

U.S. Court Ruling a Game-Changer for Endangered Species



This week the 9th Circuit Court of Appeals issued a game-changing ruling strengthening the link between climate change and the listing of endangered species. It will affect the management of public and private lands. It will also transform future species' listings, what constitutes best available science, and levels of scientific uncertainty acceptable in courtrooms. The justices upheld the National Marine Fisheries Service's (NMFS) decision to list the Beringia Bearded Seal as threatened under the Endangered Species

Act (ESA). The underlying basis was not an immediate threat to the seal or even declining numbers. It rested on changes to sea ice (their habitat) that are projected to occur off Alaska as far out as 2095 and based on the International Panel on Climate Change (IPCC) models. This marks an unprecedented use of science, the acceptance of model volatility in decisions, and the listing of a species that had not yet suffered population losses. This court has put all parties on notice.

The animal at the center of this case is the Beringia Seal, a distinct population segment of the bearded seal (*Erignathus barbatus nauticus*) inhabiting the cold waters of the Bering and Chukchi Seas. The seals congregate on patches of ice floes that appear over shallow water (50-200m) in order to access their food – creatures dwelling on the sea floor. Ice floes are essential to many parts of their lifecycle. Females give birth and nurse their pups on them, males use them to attract mates and as safe platform when molting. Ice floes shelter the young from predators while providing a place for them to learn to how to dive and feed.

In 2008, the Center for Biological Diversity filed a petition to list the seals under ESA citing global warming as the primary threat. After scientific review and public comment, NMFS listed the Beringia Bearded Seal as threatened in 2012. The State of Alaska, Oil and Gas Interests and Native Tribes appealed, winning in district court. On appeal the justices took a fresh look at the case and ruled for NMFS. The seal is listed as threatened

How did a court arrive at that decision and what does it mean?

Science alone determines the decision to list a species under ESA: Listing is made “*solely on the basis the best scientific and commercial data available*” giving science the pivotal role. Agencies must demonstrate that they have been thorough in their scientific analysis, reached a reasonable science-based conclusion, and engaged in the public process. Otherwise, they may face a challenge of being arbitrary and capricious, under the American Procedures Act (APA).

The underlying science in this case is complex. NMFS seems to have grasped this, applying rigorous analyses, two rounds of internal and external peer review and transparency in the science

and decision-making. Nevertheless making a decision to list a species today on the basis that its habitat will likely be gone by 2095 is remarkable.

Case Highlights and their Significance.

NMFS first established that ice floes were critical to the Beringia bearded seal, Observational studies indicated and all peer reviewers agreed, that viability of the seals depends on sea ice being present during their critical life phases. This was a key step. A species can be listed under ESA if its habitat is currently exposed to or threatened with destruction, modification or loss, and based on other natural or manmade threats that affect its survival.

NMFS then set about projecting the fate of the ice floes. For this they turned to the climate models of the International Panel on Climate Change (IPCC) and those ones considered most reliable for projecting Arctic sea temperatures and ice coverage. Where possible they compared model results to actual data collected annually on ice abundance in the region.

Climate change projections up to 2050 are based on data already collected on present-day emissions. Projections from 2050 to 2095 use contemporary data but involve unknown factors (e.g., technological innovations or policy changes). These latter-century models have greater uncertainty and are less reliable as predictive tools. Models project that by 2050 between 80% and 100% of summer ice floes will have disappeared during the seals' critical life phases, and by 2095 all summer ice will be gone over most of the seals' range During public comment period new scientific data were published showing the projected changes in Arctic sea temperatures were 30 years ahead of schedule- Summer sea ice would be completely gone by mid-century

The Plaintiffs opposed the listing on several grounds arguing that the decision was arbitrary and capricious (under APA). It was not, they contended, based on best scientific data; seals are still plentiful; no solid relationship between their decline and ice floes was established; and that the use of IPCC models beyond 2050 was speculative. They contended that a wait and see approach would be more applicable. All these arguments were dismissed.

The 9th circuit court in San Francisco affirmed NMFS listing on the basis that the Service had used the best science available and reasonably. ESA, the justices noted, only requires best *available* science, not iron clad science nor at a too high a standard. Despite the volatility of climate projections from 2050-2095 the court concluded that this doesn't deprive them of use in rule making. Inclusion of peer review and transparency of methods also proved important in the ruling.

A comment by the Justices may freeze many in their tracks. "Although Plaintiffs framed their arguments as challenging the long-term climate projects they seek to undermine NMFS use of climate change projections as the basis for ESA listings. The court was having none of this argument finding it unavailing. Climate-change models and projections even with uncertainties, they find, constitute the best available science. Future cases take note.

At the end of the day the case turned on one issue. "When NMFS determines that a species that is not presently endangered will lose its habitat due to climate change by the end of the century, may NMFS list that species as threatened under the Endangered Species Act?"

The ninth-circuit court has answered with a definitive "yes".

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