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## A GROUP OF RIGHT WHALES SEEN IN THE BERING SEA IN JULY 1996

Northern right whales (*Eubalaena glacialis*), once common across virtually the entire North Pacific Ocean from the Gulf of Alaska to the Sea of Okhotsk (Webb 1988, Scarff 1991), are now “the world’s most depleted species of large whale” (NMFS 1991). Although no accurate abundance estimate is available for the North Pacific population, there may be “only a few hundred survivors today” (Braham 1986), a result of intense commercial whaling in the 1800s (Brueggeman *et al.* 1986; Scarff 1986, 1991; Webb 1988). Some international protection has been provided since 1935 (Brownell *et al.* 1986), but it is now known that whaling continued even into the 1960s (*e.g.*, Klumov 1962, Omura *et al.* 1969, Yablokov 1994). Chances of species recovery are considered bleak (Braham and Rice 1984). During the 1900s, very few have been seen, even in historically preferred habitats. R. L. Brownell and associates (personal communication) recently reviewed records from this century, updating and expanding the extensive earlier reviews by Braham (1986) and Scarff (1986, 1991). They found a total of 650 sighting records in the eastern North Pacific, of which 151 were in the Bering Sea east of longitude 180° and at least 261 were near the eastern Aleutian Islands. The southeastern portion of the Bering Sea has apparently been one of the habitats preferred by right whales, especially in the area centered around 170°W between Atka, St. Matthew, and Nunivak Islands (Omura 1958, Berzin and Rovnin 1966, Omura *et al.* 1969, Berzin and Doroshenko 1982, Scarff 1991).

Low sighting rates have not been for a lack of survey effort. Japanese observers on whale scouting boats found a right whale on average only once every 20,500 km of cruising in 1965–1979 (Scarff 1986). Leatherwood *et al.*

(1983) flew nearly 45,000 km in the eastern Bering Sea in 1982–1983 without encountering any right whales. Extensive surveys in 1982 in the central Bering Sea, covering over 7,000 km of aerial trackline and over 3,000 km of vessel trackline, resulted in only one sighting, of two right whales (Brueggeman *et al.* 1984). In the National Marine Mammal Laboratory's (NMML) Platforms of Opportunity Program database (unpublished National Marine Fisheries Service (NMFS) data), containing data collected opportunistically since 1975, there were 17 reports of right whales, of which 6 were tentative sightings. Four of the confirmed reports were from the Bering Sea: one from Unimak Pass ( $54^{\circ}42.9'N$ ,  $165^{\circ}03.4'W$ ) on 12 April 1993, and three in the southeastern Bering Sea ( $56^{\circ}54.1'N$ ,  $163^{\circ}55.6'W$ ) on 8 September 1985, ( $57^{\circ}46'N$ ,  $166^{\circ}27'W$ ) on 7 August 1993, and ( $56^{\circ}48.5'N$ ,  $164^{\circ}24.3'W$ ) on 25 September 1996. Most of the historical sightings of right whales in the Bering Sea have occurred in June, July, or August (Omura *et al.* 1969, Scarff 1991), although this is undoubtedly partly an artifact of sighting effort. Given the few sightings documented despite the intensive survey coverage during the past few decades, it is evident that right whales are rare. Of even greater concern is that few of these whales have been seen in groups, and no calves have been reported in the eastern North Pacific in the past 150 yr. Here, we report an observation of a group of right whales, possibly including a calf, in the southeastern Bering Sea.

A group of right whales was seen on 30 July 1996 on the western edge of Bristol Bay ( $57^{\circ}35.6'N$ ,  $163^{\circ}20.5'W$ ). The sighting was made from the F/V *Arcturus*, a charter vessel used during a NMFS survey of eastern Bering Sea groundfish. The vessel was taken out of gear and idled for approximately one hour while the scientific staff made observations and collected photographs. Viewing conditions were excellent, with partly cloudy skies and a light breeze. The whales did not appear to respond to the presence of the vessel. Two groups of whales were in view, a small one near the vessel and a larger one at a distance beyond 1 km. The larger group, approximately 6–10 whales, was not approached and inspected, so a species identification was not made.

Field observations indicated that there were three or more whales in the near group. Among the 20 photographs taken by P. Goddard, several individuals could be reidentified two or more times based on distinctive, though possibly ephemeral, markings on their flukes or rostrums. Four fluke tips were different enough to indicate that four whales were present, and one image had four whale parts visible (confirmed by Scott Kraus, New England Aquarium, Boston, MA, personal communication). In recent years it has been unusual to find right whales in groups as large as this in this region. No group of more than two has been reported in the eastern North Pacific since 1967 (R. L. Brownell, personal communication). Nemoto (1964), in a sample of 197 right whale groups, found only 5% were in groups of three and 1% in groups of four; no groups had more than four whales. Berzin and Rovnin (1966) also reported that right whales usually travel alone or in pairs, and only rarely were four or five seen together. Scarff's (1986) review of the historical record showed that the preponderance of sightings in the eastern North Pacific were of single

animals or animals in groups of less than four; sightings of as many as eight right whales were considered unreliable. However, it is known that right whales occur in large concentrations at times. Scammon (1871) described how right whales would congregate in large groups called "gams" before leaving the whaling grounds, "at times, scattered about as far as the eye can reach from the masthead." Berzin and Doroshenko (1982) reported approximately 200 right whales in the Gulf of Alaska in 1963; however, this was unverified since no large groups were described in the original paper by Berzin and Rovnin (1966). In the western North Atlantic, aggregations of 25–75 right whales occur seasonally (Kraus *et al.* 1986a).

In the current sighting the whales occasionally dived in synchrony. Between dives they were at the surface for long periods of time. Members of the group were often in physical contact and stayed together throughout the observation period. They rolled frequently, sometimes putting pectoral fins into the air. Two adult whales were very close together. On at least two occasions, one of the pair rolled onto its back and urinated into the air with penis extended. This behavior is associated with courtship but not necessarily with mating (Scott Kraus, New England Aquarium, Boston, MA, personal communication). Nothing is known about the season or area in which this population mates or calves (Scarff 1986).

Field observations indicated that one whale in the group was much smaller than the others, possibly a calf. This small whale was in close proximity to a larger whale. However, none of the photographs had an unequivocal image of a calf. As parturition probably occurs in late winter/early spring (Braham and Rice 1984), a calf of the year would be fairly large by the end of July. Because right whale calves are weaned sometime near the end of their first year (Hamilton 1995), a small whale close to an adult in July was more likely a calf than a yearling. Sightings of right whale calves are extremely rare in the eastern North Pacific Ocean; in fact, no confirmed sightings of calves have occurred there in the past 150 yr (Scarff 1991). Omura *et al.* (1969) included a calf sighting in a table on group sizes, but no date or location was reported. Their sampling also included two fetuses (2.18 m and 2.70 m in length) taken in August 1963 in the southern Bering Sea (53°52'N, 172°46'W and 54°04'N, 172°35'W, respectively). Klumov (1962) reported two fetuses taken during Soviet research whaling in the Kuril Islands in the western North Pacific: one taken on 17 May 1955 was 1.9 m long and another on August 1955 was 4.4 m. Fetuses were also recorded in whaling logs at the Akutan (eastern Aleutian Islands) and Port Hobron (Kodiak Island) whaling stations (Reeves *et al.* 1985, Brueggeman *et al.* 1986). One fetus was 1.7 m long in late June 1925; the other was 5.5 m long in mid-September 1926, perhaps near term. This suggests that births could take place in autumn or early winter.

Some of the whales reported here spent long periods of time moving along the surface, sometimes with an open mouth, and defecation was observed. These behaviors are suggestive of skim feeding, common in right whales. This type of feeding, done while the whales swim along the surface with their

mouths open, was observed in 97 of 514 observations by Mayo and Marx (1990) in feeding bouts that ranged from 47 to 237 min. In the North Pacific, right whales feed on a variety of Calanoidae, including *Neocalanus plumchrus*, *N. cristatus*, and *Calanus marshallae* (= *C. finmarchicus* of Omura 1958) as well as euphausiids (Omura 1958). Six right whales caught in 1962–1963 in the eastern Bering Sea had been feeding predominantly on *N. cristatus* (Omura *et al.* 1969). No prey samples were collected during the 1996 sighting, but kelp and seabirds were abundant in this area (over the continental shelf; water depth was approximately 48 m), suggesting that the area was biologically productive.

Images of right whales can allow for reidentification of individuals, even when some photographs are taken from a vessel and others from an aircraft (Kraus *et al.* 1986b). However, no matches could be made between images of the whales in the current sighting and published aerial photographs of right whales seen recently in the central Bering Sea (Braham and Rice 1984), Washington (Rowlett *et al.* 1994), and California (Carretta *et al.* 1994). James Carretta (NMFS, Southwest Fisheries Science Center, personal communication) compared the photographs taken by P. Goddard to photographs of six other right whale sightings (including three to six individuals), but could not make any reidentifications. Not enough of the callosities, the identifying marks, could be seen to make unequivocal assessments. Although photographs are not available from a sighting made on 25 September 1996 (from the POP database; sighting reported by Tania Lewandowski on the USCGC *Chase*), its location (108 km southwest of the sighting reported here), time (57 d later; *i.e.*, 1.9 km/d travel distance away), group size (2–4 right whales), and the presence of a “clearly smaller” whale make it highly plausible that the same whale group was seen twice.

What is exceptional about the sighting reported here is that (1) there have been very few reports of right whales in the North Pacific since the end of commercial whaling, even in their prime habitat in the Bering Sea; (2) rarely have right whales been seen in groups as large as four animals; (3) sexual activity was observed, although it is not evident that this was necessarily a mating interaction; and (4) this is virtually the only sighting report of a possible right whale calf in the eastern North Pacific in this century.

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