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# Pacific Walrus Protection and Management in a Changing Climate

Findings from the 2016 Arctic Science Summit Seminar



Barrett Ristroph, Pacific Environment

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# 1. Executive Summary

On both sides of the International Date Line, indigenous communities and scientists are seeing less sea ice and more walrus hauling out in greater numbers on land. While land-based haulouts are not a new phenomenon, the large numbers of walrus involved and changes in haulout patterns have sparked interest and concern. There are particular concerns for indigenous marine mammal hunters in Alaska and Chukotka (Russia), as they face hunting challenges due to reduced sea ice, unpredictable weather, and the northward shift in walrus movement.

Disturbances to haulouts can result in stampedes, which in turn can lead to mortality. Walrus carcasses left in the aftermath of a stampede can attract polar bears, which pose a danger to nearby villages. Disturbances come from planes and helicopters (including military aviation), cargo and cruise ships, fishing vessels, polar bears, and interactions with dogs and humans (including vehicles, tourists, and media trying to get images). Disturbances on both sides have resulted from aviation and vessel traffic. Human interference has been a greater source of disturbances on the Russian side than on the U.S. side, given that there are fewer haulouts on Alaska lands and they are generally not adjacent to communities. It is unclear how climate change will affect walrus in the future. Some expect the walrus population to decline. Short of reversing climate change, strategies to protect and manage the walrus population can focus on avoiding or minimizing disturbances that affect walrus well-being or provoke stampedes.

**The United States has extensive laws that relate to marine mammal protection, but no mandatory restrictions on aircraft altitude over walrus haulouts. There are a number of voluntary guidelines and examples of community initiatives and voluntary collaboration with agencies. While there are Russian laws governing marine mammals, endangered species, and activity near haulouts, they are not well enforced. Chukotkan communities bear the brunt of walrus protection but lack any legal authority.**

Comparatively, there are more opportunities for co-management, collaboration, and consultation in the United States. Still, indigenous peoples on both sides have expressed concern about the limitations to their management roles. Top-down governance appears insufficient to adequately manage walrus. There is generally little desire to see more laws and rules legislated at high levels, particularly in the absence of local and indigenous participation and consultation.

**There is interest on both sides in collaboration between indigenous peoples and scientists, and between Russian and U.S. agencies and communities. The seminar held at the Arctic Science Summit in Fairbanks, Alaska, from March 15 to March 16, 2016 was designed to bring these groups together to discuss priorities for management, as well as opportunities for international collaboration.**

The seminar led to a better understanding of the current situation related to sea ice and marine mammals (namely the walrus), as well as existing and potential management laws and measures. Future meetings that focus on the entire Bering-



Chukchi Sea ecosystem (beyond just the walrus) would be useful to participants and to walrus protection and management efforts.

The following strategies for protecting walruses and supporting the communities that depend on them are based on suggestions raised at the seminar and additional research. Most are more likely to be feasible on the U.S. side, but some could involve international cooperation. While these strategies are geared toward walrus protection, they could potentially apply to other pinnipeds, and (with some alteration) to other marine mammals. As emphasized at the seminar, it is important not to think of walruses in isolation, but as part of a larger ecosystem involving Chukotkan and Alaskan communities.

- **Protected Areas:** Conduct outreach to get more insight into what kinds of protected areas, if any, stakeholders would support. Consider protections that target specific sources of disturbance rather than potential hunting restrictions.
- **Co-Management and Delegation:** Explore ways to transfer more management responsibilities to communities. This may involve better utilization of U.S. laws providing for co-management, organically created co-management agreements, or management training workshops sponsored by non-government organizations (NGO's), universities, or agencies.
- **Cooperation with the Private Sector:** Explore ways to have ships and aircraft voluntarily avoid hunting and haulout areas through agreements with major industry operators, or by advocating for insurance policies that require or incentivize compliance with voluntary guidelines.
- **Ensure that Consideration of Walrus Haulouts is "Mainstreamed" into Bering Strait/Chukchi Planning:** Ensure that protection measures for walrus (and other marine mammals) are integrated into larger plans for the Bering and Chukchi regions (such as oil spill plans).
- **Adaptable Calendar Map with Regulatory Option:** Create a publicly accessible, regularly updated Geographic Information Systems map showing migration routes, feeding areas, haulouts, and possibly subsistence areas throughout the Bering and Chukchi Seas. Establish voluntary buffers and altitude restrictions based on this map.<sup>1</sup>
- **Coordinating Website, Newsletters, and Calls:** Establish a single, regularly updated website<sup>2</sup> to keep track of past, ongoing, and proposed research, as well as guidelines, laws, permits, and advisories applicable to Russia and the United States. Prepare newsletters on recent developments in research, management, and development activities to circulate to communities and individuals that may not have regular Internet access. Hold conference calls with stakeholders where community residents could report disturbances and ask for corrective action.
- **Exchanges:** Facilitate exchanges that bring together stakeholders from remote communities in Chukotka and Alaska along with regulators, researchers, NGOs, and scientists from both sides of the International Dateline.

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1 The idea of a seasonal calendar map was first discussed at a March 14, 2016 event hosted by Dr. Nicole Misarti, University of Alaska-Fairbanks, entitled "Community Priorities for Walrus Research Workshop," [hereafter known as "Walrus Research Workshop"].

2 The idea of a coordinating website was first discussed at the Walrus Research Workshop

## 2. Background

With the decline of sea ice, more pinnipeds are hauling out on land. This report focuses on the land haulouts of Pacific walrus that have been occurring over the last decade in Alaska,<sup>3</sup> and compares these haulouts with what has been occurring in Chukotka, Russia. It addresses current and potential management and policies in both countries.

Unlike some other species of marine mammals, which have different populations on each side of the International Date Line, the Pacific walrus forms a single population that can travel between Alaska and Chukotka.<sup>4</sup> Walruses travel during the year to find feeding places, which can change from year to year. Walruses often concentrate where their food is available, though the coastal haulouts in northwestern Alaska and northeastern Chukotka seem to be an exception.<sup>5</sup>

**The report is informed by a seminar held in Fairbanks, Alaska, March 15-16, 2016 (hereafter referred to as “Fairbanks Seminar”). Participants included scientists and indigenous marine mammal hunters from Alaska and Chukotka. It also included U.S. and Alaska agencies with regulatory authority that could relate to walruses and activities that disturb walruses, along with journalists and stakeholders interested in walrus conservation. The aims of the seminar were to understand (1) the current situation in Alaska and Chukotka and what might happen in the future; (2) the current regulatory system and voluntary steps being taken to avoid disturbance to terrestrial haulouts and consider what additional policies and practical steps might be taken; and (3) the perspectives of different stakeholders (i.e., scientists, indigenous peoples, etc.) and consider ways to collaborate and learn from each other.**

The seminar was made possible by a grant from the Trust for Mutual Understanding to Pacific Environment and by Dr. Nicole Misarti at University of Alaska-Fairbanks, who arranged for participation by Alaskan communities with funding from a National Science Foundation grant. Dr. Misarti held a complementary workshop on March 14, 2016 focusing on current and proposed walrus research and community priorities for research.

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3 See Crawford, Justin, Willard Neakok, Mark A. Nelson, Joel Garlich-Miller, and Lori T. Quakenbush. “Results from Village-Based Walrus Studies in Alaska, 2011.”

4 The information in this paragraph was discussed by several participants at the Fairbanks Seminar and also noted in research publications. For example, ADF&G tracked a nine-day crossing of a walrus from Cape Lisburne, Alaska, to Cape Serdtse Kamen, Chukotka in 2010. See Lori Quakenbush, Willard Neakok, Justin Crawford, Anna Bryan, and Mark Nelson, “Results from Village-Based Walrus Studies in Alaska, 2010”; but see Sarah A Sonsthagen, Chadwick V Jay, Anthony S Fischbach, George K Sage, and Sandra Talbot, “Spatial genetic structure and asymmetrical gene flow within the Pacific walrus,” *Journal of Mammalogy*, Vol.93(6), p.1512-1524 (2012) (for a more complex analysis of genetic differences in Pacific walruses based on breeding areas).

5 Chadwick V Jay, Anthony S Fischbach, and Anatoly Kochnev, “Walrus areas of use in the Chukchi Sea during sparse sea ice cover,” *Marine Ecology Progress Series*, Vol.468, pp.1-13 (Nov. 14, 2012).

## 2.1. Current Situation

### 2.1.1. Alaska

During the Fairbanks Seminar, several indigenous hunter participants described changes in ice and weather patterns, changes in walrus behavior, and impacts on traditional hunting. What participants described is consistent with many scientific publications,<sup>6</sup> as well as traditional knowledge reports.<sup>7</sup>

The 1970s had more sea ice than the years before or after, with 1979 being one of most extensive ice years.<sup>8</sup> At that time, walruses could be seen as far south as Kodiak and Cook Inlet. In recent years, there has been less sea ice and the ice tends to move out fast. Ice floes are now smaller and thinner, supporting smaller groups of walrus.<sup>9</sup> Walruses can travel to different food sources via ice—in the absence of ice they must expend more energy to travel.

**Less or “rotten” sea ice complicates marine mammal hunting. Ice may be too rough or rotten for hunters to cross. If walruses are on the other side of rough landfast ice, hunters cannot easily get to them. More walrus are swimming in open water in the Barrow area, where they can still be hunted, but hunting is difficult and more dangerous.<sup>10</sup> Hunters may have to hunt at different times (i.e., earlier in the spring, when there is more ice). This requires lighter but stronger double hull fiberglass boats that can be hauled across the ice, as opposed to the older and larger wooden boats (which are too heavy to haul) or small aluminum boats (which are portable but unsafe and cannot carry heavy loads).**

Hunter participants at the Fairbanks Seminar said that walruses have been hauling out in greater numbers on land near Point Lay and on the eastern side of St. Lawrence Island. Haulouts on St. Lawrence happen irregularly (perhaps every three years) for unknown reasons.<sup>11</sup>

The large haulout that occurred near Point Lay in 2009 was the first to occur so close to an Alaskan community. This haulout was mostly females and juveniles.<sup>12</sup> The 2010

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6 K. L. Oakley, M. E. Whalen, D. C. Douglas, M. S. Udevitz, T. C. Atwood, and C. V. Jay, “Changing Arctic Ecosystems: Polar bear and walrus response to the rapid decline in Arctic sea ice,” USGS Fact Sheet 2012-3131, 4 p. (2012).

7 Henry P. Huntington, and Lori T. Quakenbush, “Traditional Knowledge Regarding Walrus near Point Hope, Alaska, Report to the Native Village of Point Hope and Bureau of Ocean Energy Management,” (2013).

8 The information in this paragraph was discussed by several participants at the Fairbanks Seminar and also noted in research publications where specifically cited.

9 Cf. Henry P. Huntington, Mark Nelson, and Lori T. Quakenbush, “Traditional Knowledge Regarding Walrus, Ringed Seals, and Bearded Seals near Barrow, Alaska, Report to the Eskimo Walrus Commission, the Ice Seal Committee, and Bureau of Ocean Energy Management,” p. 6 (2015).

10 Ibid.

11 The information in this paragraph was discussed by several participants at the Fairbanks Seminar.

12 Henry P. Huntington, Mark Nelson, and Lori T. Quakenbush, “Traditional Knowledge Regarding Walrus near Point Lay and Wainwright, Alaska, Report to the Eskimo Walrus Commission and Bureau of Ocean Energy Management,” p. 5 (2012).



haulout had between 25 and 35 thousand walruses.<sup>13</sup> Some carcasses were found at the sites of large haulouts, likely from stampedes. Apart from the change in haulouts, residents have not seen many changes in abundance, distribution, and behavior.<sup>14, 15</sup>

A 2011 haulout near Point Lay had 20 to 25 thousand walruses. Local hunters documented trampled carcasses, mostly juveniles.<sup>16</sup> Large haulouts have occurred in many (but not all) years since then. In contrast, in the Point Hope area, some common land haulout areas have declined in use, perhaps due to vessel traffic, and walrus appear to be traveling further from shore.<sup>17</sup>

Not all Fairbanks Seminar participants saw the land-based haulouts as a problem; some viewed them as natural or cyclical. The recent haulouts are certainly not the first time walruses have been observed hauling out on land. One participant suggested an advantage to haulouts—they may make population counts and tagging easier.<sup>18</sup>

Walruses have occasionally hauled out in groups of 500 or so on the east side of Cape Darby, near the community of Elim, when there is no sea ice in Norton Sound.<sup>19</sup> On Punuk islands (east of St. Lawrence Island), walrus used to haul out in late fall. Between Port Moller and Nelson Lagoon there was an island where walruses used to haul out in the 1990s. During the Cold War era when there were aerial surveys in Northern Alaska (1950s and 1960s), several hundred walrus were found dead following overflights. Also, walrus could be heard from Little Diomedé hauling out on Big Diomedé.<sup>20</sup>

**Disturbances to walrus haulouts can result in stampedes, with walruses rushing toward the water. There can be a high level of impact when all the animals at a haulout are disturbed; it can take several weeks for the herd to return to the haulout. But if a few animals remain undisturbed, the herd will likely return sooner. There is concern about walrus mortality (particularly calf mortality) related to stampedes. Calves and yearlings are particularly susceptible to being crushed during stampedes.<sup>21</sup> Some hunters have**

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13 Lori Quakenbush, Willard Neakok, Justin Crawford, Anna Bryan, and Mark Nelson, “Results from Village-Based Walrus Studies in Alaska, 2010.”

14 Henry P. Huntington, Mark Nelson, and Lori T. Quakenbush, “Traditional Knowledge Regarding Walrus near Point Lay and Wainwright, Alaska, Report to the Eskimo Walrus Commission and Bureau of Ocean Energy Management,” p. 5 (2012).

15 The information in this paragraph was discussed by several participants at the Fairbanks Seminar and also noted in research publications where specifically cited.

16 Justin Crawford, Willard Neakok, Justin Crawford, Mark A. Nelson, Joel Garlich-Miller, and Lori T. Quakenbush, “Results from Village-Based Walrus Studies in Alaska, 2011.”

17 E.g., Henry P. Huntington, and Lori T. Quakenbush, “Traditional Knowledge Regarding Walrus near Point Hope, Alaska, Report to the Native Village of Point Hope and Bureau of Ocean Energy Management,” p. 5 (2013).

18 The information in this paragraph was discussed by several participants at the Fairbanks Seminar.

19 Henry P. Huntington, Mark Nelson, and Lori T. Quakenbush, “Traditional Knowledge Regarding Walrus, Ringed Seals, and Bearded Seals near Barrow, Alaska, Report to the Eskimo Walrus Commission, the Ice Seal Committee, and Bureau of Ocean Energy Management,” p. 6 (2015).

20 The information in this paragraph was discussed by several participants at the Fairbanks Seminar and also noted in research publications where specifically cited.

21 M. S. Udevitz, R. L. Taylor, J. Garlich-Miller, L. T. Quakenbush, and J. Snyder, “Potential population-level effects of increased haulout-related mortality of Pacific walrus calves,” *Polar Biology* 36(2):291-298 (2013).

**observed females carrying stillborn babies. It should be noted that causes of stampedes are not fully understood; one participant reported that walrus may stampede without a clearly identifiable disturbance.<sup>22</sup>**

Disturbances from vessel traffic and low-flying aircraft seem to be increasing. There is more ship traffic through the Bering Strait and more tourism in some areas like Wales. Walrus can also be disturbed by polar bears. There is concern about how climate change and ocean acidification are affecting walrus food sources and about the effects of commercial fish trawling. Walrus have been observed eating seals, and it is not clear how this will affect the food chain.<sup>23</sup>

Despite these changes, hunters are not seeing significant changes in walrus health. Hunters classified 97% of walrus harvested from 2012 to 2014 as average to very healthy based on blubber and overall body condition.<sup>24</sup> FWS and ADF&G believe that overall, walrus is safe to eat.<sup>25</sup> Still, hunters are concerned about long-time walrus health and generally support monitoring for contaminants and disease. There is also concern about walrus having to travel much farther from shore to get to food sources, depleting their energy and potentially leaving them skinnier and weaker.<sup>26</sup>

Another concern relates to new species appearing farther north, such as sea lions and orcas (the latter are potential walrus predators). While orcas have long had a presence in Arctic waters, this presence may be increasing.<sup>27</sup> One participant reported sightings of narwhals near Point Lay. Since Steller sea lions have protected status (the western population is listed as “endangered” under the Endangered Species Act<sup>28</sup>) they cannot be taken or targeted as a nuisance species.

Still another concern is the increasing unpredictability of weather, which has disrupted traditional means of forecasting. Weather changes may also affect haulout patterns. Some hunters (those with good Internet access) are adapting by obtaining weather information from the National Oceanic and Atmospheric Administration (NOAA) and the Geographic Information Network of Alaska.<sup>29</sup> This information can also be useful for search and rescue efforts.<sup>30</sup>

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22 The information in this paragraph was discussed by several participants at the Fairbanks Seminar and also noted in research publications where specifically cited.

23 This information was discussed by several participants at the Fairbanks Seminar.

24 Anna Bryan, Lori Quakenbush, Jonathan A. Snyder, Harold Kiyuklook, Sheena Anningayou, and Mark Nelson, “Results from Village-Based Walrus Studies in Alaska, 2012-2014.”

25 The information in this paragraph was discussed by several participants at the Fairbanks Seminar and also noted in research publications where specifically cited.

26 The information in this paragraph was discussed by several participants at the Fairbanks Seminar.

27 Jeff W. Higdon, Donna D. W. Hauser, and Steven H. Ferguson, “Killer whales (*Orcinus orca*) in the Canadian Arctic: Distribution, prey items, group sizes, and seasonality,” *Marine Mammal Science*, Vol.28(2), pp.E93-E109 (2012).

28 NOAA, Threatened Fish and Wildlife; Change in Listing Status of Steller Sea Lions Under the Endangered Species Act, 62 Fed. Reg. 24345 (Monday, May 5, 1997).

29 Geographic Information Network of Alaska, <http://www.gina.alaska.edu/>

30 The information in this paragraph was discussed by several participants at the Fairbanks Seminar and also noted in research publications where specifically cited.

Climate change-related impacts to hunting increase community stress levels. High gasoline prices add to these challenges. One hunter calculated that he made 10 walrus hunting trips in one season, covering 200 miles, with no success in finding walrus. In some years there has been virtually no walrus harvest in some places (i.e., St. Lawrence Island, 2013 and 2015).<sup>31</sup>

In addition to relying more on the Internet for forecasts, communities are adapting by monitoring what is happening, sharing information, and cooperating and sharing in the harvest. Communities can supplement their diets with caribou and moose to make up for a lack of walrus harvest, though this can put a strain on other species. Hunters are persistent in their efforts in spite of the challenges.<sup>32</sup>

### 2.1.2. Chukotka

Participants from Chukotka described a situation of declining sea ice and land haulouts similar to Alaska, but on a larger scale. Haulouts in Chukotka have historically depended on the volume and condition of sea ice. There was much more constant ice in the Chukchi Sea from the 1960s to 1980s. At that time land haulouts occurred perhaps every three years. Walrus were able to move with ice to feeding areas so they expended less energy migrating.<sup>33</sup>

The presence of ice can compensate for low food densities. When there is no ice, walrus look for the closest land near high food densities. The largest land haulouts are near food sources. If more ice becomes available, these places are likely to have fewer haulouts.<sup>34</sup>

Haulout patterns started to change in the 1990s, when walrus began to haul out annually on land. Haulouts appeared in places where they had not been observed in the past century. The numbers of land-based haulouts have not increased greatly in the last few years, but they occur in different places with greater numbers of walrus in each haulout. There may be 70,000 to 100,000 individuals in one haulout location.<sup>35</sup> Over the past 30 years, the walrus range and haulouts have been moving north.<sup>36</sup> Whereas there were about 30 haulout locations along the Bering Sea in the 1980s, there are now fewer. In late fall, much of the walrus population hauls out on the Russian side of the Chukchi. Walrus come from Point Lay, Alaska, to Serdtse-Kamen in Chukotka. Many miles of coast line are “covered in walrus.”<sup>37</sup>

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31 The information in this paragraph was discussed by several participants at the Fairbanks Seminar.

32 Ibid.

33 Ibid.

34 Ibid.

35 Ibid.

36 Chadwick V. Jay, Anthony S Fischbach, and Anatoly Kochnev, “Walrus areas of use in the Chukchi Sea during sparse sea ice cover,” *Marine Ecology Progress Series*, Vol.468, p. 10 (Nov. 14, 2012).

37 The information in this paragraph was discussed by several participants at the Fairbanks Seminar and also noted in research publications where specifically cited.

**Table 1. Current Situation comparison between Alaska and Chukotka**

Alaska	Chukotka
<ul style="list-style-type: none"> <li>• Decrease in sea ice starting post 1979</li> </ul>	<ul style="list-style-type: none"> <li>• Decrease in sea ice post 1980s, and also declining on a larger scale</li> </ul>
<ul style="list-style-type: none"> <li>• Increased ships in the Bering Strait</li> </ul>	<ul style="list-style-type: none"> <li>• Disturbances occurring at a greater scale</li> </ul>
<ul style="list-style-type: none"> <li>• 2013 and 2015 saw virtually more harvest</li> </ul>	<ul style="list-style-type: none"> <li>• Hunts generally seen as more difficult</li> </ul>
<ul style="list-style-type: none"> <li>• Hunter took 10 hunting trips, covering 200 miles, that found no walruses</li> </ul>	<ul style="list-style-type: none"> <li>• Weather conditions have caused hunting season to decrease from 20 days to 1 day</li> </ul>
<ul style="list-style-type: none"> <li>• Entities like Kawerak Inc. are able to step in and provide food in times of crisis</li> </ul>	<ul style="list-style-type: none"> <li>• No safety net for villages that rely on walrus as a food source</li> </ul>
<ul style="list-style-type: none"> <li>• Point Lay - Hauling out in greater numbers and at irregular times</li> </ul>	<ul style="list-style-type: none"> <li>• Haul out patterns changed in the 1990s - annual haulouts at different places each year, with numbers from 70,000 to 100,000 individuals</li> </ul>
<ul style="list-style-type: none"> <li>• Sights of new predators, especially in more northern habitats - Point Lay observations of Narwhals</li> </ul>	<ul style="list-style-type: none"> <li>• Walrus range and haulouts are moving North</li> </ul>

Scientists have been monitoring haulouts at Serdtse-Kamen and on Wrangel Island (Cape Blossom) and Cape Schmidt. The haulouts at Cape Serdtse-Kamen have been occurring for 60 years. Since 2010, walrus have been hauling out there in large numbers at the end of August or early September when the sea is nearly ice-free. This is perhaps the largest land haulout in Chukotka. Walrus numbers peak in October, and the haulout ends in November. The ratios of sex and age have changed in recent years: since about 2013, the number of females of calving age has been lower and there have been fewer calves. This change may relate to greater mortality among females and cubs in this haulout group. Eighty percent of the dead walruses found in other haulouts are cubs, while in this haulout, for the last six years, 40% have been female adults and 40% have been cubs. The cause of female mortality is unknown. There are more deaths during stampedes, and 30% of pregnant females experience spontaneous abortions due to stress.<sup>38</sup>

In contrast to Serdtse-Kamen, haulouts on Wrangel Island have been smaller. Many haulout locations used before 2,000 have been abandoned. Only two haulout locations persist on Wrangel Island, with about 2,000 walruses in each location. It is unknown whether there is any relationship between declines on Wrangel Island and increases at Serdtse-Kamen.<sup>39</sup>

<sup>38</sup> The information in this paragraph was provided by participant Anatoly Kochnev, Institute of Biological Problems of the North, Far-Eastern Branch of Russian Academy of Sciences, Magadan, Russia.

<sup>39</sup> Ibid.

Disturbances to haulouts are associated with stampedes. Walrus carcasses left in the aftermath of a stampede can attract polar bears, which pose a danger to nearby villages. Disturbances come from planes and helicopters (including military aviation), cargo and cruise ships, fishing vessels, polar bears, and interactions with dogs and humans (including vehicles, tourists, and media trying to get images). The frequency and intensity of noise is a concern. Compared to Alaska, disturbances from humans are much greater. Wrangel Island Preserve provides some of the best protection for walruses in Chukotka and has been the least disturbed area until recently.<sup>40</sup>

Rosneft, Russia's majority-state-owned oil and gas company, is preparing to explore for oil near Wrangel Island and has undertaken an environmental impact assessment of seismic activity planned for 2016 to 2020.<sup>41</sup> The Environmental Impact Assessment for the project suggests various buffers from walrus and other marine mammals: vessels in motion or conducting seismic are supposed to stay at least 800 m (about 0.5 mile) from hauled out walruses or 750 m from walruses in the water.<sup>42</sup>

**Similar to some of the experiences described by Alaskan hunters, Chukotkan hunters said that hunts are generally more difficult. The harvest season used to be 20 days,<sup>43</sup> but in recent years weather conditions may allow hunting only on a single day. This is problematic since, like on St. Lawrence, many Chukotkan villages are highly dependent on walrus for their food source. Seals are important, but not as much as walrus. Whale is also important but difficult to catch and requires more resources to hunt.<sup>44</sup>**

Some villages benefit from the current situation since walrus haulouts have moved closer to these villages. But there are great challenges for villages that are no longer close to haulouts. People are no longer migratory, and going back and forth between a haulout and home requires time and money. Hunters are traveling longer distances and sometimes coming back empty-handed. And it is difficult to transport harvested walruses over long distances. Unlike in Alaska, where entities such as Kawerak, Inc., have been able to step in and provide food in times of crisis, there is no safety net in Chukotka.<sup>45</sup>

## 2.2. Predictions

As noted at the Fairbanks Seminar, it is difficult to predict future effects on walrus. There is a need to develop climate models that can be used to forecast how wildlife will

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40 The information in this paragraph was discussed by several participants at the Fairbanks Seminar.

41 Rosneft, 2016, Environmental Impact Assessment, Program for Seismic Activity in the North Wrangel-1, North Wrangel-2, and South Chukchi License Areas for 2016-2020.

42 Ibid. at 324. This is less than the buffer distances recommended by USFWS for vessels operating in Bristol Bay, (0.5 nautical miles from walrus haulouts for vessels up to 50 feet in length, 1.0 nautical mile for vessels 50-100 feet, and three 3.0 nautical miles for larger vessels).

43 Elders and experienced hunters in Chukotkan communities determine when and where harvesting occurs and how many walruses must be harvested to satisfy community needs.

44 The information in this paragraph was discussed by several participants at the Fairbanks Seminar.

45 Ibid.



respond.<sup>46</sup> The seminar was an opportunity for people to express their concerns about what the future might bring.

During the seminar, participants pointed out that walrus survived warming periods in prehistorical times. It is unclear how the population changed in these warming periods and where walrus moved. Some participants were confident that walrus have adapted before and will adapt again. Still, there is concern that walrus might not adapt so easily to current stressors, which include not only ice loss but also sources of disturbances that were not around in prehistoric times (i.e., vessels, aircraft, and industrial development). Strategies that avoid or minimize these more recent sources of disturbance may help the walrus population in the future.<sup>47</sup>

### 2.2.1. Alaska

**Land haulouts are expected to continue and occur more often in the future,<sup>48</sup> particularly in the more northern parts of Alaska.<sup>49</sup> There is concern that if walrus have to keep traveling farther for food, they will deplete more energy than their food can provide. The population could decline, but the extent of decline is uncertain.<sup>50</sup>**

There could be more ship traffic coming closer to communities and more risk of an oil spill. There could be more tourism, especially adventure tourism involving people going out on kayaks. There is concern about the potential for more commercial fishing occurring in the Bering Sea, although commercial fishing does provide a source of income for Native Villages in southwest Alaska.<sup>51</sup>

### 2.2.2. Chukotka

**As in Alaska, the future could bring less sea ice, more ship and human traffic, and more new species. There may also be more industrial activities. This will impact hunters. There are concerns about a loss of language, customs, culture, and identity. This, combined with a deteriorating political and economic situation, raises fears of conditions similar to those after the fall of the Soviet Union.<sup>52</sup>**

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46 C. R. Van Hemert, P. L. Flint, M. S. Udevitz, J. C. Koch, T. C. Atwood, K. L. Oakley, and J. A. Pearce, "Forecasting wildlife response to rapid warming in the Alaskan Arctic" (2015).

47 The information in this paragraph was discussed by several participants at the Fairbanks Seminar.

48 See Justin Crawford, Willard Neakok, Mark A. Nelson, Joel Garlich-Miller, and Lori T. Quakenbush. "Results from Village-Based Walrus Studies in Alaska, 2011."

49 That said, the locations are difficult to predict. For example, in May 2016, large numbers of walrus hauled out for the first time near Cape Greig on Bristol Bay in southwest Alaska. Lisa Demer, Thousands of walrus have hauled out in a surprising spot. What now? Alaska Dispatch News, May 6, 2016, <http://www.adn.com/article/20160506/thousands-walrus-hauled-out-unexpected-spot-what-now>

50 The information in this paragraph was discussed by several participants at the Fairbanks Seminar.

51 Ibid.

52 Ibid.

It is possible that what happened to the Atlantic walrus population will happen to the Pacific walrus. The Atlantic walrus used to be a single population stock, but with changing weather and currents they split into different stocks that are more isolated.<sup>53</sup>

## 3. Management of Walrus Disturbances in Alaska

### 3.1. Regulatory Framework

#### 3.1.1. Mandatory Measures

##### 3.1.1.1. International

A Polar Code provision that takes effect in 2017 requires ships to consider measures to avoid marine mammals.<sup>54</sup> The International Maritime Organization (IMO), the entity responsible for the Polar Code, does not enforce the Polar Code and related treaties—enforcement is up to the State to which a ship is registered (the flag state). In the United States, enforcement would likely fall to the Coast Guard.<sup>55</sup>

##### 3.1.1.2. Federal Aviation Administration (FAA)

FAA has not set any mandatory altitude restrictions for walrus or other marine mammals in Alaska.

##### 3.1.1.3. U.S. Fish and Wildlife Service (USFWS)

USFWS has jurisdiction over walrus under the Marine Mammal Protection Act (MMPA) but no regulations specific to walrus haulouts.<sup>56</sup> MMPA generally prohibits “take” which includes “harassment.”<sup>57</sup> Level A harassment is generally that which causes an injury (a fairly clear standard), while Level B is more vague (that which disrupts

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<sup>53</sup> The information in this paragraph was discussed by several participants at the Fairbanks Seminar.

<sup>54</sup> International Code for Ships Operating in Polar Waters (Polar Code), Resolution MSC.385(94) (adopted on 21 November 2014 by the International Maritime Organization’s Maritime Safety Committee (MSC), and Marine Environment Protection Committee (MEPC)), Part I-A (Safety Measures), 11.3 Requirements (“...[T]he master shall consider a route through polar waters, taking into account the following:... .6 current information and measures to be taken when marine mammals are encountered relating to known areas with densities of marine mammals, including seasonal migration areas; .7 current information on relevant ships’ routing systems, speed recommendations and vessel traffic services relating to known areas with densities of marine mammals, including seasonal migration areas...”). Additional (voluntary) guidance appears in Part I-B (12) (“In developing and executing a voyage plan ships should consider the following: .1 in the event that marine mammals are encountered, any existing best practices should be considered to minimize unnecessary disturbance...”)

<sup>55</sup> Violations of safety laws (including the Polar Code) are a basis for strict liability under the United States Jones Act, 6 USC §30104. Thus, it is possible that if a ship were to hit a walrus and result in a U.S. lawsuit due to injuries, the ship operator would be liable for not avoiding the collision. *Kernan v. American Dredging Co.*, 355 U.S. 426 (1958)

<sup>56</sup> 16 U.S.C. 1362(12); 16 U.S.C. 1375a.

<sup>57</sup> 16 U.S.C. 1371(a) prohibits “take,” 16 U.S.C. 1362(13) defines “take” to include “harassment.”

behavior).<sup>58</sup> USFWS usually seeks to prohibit harassment at a larger level (that which affects the population) rather than an individual.

Developers whose activities may disturb walrus can apply to USFWS for Incidental Harassment Authorization.<sup>59</sup> This usually results in a “letter of authorization” to conduct the activity, with some stipulations to protect marine mammals. Incidental take authorization for oil and gas activity in the Chukchi Sea for 2013 to 2018 was issued in the form of regulations, which required aircraft to maintain a minimum altitude of 1,000 feet. when within 0.5 miles of walrus haulouts, except in case of emergencies or bad weather.<sup>60</sup>

Outside of MMPA, an agency could have jurisdiction over land that it manages. USFWS can assert jurisdiction over National Wildlife Refuges under the National Wildlife Refuge Administration Act.<sup>61</sup> A USFWS regulation provides for a general restriction on flying at altitudes that harass wildlife in Refuges.<sup>62</sup>

### 3.1.1.4 Cooperative Agreements with Eskimo Walrus Commission and Qayassiq Walrus Commission

The Eskimo Walrus Commission (EWC), which represents 19 Northwest Alaska villages, has a cooperative agreement since 1997 with USFWS under MMPA<sup>63</sup> for walrus conservation and management.<sup>64</sup> Joint efforts focus on monitoring the subsistence harvest and collecting information on harvested animals.<sup>65</sup> Thus far, there has not been a formal project to avoid haulout disturbances.

The Qayassiq Walrus Commission (QWC), consisting of nine villages, oversees walrus harvest activities for the Bristol Bay area.<sup>66</sup> It determines walrus harvest allocation for each village and monitors harvest activities. Through a 1995 cooperative agreement with USFWS, ADF&G, and EWC, QWC regulates walrus hunting on Round Island.<sup>67</sup>

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58 16 U.S.C. 1362(18).

59 16 U.S.C. 1371 (a)(5)(D).

60 50 CFR 18.27 (authorizes regulations for up to 5 years) 50 CFR § 18.118 (regulations specific to Chukchi).

61 16 U.S.C. § 668dd.

62 50 CFR 27.34.

63 Marine Mammal Protection Act, Pub. L. No. 103-238, §119, 16 U.S.C. § 1388.

64 See Eskimo Walrus Commission, <http://www.kawerak.org/ewc.html>. In 1987, EWC entered into a Memorandum of Agreement with FWS and the Alaska Department of Fish and Game. In 1998, a Memorandum of Understanding between EWC, ADF&G, and USFWS was signed allowing joint management of the Pacific Walrus Conservation Fund where the majority of the funds come from the sale of raw ivory. In 2004 EWC and USFWS issued guidelines to prevent waste and cooperatively developed the Walrus Harvest Guidelines to address this problem. The guidelines were then cited in Martin Robards & Julie Lurman Joly, Interpretation of “Wasteful Manner” Within the Marine Mammal Protection Act and Its Role in Management of the Pacific Walrus, 13 OCEAN & COASTAL L.J. 171, 189 (2008).

65 Kawerak, Inc., <http://www.kawerak.org/ewc.html>; USFWS, Cooperative Agreements, <http://www.fws.gov/alaska/fisheries/mmm/agreements.htm> (last updated: March 10, 2014).

66 Bristol Bay Native Association Marine Mammals Program, Overview of the Qayassiq Walrus Commission, <http://www.bbna.com/wp-content/uploads/Qayassiq-Walrus-Commission-Overview.pdf>.

67 Id., ADF&G, Pacific Walrus, <http://www.ADF&G.alaska.gov/index.cfm?ADF&G=walrus.management>

### 3.1.1.5 National Oceanic and Atmospheric Administration (NOAA)

The National Marine Fisheries Service (NMFS), a division of NOAA, has no direct jurisdiction over walrus. It does have jurisdiction over vessels conducting fishing and other activities. One example of how it has exercised this jurisdiction is the prohibition on deploying gear 3-12 nm from Round Island and The Twins (part of State Walrus Islands Game Sanctuary) from April 1 to September 30 for vessels with federal fisheries permits.<sup>68</sup>

### 3.1.1.6. Bureau of Ocean Energy Management (BOEM)

The National Environmental Policy Act (NEPA) requires federal agencies to evaluate the likely environmental impacts of projects they are proposing or considering approving. If a project is a “major action” with significant impacts on the human environment, an environmental impact statement is required unless there is an applicable exception.<sup>69</sup> Agencies are required to “[i]nclude appropriate mitigation measures not already included in the proposed action or alternatives.”<sup>70</sup> An agency may avoid an environmental impact statement by issuing a Finding of No Significant Impacts subject to certain enforceable mitigation actions.<sup>71</sup>

**BOEM has used the NEPA process to include mitigation measures aimed at reducing impacts to marine mammals in its Environmental Assessment, Finding of No Significant Impact and Letter of Approval for Shell’s 2015 Chukchi Sea Exploration Plan. The Environmental Assessment recommended a vessel buffer from walrus of 0.5 miles, minimum altitudes of 1,500 feet for planes within 1,000 feet and 3,000 feet for helicopters within one mile from walrus land haulouts, monitoring measures, and reporting requirements.<sup>72</sup> It supported an adaptive management approach to ice management recommended by Shell, through which Shell would call USFWS when in proximity of walrus to discuss whether ice management activities should go forward.<sup>73</sup> These measures were incorporated into the Letter of Approval.<sup>74</sup>**

### 3.1.1.7. Bureau of Land Management (BLM)

BLM has jurisdiction over National Petroleum Reserve-Alaska (NPR) and other parcels of land in Alaska. Like BOEM, it used the NEPA process associated with its 2012

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68 50 CFR 679.22(a)(4).

69 42 USC § 4332(C).

70 40 CFR § 1502.14(f).

71 Memorandum for Heads of Federal Departments and Agencies re: “Appropriate Use of Mitigation and Monitoring and Clarifying the Appropriate Use of Mitigated Findings of No Significant Impact,” dated January 14, 2011 (“Final Guidance”). Available at: [http://www.whitehouse.gov/sites/default/files/microsites/ceq/01\\_14\\_11\\_Mitigation\\_and\\_Monitoring\\_Guidance.pdf](http://www.whitehouse.gov/sites/default/files/microsites/ceq/01_14_11_Mitigation_and_Monitoring_Guidance.pdf)

72 Environmental Assessment for Shell Gulf of Mexico, Inc. Revised Outer Continental Shelf Lease Exploration Plan Chukchi Sea, Alaska (March 2015), C-4—C-7, <http://www.boem.gov/shell-chukchi/>

73 Ibid.

74 Letter of Approval to Shell from BOEM (May 11, 2015), [http://www.boem.gov/uploadedFiles/BOEM/About\\_BOEM/BOEM\\_Regions/Alaska\\_Region/Leasing\\_and\\_Plans/Plans/2015-05-11-Shell-EP-Conditional-Approval.pdf](http://www.boem.gov/uploadedFiles/BOEM/About_BOEM/BOEM_Regions/Alaska_Region/Leasing_and_Plans/Plans/2015-05-11-Shell-EP-Conditional-Approval.pdf).

Integrated Activity Plan for NPRA to develop mitigation measures for walrus along the NPRA coast: a minimum altitude of 2,000 feet for planes within 0.5 miles and 3,000 feet for helicopters within 1 mile of walrus haulouts.<sup>75</sup>

### 3.1.1.8. Alaska Department of Fish and Game (ADF&G)

ADF&G has jurisdiction over the Walrus Islands State Game Sanctuary in Bristol Bay. These islands include Round Island, where walrus occasionally haul out. ADF&G regulates visits to Round Island through permits,<sup>76</sup> which typically allow access only between May 1 and August 15. Permits provide for contact procedures between visitors and staff, points of access, and vessel specifications and modes of operation. Aircraft access to Round Island is prohibited, unless specifically permitted by ADF&G staff. Beaches are closed to access. Walrus viewing requirements are designed to avoid noise, quick movements, and visual disturbances such as bright clothes.<sup>77</sup>

## 3.1.2. Voluntary Measures

Voluntary measures or agreements, while unenforceable, may be implemented more quickly with less political capital.<sup>78</sup> The Arctic Waterways Safety Committee, a coalition of Native groups, municipalities, industry representatives, and ship operators, will be incorporating advisories around marine mammals starting in 2016.

### 3.1.2.1. FAA<sup>79</sup>

FAA has issued guidelines<sup>80</sup> that include a 2,000-foot minimum altitude for fixed-wing aircraft in “noise sensitive areas” such as National Wildlife Refuges and Parks, where noise interferes with normal activities associated with the area’s use. It has cooperated with other agencies by posting their guidelines on its website. Also, FAA works with USFWS to include language on visual flight rules charts regarding aviation activity in the vicinity of walrus haulouts, as shown in Figure 1.

Further, FAA has cooperated with other federal agencies to publish Flight Advisories requesting that pilots maintain certain minimum altitudes known haulout sites. For example, in 2008, FAA, USFWS, and NOAA issued an advisory 2,000-foot altitude for fixed-wing aircraft (5,000-foot for helicopters) within one nautical mile seaward or one-half mile landward of Cape Seniavin and Togiak National Wildlife Refuge (which includes Cape Newenham and Cape Peirce). Marine vessels were requested to remain

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75 BLM, NPRA IAP Record of Decision, Stipulation F-1(h) (February 2013).

76 Permits are required under 5 AAC 92.066.

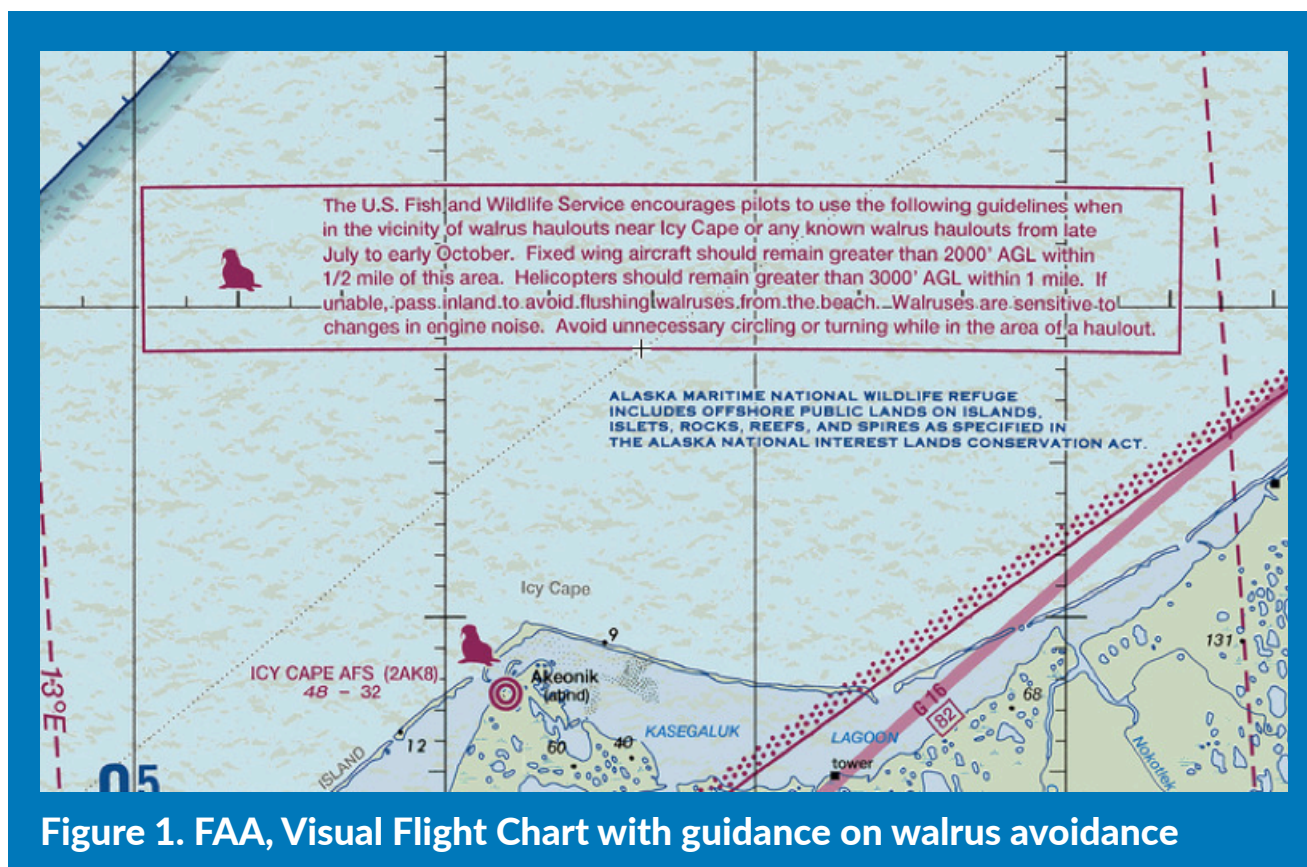
77 Sample permit provisions from Communication with Ed Weiss, ADF&G (Mar. 16, 2016).

78 Ristroph, E.B. 2014. “Loosening Lips to Avoid Sinking Ships: Designing a Ship Communications System for the Bering Strait Region.” *Indiana International & Comparative Law Review* 24(3):581-664.

79 The FAA also announced in June 2016 that it was “collaborating with U.S. Fish & Wildlife to include info on visual flight rules (VFR) sectional charts to educate pilots about the locations of walrus haulouts and alert them that harrassing wlaruses is a violation of U. S. law”, <https://www.faa.gov/news/updates/?newsId=85687>

80 FAA Visual Flight Rules Near Noise-Sensitive Areas, Advisory Circular 91-36D (Sep. 17, 2004).





at least 0.5 miles from shore when transiting past Cape Newenham and Cape Peirce. The same advisory set a 1,000-foot altitude within one nautical mile seaward or one-half mile landward of Pribilof Islands.

### 3.1.2.2. USFWS

USFWS has cooperated with EWC and the North Slope Borough on outreach efforts to raise awareness about disturbances and consequences. It has communicated informally with government, pilots, and communities to share information about haulouts as they develop so protection measures can be put in place. For example, in 2015, it coordinated with Point Lay, USGS, and NOAA to issue an advisory about haulouts and need to avoid disturbance.<sup>81</sup> Also in 2015, USFWS issued formal guidance to pilots<sup>82</sup> a minimum altitude of 2,000 feet for planes within 0.5 miles and 3,000 feet for helicopters within 1 mile of walrus haulouts.

USFWS has voluntary guidance for vessels operating in Bristol Bay, providing buffers that are larger for larger vessels (0.5 nautical miles from walrus haulouts for vessels up

81 USFWS, Point Lay, USGS, and NOAA, "If walrus haul-out, eliminating disturbance is essential," (Aug. 18, 2015), <http://www.fws.gov/alaska/fisheries/mmm/walrus/pdf/NR%2008-18-15%20Point%20Lay%20Requests%20Space%20for%20Walrus.pdf>.

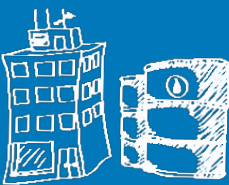



82 USFWS, Help Minimize The Disturbance Of Walrus Along the Chukchi Sea Coast, [http://www.fws.gov/alaska/fisheries/mmm/walrus/pdf/SKMBT\\_C28015082811210.pdf](http://www.fws.gov/alaska/fisheries/mmm/walrus/pdf/SKMBT_C28015082811210.pdf) (updated Aug. 2015).

to 50 feet in length, 1.0 nautical mile for vessels 50 to 100 feet, and 3.0 nautical miles for larger vessels). Vessels should not anchor or fish within 3.0 nautical miles of hauled out walrus.<sup>83</sup>

### 3.1.2.3. U.S. Coast Guard (USCG)<sup>84</sup>

The 17th District of USCG (the Alaska region) issues a weekly bulletin called “Local Notice to Mariners” containing navigational information such as obstacles and port closures.<sup>85</sup> In the past, a few of these notices have advised vessels to minimize disturbances to walruses at Cape Seniavin by staying 1,000 yards from shore.<sup>86</sup> Much of the information in these bulletins is provided by NOAA’s Office of Coast Survey, although USFWS has provided notice about walruses.<sup>87</sup>

**Table 2. Walrus Threats and Coinciding Regulatory Framework**

 <b>DEVELOPMENT</b>	 <b>PEOPLE</b>	 <b>PLANES</b>	 <b>SHIPS</b>
<ul style="list-style-type: none"> <li>• USFW - Incidental Harrassment Authorization</li> <li>• BOEM &amp; BLM - Makes use of the National Environmental Policy Act (NEPA) in projects</li> </ul>	<ul style="list-style-type: none"> <li>• USFW - Marine Mammal Protection Act, prohibits “take” and “harrassment”</li> <li>• AD F&amp;G - Regulates Walrus Islands State Game Sanctuary visits and permits</li> <li>• EWC - Cooperates with MMPA to monitor subsistence harvest</li> <li>• QWC - Determines substience allocations and monitors take</li> </ul>	<ul style="list-style-type: none"> <li>• FAA - Establishes minimum altitudes and publishes flight advisories</li> <li>• AD F&amp;G - Prohibits the presence of planes at the Walrus Islands State Game Sanctuary</li> </ul>	<ul style="list-style-type: none"> <li>• Polar Code - Rules regarding ship operation, enforcement by state ship is registered to (e.g. U.S. Coast Guard)</li> <li>• NMFS - Has jurisdiction over vessels as a part of NOAA</li> <li>• U.S Coast Guard - Publishes weekly local notice to mariners that includes warnings about walruses</li> </ul>

**Acronym Legend:** USFW - U.S. Fish & Wildlife, BOEM - Bureau of Ocean & Energy Managment, BLM - Bureau of Land Managment, AD F&G - Alaska Department of Fish & Game, EWC - Eskimo Walrus Commission, MMPA - Marine Mammal Protection Act, QWC - Qayassiq Walrus Commission, FAA - Federal Aviation Administration, NMFS - National Marine Fisheries Service, NOAA - National Oceanic and Atmospheric Administration

<sup>83</sup> USFWS, 2012, Guidelines for Marine Vessel Operations Near Pacific Walrus Haulouts in Bristol Bay, <http://www.fws.gov/alaska/fisheries/mmm/walrus/pdf/vessel%20operations%20in%20bristol%20bay%20factsheet.pdf>.

<sup>84</sup> In 2015, the USCG began conducting a Port Access Route study to help mariners navigate the Bering Strait’s remote waters, hoping to reduce the risk of ship wrecks and groundings and to protect marine life. In July of 2016, the agency issued an advisory asking mariners to steer clear of walrus haulouts and walrus encountered at sea. <http://www.ktuu.com/content/news/USCG-proposes-safe-shipping-route-through-Bering-Strait-383362311.html>

<sup>85</sup> USCG, Local Notice Mariners, 17th District, <http://www.navcen.uscg.gov/?pageName=lnmDistrict&region=17>

<sup>86</sup> USCG, Local Notice Mariners, 17th District, Weekly Bulletin 34/05 [http://ntm.c-map.it/upload\\_files/CG172005034/bk0lnm1734.pdf](http://ntm.c-map.it/upload_files/CG172005034/bk0lnm1734.pdf); Weekly Bulletin 48/06 (Nov. 2006) [http://www.mxak.org/home/news/news\\_docs/4806.pdf](http://www.mxak.org/home/news/news_docs/4806.pdf); Weekly Bulletin 42/08 (Oct. 2008) [http://ntm.c-map.it/upload\\_files/CG172008042/bk0lnm17422008.pdf](http://ntm.c-map.it/upload_files/CG172008042/bk0lnm17422008.pdf).

<sup>87</sup> NOAA, Differences Between NM and LNM, [http://www.nauticalcharts.noaa.gov/mcd/learn\\_diffNM\\_LNM.html](http://www.nauticalcharts.noaa.gov/mcd/learn_diffNM_LNM.html)

## 3.2. Recommendations to Avoid Disturbance

Point Lay has worked to educate youth, give community warnings of haulouts, and restrict tourist access to haulouts. Point Lay has provided photos to the media to reduce the need for journalists to take additional photographs. Starting in 2010, the community adjusted local boating routes and behavior to avoid disturbances; requested planes to stay at least 1,500 feet from the haulout; had planes land and take off from the far end of the runway; and regulated visitors and media.<sup>88</sup> This has helped reduce stampede-related walrus deaths.

In 2015, Point Lay and USFWS got a grant from the National Fish and Wildlife Federation to work with USFWS on haulout management and monitoring efforts and carcass surveys. USFWS worked with Point Lay on a public outreach and education campaign and a media strategy.<sup>89</sup>

It has not been feasible for Point Lay to control ships that come too close to haulouts. There was a question at the Fairbanks seminar as to whether this was something a Village Public Safety Officer (VPSO) could do. VPSOs are first responders in rural villages, trained by the Alaska Department of Public Safety and employed by Alaska Native non-profits.<sup>90</sup> They have some authority to enforce Alaska and U.S. laws,<sup>91</sup> although they are often stretched thin and a number of communities lack VPSOs. Incorporated boroughs like the North Slope Borough (where Point Lay is located) do have their own police departments.

St. Lawrence Island communities have been noting the names of vessels that come close to haulouts, but have a hard time communicating with these ships.<sup>92</sup> At a 2012 workshop on walrus, St. Lawrence Island participants described other protective measures undertaken by hunters and communities.<sup>93</sup> These include keeping haulout areas clean, notifying USFWS of plane disturbances, reviving a local hunting ordinance limiting the number of walruses taken per trip, and forming community marine mammal councils.

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88 Henry P. Huntington, Mark Nelson, and Lori T. Quakenbush, "Traditional Knowledge Regarding Walrus near Point Lay and Wainwright, Alaska, Report to the Eskimo Walrus Commission and Bureau of Ocean Energy Management." p. 5 (2012).

89 National Fish and Wildlife Federation, 2015 Alaska Fish and Wildlife Fund Grants, <http://www.nfwf.org/afwf/Documents/2015%20AFWF%20Funded%20Projects.pdf>

90 A.S. 18.65.670; Division of Alaska State Troopers. 2016. Village Public Safety Officer Program, Frequently Asked Questions. <http://www.dps.state.ak.us/ast/vpso/faq.aspx>

91 Division of Alaska State Troopers, Village Public Safety Officer Program, Frequently Asked Questions. <http://www.dps.state.ak.us/ast/vpso/faq.aspx>; AS 12.25.010.

92 The information in this paragraph was discussed by several participants at the Fairbanks Seminar.

93 Perry Pungowiyi, "Avoiding haul-out disturbance on St. Lawrence Island," in Workshop on Assessing Pacific Walrus Population Attributes from Coastal Haulouts, March 19-22, 2012, Workshop Proceedings Compiled and Edited By: Martin Robards & Joel Garlich-Miller (2013) p. 83.

## 3.3. Coordination and Information Sharing

**As a basis for voluntary or mandatory measures, there is a need for accurate information to be shared between regulatory agencies and between communities and agencies. Alaska Native participants at the Fairbanks seminar and at the Walrus Research Workshop preceding this seminar expressed a desire for better communication with communities to avoid disturbances and noise. Throughout both events, participants talked about the need to coordinate agency and researcher information and have it available at one publicly available site.<sup>94</sup> The Pacific Walrus International Database<sup>95</sup> maintained by USGS could serve such a role, but it is incomplete and does not contain all of the data in the public domain held by agencies. Likewise, there is a need for more information from the Russia side, including translations between Russian and English of article abstracts and project descriptions.**

While a coordinating website can play an important role, not all community members may have access to the Internet or be comfortable using it. It may make sense to have occasional printed newsletters or community meetings (or at least teleconferences). It also helps to have face-to-face meetings when there is funding to do so. An example is the 2012 workshop ADF&G held in Barrow to talk about how communities are managing haulouts.<sup>96</sup>

## 4. Management of Walrus Disturbances in Russia

### 4.1. Regulatory Framework

Russian law<sup>97</sup> generally prohibits hunting and habitat destruction of endangered animals,<sup>98</sup> though the population of walrus inhabiting the Chukchi and Bering Seas are not listed as endangered in Russia. Russian law provides for traditional subsistence hunting by indigenous peoples and residents in predominately indigenous

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<sup>94</sup> The need for a coordinating website was first raised and discussed at the Walrus Research Workshop.

<sup>95</sup> <http://alaska.usgs.gov/science/biology/walrus/pwid/>

<sup>96</sup> Justin Crawford, Willard Neakok, Justin Crawford, Mark A. Nelson, Joel Garlich-Miller, and Lori T. Quakenbush, "Results from Village-Based Walrus Studies in Alaska, 2012."

<sup>97</sup> Ascertaining which laws are currently applicable in the Russian Federation can be challenging, since Russian law is not codified in the same way that Public Laws passed by Congress are codified. While the Russian Federation does have codes in specific areas (e.g., family law, criminal procedure), this does not cover all laws. Soviet laws and regulations apply where the Russian Federation lacks such laws and Soviet law does not conflict with existing Russian law.

<sup>98</sup> Russian Federation, Federal Law on Fauna, N 52-FZ (Apr. 24, 1995), Arts. 24, 48; USSR, Order of the Ministry Fisheries, Law on Marine Mammal Protection and Harvest, N 349 (June 30, 1986) Art. 11.1.



communities.<sup>99</sup> Quotas for harvest are set by federal agencies.<sup>100</sup> Hunting within 500 meters of a haulout is generally prohibited,<sup>101</sup> with an exception for Far North peoples.<sup>102</sup> Unless permission is received by the Ministry of Fisheries, the Law on Marine Mammal Protection and Harvest provides for a 12-nautical-mile buffer for vessels around haulouts and a 4,000 meters minimum altitude for aircraft. A different article of the same law applies these limits to specific geographic points.<sup>103</sup> Participants said that advocates have not succeed in changing the law to avoid these limitations, which will become less useful as haulouts shift.

**Laws do not officially provide for co-management with indigenous groups as in Alaska, although there are some provisions for local governance.<sup>104</sup> While indigenous peoples are guaranteed certain rights under Russian law,<sup>105</sup> these rights are often not achievable in practice.<sup>106</sup> Enforcement of laws designed to protect marine mammals is weak due to financial constraints and few enforcement personnel. Community organizations end up doing much of the monitoring and enforcement themselves, to the extent they are able to do so. Developing management capacity may be more important than ensuring the enactment of strong laws. There is a perception that the law is enforced more strictly against indigenous hunters than against others.<sup>107</sup>**

Chukotkan participants at the Fairbanks Seminar described a disconnect between those who make laws and the communities in Chukotka who bear the brunt of

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99 Russian Federation, Federal Law on Hunting and the Protection of Hunting Resources, N 209-FZ (July 24, 2009), Art. 19; Russian Federation, Federal Law on Territories for Traditional Natural Resource Use by Indigenous Peoples of the North, Siberia and the Russian Far East N 49-FZ (May 7 2001), art. 2 (indigenous peoples and those residing in indigenous communities have the right to practice their traditional customs to the extent they do not conflict with Russian law).

100 Russian Federation, Federal Law on Hunting and the Protection of Hunting Resources, N 209-FZ (July 24, 2009), art. 24.

101 USSR, Order of the Ministry Fisheries, Law on Marine Mammal Protection and Harvest, N 349 (June 30, 1986) Art. 11.1; USSR, Order of the Ministry Fisheries, Law on Approval of Rules for Marine Mammal Harvest, N 300 (July 11, 1975) Art. 9.

102 USSR, Order of the Ministry Fisheries, Law on Approval of Rules for Marine Mammal Harvest, N 300 (July 11, 1975) Art. 10.

103 USSR, Order of the Ministry Fisheries, Law on Marine Mammal Protection and Harvest, N 349 (June 30, 1986) Art 11.4; USSR, Order of the Ministry Fisheries, Law on Approval of Rules for Marine Mammal Harvest, N 300 (July 11, 1975) Art. 9.

104 Russian Federation, Federal Law on general principles of local self-government in the Russian Federation, N 131-FZ (Oct. 6, 2003), art. 35

105 E.g., Russian Federation, Federal Law on guarantees of the rights of indigenous peoples, N 82-FZ (Apr. 30 1999); Russian Federation, Federal Law on Territories for Traditional Natural Resource Use by Indigenous Peoples of the North, Siberia and the Russian Far East, N 49-FZ (May 7 2001); Russian Federation, Federal Law on General Principles of Organization of Indigenous Communities with Small Populations, N 104-FZ (July 20, 2000).

106 World Bank Safeguard Policies Review and Update, Dialogue with Indigenous Peoples, October 2013- March 2014 p. 9, available at [https://consultations.worldbank.org/Data/hub/files/consultation-template/review-and-update-world-bank-safeguard-policies/en/materials/final\\_summary\\_dialogue\\_with\\_ip\\_october\\_2013-march\\_2014.pdf](https://consultations.worldbank.org/Data/hub/files/consultation-template/review-and-update-world-bank-safeguard-policies/en/materials/final_summary_dialogue_with_ip_october_2013-march_2014.pdf); Federica Prina, Protecting the Rights of Minorities and Indigenous Peoples in the Russian Federation: Challenges and Ways Forward, p. 15 (2014), available at [http://minorityrights.org/wp-content/uploads/2014/11/mrg-protecting-rights-minorities-indigenous-peoples-russian-federation\\_English.pdf](http://minorityrights.org/wp-content/uploads/2014/11/mrg-protecting-rights-minorities-indigenous-peoples-russian-federation_English.pdf)

107 The information in this paragraph was discussed by several participants at the Fairbanks Seminar.



enforcement and walrus protection. Chukotkan participants suggested that affected communities should have more of a voice in these decisions. This sentiment was echoed by Alaskan participants.

## 4.2. Practical Steps to Avoid Disturbance

Indigenous Chukotkan hunters formed the Association of Marine Mammal Hunters as a coalition of commissions representing 15 villages of indigenous Chukotkans in marine mammal management. These functions were absorbed by the Traditional Marine Mammal Hunters of Chukotka (ATMMHC) in 2001.

ATMMHC began monitoring haulouts after large walrus mortalities were observed in the fall of 2007. In 2009, indigenous groups began working with scientists (the Haulout Keepers project) to monitor eight haulouts. Hunters obtained significant amounts of information that enabled them to play important roles in tracking the situation over time and providing information to villages and agencies. They made recommendations on shipping, aviation, and community and government actions. Participants at the Fairbanks Seminar emphasized the need for repeated efforts to conduct outreach, as opposed to a one-time occurrence.<sup>108</sup>

As mentioned above, much of the burden of walrus management has fallen to poorly empowered communities. One example given at the Fairbanks Seminar was the Chukotkan village of Vankarem, which is near a major haulout. Local residents had established guidelines to avoid stampedes by keeping the area quiet and calm and prohibiting perfume and bright colors. In 2013, a large cruise ship anchored offshore, and rafts ferried tourists in for a close-up look at the walruses, all with permission from authorities in Moscow. The village was not warned or consulted about the cruise ship arrival.

**More Russian NGOs have gotten involved in recent years, but NGO involvement can be cyclical and fluid.<sup>109</sup> Since about 2014, NGOs have been experiencing hard times due to Russia's economic and political situation. Foreign NGOs, to the extent they are allowed and willing to operate in Russia, are important sources of funding for joint research and on-the-ground projects.<sup>110</sup>**

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<sup>108</sup> The information in this paragraph was discussed by several participants at the Fairbanks Seminar.

<sup>109</sup> Ibid.

<sup>110</sup> Russia's foreign agent law requires any NGO that receives funding from abroad and engages in political activity to formally register as a "foreign agent." The law authorizes intrusive audits, labeling requirements, and stiff administrative fines. While NGOs that support the protection of flora and wildlife are supposed to be exempt under Article 2, a number of conservation NGOs have been cited under the law. See Federal Law Amending Legislative Acts of the Russian Federation on the regulation of non-profit organizations performing the functions of foreign agents, N 121-FZ, July 20, 2012.

One bright spot in NGO and community activity has been the increased use of Skype to communicate rather than relying on infrequent in-person meetings.

Indigenous participants at the Fairbanks Seminar spoke about the need to enforce their legal rights and the potential role of an indigenous advisory board. There is an Inuit Circumpolar Council office in Russia and Association of Indigenous Peoples in Chukotka, which is an affiliate of the Russian Association of Indigenous Peoples of the North, Siberia, and the Far East.

## 5. Potential Protective Measures

### 5.1. Protected Areas

Areas where walrus are hauling out, migrating, or feeding could be protected under international or U.S. law, or by Alaska law if within three nautical miles of the coast. Such designations can restrict disturbances without curtailing hunting, depending on the type and wording of the designation. At the seminar, someone suggested designating a “food security zone” for Beringia. The challenge to any of the designations described in this section is that they are based on specific geographic areas, and walrus may relocate after the designation is in place. This means that a relatively broad designation might be required to be effective, but this may not be politically feasible. Ideally, a designation could be adaptable, tied to regularly updated information on walrus locations.

- **Particularly Sensitive Sea Areas (PSSA):** At the international level, these can be designated by IMO with support of member states.<sup>111</sup> This designation provides for specific measures (called “Associated Protective Measures”) to avoid ecological and subsistence harm, which might include a ship routing or reporting system near or in the area or speed limits.<sup>112</sup> These measures would need to be enforced by member states.
- **Areas to be Avoided:**<sup>113</sup> Another type of IMO, these are “an area within defined limits in which either navigation is particularly hazardous or it is exceptionally important to avoid casualties and which should be avoided by all ships, or by certain classes of ships.”<sup>114</sup> These areas may be adopted to avoid shipping accidents

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111 IMO, Revised guidelines for the identification and designation of Particularly Sensitive Sea Areas, Assembly Res. A.982(24) § 1.2 (Dec. 1, 2005), available at [www.imo.org/blast/blastDataHelper.asp?data\\_id=14373&filename=982.pdf](http://www.imo.org/blast/blastDataHelper.asp?data_id=14373&filename=982.pdf).

112 Ibid. at § 6; see also Jon M. Van Dyke, Sherry P. Broder, Particular Sensitive Sea Areas; Protecting the Marine Environment in the Territorial Seas and Exclusive Economic Zones, 40 DENV. J. INT’L L. & POL’Y 472, 478 (2011) (suggesting that measures may include vessel traffic services).

113 IMO, Ships Routeing, <http://www.imo.org/ourwork/safety/navigation/pages/shipsrouteing.aspx>

114 IMO, Ships Routeing, [www.imo.org/OurWork/Safety/Navigation/Pages/ShipsRouteing.aspx](http://www.imo.org/OurWork/Safety/Navigation/Pages/ShipsRouteing.aspx); see also 33 C.F.R. §

as well as for environmental protection.<sup>115</sup> One example is the 2014 Areas to Be Avoided for the Aleutian Islands region, designed to protect marine mammals and subsistence uses (as well as commercial fishing).<sup>116</sup> Another example is the voluntary seasonal Area to Be Avoided off the northeastern U.S. coast for Right whales, corresponding to the whale's feeding area.<sup>117</sup>

- **Areas to be Avoided (Examples):** There have been efforts by U.S.-based groups to promote a ship routing scheme and Areas to Be Avoided in the Bering Sea, with the aim of protecting important subsistence areas and environmentally sensitive areas from ship traffic. One proposal would provide for a six-nautical mile buffer around walrus haulouts along the coast of Diomedes and St. Lawrence.<sup>118</sup> Since this proposal and traffic scheme only concerns the U.S. side of the Bering Strait itself, it does not address walrus haulouts at Round Island or the Chukchi coastline along Alaska and Chukotka. Another option, under U.S. law, would be for the Coast Guard to designate Areas to be Avoided or Precautionary Areas within U.S. waters.<sup>119</sup>
- **Marine National Monuments:** can be designated under U.S. Law. Monuments are designated by the U.S. President under the Antiquities Act.<sup>120</sup> The Act does not require any specific public process for the designation. The proclamation designating the monument determines what activities are allowed within the monument—there is no bar to subsistence or any other activity unless specifically stated in the proclamation.<sup>121</sup>
- **National Marine Sanctuaries:** can be nominated by communities and designated by NOAA under the National Marine Sanctuaries Act (NMSA) after an extensive public process,<sup>122</sup> or they can be designated by Congress. Sanctuaries can be co-managed by states, tribes, or local groups.<sup>123</sup> Subsistence use and commercial

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167.5(a) (defining area to be avoided as “a routing measure comprising an area within defined limits in which either navigation is particularly hazardous or it is exceptionally important to avoid casualties and which should be avoided by all ships or certain classes of ships.”).

115 IMO, Ships Routeing, <http://www.imo.org/ourwork/safety/navigation/pages/shipsrouteing.aspx>

116 United States, Proposal for Establishment of five areas to be avoided in the region of the Aleutian Islands, submitted to IMO Sub-Committee on Navigation, Communications, and Search and Rescue (Dec. 5, 2014) <http://www.nepia.com/media/258601/IMO-NCSR-2-3-5-Adopt-the-Establishment-of-Five-Areas-to-be-Avoided.pdf>; IMO, Routeing Measures Other than Traffic Separation Schemes, SN.1/Circ.331, (July 13, 2015).

117 Ibid.

118 Audubon Alaska et al., Comments to Rear Admiral Daniel Abel, USCG, RE: Recommendations on the Port Access Route Study: In the Chukchi Sea, Bering Strait and Bering Sea, Docket ID: USCG-2014-0941 (June 3, 2015) p. 21.

119 See 33 U.S.C. § 1223 (authority for implementing vessel routing measures); 33 C.F.R.; Audubon Alaska et al., Comments to Rear Admiral Daniel Abel, USCG, RE: Recommendations on the Port Access Route Study: In the Chukchi Sea, Bering Strait and Bering Sea, Docket ID: USCG-2014-0941. (June 3, 2015) p. 21; E.B. Ristorph and Anwar Hussain, “Wilderness: Good for Alaska, Economic and Legal Perspectives on Alaska’s Wilderness.” Washington Journal of Environmental Law & Policy 4(2):424-481 (2015).; 16 U.S.C. 1434, 16 U.S.C. 1442., 16 U.S.C. 1434(c) 15 CFR § 922.47(a).; See 33 U.S.C. § 1223 (authority for implementing vessel routing measures); 33 C.F.R. Part 167.

120 16 U.S.C. §§431-433.

121 E.B. Ristorph and Anwar Hussain, “Wilderness: Good for Alaska, Economic and Legal Perspectives on Alaska’s Wilderness.” Washington Journal of Environmental Law & Policy 4(2):424-481 (2015).

122 16 U.S.C. 1434.

123 16 U.S.C. 1442.

fishing licenses in existence of the date of designation may continue, but may be subject to regulation by NOAA.<sup>124</sup> This limitation may make sanctuaries less desirable.

- **New Protected Area** The State of Alaska could designate one of these in a manner similar to its designation of the Walrus Islands State Game Sanctuary.<sup>125</sup> This would allow the State to restrict access or set vessel buffers (out to three nautical miles). There would not be a change in subsistence regulation unless the State entered a cooperative management agreement with USFWS.

## 5.2. Altitude Restrictions

One idea discussed at the Fairbanks Seminar was the potential for a regulation based on MMPA<sup>126</sup> that could provide examples of the term “harassment,” which could include aircraft flying below certain altitudes. A representative from USFWS suggested that the agency did not have sufficient power under MMPA to impose altitude restrictions. Another idea concerned FAA authority to restrict the use of airspace for a variety of reasons, including the public interest.<sup>127</sup> FAA used this authority to limit flights when President Obama came to Alaska in 2015,<sup>128</sup> and it was basis for Advisory Circular 91-36D.

But there seemed to be little interest on the part of Fairbanks Seminar participants in having FAA establish altitude restrictions. An FAA representative characterized the FAA mission as aviation safety rather than wildlife protection. FAA prefers to educate aviators who fly in the vicinity of walrus and has tools to support outreach and education endeavors.

## 5.3. Endangered Species Act Measures

**In 2008, USFWS was petitioned to list the Pacific walrus as threatened or endangered under the Endangered Species Act<sup>129</sup> and to designate critical habitat. In 2011, USFWS determined that a listing was warranted but precluded by higher priority species.<sup>130</sup>**

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124 16 U.S.C. 1434(c) 15 CFR § 922.47(a).

125 Refuges, critical habitat areas, and sanctuaries provide different levels of protection, with sanctuaries like the Walrus Islands State Game Sanctuary generally providing the greatest protection. ADF&G, Refuges, Sanctuaries, Critical Habitat Areas & Wildlife Ranges. These protected areas are generally created through the legislature based on community requests and input. See AS 16.20.010 (state’s authority); AS 16.20.092.

126 16 U.S.C. 1362(13, 18), 1371(a).

127 See 49 USC 40103(b)(1) It could be argued that avoiding walrus disturbance is in the public interest.

128 FAA, Flight Advisory VIP Visit Alaska, August 31-September 02, [http://www.faa.gov/news/updates/media/VIP\\_Alaska\\_Advisory.pdf](http://www.faa.gov/news/updates/media/VIP_Alaska_Advisory.pdf)

129 Section 4(a)(1) of the ESA and the listing regulations (50 CFR part 424).

130 USFWS, Endangered and Threatened Wildlife and Plants; 12-Month Finding on a Petition to List the Pacific

**USFWS has not made a determination under MMPA<sup>131</sup> as to whether the Pacific Walrus is depleted.<sup>132</sup> Based on concern about climate change and development, USFWS is now reconsidering a listing, with a final decision scheduled for 2017.<sup>133</sup>**

Other ice-dependent pinnipeds have been under similar consideration. The ribbon seal is considered a “species of concern” but not depleted under MMPA or threatened or endangered under ESA.<sup>134</sup> The bearded seal is not considered depleted, threatened, or endangered overall, but one distinct population (Okhotsk) is considered depleted and threatened.<sup>135</sup> Similarly, the ringed seal is not considered depleted, threatened, or endangered overall, but two subspecies are considered endangered (Ladoga<sup>136</sup> and Saimaa<sup>137</sup>), three threatened (Okhotsk, Arctic, and Baltic<sup>138</sup>), and five depleted (Ladoga, Arctic, Okhotsk, Baltic, and Saimaa).<sup>139</sup>

Many Alaska Native hunters (including participants at the Fairbanks Seminar) are concerned about potential listings under the Endangered Species Act, as this may give way to hunting restrictions at some time in the future. While Section 10(e) of the Endangered Species Act generally provides an exemption for subsistence, USFWS could, after notice and a hearing, determine that subsistence “materially and negatively affects the threatened or endangered species” and issue regulations restricting subsistence.<sup>140</sup>

With a listing and critical habitat designation, buffers and potentially altitude restrictions could be imposed. An example is critical habitat for the Steller’s sea lion, which includes an air zone that extends 3,000 feet and an aquatic zone that extends 3,000 feet from each major rookery and major haulout in Alaska. Vessel traffic is generally prohibited within three nautical miles of rookeries.<sup>141</sup> But these designations and buffers are based on specific geographic points, and marine mammal haulouts may shift with climate change.

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Walrus as Endangered or Threatened, 76 Fed. Reg. 7634 (Feb. 10, 2011).

131 16 U.S.C. 1383b(a).

132 USFWS, Marine Mammal Protection Act; Stock Assessment Reports, 79 Fed. Reg. 22154 (Apr. 21, 2014).

133 USFWS, Planned Listing Actions (Nov. 13, 2015), [http://www.fws.gov/endangered/improving\\_ESA/pdf/20151113\\_Planned\\_Listing\\_Actions.pdf](http://www.fws.gov/endangered/improving_ESA/pdf/20151113_Planned_Listing_Actions.pdf)

134 NMFS, Endangered & Threatened Wildlife; Determination on Whether To List the Ribbon Seal as a Threatened or Endangered Species, 78 Fed. Reg. 41371 (July 10, 2013); NOAA, Ribbon Seal, <http://www.fisheries.noaa.gov/pr/species/mammals/seals/ribbon-seal.html> (last updated Jan. 16, 2015).

135 NOAA, Final listing of the Okhotsk sub-species as Threatened under ESA, 77 Fed. Reg. 76739 (Dec. 28, 2012).

136 NOAA, Endangered & Threatened Species; Threatened Status for the Arctic, Okhotsk, & Baltic Subspecies of the Ringed Seal & Endangered Status for the Ladoga Subspecies of the Ringed Seal, 77 Fed. Reg. 76705 (Dec. 28, 2012).

137 NOAA, Endangered & Threatened Species, Saimaa Seal, 58 Fed. Reg. 26920 (May 6, 1993).

138 NOAA, Endangered & Threatened Species; Threatened Status for the Arctic, Okhotsk, & Baltic Subspecies of the Ringed Seal & Endangered Status for the Ladoga Subspecies of the Ringed Seal, 77 Fed. Reg. 76705 (Dec. 28, 2012).

139 NOAA, Ringed Seal, <http://www.nmfs.noaa.gov/pr/species/mammals/seals/ringed-seal.html>

140 16 U.S.C. § 1539(e)(4).

141 50 CFR 223.202.



## 5.4. Speed Limits

The Ports and Waterways Safety Act allows USCG to establish and maintain measures for controlling or supervising vessel traffic as well as for protecting navigation and the marine environment.<sup>142</sup> These measures, which may be implemented in U.S. territorial waters or in areas covered by an international agreement, include ship reporting systems, ship routing systems, vessel traffic services, areas to be avoided, tracking systems, and speed limits.<sup>143</sup> In implementing and carrying these measures, USCG must consider a number of factors, including environmental protection.<sup>144</sup> In addition to establishing areas to be avoided (discussed above), USCG could consider establishing speed limits along ship routes that could come into proximity of haulouts.

Authority for speed limits could also be tied to an ESA listing. For example, in 2008, NOAA/NMFS used its authority under the Endangered Species Act to issue a speed limit of most vessels to 10 knots/hr in certain areas at particular times of the year when endangered Right whales are expected to be present.<sup>145</sup> Another example is the limit set by the National Park Service for Glacier Bay Park. Since NPS has jurisdiction over the park, it has authority to set vessel buffers and other measures not inconsistent with its regulatory authority.<sup>146</sup> Voluntary speed limits could also be effective. An example is the 10 knots/hr limit agreed upon by the Alaska Eskimo Whaling Commission and oil industry representatives for vessels “in the proximity of feeding whales or whale aggregations.”<sup>147</sup>

## 5.5. Tracking of Vessels and Airlines

If mandatory altitude restrictions, speed limits, or buffers were to be implemented and enforced, it could be a challenge for enforcement agencies to know when

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<sup>142</sup> 33 U.S.C. 1223(a).

<sup>143</sup> Ibid.

<sup>144</sup> 33 U.S.C.1224. Factors include (1) the scope and degree of the risk of hazard involved; (2) vessel traffic characteristics; (3) port and waterway configurations; (4) the need for exemptions from equipment requirements for certain classes of small vessels; (5) the proximity of fishing grounds, oil, and gas drilling and production operations, or any other potential or actual conflicting activity; (6) environmental factors; (7) economic impact and effects; (8) existing vessel traffic services; and (9) local practices and customs, including voluntary arrangements and agreements within the maritime community. Ibid. The Coast Guard is required to consult with and consider the views of representatives of the maritime community, ports and harbour authorities or associations, environmental groups, and other parties who may be affected by the proposed actions. Ibid.

<sup>145</sup> See Final Rule to Implement Speed Restrictions to Reduce the Threat of Ship Collisions with North Atlantic Right Whales, 73 Fed. Reg. 60,173 (Oct. 10, 2008); 50 C.F.R. § 224.105. The rule applies to all vessels (except those operated by or under contract to Federal agencies) that are 65 feet or greater in length in certain locations, and at certain times of the year along the east coast of the U.S. Atlantic seaboard. Ibid.

<sup>146</sup> 54 U.S. Code § 100101 (NPS authority to promulgate rules); 16 U.S. Code § 410hh (authority to administer Alaska parks). See, e.g., 36 CFR §13.1170 (generally prohibiting vessel operation within 1/4 nautical mile of a whale and setting a mandatory 10 knot/hr speed limit) and 13.1176 (speed limit of 20 knots/hr from May 15 through September 30, in designated whale waters).

<sup>147</sup> 2012 Open Water Season Programmatic Conflict Avoidance Agreement, §§ 302(d), 501(c) (Mar. 1, 2012).

violations occurred far from villages. Tracking devices already required under U.S.<sup>148</sup> and international<sup>149</sup> law for many vessels could help with this kind of enforcement. Long Range Identification and Tracking (LRIT) systems and Automated Identification Systems (AIS) allow communication between vessels and on-shore observers, with the objective of avoiding collisions, maintaining safe distance from maritime hazards, locating vessels in distress, and assisting in search and rescue efforts. Under both systems, vessels carry hardware that actively transmits information regarding vessel identify and location.<sup>150</sup> At the seminar, there was not great interest in pursuing mandatory regulations enforced by such tracking devices. But ADF&G is already using AIS at Round Island in addition to other methods to identify vessels and aircraft and pursuing violations or warnings.<sup>151</sup>

## 5.6. Use of Drones for Monitoring

The possibility of using drones for research, monitoring, and media purposes was not discussed at the Fairbanks seminar, but it may be a way to reduce disturbances associated with aircraft. In and near Alaska, drones have already been used to survey hauled out Steller's sea lions and ice seals.<sup>152</sup> If additional research suggests that drones cause less disturbance than other forms of monitoring or photographing, perhaps drone usage could be required for permit-authorized research.

## 5.7. Tribal Regulation

**Alaska Native participants at the Fairbanks Seminar were interested in what Alaska tribes might do on their own to regulate walrus, through measures such as asserting aboriginal title. In spite of limitations imposed by the Alaska Native Claims Settlement Act (ANCSA),<sup>153</sup> Alaska tribes retain jurisdiction over their members, the ability to**

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148 46 U.S.C. § 70115; 33 C.F.R. § 164.46 (requiring the following vessels to have AIS when on an international voyage: self-propelled vessels of 65 feet or more in length, other than passenger and fishing vessels, in commercial service; passenger vessels of 150 tons or more; all tankers; and vessels (other than passenger vessels or tankers) of 300 tons or more; and requiring the following vessels to have AIS when passing through a VTS: self-propelled vessels of 65 feet or more in length, other than fishing vessels and passenger vessels certificated to carry less than 151 passengers-for-hire, in commercial service; towing vessels of 26 feet or more in length and more than 600 horsepower, in commercial service; and passenger vessels certificated to carry more than 150 passengers-for-hire); 33 C.F.R. § 169.205 (requiring passenger ships, cargo ships of 300 tons or more, and mobile offshore units not engaged in drilling operations to transmit position reports while engaged on an international voyage).

149 SOLAS, as amended by IMO Res. MSC.202(81) (May 19, 2006), Reg. V/19-4.1.1; 19-1.2.1 (requiring cargo vessels of 300 gross tons or more, passenger ships, high speed craft, and mobile offshore drilling rigs to implement LRIT); SOLAS regs. V/19.2.4 & 19.1. (requiring all passenger vessels, all vessels of 300 gross tons and larger on international voyages, and all cargo vessels of 500 gross tons not on international voyages to be fitted with AIS equipment.).

150 E.B. Ristoph, "Loosening Lips to Avoid Sinking Ships: Designing a Ship Communications System for the Bering Strait Region." *Indiana International & Comparative Law Review* 24(3):581-664 (2014).

151 Communication with Ed Weiss (Apr. 7, 2016).

152 Joel K. Bourne, Jr., "In the Empty Arctic, How to Get the Job Done? With A Drone," *National Geographic* (Apr. 14, 2016) <http://news.nationalgeographic.com/2016/04/160414-Arctic-drones-wildlife-fire-oil-spill-environment/>

153 43 U.S.C. § 1603.

**issue use permits on Native allotments and townsites, the ability to issue persuasive resolutions regarding the activities of non-members, and innovative opportunities to expand jurisdiction as Native law evolves.<sup>154</sup>**

*Alaska v. Native Village of Venetie Tribal Government* suggests that Alaska tribes can still exert jurisdiction over land that is held in trust, including Native allotments and townsites<sup>155</sup> considered “restricted property.”<sup>156</sup> A tribe could pass a zoning code regarding activities that can take place on restricted properties, or adopt an existing zoning code from the municipality in which the tribe is located. There will be opportunities to expand land held in trust if litigation in *Akiachak v. Jewell* is resolved in favor of Alaska Native plaintiffs. The case was brought to invalidate a portion of regulations (25 C.F.R. Part 151) prohibiting the Interior Secretary from acquiring title to land in trust on behalf of tribes. Although the Bureau of Indian Affairs (BIA) has already revised the regulation,<sup>157</sup> it will not approve any applications for land into trust while the appeal is pending.<sup>158</sup>

A tribe could adopt regulations or guidelines to govern the conduct of its own members, and ask non-members to voluntarily adhere to them. For example, in 2008, the Tribal Council of Point Lay adopted its own bylaws to protect and manage the traditional community beluga hunts.<sup>159</sup> The bylaws aim to regulate resident hunters, visitors (including visiting hunters, journalists, photographers, and scientists), and aircraft flying near Point Lay during the hunt period.

Aboriginal subsistence hunting and fishing rights are part of “aboriginal title,” the possessory rights that tribes retain by virtue of their use and occupancy for centuries or even millennia.<sup>160</sup> There have been several court cases on the issue of whether an Alaska tribe can claim aboriginal title to parts of the ocean that have traditionally been used for hunting and fishing. In *Iñupiat Community of the Arctic Slope v. United States*,<sup>161</sup>

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154 *Kimball v. Callahan*, 590 F.2d 768, 777-78 (9th Cir. 1979) (inherent power to determine membership does not depend on having a territorial base, so even tribes with no Indian country may retain this power); *John v. Baker*, 982 P.2d 738 (Alaska 1999) (holding that ANCSA did not extinguish tribal sovereignty); Act of May 1, 1936, ch. 254, 49 Stat. 1250 (codified at 25 U.S.C. § 473a) (amending the Indian Reorganization Act of 1934 to include Alaska Natives).

155 These are allotments established under the Alaska Native Allotment Act, Act of May 17, 1906, 43 U.S.C. §§ 270-1 to 270-3, repealed with savings clause, 43 U.S.C. § 1617(a) and townsites established under the Alaska Native Townsite Act, 43 U.S.C. §§ 733, 735, repealed under Federal Land Policy Management Act, section 701, with savings clause. See *Aleknagik Natives Ltd v. U.S.*, 886 F.2d 237 (9th Cir. 1989).

156 See 25 CFR 1.4(a) (prohibiting state or local regulation of “zoning or otherwise governing, regulating, or controlling the use of any real or personal property ... that is held in trust or is subject to a restriction against alienation imposed by the United States”); 25 CFR 1.4(b) (giving the Interior Secretary authority to agree on zoning regulations, in consultation with the affected tribe); *Santa Rosa Band of Indians v. Kings County*, 532 F.2d 655 (9th Cir. 1975), cert. den. 429 US 1038 (upholding 25 CFR 1.4); *People of South Naknek v. Bristol Bay Borough*, 466 F.Supp. 870 (D. Alaska 1979) (Taxation by local government prohibited).

157 Bureau of Indian Affairs, Interior, Land Acquisitions in the State of Alaska, 79 Fed. Reg. 76888-76897 (2014).

158 *Akiachak v. Jewell*, 995 F.Supp.2d 7 (D.D.C. 2014).

159 Robert J. Wolfe, Sensitive Tribal Areas on the Arctic Slope, An Update of Areas, Issues, and Actions in Four Communities, 8 (Sep. 2013), citing Bylaws for the Traditional Beluga Hunt by the Tribal Village of Point Lay.

160 E.B. Ritroph. 2016. Strategies for Strengthening Alaska Native Village Roles in Natural Resource Management *Willamette Environmental Law Review* (2016).

161 *Iñupiat Community of Arctic Slope v. United States*, 548 F.Supp. 182 (D. Alaska 1982), aff’d on other grounds, 746 F.2d

the Ninth Circuit extended the effect of ANCSA to the use of sea ice many miles from shore. This suggests that it would be difficult for a tribe to claim exclusive sovereign rights to the outer continental shelf of the Arctic Ocean.<sup>162</sup> Still, a tribe may be able to claim non-exclusive rights over offshore subsistence resources.<sup>163</sup> Non-exclusive rights would probably mean that NOAA and USFWS would have some rights to control fisheries and marine mammals and allocate resources in the claimed area among users.<sup>164</sup>

## 5.8. Improved Communication

**Many participants at the Fairbanks Seminar felt that improved communication, outreach, and cooperation would be a better remedy than adding new laws. Participants emphasized the importance of face-to-face communication through workshops or one-on-one meetings. Several participants (particularly on the Alaskan side) suggested that more rules would not necessarily result in better outcomes. They suggested targeting the specific, limited number of planes and vessels that cause disturbances.**

One participant described the need for better communication during the process of fuel delivery. Fuel delivery by barge can only occur during a certain time window—there is little flexibility—so the best way to minimize disturbance is to let the barge know where the walrus are at that time. One model for communication is that between the AEWG and oil vessels under the Conflict Avoidance Agreement for the bowhead whale.<sup>165</sup> The Agreement establishes equipment and procedures for communications between whalers and oil and gas industry participants; avoidance measures to be taken in the vicinity of subsistence hunting; and emergency measures.<sup>166</sup> The Agreement also lists contact information for representatives from each industry vessel and village, as well as vessels that will be used in industry operations.<sup>167</sup>

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570 (9th Cir. 1984), cert. denied, 474 U.S. 820 (1985).

162 See also *Eyak Native Village v. Daley*, 364 F.3d 1057 (9th Cir. 2004), upheld by *Native Village of Eyak v. Blank*, 688 F.3d 619 (9th Cir. 2012), cert. denied 134 S. Ct. 51(2013) (holding that “the federal paramountcy doctrine” barred the Native Villages’ aboriginal title claims to the OCS, including exclusive hunting and fishing rights); see also *North Slope Borough v. Andrus*, 642 F.2d at 611-12; see also *United States v. Rayonier, Inc.*, 627 F.2d 996, 1003 (9th Cir. 1980)

163 In *Village of Gambell v. Hodel*, 869 F.2d 1273, 1278-80 (9th Cir. 1989), the Ninth Circuit held that ANCSA did not extinguish aboriginal claims to the OCS and left open the question of whether a tribe could assert “non-exclusive” subsistence rights in the OCS area.

164 In *United States v. Washington* and other cases, the courts have interpreted treaty-reserved rights to be non-exclusive, and have therefore apportioned resource rights between tribal and non-tribal users. See, e.g., *United States v. Washington*, 384 F.Supp. 312 (W.D. Wash. 1974), aff’d, 520 F.2d 676 (9th Cir. 1975), aff’d sub. nom., *Washington v. Washington State Commercial Passenger Fishing Vessel Ass’n*, 443 U.S. 658 (1979). Such rights are also subject to regulation of seasons, manner of fishing, and size of take for purposes of conservation. See, e.g., *Puyallup Tribe v. Dep’t of Game*, 391 U.S. 392 (1968).

165 E.g., Conflict Avoidance Agreement, §§ 103(a)(12), 104(b)(2). The agreement operates during “Open Water Season”—the period of the year when ice conditions permit navigation or oil and gas operations to occur in the Beaufort Sea or Chukchi Sea.

166 See *Ibid.* at § 102 (Purpose).

167 *Ibid.* at §§ 206, 401(a).

**It could be helpful to have a streamlined, regular system for communicating walrus haulouts between communities, regulatory agencies (particularly USFWS, NOAA, USCG, and FAA), and potential sources of disturbance (particularly vessel operators and pilots). A one-stop website that vessel operators and pilots are required to consult (whether by regulations, permits, or their insurers) could be helpful. This same information could also go in publications such as USCG’s Local Notice to Mariners.**

Alaska Native participants at the Fairbanks Seminar emphasized the importance of government-to-government consultation. Executive Order No. 13,175 requires each agency to “have an accountable process to ensure meaningful and timely input by tribal officials in the development of regulatory policies that have tribal implications.”<sup>168</sup> USFWS and NMFS have specific consultation policies that would apply to activities related to marine mammals.<sup>169</sup>

## 5.9. Seasonal Calendar

Participants at Dr. Nicole Misarti’s Walrus Research Workshop, which took place just prior to the Fairbanks Seminar referred to in this paper, discussed the idea of a seasonal calendar and map showing walrus migration and haulouts, which could help avoid impacts to walrus over space and time. A model could be the map maintained by the North Slope Borough Wildlife Management Department for the bowhead whale.<sup>170</sup> The challenge to such a map would be the pace of change in migration and haulout patterns. Using Geographic Information System (GIS) to create and update such a map could address this challenge. GIS software would allow a map maker to create “shapefiles” (lines for routes, polygons for feeding areas, and dots for haulouts) attached to spreadsheet data describing the applicable season for the walrus location (i.e., “walrus travel along this route annually between May and August”) and the most recently known occurrence (i.e., “2007 to present” or “1960s”).

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<sup>168</sup> Exec. Order No. 13,175, 3 C.F.R. 304, 305 (2000), superseding Exec. Order No. 13084, 63 Fed. Reg. 27655 (May 14, 1998), requires FWS and NMFS to consult with tribes when “undertaking to formulate and implement policies that have tribal implications.” Secretarial Order No. 3206, American Indian Tribal Rights, Federal-Tribal Trust Responsibilities, and the Endangered Species Act, (Aug. 27, 1999), explains the responsibilities of the Departments of the Interior and Commerce when actions taken pursuant to the Endangered Species Act may affect the exercise of American Indian tribal rights. Secretarial Order No. 3225, Endangered Species Act and Subsistence Uses in Alaska (Supplement to Secretarial Order 3206) (Jan. 19, 2001), clarifies the application of Secretarial Order No. 3206 to Alaska, and requires consultation as soon as any conservation concern arises regarding a species that is listed as endangered or threatened under the Endangered Species Act and also used for subsistence.

<sup>169</sup> USFWS, Native American Policy 510 FW 1, NOAA (Jan. 20, 2016); Procedures for Government-to-Government Consultation with Federally Recognized Indian Tribes and Alaska Native Corporations, p. 9 (Nov. 12, 2013), available at <http://www.legislative.noaa.gov/policybriefs/NOAA%20Tribal%20consultation%20handbook%20111213.pdf>. Examples of actions requiring consultation include: a policy or action with effects on an Alaska Native village; a policy or action that may impact tribal trust resources or the rights of a tribe; and a policy or action that affects a tribe’s traditional way of life. *Ibid.*

<sup>170</sup> North Slope Borough Bowhead Whale Subsistence Harvest Research, <http://www.north-slope.org/departments/wildlife-management/studies-and-research-projects/bowhead-whales/bowhead-whale-subsistence-harvest-research>



## 6. Areas of Cooperation between Russians and Alaskans

### 6.1. Scientific Cooperation

There is a long history of cooperation between U.S. and Russian agencies on wildlife conservation, which continues between USFWS and its Russian Counterpart, Russia's Ministry of Natural Resources and Environment. Marine mammals, particularly polar bears, walrus, and sea otters, are a major focus of this cooperation, conducted through the Wildlife without Borders - Russia program, and USFWS's Alaska Marine Mammals Management Office.<sup>171</sup> This cooperation has continued despite funding challenges and political tension. One Fairbanks Seminar participant emphasized the importance of having working agreements or understandings between U.S. and Russian agencies, even if these are not binding agreements.

As of 2016, USFWS and Russia are collaborating on fieldwork and sharing information. USFWS receives annual reports on subsistence harvest levels and the number of walrus deaths at coastal haulouts. Russian scientists are assisting USFWS in a project to collect walrus skin samples for DNA "fingerprinting." There were more workshops and meetings with Russian and U.S. scientists in the past to improve harvest estimates, but declines in funding have reduced these efforts to some extent.<sup>172</sup> In the next two years, Russian and American scientists will collaborate on a walrus survey in the Bering Sea.<sup>173</sup>

Another area of scientific collaboration is the Pacific Walrus International Database, maintained by USGS, with data supplied by USFWS, USGS, UAF, and ADF&G on the U.S. side, and the Russian Academy of Science, Wrangel Island National Nature Reserve, and the Pacific Institute of Fisheries and Oceanography on the Russian side.<sup>174</sup> Data categories include land and ice haulout counts, sex/age composition, reproduction, mortality, harvest statistics, and morphometry.

### 6.2. Management Agreements

There are already models for U.S.-Russia wildlife management agreements, including the U.S.-Russia Polar Bear Treaty.<sup>175</sup> Articles 6, 8, and 9 provide for a subsistence harvest

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171 US-Russia Marine Mammal Working Group, <http://www.fws.gov/international/wildlife-without-borders/russia/us-russia-marine-mammal-working-group.html>

172 Communication with Jim MacCracken (Mar. 28, 2016).

173 Emily Russell, "Russian and American officials sign wildlife management agreement" Alaska Public Media (Mar. 2016), [www.alaskapublic.org/2016/03/29/russian-and-american-officials-sign-wildlife-management-agreement/](http://www.alaskapublic.org/2016/03/29/russian-and-american-officials-sign-wildlife-management-agreement/)

174 USGS, Pacific Walrus International Database, <http://alaska.usgs.gov/science/biology/walrus/pwid/>

175 Agreement between the Government of the United States of America and the Government of the Russian

quota to be allocated equally between Alaska and Chukotka. Article 8 provides for cooperation in scientific research, including traditional knowledge. In connection with the treaty, the Alaska Nanuuq Commission (which co-manages polar bears in the United States) signed a Native-to-Native Agreement with ATMMHC in 1997. Another example is the agreement between the Alaska Eskimo Whaling Commission (AEWC) and the Association of Traditional Marine Mammal Hunters to share the bowhead quota with whaling communities in Russia.<sup>176</sup>

## 6.3. Other Forms of Exchange

In addition to cooperation between the U.S. and Russian governments, participants at the Fairbanks Seminar reiterated the need for cooperation between indigenous communities/hunters and scientists/regulators. It is important that any agreement preserve the indigenous voices.

**Participants pointed out that, aside from all the current agreements and working relationships, there are historical connections between the two sides that remain in place. An example is the Workshop on Assessing Pacific Walrus Population Attributes from Coastal Haul-Outs, held March 19-22, 2012 in Anchorage, Alaska, by USFWS, Wildlife Conservation Service, the Trust for Mutual Understanding, and the National Park Service. The workshop included some of the same Russian and U.S. participants as the 2016 seminar. Participants in that workshop, like those in the 2016 Fairbanks Seminar, emphasized the benefits of involving local residents in walrus management. But that workshop placed greater importance on the development of government regulations for aircraft and vessels near walrus haulouts, as well as management plans to protect haulouts and adjacent waters in the future Beringia National Park.<sup>177</sup>**

The Shared Beringian Heritage Program has funded scientific and cultural projects related to marine mammals, sea ice patterns, climate change, reindeer herding, archaeology, and documentation of local traditions, language, and culture. This includes research to gather critical species and habitat information, documentation of traditional ecological knowledge, and the establishment of citizen-based science in the U.S. and Russia.<sup>178</sup>

The Bering Strait Messenger Network and the Institute of the North hold a Monthly Teleconference Dialogue between Chukotka and Alaska, on the third Friday of each

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Federation on the Conservation and Management of the Alaska Chukotka Polar Bear Population signed in 2000 and ratified by the United States in 2007. Available at: <http://pbsg.npolar.no/en/agreements/US-Russia.html>

176 NMFS, Notice; Notification of Quota for Bowhead Whales, 81 Fed. Reg. 8177 (Feb. 18, 2016).

177 Martin Robards and Joel Garlich-Miller (Eds.), Proceedings of Workshop on Assessing Pacific Walrus Population Attributes from Coastal Haul-Outs," March 19-22, 2012, National Park Service Headquarters Anchorage, Alaska. p. 86.

178 Shared Beringian Heritage Program, Projects & Research, [www.nps.gov/akso/beringia/projects/index.cfm](http://www.nps.gov/akso/beringia/projects/index.cfm)

month (Alaska Time). The aim is to promote a relationship between Alaskans and Chukotkans who are interested in a changing Arctic.<sup>179</sup>

The visa-free program allowing travel by indigenous Chukotkans and Alaskans has also facilitated exchange. The program started with a 1989 agreement between the U.S. and U.S.S.R.<sup>180</sup> Since 2015, Native peoples from qualified regions in Alaska and Chukotka have been able to travel without a visa for limited periods at the invitation of a relative or tribal member.<sup>181</sup>

## 7. Recommendations on Policies and Practical Steps

### 7.1. Protected Areas

Neither regulatory nor indigenous participants at the Fairbanks Seminar had a strong interest in designating certain protected areas for the benefit of walrus. Advocates for walrus protection should conduct further outreach to get more insight into what kinds of protected areas, if any, stakeholders would support. Stakeholders may be more likely to support measures that target specific sources of disturbance (i.e., areas that vessels of a certain size should avoid) rather than creating a sanctuary that could limit walrus harvest and fishing activity. The efforts by U.S.-based groups to promote an internationally recognized ship routing scheme with Areas to Be Avoided and speed limits in the Bering Sea could garner support from many stakeholders, as similar efforts have been supported in the Aleutians and with AEWC's Conflict Avoidance Agreement.

### 7.2. Transferring Management Responsibilities

**Both Russian and U.S. wildlife management agencies are grappling with less funding, even as management challenges (melting sea ice, increasing vessel traffic, and development prospects) are growing. At the same time, communities on both sides of the International Dateline have expressed frustration with top-down management from afar. There may be a way to address both issues by transferring more management**

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179 Institute of the North, Bering Strait Messenger Network, <https://www.institutenorth.org/calendar/events/bering-strait-messenger-network/>

180 USSR-US: Agreement Concerning the Bering Straits Regional Commission, International Legal Materials Vol. 28, No. 6 (Nov. 1989), pp. 1429-1433, <http://www.jstor.org/stable/20693380>

181 Emily Russell, "Visa-free travel to Russia reinstated for eligible Alaska Natives" Alaska Public Media (Aug. 11, 2015), <http://www.alaskapublic.org/2015/08/11/visa-free-travel-to-russia-reinstated-for-eligible-alaska-natives-2/>; Jennifer Monaghan, "Bilateral Visa Waiver Announced for Indigenous Peoples of Alaska, Russia's Chukotka" Moscow Times (Jul. 23 2015) <http://www.themoscowtimes.com/news/article/bilateral-visa-waiver-announced-for-indigenous-peoples-of-alaska-russias-chukotka/526095.html>

**responsibilities to communities. This is certainly easier said than done, particularly since U.S. laws require agencies to take on certain duties, and they can be sued for failure to carry them out.**

Still, U.S. law does allow for co-management. Much of the co-management agreements described by participants are focused on subsistence monitoring rather than minimizing disturbances to walrus haulouts. Agencies could work with communities and entities like EWC on expanded management agreements, in which communities and hunters are trained to be the “first responders” to terrestrial haulouts by minimizing disturbances. Hunters could also be trained to do some of the scientific work that agencies are doing now (i.e., deploying satellite-linked tags to monitor movements and feeding behavior). NGOs could play a supporting role by facilitating training workshops and helping to draft expanded co-management agreements that provide for clear, meaningful community management rules.

Expanded co-management agreements could also apply to other marine mammals. Provisions for management of ice-dependent pinnipeds might be addressed concurrently with that for walruses. Some of this cooperation has already taken place organically, in the form of cooperation between ADF&G and other agencies with hunters, and Russian scientists like Anatoly Kochnev and the Haulout Keepers.

## 7.3. Cooperation with the Private Sector

Walrus hunters and other advocates for walrus protection could explore ways to have ships and aircraft voluntarily avoid hunting and haulout areas, whether or not these areas have any official protected status. As mentioned above, AEWC has been able to get oil, gas, and barging companies to voluntarily adhere to Conflict Avoidance Agreements. These agreements, updated yearly, set out hunting areas and times when these areas must be avoided. They also provide for contact between ships and a village-based communications center. A similar agreement might be made between EWC and operators of large vessels expected to transit through the Bering and Chukchi seas.

One challenge is the likely greater volume of transit in the Chukchi and Beaufort seas. Much of the traffic will be non-U.S. vessels considered to be in “transit passage”, which is difficult to regulate.<sup>182</sup> Given this situation, the development of guidelines rather than agreements could be more feasible.

EWC and advocates could consider approaching major liability insurers for ships (and possibly aircraft) to explore the possibilities of having insurance policies require

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<sup>182</sup> There are limits to laws that coastal states can pass to regulate vessels in transit, though this should not stop a non-state entity from trying to obtain voluntary compliance. See Convention on the Law of the Sea, Dec. 10, 1982, 1833 U.N.T.S. 3, Arts. 38(2), 42; 513 cmt. j (1987); 33 U.S.C. §1223(d) (exempting foreign vessels in innocent or transit passage from the Ports and Waterways Act except where authorized by a treaty or where the vessel is destined for or departing from a port or place subject to the jurisdiction of the United States); 33 C.F.R. §§160.103(c), 164.02.

or incentivize any special areas, buffers, or minimum altitudes suggested by these guidelines. Likewise, EWC and advocates could ask flag states to require their vessels to comply with these guidelines.<sup>183</sup>

## 7.4. Adaptable Calendar Map with Regulatory Option

**Since walrus haulouts are likely to continue shifting with the changing climate, management policies cannot be tied to particular geographic locations. With this in mind, a more adaptive response could be based on a GIS map showing walrus migration routes, feeding areas, and haulouts, with links to the time of year these are in use and the last known dates of use. If there is consensus among walrus hunters and communities that they would like to include subsistence areas on the map, these could also be included. This map could cover the entire Pacific walrus population range, from Alaska to Chukotka.**

The map would need to be regularly updated in order to be effective. Routes, areas, and haulouts that are no longer in active use could be transferred to a different GIS “layer,” so the current/active areas could be easily seen by any user. There would have to be willingness on the part of each agency to post its data, or a third party (perhaps a NGO) could take on the task of regularly requesting data from each agency and updating the map. As a condition of any agency-issued permit in which walrus monitoring is required, the permittee would be required to update the map with observations (or provide this information to a third-party “map keeper”).

Future regulations, guidelines, and permit restrictions (whether voluntary or mandatory) could tie minimum aircraft altitudes and vessel buffers to the routes, areas, haulouts, and subsistence areas shown on the map, rather than static points. For example, a permit stipulation for a cruise ship might be “Maintain a buffer of 0.5 miles from all current/active walrus migratory routes, feeding areas, and haulouts, as shown on [GIS layer name] on [GIS map name] at [website address]. Permittee must consult [GIS map] prior to departing each port. While traveling, any walrus sightings should [or must] be reported to [name of map keeper].” There could also be provisions for areas to be avoided and speed limits in these locations. If such a map proves to be a successful tool for avoiding disturbance to walruses, it could be expanded to other marine mammals.

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<sup>183</sup> Currently, there are no clear requirements by liability insurers (Protection and Indemnity Clubs) for their insured to adhere to guidelines or voluntary measures to protect marine wildlife. Layla Hughes, Marine Insurance: Measures to Protect Arctic Marine Mammal Hunters and Subsistence (Nov. 2014). A liability insurer for a ship generally requires the insured to have an “ISM Certificate” from its flag state. This certificate reflects compliance with the International Management Code for the Safe Operation of Ships and for Pollution Prevention, which was adopted by the International Maritime Organization through Resolution A.741 (18) (Nov. 4, 1993). In the absence of such a certificate, coverage could be denied. Communication with Charles Dymoke, Lodestar Marine Limited (Apr. 8, 2016). If a flag state requires adherence to guidelines or voluntary ATBAs in order to obtain an ISM Certificate, then insurance companies will recognize this.



An example of a privately maintained website used for regulatory purposes is the publicly accessible FracFocus Chemical Disclosure Registry, <https://fracfocus.org/>.<sup>184</sup> Alaska regulations (in addition to those of some other states) require those who conduct hydraulic fracturing to provide information regarding the chemical content of fracturing fluids to the entities that maintain this website (Groundwater Protection Council and Interstate Oil and Gas Compact Commission).

## 7.5. Coordinating Website, Newsletters, and Calls

Participants at the Fairbanks Seminar repeatedly emphasized the need for a coordinating website to bring together past, ongoing, and proposed research.<sup>185</sup> Such a website would be particularly helpful if it included information from both Russia and the United States (ideally in both Russian and English) and applicable laws and guidelines. It could also link to all of the regulatory agency and university websites applicable to walrus research and management, as well as permits issued by these agencies that contain stipulations for walrus protection.<sup>186</sup> If an adaptable GIS map is created, it could be hosted from this site. The existing Pacific Walrus International Database could be developed into a larger coordinating website that serves this purpose. An NGO or division of a university (perhaps the University of Alaska-Fairbanks) could take on the role of website coordinator, ensuring that it is regularly updated.

Another NGO role would be to regularly review the website and develop newsletters on developments in research, management, and development activities. These newsletters could be circulated to communities that may not have regular Internet access.

Still another NGO role could be coordinating a regularly held, toll-free conference call with a broad range of stakeholders (including walrus hunters, regulatory agencies, and vessel and aircraft operators) where community residents could report disturbances and ask for action. Perhaps agencies with the regulatory authority to issue permits to vessels or vessel insurers could require participation in these teleconferences.

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<sup>184</sup> 20 AAC 25.283(i)(1).

<sup>185</sup> The idea of a coordinating website with links to research from various agencies was first raised and discussed at Dr. Nicole Misarti's Walrus Research Workshop.

<sup>186</sup> It could also link weather forecasts geared toward walrus and marine mammal stakeholders, such as Sea Ice for Walrus Outlook (SIWO), <https://www.arcus.org/search-program/siwo>

## 7.6. Ensure that Consideration of Walrus Haulouts is “Mainstreamed” into Bering & Chukchi Planning

**At the Fairbanks Seminar, participants emphasized the need to avoid viewing walrus management in isolation, and as part of a larger system. Stand-alone walrus protection plans and stipulations may get lost in the shuffle of efforts to protect and manage the many Bering and Chukchi species that are ecologically valuable and important to subsistence communities. It would be helpful to design plans, rules, and guidelines that apply more broadly to marine mammals. That said, walruses may have needs that differ from other species, relating to their dependence on sea ice and particular food sources.**

Protection measures for walrus (and other marine mammals) should be integrated into larger plans for the Bering/Chukchi region. For example, any ship routing, vessel traffic scheme, or areas to be avoided under considerations by USCG should take into account walrus migratory routes, feeding areas, and haulout locations (in addition to those of other species). Likewise, plans to prevent and respond to oil spills should consider these locations. In the absence of an adaptable GIS map, NGOs can play a role by ensuring that planning agencies have access to current information about these locations.

## 7.7. Exchanges

Bringing stakeholders together from remote communities in Chukotka and Alaska is extremely time-consuming and expensive, leading to reliance on websites, newsletters, teleconferences, Skype communications, and social media. As important as these channels of communication are, they do not adequately substitute for face-to-face conversation in terms of fostering learning and mutual respect.<sup>187</sup> It is important that exchanges like the 2016 Fairbanks Seminar continue, and that they involve young people and non-traditional partners.

**One oversight in this seminar was failure to include the Qayassiq Walrus Commission and more representatives from the Bristol Bay area. It also would have been helpful to have regulatory personnel from Moscow and Washington D.C., who ordinarily have little contact with walrus stakeholders. NGOs and universities can play an important role by continuing to facilitate exchanges like this one.**

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<sup>187</sup> See Frances Westley, “Governing Design: The Management of Social Systems and Ecosystems Management” p. 402, in *Panarchy: Understanding Transformations in Human and Natural Systems*, edited by Lance H. Gunderson and C. S. Holling, 391–427. Washington, DC ; London: Island Press. (1995); Richard Magerum “Beyond Consensus: Improving Collaborative Planning and Management.” Cambridge, Mass: The MIT Press. p. 48 (2011).

## 8. Conclusion

The March 15-16, 2016 Fairbanks Seminar discussing walrus management in Alaska and Chukotka was helpful in joining stakeholders in the Pacific Walrus population—stakeholders who are seldom brought together in face-to-face meetings. The seminar highlighted common challenges in Chukotka and Alaska, including the gaps between higher level agencies and indigenous Chukchi/Bering communities who hunt walrus and manage them on a daily basis. Many participants did not see a need for more top-down laws and would like to see more options that increase communication and empower communities. This may be easier to accomplish on the U.S. side, which offers more opportunities for co-management with regulatory agencies that have made efforts to work with hunters and Native organizations.



Ryan Kingsbery, USGS, Alaska Science Center

Participants discussed the potential for new measures and increased cooperation and communication. Any protective measures for walrus haulouts, feeding areas, migratory routes, and subsistence areas should be based not on fixed geographic locations, but on locations that are regularly updated. Updating could be facilitated by the establishment of an adaptable calendar map using a Geographic Information System map that is publicly accessible on the Internet. This map could cover both the U.S. and Russian side. Protective measures could include areas to be avoided, altitude restrictions, and speed limits. These could be implemented as voluntary measures with the possibility for mandatory enforcement (at least on the American side) if voluntary compliance does not occur. It is important that any protective measures involve communities at both the design and implementation phases.

Agencies (at least on the American side) should consider what management responsibilities they could transfer to Native groups and communities through co-management agreements such as those allowed by the Marine Mammal Protection Act. Meaningful co-management should be the aim rather than co-management that is essentially just consultation. That said, consultation and communication play an important role, and it is essential to establish regular channels of communication. This might occur through agreements to hold standing, regular phone meetings between agencies and Native groups (for government-to-government consultation), as well as the use of a coordinating website, newsletters, meetings, and exchanges.



Captain Budd Christman, NOAA Corps



## 9. Attendees

The following is an incomplete list of people who attended either or both of the walrus-related meetings held March 15-16, 2016 in connection with the Arctic Science Summit:

### Kelsey Aho

UAF graduate student

### Roy Ashenfelter

Alaska traditional hunter

### Anna Bryant

Alaska Department of Fish and Game (ADF&G)

### John Burns

Biologist (retired ADF&G)

### Maksim Chakilev

Biologist, Chukotka Branch of the Pacific Ocean Institute for Fisheries and Oceanography (Russia)

### Vladimir Etylin

Association of Traditional Marine Mammal Hunters, Chukotka, Russia

### Johanna Eurich

Freelance journalist

### Kelsey Gobroski

Digital media producer, UAF Museum of the North

### Susan Goldenberg

Journalist, *The Guardian*

### Kevin Harun

Arctic Program Director, Pacific Environment

### Jacki Holzman

Senior Advisor, Federal Aviation Administration (FAA) Alaskan Region

### Margie Hopson

Journalist, E&E Publishing

### Lara Hortsmann

Biologist, UAF

### Anatoly Kochnev

Institute of Biological Problems of the North, Far-Eastern Branch of Russian Academy of Sciences, Magadan, Russia

### Elisabeth Kruger

World Wildlife Fund (WWF), Alaska

### Jim MacCracken

Biologist, USFWS

### Ann Mayo-Kelly

(Alaska Geographic) with Arctic Youth Ambassador Program from Anchorage, Sitka, Shishmaref, Unalaksa, (partnership between U.S. Department of State and Alaska fish and wildlife agencies for engagement in Arctic Council activities)

### Vera Metcalf

Eskimo Walrus Commission (EWC) Director, Nome, Alaska

### Nicole Misarti

Biologist, UAF

### Curtis Nayokpuk, Shishmaref

Alaska traditional hunter

### George Noongwook, Savoonga

Alaska traditional hunter

### Shady Grove Oliver

Reporter, *Arctic Sounder*, Alaska

### Ahna Ozenna

Little Diomed Traditional Council, Alaska

### Lori Quakenbush

Biologist, ADF&G

### Ellen Richard

Wales, Alaska

### Barrett Ristroph

Pacific Policy Director, Pacific Environment, Alaska

### Martin Robards

Wildlife Conservation Society, Alaska

### Jamie Robinson

Arctic Operations Coordination, U.S. Coast Guard, Juneau, Alaska

### Yereth Rosen

Journalist, Alaska

### Sergey Streltsov

Translator

### James Tazruk

Point Lay Traditional Council, Alaska

### Schawna Thoma

Vice-President, Northern Compass Group, Alaska

### Jill-Marie Seymour

Biologist, Bureau of Ocean Energy Management, Alaska

### Katya Wassillie

EWC Specialist, White Mountain, Alaska

### Margaret Williams

Director, U.S. Arctic Program, WWF

### Eduard Zdor

Association of Traditional Marine Mammal Hunters, Chukotka, Russia

### Liliya Zdor

Association of Traditional Marine Mammal Hunters, Chukotka, Russia

### Domenique Zuber

Advancement Director, Pacific Environment





Captain Budd Christman, NOAA Corps

## 10. Acknowledgements

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