populations is very poorly understood due to lack of geographic and genetic data. However, discussing them separately is convenient for population assessments and the development of conservation recommendations. The most complete information about sightings of the NPRW whale in the western part of the Pacific Ocean is presented in Ovsyanikova et al., (2015).

This report provides data on new sightings of the NPRW in the Avachinsky and Kronotsky Gulfs of the eastern Kamchatka coast (Fig. 1). As already indicated, the NPRW is uncommon, and therefore every encounter of this species is of considerable interest. Currently, a catalog of NPRWs is being created in Russia, which will allow not only identification of individuals during repeated encounters but assessment of the state of the animal's physical condition, including the presence of injuries on the body. The author of this report has already written about the sighting of two right whales in the Okhotsk Sea in 2003 (Burdin et al., 2004a; Burdin et al., 2004b), one of which had traces of entanglement in fishing gear and a deep scar on its head as a result of rope injury (Fig. 2).

On 25 June 2019, in the area of the northern coast of Cape Shipunsky near the Bear there was another encounter with a NPRW. An analysis of photos and video taken from a quadrocopter drone showed that the tail fin of this whale also has injuries: significant cuts atypical for this species, which could only be obtained by entanglement or mechanical damage of the fluke.

On 19 August 2022, during sighting surveys of cetaceans off eastern Kamchatka in the Russkaya Bay, two NPRW whales were observed. When analyzing the photographs, scars of previous injuries were found in both individuals. In one, a scar was found on the left side of the head, most likely caused by entanglement in fishing gear (Fig. 3), and the deformation of the flukes was noted with both tail lobes curled up, forming a half ring (Fig. 4). Unfortunately, it was not possible to take a sufficient number of photographs from different angles, since we did not want to chase animals for a long time. However, upon sighting this pair of whales, boats with tourists on board nearby began chasing the whales and forced them to leave at considerable speed, changing direction as the tour operators, with tourists on board, most of whom took pictures of the whales with mobile phones, sought to get as close as possible to the whales, giving them the opportunity to photograph them. Four boats, with powerful engines that produce significant underwater noise, participated in this chase. This behavior of whale watching tour operators off the east coast of Kamchatka is unacceptable, as prolonged pursuit causes stress for the whales.

Thus, all right whale whales encountered off the east coast of Kamchatka had injuries resulting from entanglement in fishing gear or other injuries, which indicates a serious impact of fishing on these rare cetaceans. In some cases, right whales have been killed when entangled in fishing gear (Kornev, 1994).

Problems associated with anthropogenic activity (in this case, entanglement in fishing gear) are increasing, which can significantly reduce the rate of population recovery. It is necessary to develop and adopt a multi-year program for monitoring the western population of NPRW (with the involvement of Russian and foreign scientists), to create a unified database of sightings, entanglement cases, finds of dead whales, photo and video materials to create a catalog of this population in the Far Eastern seas. An expanded photo-ID catalog should be matched with the larger Japanese database in the future. This will allow the development of measures to protect the western population, but first it is necessary to reduce the likelihood of entanglement and death of these whales in fishing gear. It is necessary to demand that fishermen release all live whales without attached remnants of fishing gear. To provide real protection by developing measures to protect the NPRW and its habitat in the Far Eastern seas of Russia, it is important to conduct special studies aimed at determining the population size and study the distribution of right whales in the North Pacific Ocean, as well as identify critical habitats for this species.

Another factor that may be of concern to NPRWs is commercial whale watching, which is becoming more widespread with the development of tourism in Kamchatka. It is necessary at the local level to develop a Code of Ethics for tour operators to minimize the impacts of whale watching. Operators should then follow these guidelines for working with whales. This would include not disturbing the whales by approaching too closely, and explaining to tourists the need to conserve and protect these unique whales. On the other hand, photographs obtained from whale whaling operations could be a valuable *Citizen Science* project that made contributions to the photo-ID catalogue of NPRWs and a better understanding of these whales.

ACKNOWLEDGMENTS

The studies of cetaceans off the eastern coast of Kamchatka were carried out as part of the implementation of Russian Geographical Society grant No. 48/2022-*И*.

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Fig.1 Sighting of Northern right whales in 2019 and 2022 near Eastern Kamchatka coast (red stars), dead NRW found in Lopatka Cape in 1989 (black star)

Fig. 2. North Pacific right whale with a deep rope scar. Okhotsk Sea August 5, 2003 (photo by A. Burdin)

Fig. 3. North Pacific right whale with a head trauma. Eastern Kamchatka 19.082022 (photo by A. Burdin)

Fig. 4. North Pacific right whale with a deformed fluke. Eastern Kamchatka 19.08. 2022 (photo by A. Burdin)