



# MARINE MAMMAL COMMISSION

30 October 2015

Ms. Rosemarie Gnam, Ph.D.  
Chief, Division of Scientific Authority  
U.S. Fish and Wildlife Service  
5275 Leesburg Pike, MS: BPHC  
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Dear Dr. Gnam:

The Marine Mammal Commission (the Commission), in consultation with its Committee of Scientific Advisors on Marine Mammals, has reviewed the Fish and Wildlife Service's (FWS) 26 August 2015 notice (80 Fed. Reg. 21033) on possible amendments to the Appendices to the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) for the Seventeenth regular meeting of the Conference of Parties (CoP17). The notice invites comments on proposals for amendments to the CITES Appendices that the United States is likely to submit, is undecided on submitting, or is unlikely to submit for consideration at CoP17. The Commission provides the following recommendations and rationales for the three marine mammals species included in the *Federal Register* Notice.

## **Polar Bear**

The polar bear currently is listed on CITES Appendix II and as threatened under the U.S. Endangered Species Act. At CoP15 in 2010 and CoP16 in 2013, the United States put forward, but the CITES Parties did not approve, a proposal to move the polar bear from Appendix II to Appendix I because of the effects of trade on harvest levels, and the ongoing and predicted negative effects of climate change on sea ice habitat and key polar bear prey species. The Marine Mammal Commission recommended against FWS making such a proposal at CoP15 but supported submitting the same proposal at CoP16. The enclosed letter from 20 June 2012 describes the changed circumstances between those two meetings that prompted the Commission to support the proposal the second time.

FWS is again considering whether to submit a proposal to transfer the polar bear from Appendix II to Appendix I. However, the *Federal Register* notice and the extended version of that notice do not discuss thoroughly the factors that may justify inclusion on Appendix I. By and large, those factors are the same as the Commission noted in 2012, and rather than reiterate them here, we refer you to our previous letter. Nevertheless, given that the previous proposal was not adopted at CoP16, the Commission encourages FWS to expand the rationale for its proposal, focusing particularly on factors that have changed since 2010 and 2013.

At the heart of the previous U.S. proposals are the predictions of continued sea ice decline over the next several decades and the expectation that the loss of sea ice will limit polar bears' access to their primary prey (ice seals). In turn, that will lead to reduced body condition, reproduction, survival, and population size. These predictions remain the prevailing view among most polar bear experts. Recent studies indicate that these predictions are already being realized in some

subpopulations but are not yet apparent in others (e.g., Rode et al. 2014). The best starting point for assessing the status and trends of polar bears is the status table prepared by the International Union for Conservation of Nature's (IUCN) Polar Bear Specialist Group, the authoritative source for information on the world's polar bears, which was updated in 2014 (<http://pbsg.npolar.no/en/status/status-table.html>). This table also includes data on both changes in summer sea ice coverage and spring sea ice retreat within the ranges of the 19 subpopulations and data on human-caused removals.

As noted in the Commission's 2012 letter, harvest pressure on some polar bear subpopulations, primarily in Canada, appeared to be increasing and economic factors appeared to be playing an increasing role. Over the previous several years there had been a growing international market for polar bear skins and demand had driven prices for skins to unprecedented levels. Although prices have declined somewhat since 2012, it is unclear that demand for skins, primarily in Asia, has diminished. If it has not already done so, FWS should examine recent trends in sales of polar bear products and the status of the market for those products as part of its review in deciding whether to propose an Appendix I listing for polar bears at CoP17. This will be particularly important because of the recent action by the CITES Animals Committee, which did not retain any polar bear range states under its review of significant trade, but did encourage Canada "to apply a cautious approach in relation to the management of subpopulations that are assessed as declining or data deficient (uncertain)."

The Commission's 2012 letter also reviewed some of Canada's recent management actions in setting polar bear catch limits that have been criticized by the Polar Bear Specialist Group and that likely contributed to the Animals Committee's recommendation that Canada adopt a more conservative (risk-averse) approach in its management of some sub-populations. Again we refer you to our earlier letter for specifics. We note, however, that, in the interim, the Polar Bear Specialist Group has been critical of Nunavut's non-conservative management of the Foxe Basin subpopulation.<sup>1</sup> More recently, criticism has been leveled at the harvest limit for the Southern Beaufort Sea subpopulation, which remains unchanged despite indications that the population likely has declined or is declining (see e.g., Bromaghin et al. 2014) and the decision to change the boundary of that stock without analyzing all of the pertinent information.

Despite the rejection of similar proposals at the past two CoPs, the Commission recommends that FWS give strong consideration to submitting a proposal to place the polar bear on Appendix I for consideration at the 2016 Conference of Parties. Before doing so, however, FWS needs to look more closely at available trade data for polar bear products and assess how increased demand may be affecting prices and therefore indirectly influencing management decisions, particularly in Canada. Given that they do not engage in international commercial trade in polar bear products, an Appendix I listing of polar bears is not expected to have much impact on Alaska Natives. Nevertheless, if it has not already done so, FWS should consult with affected Alaskan villages and the Alaska Nanuq Commission before submitting this proposal.

## **Walrus**

In its *Federal Register* notice, FWS included the walrus on the list of "species proposals the United States is not likely to submit for consideration unless we receive significant new information"

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<sup>1</sup> <http://pbsg.npolar.no/export/sites/pbsg/en/docs/PBSG-response-FB-NWMB-Oct2013-ENG.pdf>.

in response to comments that it should be listed in CITES Appendix I at the upcoming Conference of Parties. The listing would be based on concerns related to the effects of trade in walrus parts and the ongoing and predicted effects of climate change on walrus populations. In its 20 June 2012 letter to FWS prior to CoP16, the Commission recommended that FWS propose to list the walrus on CITES Appendix II.

Canada listed its walrus populations on CITES Appendix III in 1975. The intent of that listing was to monitor levels of international trade in walrus parts. The 2008 IUCN Red List assessment notes that both the Atlantic and Pacific walrus subspecies are declining, although both populations are poorly known and are therefore classified as “data deficient.”

The most recent estimates suggest the total abundance of Atlantic walruses is 18,000 to 20,000 animals (Born et al. 1995). The Northwest Atlantic subpopulation has already been extirpated by hunting. Some elements of the Eastern Arctic population are thought to be in decline, and others may be increasing but, again, the overall population trend for Atlantic walruses and the level of depletion are not known. Wüig et al. (2015) reviewed the management of Atlantic walruses in the four range states and the international agreements relevant to their conservation. The Atlantic subspecies is protected in Norway and Russia and subject to subsistence hunting in Canada and Greenland. While there has been a general decline in hunting of walruses in those countries, the authors note uncertainties with respect to the setting and enforcement of quotas and the effectiveness of environmental regulations in protecting walrus habitat from the impacts of large-scale industrial activity.

The Commission reviewed the history of commercial exploitation of Pacific walruses and the difficulties of establishing comparable historical and current estimates of this population in its June 2012 letter to FWS. In 2006 FWS, in collaboration with Russian researchers, conducted the first comprehensive survey of Pacific walruses since 1990. FWS estimated the number of walruses within the surveyed area of Bering Sea pack ice at 129,000 (95 percent confidence interval of 55,000 to 507,000). The estimate is considered to be negatively biased to an unknown extent because poor weather conditions did not allow counts to be conducted in all walrus habitats (Speckman et al. 2010). The final 2014 stock assessment report used these numbers to estimate a potential biological removal level of 2,580 animals for the entire Pacific walrus population. This is about 53 percent of the estimated annual mean number ( $4,852 \pm 346$  standard error) harvested (including struck and lost) in the five years from 2006 to 2010 in the United States and Russia.

On 10 February 2011 FWS found that listing the Pacific walrus population as endangered or threatened under the Endangered Species Act was warranted, but precluded by other higher priority listing actions. It is anticipated that the FWS will publish a proposed listing decision about Pacific walrus in 2017. Loss of sea ice in the summer and fall and its associated impacts, as well as subsistence harvest, were identified as the primary threats to the population in the foreseeable future. The agency concluded that existing regulatory mechanisms are inadequate to address these threats.

Pacific walruses appear to be more dependent on sea ice than Atlantic walruses and therefore may be more affected by the ongoing effects of climate change which are described in the status review of the Pacific walrus (Garlich-Miller et al. 2011). Reduced summer and fall sea ice in the Chukchi Sea is expected to affect critical life history traits and reduce the population's resilience. Alaska Natives and scientists observed major changes in walrus feeding and haul-out patterns

beginning in 2007, and these changes have continued in subsequent years, including 2015. The potential negative implications of these changes for walrus survival are a matter of concern (Jay et al. 2011, Udevitz et al. 2012). The retreat of pack ice beyond the continental shelf of the Chukchi Sea in late summer has forced walrus to haul out on land along the Northwest Alaska coast where they experience longer travel distances to their offshore feeding areas. FWS's analysis determined that this pattern will continue, exposing "all individuals, but especially calves, juveniles, and females, to increased levels of stress from depletion of prey, increased energetic costs to obtain prey, trampling injuries and mortalities, and predation" (FWS 2011, and see Udevitz et al. 2012). This conclusion of worsening conditions and decline of the Pacific walrus population is supported by Bayesian network models that integrate the potential effects of anthropogenic stressors and changing environmental conditions into future population scenarios (Jay et al. 2011).

While the Marine Mammal Protection Act allows taking of Pacific walrus by Alaska Natives for subsistence purposes and to make and sell traditional handicrafts, FWS identified subsistence harvest as a primary threat to the Pacific walrus population. Although FWS considers current levels of subsistence take to be sustainable, it also has noted that the Russian subsistence harvest of Pacific walrus is managed under a quota system whereas the United States harvest is not. The FWS status review concluded that, as the walrus population declines as a result of diminishing summer sea ice, the U.S. subsistence harvest levels will become unsustainable in the absence of any sort of quota system and therefore a threat to the Pacific walrus population in the foreseeable future (Garlich-Miller et al. 2011, Taylor et al. 2015).

International trade primarily involves walrus parts and items derived from them, including ivory pieces, jewelry, and carvings, as well as bone carvings and tusks. As indicated in FWS's 11 April 2012 *Federal Register* notice (77 Fed. Reg. 21798), from 2004 to 2008 812 kilograms of walrus bones, bone pieces, carvings, teeth and tusks, and an additional 391 walrus specimens, mostly of U.S. origin, were reported as exported or re-exported from the United States. In its finding that listing is warranted under the Endangered Species Act, FWS concluded that U.S. import or export was not a threat to the Pacific walrus because most specimens imported into or exported from the United States are pre-MMPA fossilized bone and ivory shards, and post-MMPA walrus ivory can only be imported into or exported from the United States after it has been legally harvested and substantially altered by an Alaska Native to qualify as a traditional handicraft. Nevertheless, if U.S. subsistence harvest continues unregulated at current levels on a declining walrus population, the relative impacts of trade undoubtedly will increase.

Subsistence harvest may exacerbate declines related to changes in sea ice habitat. All available information indicates that walrus populations are at considerable risk from the ongoing and predicted loss of sea ice and the walrus status review concludes that "there are no known existing regulatory mechanisms currently in place at the local, state, national, or international level that effectively address greenhouse gas emissions." As such sea-ice loss is expected to continue (Garlich-Miller 2011). Regulation of subsistence harvests and of trade in walrus parts and products are necessary components of the species' conservation. Furthermore, trade in walrus specimens may well increase as walrus populations decline, as those specimens may be considered more valuable (Angulo et al. 2009). The Commission agrees with FWS's preliminary assessment that a listing of walrus on Appendix I is not currently warranted. However, listing the species on CITES Appendix II should help ensure such trade does not become incompatible with the walrus's survival. For these reasons, the Commission recommends that FWS propose to list the walrus on CITES Appendix II at CoP17 in 2016. As suggested above for polar bears, if it has not already done so, FWS should

consult with affected Alaskan villages and the Eskimo Walrus Commission before submitting such a proposal.

## Narwhal

In its *Federal Register* notice FWS indicated that it is unlikely to submit a proposal to transfer the narwhal from CITES Appendix II to Appendix I. The narwhal is hunted in Greenland and Canada for food and ivory. Also, it lives in an environment that is changing rapidly as a result of global warming. Indeed, the species is red-listed by the IUCN as “near threatened” because of hunting, environmental changes due to climate change, and industrial activities (Jefferson et al. 2012, Heide-Jørgensen et al. 2013).

The Commission reviewed the history of the CITES Parties’ consideration of narwhal ivory trade in its 20 June 2012 letter to FWS, as well as recent information on narwhal stock structure, harvests, movements, behavior, abundance, and population dynamics indicating that hunting of these stocks in Greenland and Canada may not pose as significant a threat as previously feared.

Given the stock assessment results available at the time of its 2012 letter, which indicated that narwhal populations are larger than previously believed, and the non-detriment findings prepared by narwhal range states, the Marine Mammal Commission continues to believe that the current CITES Appendix II listing provides sufficient protection for the narwhal from potential adverse effects related to international trade in narwhal parts, products, and specimens. Therefore, the Commission recommends that FWS not propose to list the narwhal on CITES Appendix I at CoP17 in 2016. Nevertheless, the Commission believes that the range states must continue to monitor closely the status of those narwhal stocks subject to hunting in Canada and Greenland and to track and report information on the international trade in narwhal ivory. The Commission therefore encourages FWS and the National Marine Fisheries Service to take steps within CITES and other international bodies to ensure that such careful monitoring takes place and that the results are reported in a transparent and timely manner.

Please contact me if you have any questions concerning these recommendations and rationale.

Sincerely,



Rebecca J. Lent, Ph.D.  
Executive Director

Cc: Donna Wieting, National Marine Fisheries Service, Director, Office of Protected Resources  
John Henderschedt, National Marine Fisheries Service, Director, Office of International Affairs and Seafood Inspection

Enclosure

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# MARINE MAMMAL COMMISSION

20 June 2012

Rosemarie Gnam, Ph.D.  
Chief, Division of Scientific Authority  
U.S. Fish and Wildlife Service  
4401 North Fairfax Drive, Room 110  
Arlington, VA 22203

Dear Dr. Gnam:

The Marine Mammal Commission, in consultation with its Committee of Scientific Advisors on Marine Mammals, has reviewed the Fish and Wildlife Service's 11 April 2012 notice (77 Fed. Reg. 21798) on proposed resolutions, decisions, and agenda items for the Sixteenth Conference of Parties to the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). Among other things, the notice requests comments on potential changes to the CITES Appendices. The Commission provides the following recommendations and rationale.

## RECOMMENDATIONS

The Marine Mammal Commission recommends that the Fish and Wildlife Service—

- submit a proposal that the polar bear be placed on Appendix I for consideration at the 2013 Conference of Parties;
- consider the pros and cons of a population-specific proposal for Appendix I listing of the polar bear;
- monitor closely the establishment of new harvest limits in Canada and be prepared to amend its proposal accordingly;
- propose to list the walrus on CITES Appendix II at the 2013 Conference of Parties; and
- not propose to list the narwhal on CITES Appendix I at the 2013 Conference of Parties.

## RATIONALE

### Polar Bear

The polar bear currently is listed on CITES Appendix II and is listed as threatened under the U.S. Endangered Species Act. At the 2010 Conference of Parties, the United States proposed, unsuccessfully, to move the polar bear from Appendix II to Appendix I because of the effects of trade and the ongoing and predicted negative effects of climate disruption. The Marine Mammal Commission recommended against the Fish and Wildlife Service making such a proposal. In doing so, the Commission noted that it did not believe that polar bear harvests and resulting trade warranted additional management at that time. However, the Commission advised that the Service should reconsider that proposal on a frequent basis because of the threatened status of polar bears, the uncertainties surrounding the status of many populations, and the rapid pace of habitat change.

Indeed, the Service again is considering a proposal to transfer the polar bear from Appendix II to Appendix I. However, the *Federal Register* notice and the extended version of that notice do not discuss thoroughly the factors that may justify inclusion on Appendix I, particularly those factors that have changed since the previous Conference of Parties. Rather, the justification seems to be that the United States believed that listing on Appendix I was warranted before and, in the absence of new information, must still be warranted. This is logical but, by itself, is not likely to convince the parties who opposed the previous proposal. The Marine Mammal Commission therefore encourages the Service to expand the rationale for its proposal, focusing particularly on factors that have changed since 2010.

The previous U.S. proposal was premised largely on model predictions of significant sea ice decline over the next several decades. The loss of sea ice will limit polar bear access to its primary prey (ice seals) that, in turn, will lead to reduced body condition, reproduction, survival, and population size. Such predictions are still the prevailing view among most polar bear experts and are reflected in the summary polar bear population status provided at the 2009 meeting of the Polar Bear Specialist Group (<http://pbsg.npolar.no/en/status/status-table.html>). That summary indicates that of the 19 populations, 8 are declining, 7 are too data deficient to determine a trend, 3 are stable, and 1 is increasing. The Polar Bear Specialist Group also estimated the risk of future declines among these populations and found that 6 had a very high risk, 1 had a “higher” risk, 1 had a moderate risk, 2 had a very low risk, and 9 were data deficient.

Recent publications support these projections and indicate they are already being realized. For example, in an analysis of data from polar bears in the southern Beaufort Sea, Rode et al. (2010) found that “[t]he size and condition of most sex/age classes exhibited positive relationships with the annual availability of preferred sea ice habitats” and “the decline over time in the availability of sea ice corresponded with declining trends in most measures of bear size and condition.” Also, looking specifically at the Southern Beaufort Sea population, Regehr et al. (2010) concluded that “[d]eclines in polar bear survival during the period 2002-2005 were associated with longer ice-free periods over the continental shelf” and hypothesized that “declining sea ice affects polar bear vital rates primarily via increased nutritional stress.” Similarly, Rode et al. (2012) reported that the availability of sea ice has begun to affect the condition of polar bears in Baffin Bay and Davis Strait.

Recent papers also have examined the ability of polar bears to swim long distances to compensate for the absence of stable sea ice. Most recently, Pogano et al. (2012) reported that several polar bears being tracked off Alaska engaged in long distance swims (> 50 km). The authors noted that long-distance swimming was becoming more common because of declining ice thickness and longer ice-free periods. They also noted that swimming appears to impose higher energetic demands than moving over ice, further compromising the condition, reproduction, and survival of those bears. One female bear, with a yearling cub when tagged, swam 687 km, remaining in the water for more than nine days. (It subsequently travelled an additional 1800 km by walking over ice and swimming intermittently). It lost 22 percent of its body mass over a two-month period and also lost its cub (Durner et al. 2011).

In Canada, the harvest pressure on polar bears also appears to be increasing for some populations and economic factors appear to be playing an increasing role. For example, in 2011, Nunavut decided to increase the allowable harvest of polar bears from the Western Hudson Bay

population from 8 to 21 despite a strong contrary recommendation from the Polar Bear Specialist Group (<http://pbsg.npolar.no/en/news/archive/2011/WH-catch-Nunavut-2011.html>). Natives from Nunavik (northern Québec), Nunavut, and Ontario all hunt polar bears from the Southern Hudson Bay population. In 2012 the harvest from that population by hunters from Inukjuac (on the Québec coast of Hudson Bay) spiked from the low single digits to more than 70 bears. Setting and enforcing quotas on wildlife used by Native hunters from Nunavik is difficult because it is governed by the James Bay Agreement of 1975. In 2012 representatives of Nunavik, Nunavut, and Ontario met with Environment Canada to lower the level of future harvests. In the end, they agreed to a tentative quota of 60 bears, a level that most polar bear scientists believe is unsustainable. Furthermore, that quota remains largely unenforceable in Nunavik and possibly in Ontario because of treaty obligations of Canada and other, less formal agreements with Native hunters. Hunting limits for 2013 probably will be set by Nunavut in the fall. These should be monitored closely by the Fish and Wildlife Service in deciding whether to move forward with a proposal to list the species on Appendix I and assessing how such a proposal might be supported at the upcoming Conference of Parties. In particular, the Service should track whether hunting from the Western Hudson Bay population is allowed. This is one of the populations that appears to be declining based on our knowledge of polar bear vital rates and evidence of a low percentage of yearlings (about 3 percent versus 15 percent for a “healthy” population), but which traditional knowledge suggests is increasing, based on the number of bears sighted on land.

Importantly, management practices and policies among the five polar bear range states vary considerably. Only Canada and Greenland allow commercial harvest and sales of polar bear parts. In the United States, polar bears may be taken by Alaska Natives for subsistence and for purposes of creating and selling authentic articles of handicrafts and clothing. In Russia, harvests have not been authorized since the mid-1950s, but Russia also has acknowledged that some hunting is known to have occurred. Norway, the other range state, does not allow any hunting. Within Canada, the status of the populations and the management practices of the responsible provincial and territorial governments vary considerably. Harvest limits for some populations appear to be conservative, while others are less so and do not appear to be sustainable.

The expanding commercial market for skins taken in Canada also supports the listing of polar bears on Appendix I. As reported recently in the Canadian press (see <http://www2.macleans.ca/2012/02/16/were-shooting-polar-bears/>, and <http://www2.macleans.ca/2011/05/25/hard-to-bear/>) the international market for polar bear skins is booming, with auction prices more than doubling over the past couple of years. In part, this is being fueled by emerging demand in China and Russia. Prices now average about \$5,000 per skin, with one prime pelt fetching more than \$12,000. The number of pelts being offered for sale also has been increasing. In 2011, about 80 polar bear hides were sold at auction. The Web site of Canada’s leading auction house for polar bear skins indicates that 150 polar bear hides will be offered for sale at its upcoming 20 June auction (<http://www.furharvesters.com/auctionqty.htm>). Rising prices and demand for polar bear skins are posing new risks to polar bear populations as unregulated populations are exposed to greater hunting pressure, quotas for regulated populations are being pushed upward by political pressure, and those quotas are more likely to be met fully.

Because of the ongoing and predicted declines in most polar bear populations, the growing scientific documentation that polar bears are being stressed and in poorer condition in several

populations, concerns about the sustainability of some of the currently authorized hunting levels, and expanding commerce in and prices for polar bear products internationally, the Marine Mammal Commission believes that a much stronger case can be made that polar bears warrant listing on Appendix I now than in 2010. For that reason, the Marine Mammal Commission recommends that the Fish and Wildlife Service submit a proposal that the polar bear be placed on Appendix I for consideration at the 2013 Conference of Parties.

The Service may want to consider a proposal that seeks to list on Appendix I only those populations (or ecoregions<sup>1</sup>) that are declining or that may not be managed sustainably. A population- or ecoregion-specific proposal provides some incentive for precautionary management for any population or ecoregion not included on Appendix I because the economic benefits will not be lost. Also, the economic benefits derived from a carefully managed harvest may support conservation measures in areas that otherwise lack sufficient management resources. In addition, in some cases a harvest may benefit recovery. For example, a male harvest from a population with a male-biased sex ratio may improve survival of females and cubs and thereby promote population recovery.

That being said, if the Service considers a population-by-population (or ecoregion-based) approach, then it also will have to consider the potential negative effects as well. Reviewing and making decisions on all 19 populations would be a complex undertaking, requiring considerable resources and likely prompting intensive and extensive debate for a number of populations. Some of the more contentious cases likely would involve populations in Canada and Greenland, which may be highly resistant to interventions by other countries. Those other countries also may be disinclined to intervene in such decisions even if they believe management practices in Canada and/or Greenland may be inadequate. Arctic countries have a mixed record when it comes to supporting the research needed for well informed management. The idea that they would respond positively to incentives for more research/monitoring and better management is by no means certain. If a population-specific approach were to be used, it also would complicate enforcement because of the need to be able to distinguish between legally and illegally traded polar bear parts. As described earlier in this letter, the available information indicates that the situation is worsening for some populations/ecoregions, and is doing so at a relatively rapid pace. It is reasonable to anticipate that additional negative changes could occur in some populations even during the period that negotiations would be underway. Finally, given the nature of climate disruption and the fact that its repercussions may persist well beyond the time-frame for taking meaningful mitigation measures, waiting for irrefutable evidence of total population decline before taking action would be decidedly non-precautionary. To weigh all these considerations, and for the sake of completeness, the Marine Mammal Commission recommends that the Fish and Wildlife Service consider the pros and cons of a population- or ecoregion-specific proposal for Appendix I listing of the polar bear. Because the majority of the world's polar bears reside in Canadian territory, the Commission also recommends that the Service monitor closely the establishment of new harvest limits in Canada and be prepared to amend its proposal accordingly. Those harvest limits announcement are expected this fall.

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<sup>1</sup> The Service's final rule listing the polar bear as threatened (73 Fed Reg. 28212) identified four ecoregions (seasonal ice, archipelago, divergent ice, and convergent ice) in which polar bears face different risks of extinction based on the predicted patterns of ice formation and disappearance.

## Walrus

In its *Federal Register* notice, the Fish and Wildlife Service also solicited comments as to whether it should submit a proposal to list the walrus on CITES Appendix II at the upcoming Conference of Parties. The listing would be based on concerns related to the effects of trade in walrus parts and the ongoing and predicted effects of climate disruption on walrus populations.

Canada listed its walrus populations on CITES Appendix III in 1975. The intent of the listing was to monitor levels of international trade in walrus parts. The 2008 IUCN Red List assessment notes that both the Atlantic and Pacific walrus subspecies are declining, but both are poorly known and are therefore classified as “data deficient.”

The current total abundance of Atlantic walruses and the population trend over the last 45 years are unclear, but the most recent information suggests a population of 18,000 to 20,000 animals (NAMMCO undated). The Northwest Atlantic population of Atlantic walruses has already been extirpated by hunting. Some elements of the Eastern Arctic population are thought to be in decline, and others may be increasing but, again, the overall population trend for Atlantic walruses is not known.

Cycles of intensive commercial exploitation of the Pacific walrus population began following the American purchase of Alaska from Russia in 1867. Within a decade American sealers had reduced the population by half. At that point, scarcity and the declining price of walrus oil led to a 20-year hiatus in commercial hunting and some recovery of the population. Around the turn of the century, commercial hunting for ivory and hides re-emerged, reaching a maximum level in about 1920 and declining thereafter. As conservation measures were put in place on the American side, the Soviet Union mounted a major commercial hunt in the 1930s; by the mid-1950s the population was again reduced by about half. Abundance estimates in the mid-1950s were 50,000 to 100,000 animals. About 1960, both the Soviet Union and the state of Alaska put protective measures in place to restore the Pacific walrus population. The population apparently increased rapidly during the 1960s and 1970s. Scientists conducted aerial surveys at five-year intervals from 1975 to 1990, and the resulting minimum population estimates ranged from 200,000 to 250,000 animals. However, the counting and estimation methods varied during this period, which means that the estimates cannot be compared to assess trends. It also means that the estimates from the 1975–1990 period should be used cautiously as a baseline for current estimates.

In 2006 the Service, in collaboration with Russian researchers, conducted the first comprehensive survey of Pacific walruses since 1990. The Service estimated the number of walruses within the surveyed area of Bering Sea pack ice at 129,000 (95 percent confidence interval of 55,000 to 507,000). The estimate is considered to be negatively biased to an unknown extent because poor weather conditions did not allow counts to be conducted in all walrus habitats (Speckman *et al.* 2010). Also some 4,000 to 5,000 additional Pacific walruses are found in the Laptev Sea region in Arctic Russia.

The Service’s final 2009 stock assessment report used these numbers to estimate a potential biological removal level of 2,580 animals for the Pacific walrus population. This is about 53 percent

of the estimated annual mean number ( $4,852 \pm 346$  standard error) harvested (including struck and lost) between 2006 and 2011 in the United States and Russia.

On 10 February 2011 the Fish and Wildlife Service found that listing the Pacific walrus population as endangered or threatened under the Endangered Species Act was warranted, but precluded by other higher priority listing actions. The Service identified the loss of sea ice in the summer and fall and its associated impacts, as well as subsistence harvest, to be the primary threats to the population in the foreseeable future. They concluded that existing regulatory mechanisms are inadequate to address these threats.

Pacific walrus appear to be more dependent on sea ice than Atlantic walrus and therefore may be more affected by climate disruption. The ongoing and predicted future effects of climate disruption on Pacific walrus are described in the Service's Walrus Status Review. Reduced summer and fall sea ice in the Chukchi Sea is expected to affect critical life history traits and the population's resilience. Alaska Natives and scientists observed major changes in walrus feeding, haul-out patterns, and survival beginning in 2007, and these changes have continued in subsequent years. The retreat of pack ice beyond the continental shelf of the Chukchi Sea in late summer has forced walrus to move away from offshore summer feeding areas and haul out on land along the Northwest Alaska coast. The Service's analysis determined that this pattern will continue exposing "all individuals, but especially calves, juveniles, and females, to increased levels of stress from depletion of prey, increased energetic costs to obtain prey, trampling injuries and mortalities, and predation." This conclusion of worsening conditions and decline of the Pacific walrus population is supported by Bayesian network models that integrate the potential effects of anthropogenic stressors and changing environmental conditions into future population scenarios (Jay et al. 2011).

The Marine Mammal Protection Act allows taking of Pacific walrus by Alaska Natives for subsistence purposes and to make and sell traditional handicrafts. The Service identified subsistence harvest as a primary threat to the Pacific walrus population. Although the Service considers current levels of subsistence take to be sustainable, it also has noted that the Russian subsistence harvest is managed under a quota system whereas the United States harvest is not. The Service concluded that, as the walrus population declines in response to diminishing summer sea ice, the U.S. subsistence harvest levels will become unsustainable in the absence of any sort of quota system and therefore a threat to the Pacific walrus population in the foreseeable future.

International trade primarily involves walrus parts and items derived from them, including ivory pieces, jewelry, and carvings, as well as bone carvings and tusks. As indicated in the Service's *Federal Register* notice, from 2004 to 2008 812 kilograms of walrus bones, bone pieces, carvings, teeth and tusks, and an additional 391 walrus specimens, all primarily of U.S. origin, were exported or re-exported from the United States. In its finding that listing is warranted under the Endangered Species Act, the Service concluded that U.S. import or export was not a threat to the Pacific walrus "because most specimens imported into or exported from the United States are fossilized bone and ivory shards, and any other walrus ivory can only be imported into or exported from the United States after it has been legally harvested and substantially altered to qualify as a Native handicraft. Nevertheless, if unregulated subsistence harvest continues on a declining walrus population the impacts of trade undoubtedly will increase.

Unregulated subsistence harvest is likely to exacerbate declines caused by lack of sea ice and regulatory mechanisms to reduce or limit greenhouse gas emissions that result in sea-ice loss do not exist. All available information indicates that the walrus populations are at considerable risk and regulation of subsistence harvests and of trade in walrus parts and products is necessary to ensure their conservation. Furthermore, trade in walrus specimens may well increase as their populations decline, as those specimens may be considered more valuable. A CITES Appendix II listing should help ensure such trade does not become incompatible with their survival. For these reasons, the Marine Mammal Commission recommends that the Fish and Wildlife Service propose to list the walrus on CITES Appendix II at the 2013 Conference of Parties.

## **Narwhal**

In its *Federal Register* notice the Fish and Wildlife Service indicated that it is unlikely to submit a proposal to transfer the narwhal from CITES Appendix II to Appendix I. The narwhal is hunted in Greenland and Canada for food and ivory. Also, it lives in an environment that is changing rapidly as a result of global warming. Indeed, the species is red-listed by the International Union for Conservation of Nature (IUCN) as “near threatened” because of hunting, climate disruption, and industrial activities.

On a number of occasions various CITES parties have raised concerns regarding the regulation of international trade in narwhal ivory. At the 2004 CITES conference, the parties decided to review the trade. Much of the concern has focused on West Greenland and East Greenland stocks, which, until recently, were poorly known. In July 2006 the CITES Animals Committee reviewed information submitted by Canada and Greenland and decided that the elements of CITES Article IV pertaining to non-detriment findings were being properly implemented and further review was not warranted.

Current data on narwhal stock structure, harvests, movements, behavior, abundance, and population dynamics indicate that hunting of these stocks may not pose as significant a threat as previously feared. Although some intermingling may occur, summer aggregation patterns indicate that several different stocks occur in northwestern Greenland and the Canadian High Arctic, with additional stocks in the waters of both eastern Greenland and northern Hudson Bay. Analyses of 2006–2008 aerial survey data indicate narwhal stocks in northwestern Greenland of 8,368 (5,209–13,442, 95 percent confidence interval) (Inglefield Bredning) and 6,024 (1,403–25,860) (Melville Bay), and the East Greenland stock numbers 6,444 (2,505–16,575) (Heide-Jørgensen et al. 2010). These estimates are substantially higher than those derived from previous surveys, relieve concerns about over-exploitation, and provide a basis for new recommendations on sustainable harvest levels for East and West Greenland stocks. Greenland’s “2009 Standing Non-Detriment Findings for Exports from Greenland of Products derived from Narwhal (*Monodon monoceros*)” reflect current abundance estimates and the science-based harvest recommendations of the joint working group of the North Atlantic Marine Mammal Commission’s Scientific Committee and the Canada-Greenland Joint Commission on the Conservation and Management of Narwhal and Beluga.

Aerial surveys conducted in the summers of 2002 to 2004 determined that the summering range of narwhals in the Canadian High Arctic is vast. The results led to abundance estimates of 60,000 animals or more (Richard et al. 2010). In 2011 Canada released its “Evaluation of Canadian

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Narwhal Hunt Sustainability with Respect to Making a CITES Non-detriment Finding.” That finding reported that scientific surveys in the Canadian High-Arctic indicate approximately 90,000 narwhals in the vast summer range. The report recommended harvest levels (Total Allowable Landed Catch) for each summering aggregation based on calculations of Potential Biological Removal levels and identified areas where further data are required to determine sustainability of harvests or where current harvest levels are unsustainable (i.e., Northern Hudson Bay).

Given current stock assessment results which indicate that narwhal populations are larger than previously believed, and the non-detriment findings prepared by narwhal range states, the Marine Mammal Commission believes that the current CITES Appendix II listing provides sufficient protection for the narwhal from potential adverse effects related to international trade in narwhal specimens. Therefore, the Marine Mammal Commission recommends that the Fish and Wildlife Service not propose to list the narwhal on CITES Appendix I at the 2013 Conference of Parties. Nevertheless, the Commission believes that the range states must continue to monitor closely the status of those narwhal stocks subject to hunting in Canada and Greenland and to track and report information on the international trade in narwhal ivory. The Commission therefore encourages the Fish and Wildlife Service and the National Marine Fisheries Service to take steps within CITES and other international bodies to ensure that such careful monitoring takes place and that the results are reported in a transparent and timely manner.

Please contact me if you have any questions concerning these recommendations and rationale.

Sincerely,



Timothy J. Ragen, Ph.D.  
Executive Director

cc: Ms. Helen Golde  
Rebecca Lent, Ph.D.

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