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### Using the Polar Bear Framework to Protect the Arctic Habitat

Tim P. Shields

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# USING THE POLAR BEAR FRAMEWORK TO PROTECT THE ARCTIC HABITAT

by Tim P. Shields\*

Listing the polar bear as a threatened species is the predominant manner in which protection and preservation of the Arctic habitat might be achieved. The U.S. Geological Survey issued a final report on the status of the polar bear on September 7, 2007.<sup>1</sup> The U.S. Fish and Wildlife Service, however, has missed its deadline to list the polar bear as a threatened animal.<sup>2</sup> As a result, three non-profit conservation groups sued the Bush Administration on March 10, 2008,<sup>3</sup> requesting that the court require the agency to comply with the timeline for completing the listing process.<sup>4</sup>

If finally implemented, the protections granted to the polar bear could be used to initiate protection of Arctic habitat. Listing the polar bear would require the federal government to ensure that its actions and policies do not harm or jeopardize the bears. It would also prevent habitat modification where there is a showing of actual injury to wildlife. Further precautions protecting the polar bear would be the designation of a critical habitat zone and the preparation of a recovery plan.<sup>5</sup>

While the regulatory process could potentially provide much protection from future habitat loss and contamination, concentrating on the polar bear as the primary protection mechanism simplifies the situation and ignores major factors currently contributing to habitat loss. Among the most pertinent hazards facing the Arctic are global warming, traveling chemical pollution, and encroaching human activities.

Greenhouse gases in the Arctic have led to an annual temperature increase nearly twice that observed in other regions of the Earth.<sup>6</sup> One major result of this increased temperature manifested itself further during the 2007 annual summer ice melt when the ice coverage reached a new low of 1.59 million square miles, which constituted a loss of nearly 460,000 square miles.<sup>7</sup> The loss of ice compounds the problem by reducing the amount of light that is reflected from the Earth back into space, which results in a greater absorption of heat, contributing to further ice loss.<sup>8</sup> The loss of ice has also led to an increase in coastal erosion throughout the region,<sup>9</sup> which has even resulted in calling for the costly move of entire towns in Alaska.<sup>10</sup> The ice loss is especially pertinent to polar bears, whose main habitat consists of coastal polar ice caps.<sup>11</sup> For the polar bear framework to stem global warming, the federal government would also have to effect a reduction of greenhouse gas emissions.

Global warming, however, is not the only threat to the region. In the 1950s, researchers first came to believe that a wide array of chemical pollutants, which originated outside the Arctic, arrived to the Arctic via several pathways, including air, water, ice, and migratory animals. While some of the pathways result in quick delivery to the Arctic, others take years and decades to transport the chemical pollutants to their destination.<sup>12</sup> The vari-



Photo Courtesy of U.S. Fish and Wildlife Service

**Polar bear on whale carcass.**

ous routes and protracted delay in chemicals arriving to the Arctic makes preventing contamination difficult in the short run.

The Arctic habitat is further threatened by human encroachment related to mineral exploration and development, logging, and rural expansion.<sup>13</sup> Expansions in human activity led to further construction of roads, trails, pipelines, and other developments that fragment and isolate habitats.<sup>14</sup> The continued reduction in ice coverage and increasing demand for oil has already begun to yield an increase in commercial exploration throughout the area,<sup>15</sup> which could further exacerbate the diminishing polar habitat, depending on the expanse of the polar bear habitat.

The effects of global warming and human interaction combine to affect regional land ecosystems. Trees and shrubs are currently expanding into what was once the tundra at a rate that far exceeds previous predictions.<sup>16</sup> This northward advancement of the forest results in both a trend in movement of animal species and an increased risk for other species that have not adapted as readily.<sup>17</sup> Specifically, millions of migratory birds that use the tundra as a breeding ground are affected.<sup>18</sup>

While it is possible that listing the polar bear as a threatened species could result in protection of parts of the Arctic, the specific location of the polar bears' habitats could leave other areas of the Arctic open to further commercialization and to additional encroachment of human settlements, destroying habitat that is vital to polar bears and other species upon which it depends for sustenance. Working within the polar bear framework could provide for substantial protection to the entire Arctic if interpreted broadly enough; however, further protections would still be needed to truly protect the Arctic from both global warming and expanding trade routes in the area.



**Endnotes:** Using the Polar Bear Framework *continued on page 63*

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## ENDNOTES: USING THE POLAR BEAR FRAMEWORK *continued from page 22*

<sup>1</sup> U.S. GEOLOGICAL SURVEY, USGS SCIENCE TO U.S. FISH & WILDLIFE SERVICE DECISION MAKING ON POLAR BEARS EXECUTIVE SUMMARY 1, *available at* [http://www.usgs.gov/newsroom/special/polar\\_bears/docs/executive\\_summary.pdf](http://www.usgs.gov/newsroom/special/polar_bears/docs/executive_summary.pdf) (last visited Feb. 19, 2008).

<sup>2</sup> U.S. Fish & Wildlife Service, Endangered Species Program, <http://www.fws.gov/Endangered> (last visited Feb. 19, 2008).

<sup>3</sup> Brief of Petitioner ¶ 1, *Ctr. for Biological Diversity v. Kempthorne*, No. 08CV01339 (N.D. Cal. Mar. 10, 2008), 2008 WL 744016.

<sup>4</sup> Brief of Petitioner, *Id.*

<sup>5</sup> Justin Olsson, *The Future of the Polar Bear Rests on Thin Ice: Listing Under the ESA and Its Impacts*, SUSTAINABLE DEV. L. & POL'Y, Fall 2007, at 46.

<sup>6</sup> SUSAN JOY HASSOL, IMPACTS OF A WARMING ARCTIC: ARCTIC CLIMATE IMPACT ASSESSMENT EXECUTIVE SUMMARY 8 (Cambridge Univ. Press 2004), *available at* <http://www.amap.no/acia> (follow “Impacts of a Warming Arctic: Arctic Climate Impact Assessment” hyperlink; then follow “ExecSummary.pdf” hyperlink) (last visited Feb. 19, 2008).

<sup>7</sup> MSNBC, *Arctic sea ice loss ‘shattered’ 2005 record* (Sept. 21, 2007), *available at* [www.msnbc.msn.com/id/20904180](http://www.msnbc.msn.com/id/20904180) (last visited Feb. 19, 2008).

<sup>8</sup> WALT MEIER, NATIONAL SNOW AND ICE DATA CENTER, CLIMATE CHANGE ON THE FAST-TRACK: AN ARCTIC IN TRANSFORMATION 22–24, *available at* [http://nsidc.org/cgi-bin/publications/pub\\_list.pl](http://nsidc.org/cgi-bin/publications/pub_list.pl) (follow “Climate Change on the Fast Track: An Arctic in Transformation [file]” hyperlink) (last visited Feb. 19, 2008).

<sup>9</sup> GUNTER WELLER ET AL., SUMMARY AND SYNTHESIS OF THE ACIA 989, 996–99, *in* ARCTIC CLIMATE IMPACT ASSESSMENT – SCIENTIFIC REPORT (Cambridge Univ. Press 2005), *available at* [http://www.acia.uaf.edu/PDFs/ACIA\\_Science\\_Chapters\\_Final/ACIA\\_Ch18\\_Final.pdf](http://www.acia.uaf.edu/PDFs/ACIA_Science_Chapters_Final/ACIA_Ch18_Final.pdf) (last visited Feb. 18, 2008).

<sup>10</sup> ANNIE FEIDT, MOVING ALASKAN VILLAGES AWAY FROM ENCROACHING SEA, <http://www.npr.org/templates/story/story.php?storyId=5027517> (follow “Listen Now” hyperlink) (last visited Feb. 19, 2008).

<sup>11</sup> U.S. FISH & WILDLIFE SERVICE, THE POLAR BEAR: URSUS MARITIMUS (Dec. 2006), *available at* <http://library.fws.gov/Pubs/polarbear06.pdf> (last visited Mar. 31, 2008).

<sup>12</sup> David J. Tenenbaum, *Northern Overexposure*, ENVTL. HEALTH PERSP., Feb. 1998, at A64, 65.

<sup>13</sup> Gerardo Ceballos & Paul R. Ehrlich, *Mammal population losses and the extinction crisis*, 296 SCI. 904, 904 (May 3, 2002).

<sup>14</sup> Chris J. Johnson et al., *Cumulative Effects of Human Developments on Arctic Wildlife*, WILDLIFE MONOGRAPHS, July 2005, at 1, 4.

<sup>15</sup> Yereth Rosen, *Arctic drilling rights sale draws record bids*, REUTERS UK, Feb. 6, 2008, *available at* <http://uk.reuters.com/article/environmentNews/idUKN0653817820080206> (last visited Mar. 31, 2008).

<sup>16</sup> Science Daily, *Tundra Disappearing at Rapid Rate* (Mar. 7, 2007), *available at* <http://www.sciencedaily.com/releases/2007/03/070305140830.htm> (last visited Feb. 19, 2008).

<sup>17</sup> WELLER ET AL., *supra* note 9, at 998.

<sup>18</sup> ENN, *Arctic Warming Signals Dire Straits for Birds*, CNN (Apr. 5, 2000), <http://archives.cnn.com/2000/NATURE/04/05/arctic.birds.enn> (last visited Feb. 19, 2008).