

## **Executive Summary of the 1<sup>st</sup> Annual Meeting of the Scientific Working Group of the U.S.-Russia Polar Bear Commission**

**01-05 March 2010**

1. The first meeting of the Scientific Working Group (SWG) of the US-Russia Bilateral Commission was held 01-05 March, 2010 in Anchorage, AK USA.
2. The primary task of the SWG was to identify the sustainable level of human-caused removals for the Alaska-Chukotka polar bear population.
3. The SWG affirmed that the information necessary to derive accurate estimates of sustainable removals for the Alaska-Chukotka polar bear population is currently lacking.
4. The SWG recognized that reliable scientific information is critical to the identification and implementation of a sustainable level of removals. The collection of reliable scientific information requires the development of well-defined research programs.
5. The SWG affirmed that identification and implementation of critical scientific and Traditional Ecological Knowledge (TEK) studies requires support of the Commission and the allocation of financial resources.
6. The SWG recognized that unlimited harvest in the US and illegal killing of polar bears in Russia represents an immediate threat to the Alaska-Chukotka polar bear population.
7. The SWG recognized that the first meeting devoted considerable time to practical issues regarding the need to reduce human-caused removals and implement local-level conservation programs. Future meetings of the SWG need to allocate sufficient time to the development of a comprehensive research program.
8. The SWG identified observed sea ice loss in the Chukchi region as a conservation concern for the Alaska-Chukotka population.
9. The SWG evaluated future sea ice loss projected by climate models developed by the Intergovernmental Panel on Climate Change, and recognized the need for conservative polar bear management given these projections.
10. The SWG reviewed negative population-level effects of sea ice loss that have been documented for other polar bear populations.
11. The SWG evaluated the plausible range of sustainable removals based on population models, assumed values of population size up to 2000 polar bears, and an assumed maximum population growth rate up to 4%, which is lower than the maximal rate of 6% observed for polar bears under optimal environmental conditions. These population parameters, and resulting estimate of sustainable removals, were based on expert opinion. Scientific evidence that the Alaska-Chukotka polar bear population is capable of positive growth is currently lacking.
12. The SWG identified two management options for consideration by the Commission (see Table 1).
13. Both management options are short term (1 to 3 years) and must be re-evaluated when new information becomes available on the size and status of the Alaska-Chukotka population.
14. Management option 1 is contingent upon effective enforcement of a moratorium in both the US and Russia.
15. Management option 2 is contingent upon the enforcement of a regulated harvest and the implementation of community-level conservation programs in both the US and Russia.

16. Under management option 2, the SWG identified that removal of up to 45 polar bears per year is likely to be sustainable. This level of removal requires enforcement of a 2:1 male-to-female sex ratio (i.e., the maximum removal of 15 females and 30 males per year).
17. The SWG identified that data and biological samples collected from harvested polar bears provides essential information for establishing a sustainable level of removals.
18. The SWG recognized the value of integrating TEK for identifying harvest seasons. In Alaska, the North Slope Borough has used this approach in their efforts to protect pregnant or denning females.
19. The SWG used qualitative population projections to evaluate the relative effects of different removal levels on the Alaska-Chukotka population (see Figure 1). The SWG concluded that the removal of up to 15 females and 30 males per year is likely sustainable in the short term.
20. The SWG considered the sustainable level of removals to include all human-caused removals of polar bears from the Alaska-Chukotka population.
21. The SWG concluded that an adaptive management system is necessary to periodically re-evaluate removal levels based on new scientific information and TEK, and other management considerations.
22. The SWG recommended that the Commission consider the cultural and traditional use of polar bears.
23. The SWG recognized the importance of community involvement in polar bear management and monitoring programs. The SWG recognized efforts of the North Slope Borough in Alaska and Umky Patrols in Chukotka as positive examples of community-based conservation.

| Management option  | Anticipated effect on total removal from the population (relative to current removal) | Risk of population decline (relative to current removal) | Conditions and/or requirements                         |
|--|---|--|--|
| 1. Moratorium on US harvest in addition to continued moratorium on Russian harvest   | Significantly reduced   | Lowest   | Compliance with moratorium                             |
| 2. Establish a regulated harvest in the US and Russia, that is likely to be sustainable, based on best available information | Reduced <sup>1</sup>  | Low  | Action plans for local-level management and monitoring |

Table 1. Recommended management options and qualitative potential effects on the level of human-caused mortality in the Alaska-Chukotka polar bear population, and population response.

<sup>1</sup> Assumes total removal from Russia would not increase with legalization of harvest.

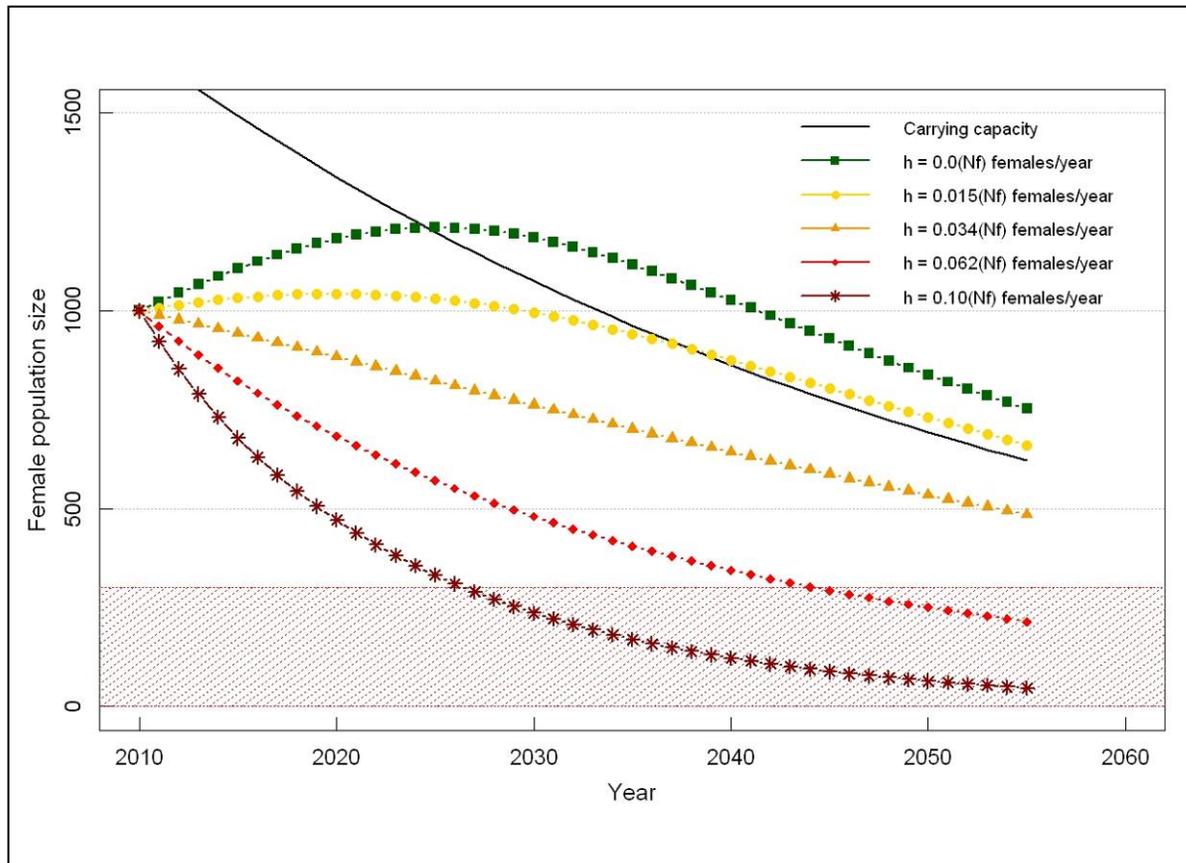


Figure 1. The relative effects of different removal rates on the future status of the number of female polar bears in the Alaska-Chukotka population. Removals at a fixed rate (i.e., a fixed percentage of current population size) requires harvest quotas to be re-evaluated periodically using new information on population size. A removal rate of 0.015 (i.e., the annual removal of 1.5% of the female population) produces an annual quota of 15 females when the female population size is 1000. The SWG recommends that this rate of female removals, when combined with male removals at a 2:1 male-to-female sex ratio, is the current upper limit of sustainable removals for the Alaska-Chukotka population. The qualitative projections in this figure assume a density-dependent

population model with a starting population female population size of 1000, at 60% of carrying capacity, and a maximum potential growth rate of 4%. Carrying capacity changes at a rate of -2% per year based on observed rates of sea ice loss. These are evaluations of harvest rates; not accurate projections of future population status or the risk of future population declines. Please refer to the full text for details.