

**Recommendations of the Oregon Global Warming Commission's
Subcommittee on Fish, Wildlife, and Habitat Adaptation**

Policy Summary

9/22/2008

Climate change is the primary long-term challenge facing Oregon's people, ecosystems, and economies. With increasing concern about global climate change, efforts to reduce greenhouse gas emissions are gaining momentum. But even if mitigation efforts are swift and effective, there will be an inevitable lag between when we reduce emissions and when we see the effects in the climate system and in the natural world. Some change will be unavoidable.

Current and projected climate changes include rising temperatures, changing precipitation patterns, and rising sea levels. These changes are occurring now but are expected to increase dramatically over time if mitigation actions are inadequate.

Climate change will negatively affect many fish and wildlife species and their habitats. It will disrupt wildlife-related industries such as commercial fishing and wildlife-based recreation, sectors which provide the state with an estimated \$1.7 billion in annual economic benefits. Climate change will also threaten the provision of ecosystem services, such as clean air and water, on which all residents and economic sectors depend.

The Fish, Wildlife, and Habitat Adaptation Subcommittee of the Oregon Global Warming Commission offers the following recommendations for developing policy to support fish and wildlife adaptation in the upcoming 2009 legislative session:

1. Investment in Oregon Conservation Strategy implementation:

Fish and wildlife adaptation to the adverse effects of climate change will depend greatly on our ability to manage for resilient ecosystems. The Oregon Conservation Strategy is a key tool in this context, and its implementation should take a high priority in state adaptation efforts. The Strategy is intended to be the overarching framework for state conservation efforts, and it covers the diversity of species and ecosystems throughout the state. While future Strategy revisions should explicitly incorporate climate change considerations, implementation of the current document will help support future adaptation efforts. The Oregon Department of Fish and Wildlife's Policy Package 101 requests funding for Strategy implementation. This package is in accordance with adaptation goals identified by this subcommittee, and the subcommittee supports the Fish and Wildlife Commission's proposal.

2. Agency climate change staff:

The State of Oregon should have at least one full-time staff lead on climate change adaptation for each state natural resource agency. This staff position should be responsible for incorporating climate change adaptation into the agency's regular portfolio and collaborating with other agencies as needed. As a first step, the state should direct the staff lead to conduct a review of existing policies and procedures in the context

of climate change adaptation. In future, many more similar positions will be needed, and coping with climate change will play a key role in most ongoing agency activities.

3. Interagency climate change coordinating committee:

As agency staff begin to incorporate climate change considerations into their portfolios, communication and collaboration among agencies will also be needed to ensure that adaptation needs are being addressed as effectively and efficiently as possible. An inter-agency coordinating committee should be created to identify areas where different agencies' adaptation priorities either overlap or conflict. The committee should include the staff lead on climate change from each state natural resource agency.

4. Agency mandate for adaptation:

The state of Oregon should direct agencies to incorporate climate change considerations and adaptation planning into normal activities and planning processes. Currently, climate projections and ecosystem responses to climate are rarely explicitly considered in these processes. However, decisions made at all levels and in all sectors of government can positively or negatively affect fish and wildlife adaptation to climate change and resource economies. Thus, a clear mandate is needed that climate considerations, including impacts on fish, wildlife, and habitats, should be integrated into future agency activities.

5. Funding for adaptation activities:

The State of Oregon should establish a source of funding specifically dedicated to supporting agencies' climate change adaptation efforts. The governor and the legislature should allocate these funds as needed to support adaptation needs identified by the Global Warming Commission, the interagency coordinating committee described above, the agencies' commissions, and the agencies themselves. Additionally, the Global Warming Commission should support mitigation policies (such as a cap-and-trade policy) that provide funding for state adaptation efforts.

6. State-wide monitoring framework:

Monitoring will play a vital role in managing fish and wildlife in a changing climate. The State of Oregon should assign responsibility for and provide funding to the state university system to develop an overarching, state-wide monitoring framework for natural resources. This initiative should build on previous work to identify monitoring needs, coordinate data collection, and ensure data collected across jurisdictions are available and accessible to others. It should also explicitly tie monitoring efforts to climate change processes and specific management actions.

7. Research needs:

The Science and Technology Committee of the Global Warming Committee has been tasked with helping to determine climate change research priorities for the state. These priorities should include research relevant to fish and wildlife adaptation. The Fish, Wildlife, and Habitats Subcommittee has identified the following research priorities in this arena:

- **Climate change vulnerability assessments:** State- or regional-scale assessments of climate change vulnerability are needed to help support agencies' prioritization and management decisions. These assessments should be aimed at determining which species and ecosystems will likely be most affected, and they should help guide decisions about how to best manage the most negatively affected species and systems. The Oregon Conservation Strategy provides a useful framework for conducting these studies.
- **Monitoring and evaluation of management actions:** There is an urgent need to tie existing and proposed management techniques with on-the-ground results. Evaluating management actions will be critical to coping with future climate uncertainties, and there is a particular need for research that shows how climate change affects management results. This research will help guide adaptation efforts and maximize the effectiveness of funds spent, and it will also help minimize the risks inherent to managing in a changing climate.
- **Long-term research on climate trends and ecosystem responses:** To provide needed information on climate impacts on ecosystems and species, research and monitoring efforts will need to be conducted over longer time periods than are currently common. Long-term funding and institutional support will be needed to encourage long-term research. Existing long-term ecological research such as the OSU's Andrews Long-term Ecological Research site can be a cornerstone of such efforts.
- **Regional downscaling of climate models:** Existing climate models are too coarse to effectively guide more localized adaptation strategies. Agencies and policymakers need as much information as possible on anticipated climate changes at the regional and finer scales. The creation of a set of regional-scale climate scenarios for use in adaptation planning would be particularly helpful for use in decision-making at the state level.

There is an immediate need to increase the resources available to manage climate impacts on fish and wildlife and their habitats. In the long term, however, more significant policy changes will be needed to help agencies act to reduce with the effects of climate change. Adaptation efforts should capitalize on existing policies and structures, although many existing plans and policies will need to be updated to account for climate change impacts. At the same time, adapting to future climate changes will also require new policy solutions, institutions, and governance structures. Future work products of this subcommittee will discuss long-term policy implications in greater detail.