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[Melinda Taylor](#) at the University of Texas School of Law and I have just put out a white paper on *Habitat Conservation Plans and Climate Change: Recommendations for Policy*. It can be accessed [here](#) through Berkeley Law's Center for Law, Energy and the Environment, or [here](#) through UT's Center for Global Energy, International Arbitration, and Environmental Law.

A lot of attention has been paid lately to what role, if any, the Endangered Species Act should play in addressing greenhouse gas emissions. Much less attention has been paid to the ways that climate change complicates implementation of the Act's established tools, such as habitat conservation planning.

The ESA prohibits the "take," broadly defined, of endangered and most threatened animal species. Nonetheless, the Fish and Wildlife Service and National Marine Fisheries Service can issue "incidental take permits" allowing some take incidental to otherwise lawful activities (like logging or development) if certain conditions are met. Permit applicants must submit a habitat conservation plan (HCP) detailing the taking the proposed action will cause, its impacts, mitigation measures, and alternatives the applicant considered. A permit is issued if the FWS or NMFS finds that the taking is incidental to the proposed activity, the applicant will minimize and mitigate the impacts of the taking to the maximum extent practicable, the applicant will ensure adequate funding for the conservation plan, and the taking will not appreciably reduce the likelihood of the survival and recovery of the species in the wild. ESA § 10(a)(2); 16 U.S.C. § 1539(a)(2).

Climate change poses challenges both for approval of new incidental take permits and for the conservation success of permits already issued. For new permits, uncertainty about climate impacts on covered species may make it difficult for the Services to find that the proposed taking will not cross the threshold of appreciably reducing the likelihood of survival and recovery. For existing permits, climate change calls into question the ability of reserves to provide the conservation benefits expected when they were set aside.

With respect to new HCPs, we recommend that the Services:

1. enhance their capacity to understand, evaluate, and use the latest scientific information on local climate effects and their ecological impacts;
2. use scenario evaluation to highlight key uncertainties;
3. require that reserves be designed to accommodate climate change;
4. calibrate regulatory assurances ("no surprises") to the level of confidence about

climate change effects;

5. focus on ecosystems, not just individual species;
6. use adaptive management appropriately; and
7. coordinate HCP development and review with other conservation efforts, including other ESA programs as well as public lands management and acquisition programs.

HCPs and incidental permits that have already been approved pose an even greater challenge, because the taking may already have been completed and in many cases the Services have promised permit holders that they would not demand additional conservation measures. We recommend that the Services put approved HCPs through a kind of climate change “stress test,” evaluating them for climate vulnerability. The results of that review could feed into future decisions affecting covered species, including new permit applications, recovery planning, and consultation on future actions. It could also allow the Services to recognize and plan for steps they may need to take (and to finance) to ensure conservation of covered species.