Climate Screening of Wetland-Related Policies

Analyze existing policies and modify where needed to address gaps to respond to climate adaptation

Most natural resource management policies were not written with climate change in mind. Such policies may become less effective as climate change and its impacts become increasingly evident, and may inadvertently increase societal vulnerability to climate change by creating barriers to adaption. This is particularly true for policies relating to or affecting wetlands, given the sensitivity of wetlands to changes in temperature and precipitation.

Accordingly, it makes sense to analyze existing natural resource management policies to see which, if any, could be modified to increase opportunities for wetland adaptation and decrease wetland vulnerability to a changing climate. Existing policies that influence coastal wetland health, restoration and conservation should be assessed to identify and amend provisions that create obstacles to adaptation (e.g., expressly prohibit managing for transformation rather than stasis), and to insert provisions that would facilitate adaptation (e.g., requiring evaluation of a regulation's effectiveness over multiple climate scenarios or time horizons). Many existing policies may not directly hinder adaptation but, without a deliberate review, they also will not encourage adaptation. A review to build in "adaptation friendly" provisions will ensure that adaptation is institutionalized across the multiple policies that affect wetland management.

The output of screening should include an explanation of how the screening was conducted, information sources used in the screening, suggested changes to policy wording, and a list of related planning documents that might need updating to reflect the new policy.

Case Example | National and City-Wide Policy Screening

There are few examples of climate-related policy screenings specific to wetlands, so this example summarizes a report that evaluated the implications of climate change for Habitat Conservation Plans (HCP), which are conducted by the U.S. Fish and Wildlife Service pursuant to the federal Endangered Species Act. These plans address the effects of proposed development or other land use changes on threatened and endangered species. This report, prepared for the Berkeley Center for Law, Energy and the Environment and the Center for Global Energy, International Arbitration and Environmental Law (see reference below), examined overarching complexities climate changes poses to HCP and options for addressing them, and also looked at provisions in HCP regulations that may hinder or facilitate the incorporation of climate considerations. The report highlighted the need to include climatic changes and impacts as part of the baseline condition against which proposed actions are evaluated, and to adjust "no jeopardy" thresholds if these climatic changes might increase species' vulnerability to habitat loss or other proposed actions. It also proposes incorporating climate-related uncertainty in evaluations of proposed reserve designs and adaptive management plans.

In exploring elements of HCP-related law, regulation and practice, the HCP authors found some elements, such as the mandate to use best available science, which would seem to mandate consideration of climate implications, and others that might limit the ability to do so. For example, regulations state that habitat destruction must be mitigated by protection of habitats as similar as possible to the area of impact. This could prevent the creation of reserves in areas thought to be more resilient to change, or thought to be of increasing importance as future habitat.

Case Example | Great Lakes Regional Water Quality Agreement

The 2012 revision to the Great Lakes Water Quality Agreement reflects an increasing awareness of and desire to address climate change impacts. While not explicitly a screening tool, the revised agreement calls for incorporating climate change impacts into actions. There is an Annex focused specifically on climate change impacts, and climate considerations are also integrated throughout the Agreement. For example, the Agreement mandates consideration of climate change impacts be integrated into a new nearshore framework. Also, the Agreement cites the need to consider the effects of climate change on the "use, release, transport and fate of chemicals of mutual concern," how phosphorus targets are set, effects of nutrient inputs, and on aquatic invasive species. Finally, it includes climate regulation as an ecosystem service to be considered.

Challenges and Benefits

Developing feasible and effective suggestions for policy or regulatory change requires collaboration among those with relevant scientific expertise (e.g., understanding of coastal wetland structure, function and processes, and understanding of potential vulnerabilities to climate impacts) and those with experience in policy development and implementation. Furthermore, implementing policy changes can be politically difficult, and opening up a policy change runs the risk that the policy will be weakened rather than strengthened.

On the other hand, there are cases where policy stands in the way of wetland adaptation, so policy screening and adjustment is an important enabling condition for adaptation action. If policy screening and updating is handled effectively, it can also provide an opportunity to increase the climate awareness of policymakers and the policy awareness of climate and adaptation scientists.

Who should implement the practice?

Entities with responsibility for policy development and/or promulgation should implement this practice. This includes, for example, legislative and executive branch staff and decisionmakers at state and local levels, as well as environmental nonprofit organizations and other groups that advise those who make policy. Regardless, the policy analysis, development and any recommendations for policy change should be informed by findings and/or expertise from academia, nonprofits and businesses engaged in coastal wetland-related work.

When should this practice happen?

Tools and Resources

Michigan State Hazard Mitigation Plan (2011) |
www.michigan.gov/documents/msp/MHMP_2011_UPDATE_COMPLETE_928_pages_358532_7.pdf

Climate Change Adaptation Plan for Coastal and Inland Wetlands in the State of Michigan (2012) | Report of Association of State Wetland Managers that reviews numerous climate change issues relevant to wetland protection and restoration in Michigan. |
www.michigan.gov/documents/deq/Michigan_Wetlands_and_Climate_Change_Report_Final_Final_403251_7.pdf

U.S. Army Corps of Engineers – Climate Change Adaptation Plan and Report (2012) | This report is not wetland focused, but it explains that climate change might have an impact on wetlands and that it should be considered. It gives a case example from California. |
www.corpsclimate.us/docs/2012_USACE_Adaptation_Plan_and_Report_23_June_2012%20final.pdf

New York City Wetland Strategy (2012) | The report describes practices to adopt in the context of wetland loss due to several factors, including climate change. | www.nyc.gov/html/planyc2030/downloads/pdf/nyc_wetlands_strategy.pdf

Columbia Law School Center for Climate Change Law State Hazard Mitigation Plans & Climate Change: Rating the States (2003) |
web.law.columbia.edu/sites/default/files/microsites/climate-change/files/Publications/Students/SHMP%20Survey_Final.pdf

Resources for the Future | Series of reports reviewing options for incorporating adaptation into policy, regulation, and management in different sectors. | www.rff.org/News/ClimateAdaptation/Pages/domestic_publications.aspx

Great Lakes Water Quality Agreement | www.epa.gov/greatlakes/glwqa/20120907-Canada-USA_GLWQA_FINAL.pdf