October 9, 2014

The Honorable Dan Ashe
Director
U.S. Fish and Wildlife Service
1849 C Street, NW
Washington, DC 20240

The Honorable Kathryn Sullivan
Administrator
National Oceanic & Atmospheric Administration
1401 Constitution Avenue, NW
Washington, DC 20230

Dear Administrator Sullivan and Director Ashe,

We are writing to you regarding the Obama administration's recent proposal to change the regulatory definition of "destruction or adverse modification" of critical habitat under the Endangered Species Act ("ESA"). We believe that the proposal is an improvement over the current definition, which ignored the ESA's recovery mandate.[1] However, one particular aspect of the proposal does not accurately represent or reflect the collective experience and scientific knowledge that has developed in the field of conservation biology. As a result, this proposal will likely fail to address and stem the main drivers of habitat loss in the United States: small, incremental impacts that cumulatively degrade the habitats and conservation status of endangered species.[2]

Under the ESA, all federal agencies must insure that their actions to do not destroy or adversely modify critical habitat, and must consult with U.S. Fish and Wildlife Service or National Marine Fisheries Service ("Services") to determine if their actions comply with the ESA. The Services have proposed to define the term "destruction or adverse modification" of critical habitat as:

> a direct or indirect alteration that appreciably diminishes the conservation value of critical habitat for listed species. Such alterations may include, but are not limited to, effects that preclude or significantly delay the

[1] The current regulatory threshold for "destruction or adverse modification" of critical habitat required that an action be likely to reduce both the survival and recovery of a listed species to violate the Endangered Species Act, meaning that federal actions that merely precluded the recovery of a species did not violate the law. Three federal courts held that this approach violated the Endangered Species Act.

[2] *See for example:* Odum, W.E. 1982. *Environmental Degradation and the Tyranny of Small Decisions*, BioScience 32:728-729; Wilcove, D. S., et al. 1998. *Quantifying Threats to Imperiled Species in the United States: Assessing the relative importance of habitat destruction, alien species, pollution, overexploitation, and disease*, BioScience 48:607-615; Spaling H and Smit B.1993. *Cumulative environmental change: conceptual frameworks, evaluation approaches, and institutional perspectives*. Environmental Management 17:587-600; National Research Council, 1986. ECOLOGICAL KNOWLEDGE AND ENVIRONMENTAL PROBLEM-SOLVING: CONCEPTS AND CASE STUDIES. National Academy Press; 388 p; Trombulak, S.C. & C.A. Frissell. 2000 *Review of ecological effects of roads on terrestrial and aquatic communities*, Conservation biology 14:18-30; Swift, T.L & S.J. Hannon, 2010. *Critical thresholds associated with habitat loss: a review of the concepts, evidence, and Applications*, Biological Reviews 85:35-53.

development of physical or biological features that support the life-history needs of the species for recovery.

This definition does recognize the vital role that critical habitat plays in the recovery of threatened and endangered species in the United States. Unfortunately, when evaluating the potential impacts of federal projects on listed species, the Services have included additional guidance in the proposal stating that a project appreciably diminishes critical habitat only when the conservation value of the *entire* critical habitat designation for a particular species is diminished. This approach to evaluating habitat impacts does not appear to be based on the best available science and conservation literature, and would likely lead to results where most of the small, but cumulatively significant, impacts to critical habitat go unaddressed.

For example, in 2012 the Fish and Wildlife Service designated approximately 9.57 million acres of critical habitat for the northern spotted owl. In that decision, the Service stated that "the determination of whether an action is likely to destroy or adversely modify critical habitat is made at the scale of the entire critical habitat network."[3] It seems highly unlikely that any project, even if it destroyed 10,000 acres, would diminish the conservation value of the entire critical habitat network for the spotted owl. It would likely take hundreds or thousands of small impacts to spotted owl critical habitat for there to be an appreciable diminishment in the value of the critical habitat designation as a whole. As a result, many small harms to the spotted owl would potentially go unaddressed and unmitigated, even though they have cumulative importance. The literature supports our concerns that these types of impacts will not be fully addressed. In an analysis of nearly 4,000 biological opinions, Owens (2012) concluded that the Services "have consistently treated small-scale habitat degradation as exempt from the adverse modification prohibition, even though no such exemption appears in the ESA itself."[4] We are deeply concerned that the Services' proposal to institutionalize this exemption will undermine the recovery of listed species. Without addressing these small harms using a modern, scientific approach, many endangered species will continue to decline.

We believe that this deficiency in the Services' proposal can be improved to address these small harms to critical habitat. The Services should evaluate adverse impacts to critical habitat at the most biologically relevant and appropriate geographic scale that is supported by the scientific literature with respect to each endangered species. For example, if a species has a recovery plan that identifies the geographic recovery units wherein conservation goals must be met to recover that species, then assessing critical habitat at the scale of the recovery unit would likely be appropriate. Or if a recovery plan requires the establishment of a certain number of populations or meta-populations to achieve recovery, impacts to habitat would be assessed at the population or meta-population level. Such an approach would reflect the ESA's mandate that all consultations under Section 7 be made solely on the best scientific information available for that species.

This change is essential for an additional reason. While the Services have stated in this proposal that cumulative impacts to critical habitat will be addressed in consultations, the Government Accountability Office concluded in 2009 that the Fish and Wildlife Service did not have the

[3] *Designation of Revised Critical Habitat for the Northern Spotted Owl*, 77 Fed. Reg. 71876, 71940 (Dec. 4, 2012).
[4] Owens, D. 2012. *Critical habitat and the challenge of regulating small harms*. Florida Law Review 64:141-199.

capacity or ability to track cumulative impacts that are permitted in the consultation process.[5] Without an ability to track cumulative take of species and cumulative impacts to species, the protective measures of the ESA will be less effective at recovering endangered species. Thus, we recommend that the Services develop a database for tracking cumulative impacts to allow the agencies to effectively monitor cumulative impacts, so that they can assess impacts both at the most relevant biological scale, and across the entire critical habitat designations. Until the Services can demonstrate their ability to track cumulative take and impacts to critical habitat across the range of the species, assessing impacts at a biologically relevant scale will make it possible for biologists to assess cumulative impacts, and will help to put more species on a path towards recovery. Thank you for your consideration of these recommendations.

Sincerely,

Barry Noon, PhD
Professor
Colorado State University

Dominick DellaSalla, PhD
President, Chief Scientist
Geos Institute

Stuart Pimm
Doris Duke Professor of Conservation
Duke University

Reed Noss, PhD
Professor
University of Central Florida

John Vucetich, PhD
Associate Professor
Michigan Technological University

Andrew George, PhD
Adjunct Instructor
University of North Carolina Chapel Hill

Mike Phillips, MsC
Executive Director
Turner Endangered Species Fund

Peter Raven, PhD
President Emeritus
Missouri Botanical Garden

Mike Nelson, PhD
Professor
Oregon State University

Gordon Becker, MsC
Senior Scientist
CEMAR

Dennis Murphy, PhD
Professor
University of Nevada, Reno

David Berg, PhD
Professor
Miami University

Susan Cushman, PhD
Director of Introductory Biology
Hobart & William Smith Colleges

Carrie DeJaco, PhD
Associate Professor
Queens University of Charlotte

Lee Dyer, PhD
Professor
University of Nevada

Richard Ostfeld, PhD
Senior Scientist
Cary Institute of Ecosystem Services

[5] Government Accountability Office. 2009. THE U.S. FISH AND WILDLIFE SERVICE HAS INCOMPLETE INFORMATION ABOUT EFFECTS ON LISTED SPECIES FROM SECTION 7 CONSULTATIONS, Report #: GAO-09-550.

Jim Boone, PhD
Senior Scientist
Desert Wildlife Consultants

Clait Braun, PhD
Scientist
Grouse, Inc.

Angelo Capparella, PhD
Associate Professor
Illinois State University

Patrick Crist, PhD
Director of Conservation Planning
NatureServe

Vladimir Dinets, PhD
Assistant Research Professor
University of Tennessee, Knoxville

Thomas Fleischner, PhD
Professor, Director – Natural History Institute
Prescott College

Tom Giesen, MsC
Adjunct Instructor
University of Oregon

Gary Grossman, PhD
Professor
University of Georgia

Philip Ganter, PhD
Professor of Biological Sciences
Tennessee State University

Elden Holldorf, PhD
Biologist
Allied Pacific Environmental Consulting

Diane Henshel, PhD
Associate Professor
Indiana University

David Flagel, PhD Candidate
Assistant Professor
Antioch College

Bill Hilton Jr, D.Sci
Executive Director
Hilton Pond Center for Piedmont Natural History

Karen Holl, PhD
Professor
University of California, Santa Cruz

Jason Koontz, PhD
Associate Professor
Augustana College

Kim Landsbergen, PhD
Associate Professor
Antioch College

Travis Longcore, PhD
Associate Professor
University of Southern California

Malcom MacPherson, PhD
Scientist, retired

Javier Rodriguez, PhD
Associate Professor
University of Nevada, Las Vegas

Jonathan Rosenfield, PhD
Conservation Biologist
The Bay Institute

Steve Shippee, PhD
Conservation Biologist
Marine Wildlife Response

Catherine Tarasoff, PhD
Adjunct Professor
Michigan Technical University

Andrew Wright, PhD
Affiliate Professor
George Mason University

Peter Schulze, PhD
Professor of Biology and Environmental Studies
Austin College

Elizabeth Perkins, PhD
Postdoctoral Researcher
University of British Columbia

E. Binney Girdler, PhD
Ealamazoo College

Geoff Patton, PhD
Biologist

Rachel Golden, PhD Candidate
George Mason University

Christopher Round, MPA/MSES Candidate
Indiana University

Ashley McDonald, PhD Candidate
Dauphin Island Sea Lab

Benjamin Haller, PhD

Tara Massad, PhD
Research Manager
Gorongosa National Park

Duane McKenna, PhD
Assistant Professor
University of Memphis

Monica Bond, Ms.C
Principal Scientist
Wild Nature Institute