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Public Comments Processing Division of Policy and  
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**Re: Docket Nos. FWS-R9-ES-2011-0072, FWS-HQ-ES-2012-0096 and FWS-R9-ES-2011-0104**

This letter provides comments on behalf of the Western Urban Water Coalition (WUWC) on proposed regulations and a draft policy jointly published by the U.S. Fish and Wildlife Service (FWS) and the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NMFS) (together, the Services) to improve the process of designating areas of "critical habitat" and consulting on the effects of federal actions on critical habitat under the Endangered Species Act (ESA). These proposals are designed to increase the predictability and transparency of the Services' actions related to critical habitat under the ESA.

The first proposed regulation would revise the definition of "destruction or adverse modification" of critical habitat. 79 Fed. Reg. 27,060 (May 12, 2014). The second proposed regulation would amend the procedures and criteria specified in 50 C.F.R. Part 424 for designating critical habitat. 79 Fed. Reg. 27,066 (May 12, 2014). The draft policy addresses exclusions from critical habitat and how the Services consider a variety of issues as part of the exclusion process, including partnerships and conservation plans, habitat conservation plans permitted under section 10 of the ESA, tribal lands, national security and homeland security impacts, federal lands and economic impacts. 79 Fed. Reg. 27,052 (May 12, 2014). For the reasons discussed in these comments, the WUWC recommends changes to the definition of adverse modification in the first rulemaking and that no further action be taken on the procedures and criteria in the proposed rule or draft policy until a collaborative public participation process has been conducted.

**I. The Western Urban Water Coalition and the ESA**

The WUWC was created in June 1992 by leaders of several western municipal water suppliers to address the West's unique water issues. The WUWC's goals and initiatives have evolved over time to address significant challenges created by climate change, fluctuations in weather patterns,

October 9, 2014

Page 2

rampant wildfires and drought, population growth, aging water infrastructure and increased regulatory oversight.

The WUWC consists of the largest urban water utilities in the western United States, who serve over 35 million water consumers in 16 metropolitan areas across five states, some of which also operate wastewater and hydroelectric facilities. The membership of WUWC includes: Arizona – Central Arizona Project and City of Phoenix; California – East Bay Municipal Utility District, Eastern Municipal Water District, Los Angeles Department of Water and Power, Metropolitan Water District of Southern California, San Diego County Water Authority, City and County of San Francisco Public Utilities Commission and Santa Clara Valley Water District; Colorado – Aurora Water, Colorado Springs Utilities, and Denver Water; Nevada – Las Vegas Valley Water District, Southern Nevada Water Authority and Truckee Meadows Water Authority; and Washington – Seattle Public Utilities.

The WUWC is committed to presenting a new and different perspective on the management of water resources in the modern West. The WUWC seeks to articulate the needs and values of Western cities to provide a reliable, high quality urban water supply for present and future generations, while preserving the unique environmental and recreational attributes of the West. The WUWC is an active public and legislative advocate for progressive water and resource management. It encourages water sharing and transfers, supports an adequate supply of water for environmental and recreational purposes, advances multi-purpose storage opportunities, promotes water conservation, and advocates for effective and practicable approaches to the implementation of environmental protection programs in a time when water is becoming more scarce and critical to the West's sustainability. Many WUWC members are at the forefront of water reuse, conservation and optimization. WUWC members consistently seek water supplies from non-traditional sources.

Many of the foregoing activities undertaken by WUWC members involve critical habitat and trigger the consultation requirements of the ESA. For this reason, WUWC is concerned about the efficacy of the procedures used by the Services for all aspects of ESA implementation. The WUWC has actively commented on earlier proposals involving implementation of the ESA.

Throughout its long track record with the ESA, the WUWC has stressed the importance of reasonable administrative reform to make the ESA work better, both for species and for reasonable and responsible resource development. For example, we have been pleased to play an active role in the development of, and support for, Secretary Babbitt's five point ESA plan and Secretary Kempthorne's cooperative conservation initiative. Our members have been active participants in HCP, safe harbor agreements, and candidate conservation agreements. We have opposed unnecessary legislation that would weaken the Act. These are efforts we take pride in, and they have made a difference.

## II. Request for Collaborative Public Participation

For more than a decade, following the *Sierra Club* and *Gifford Pinchot* court cases, the WUWC has engaged the Services in discussions about the meaning of adverse modification of critical habitat in section 7(a)(2), the procedures and requirements for the designation of critical habitat, and grounds for making exclusions from critical habitat for both economic impacts and as a result of the existence of habitat conservation and other species and land and water management plans. We have submitted specific recommendations and participated in meetings for this purpose. We also participated, through our National Counsel, Don Baur, in the Keystone Stakeholder Process in 2005-2006, dealing with critical habitat reform issues. We have welcomed the opportunity to engage in those discussions and share our ideas.

Considering this long history of constructive engagement under the ESA, we must begin our comments on the three proposals by noting our disappointment with the current direction of ESA implementation. Combined with the rulemaking on how to factor economic impacts into section 7 consultation, the current proposals on critical habitat have done very little to bring balance or clarity to ESA implementation or address the concerns of resource development interests. Instead, the Services have advanced regulatory programs that provide little room or incentive for new and innovative initiatives from the resource development community.

In addition, the proposals move the ESA in the direction of more ambiguity, open-ended discretion, and confusion. At a time when the Administration has promised improved regulatory standards and certainty, the proposals have the opposite effect by relying on numerous new and vague requirements and principles that we find difficult to understand or apply. *See* Executive Order 13563, *Improving Regulation and Regulatory Review* (January 18, 2011). For a resource development sector that relies very heavily on clear and well-defined regulations to meet long-term urban water planning horizons, the three ESA proposals will have a negative effect because they are so ambiguous and potentially restrictive.

We also are concerned over the lack of outreach for a public dialogue and constructive stakeholder engagement prior to the publication of the proposed rules and policy. Considering the amount of time that has elapsed since the court decisions that are at the heart of these proposals, it would have been useful to have a more open dialogue with interested parties to test the ideas and principles that are at the heart of critical habitat designation and subsequent implementation. The WUWC would have been pleased to participate in such a conversation.

The President has strongly encouraged such participation. *See* Executive Order 13563, at § 2(c) (“Before issuing a notice of proposed rulemaking, each agency, where feasible and appropriate, shall seek the views of those who are likely to be affected, including those who are likely to benefit from and those who are potentially subject to such rulemaking.”). The Department subsequently developed a plan for this purpose. *See* Department of the Interior Preliminary Plan for Retrospective Regulatory Review (February 18, 2011) (DOI Plan). Specifically the DOI Plan states: “The Fish and Wildlife Service (FWS), working in conjunction with the National Marine

October 9, 2014

Page 4

Fisheries Service, will revise and update the ESA implementing regulations and policies to improve conservation effectiveness, reduce administrative burden, enhance clarity and consistency for impacted stakeholders and agency staff, and encourage partnerships, innovation, and cooperation.” DOI Plan, at 3-4. The DOI Plan further provides:

DOI believes public participation is a foundational principle to creating more effective, less costly, more flexible, and less burdensome regulations. Those who must comply with regulations often have information that can improve the regulations and contribute to better results. Moreover, increased compliance can result when regulated entities have an opportunity to participate in the development of the regulations they will need to abide by.

DOI Plan, at 14. Unfortunately, the Services have not conducted this kind of outreach for these proposals. Indeed, there have not even been any public meetings in conjunction with these proposals.

These proposals are a very big deal, and they will have a dramatic effect on ESA implementation. Before proceeding further, at least with the procedures and criteria rule and draft policy, we ask that the Services take a step back and engage in more direct outreach with the public through meetings and FACA-compliant workshops. Doing so will advance the open government and regulatory reform initiatives of this Administration and result in better proposals that are more clearly understood, if not accepted, by a wide range of stakeholders.

We believe that if a renewed public participation process is undertaken, the Services will receive excellent input that can be further honed and improved by discussion between government and constituencies. With that information in hand, the Services can issue a revised proposed rule or possibly even proceed to a final rule that reflects the outcome of a give-and-take discussion with affected parties. This will be time well spent by all parties who are involved, and if undertaken promptly and efficiently, can still achieve the goal of final rules and policies by the end of this Administration. Should the Services elect this course of action, the WUWC pledges its full support and participation.

Because we do not know whether the Services will follow this course of action, the WUWC is submitting its comments on the proposed rules and policy for the record. Our comments are set forth separately on each rule and the draft policy. We also present our thoughts on the unfinished business of how economic impacts are determined for purposes of exclusions from critical habitat.

### **III. The Adverse Modification Proposed Rule**

#### **A. The Consideration of the Meaning of Adverse Modification by the Courts Has Been Incomplete and Should Not Be the Basis for a New Regulatory Definition**

The premise for the proposed regulations is that the courts have left no room for the Services to interpret adverse modification of critical habitat as anything short of involving a recovery standard. Specifically, the Services rely on the decisions in *Sierra Club v. U.S. Fish and Wildlife Service*, 245 F.3d 434 (5th Cir. 2001), and *Gifford Pinchot Task Force v. U.S. Fish and Wildlife Service*, 378 F.3d 1059 (9th Cir. 2004). As the Services state: “[t]he Ninth Circuit, following similar reasoning set out in the *Sierra Club* decision determined that Congress viewed conservation and survival as “distinct, though complimentary, goals and the requirement to preserve critical habitat is designed to promote both conservation and survival.” Specifically, the court found that “the purpose of establishing ‘critical habitat’ is for the government to designate habitat that is not only necessary for species’ survival but also essential for the species’ recovery.” *Gifford Pinchot Task Force* at 1070. 79 Fed. Reg. 27,061. On this basis, along with a 2004 internal FWS memorandum to regional directors and a 2005 NMFS memorandum to regional administrators, the Services began applying the definition of “conservation” as set out in the Act, which defines conservation . . . to mean “the use and the use of all methods and procedures which are necessary to bring any endangered or threatened species to the point at which the measures provided pursuant to this Act are no longer necessary.” *Id.*

The problems with both court decisions and the two internal memoranda is that they provide only superficial consideration to the question of the Congressional intent behind critical habitat designation and exclusions and the relationship to the recovery provisions of the ESA. In fact, upon a review of the record in both cases, it is clear that only passing consideration was given to this issue in all of the briefs from all parties. For example, in *Gifford Pinchot*, a total of only four pages was devoted to the recovery/adverse modification issue at the Court of Appeals stage by appellants, appellees, and intervenors. In *Sierra Club*, only three pages of briefing addressed the question. Most importantly, in none of these briefs or court decisions, was any consideration given to the very important and on-point legislative history of the ESA.<sup>1</sup>

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<sup>1</sup> For Example, in the district court filings in *Gifford Pinchot*, plaintiffs dedicated only passing references to this issue in their brief (*see id.* at 37-38, ECF No. 96) and no more full analysis in their opposition brief (*see id.* At 18-19, ECF No. 116). In its defense, the government acknowledged that “[d]esignation of critical habitat identifies lands that *may be needed* for a species’ recovery” but hedged that “if the Service does not know exactly what is needed for recovery, critical habitat serves to ‘preserve options’ for the future.” Defendants’ Br. Supp. Mot. Partial Summ. J. and in Opposition to Pls.’ Mot. Partial Summ. J. 5, Apr. 1, 2002, ECF No. 110. (Emphasis added.) Furthermore, throughout this briefing and the subsequent briefing to the Ninth Circuit, neither party addressed the legislative history and the congressional actions that went into crafting the statutory definition of critical habitat, and the complementary definition of adverse modification. Though the parties argued over whether “recovery” was an essential goal of the ESA, they made no resort to the legislative history to determine if this was, in fact, the case.

The relevant briefs are included as Exhibit 1 to these comments. Consideration of the Congressional deliberations, as should have occurred in the litigation, subsequent deliberations by the Services, and the development of the proposed adverse modification rule shows a clear intent to link critical habitat to species survival, not recovery.

In 1978, as part of an appropriations bill, the Senate and House respectively identified substantive issues that were causing difficulty in the application of the ESA. *See* House Consideration and Passage of H.R. 14104, with amendments, October 14, 1978, *reprinted in* 1 Congressional Research Service of the Library of Congress, A Legislative History of the Endangered Species Act of 1973, As Amended in 1976, 1977, 1978, 1979, and 1980, at 880-81 (1982) (Statements of Rep. Duncan) (identifying the lack of a definition of critical habitat in the statute and Department of Interior regulations had led to “problems” and complicated the application of the ESA). Particularly, both houses of Congress identified the definition of “critical habitat,” or rather the lack of any definition in the statute, as complicating implementation of the ESA. Both the Senate and the House undertook efforts to fill this gap and, thereby allow for more precise guidance.

The Senate undertook debate on S. 2899, proposed by Senator Culver (Iowa) on April 12, 1978. That bill was reported out of committee (Committee on Environment and Public Works) on May 15, 1978. As part of the comments accompanying the bill presented to the full Senate, the Committee acknowledged that

under present regulations the Fish and Wildlife Service is now using the same criteria for designating and protecting areas to extend the range of an endangered species as are being used in designation and protection of those areas which are truly critical to the continued existence of a species. The Committee feels that the rationale for this policy ought to be reexamined by the Fish and Wildlife Service.

S. Rep. No. 95-874, 7–8 (1978), *reprinted in* 1 Congressional Research Service of the Library of Congress, A Legislative History of the Endangered Species Act of 1973, As Amended in 1976, 1977, 1978, 1979, and 1980, at 947–48 (1982). The Committee identified its particular concern as the impact of such a broad regulation when large tracts of land were involved. *Id.* The debate centered on whether the aim of the ESA in designating habitat as critical was to protect areas “necessary for the continued survival” of a species, or to expand “existing populations of endangered species in order that they might be delisted . . . .” *Id.* In other words, the question that the Senate Committee highlighted was whether critical habitat, as envisaged in the passage of the ESA, encapsulated the idea of sustaining a population or recovering that population.

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*See* Appellants’ Br. At 47-50; *see also* Appellee’s Br. At 59. Similarly silent on the legislative history are the briefs submitted to the Fifth Circuit in *Sierra Club*. *See* Appellants’ Br. At 30-31; *see also* Appellee’s Br. At 21-22.

Further discussion on the aim of the critical habitat designation likewise focused on continued existence versus recovery of species. *See, e.g.*, Senate Consideration and Passage of S. 2899, with Amendments, July 18, 1978, *reprinted in* 1 Congressional Research Service of the Library of Congress, A Legislative History of the Endangered Species Act of 1973, As Amended in 1976, 1977, 1978, 1979, and 1980, at 1111 (1982) (Sen. Garn) (“I point out to the Senator that one of the major reasons for this amendment is that we sincerely want to protect the endangered species. Placing it on the list does not necessarily do that. If you do not have the area designated for its critical habitat necessary for its *continued existence*, then you may have infringements upon that area that could endanger the species.” (emphasis supplied)). Regardless of the debate, or because of it, the senate passed S. 2899, defining ‘critical habitat’ to include:

‘(A) the specific areas within the geographical area occupied by the species, at the time it is listed in accordance with the provisions of section 4 of this Act, on which are found those physical or biological features (i) essential to the conservation of the species and (ii) which require special management considerations or protection;

‘(B) critical habitat for a threatened or endangered species may include specific areas outside the geographical area occupied by the species at the time it is listed in accordance with the provisions of section 4 of this Act, into which the species can be expected to expand naturally, upon a determination by the Secretary at the time it is listed, that such areas are essential for the conservation of the species[.]

S. 2899 as passed by the Senate, July 19, 1978, *reprinted in* 1 Congressional Research Service of the Library of Congress, A Legislative History of the Endangered Species Act of 1973, As Amended in 1976, 1977, 1978, 1979, and 1980, at 1170-71 (1982). Much of the language in this definition actually came from an amendment proposed by Senator McClure (Idaho). Senate Consideration and Passage of S. 2899, with Amendments, July 18, 1978 *reprinted in* 1 Congressional Research Service of the Library of Congress, A Legislative History of the Endangered Species Act of 1973, As Amended in 1976, 1977, 1978, 1979, and 1980, at 1065-66 (1982) (discussing Amendment No. 1422 to the bill, and it being agreed to). The Amendment as proposed was intended to establish the differences between the range of a species and the critical habitat of that species. *Id.* at 1066. (“One of the things that the hearings brought out was that the Fish and Wildlife Service was having a difficult time in its own mind distinguishing between critical habitat and range. It seems to me that the Senator from Idaho has taken a definition which was operative for them and given it statutory authority, the slightly more specific nature of statutory language than is in the regulation.” (comment of Sen. Wallop)).

The House undertook its own efforts to pass legislation authorizing expenditures under the ESA, but it too became embroiled the critical habitat definition. The first iteration of the House

version was introduced on February 9, 1978, as H.R. 10883. After months of debate, many hearings, and numerous amendments, a clean version of the bill was reintroduced to committee as H.R. 14104. This bill was reported to the full House on September 18, 1978. The House version provided a definition of critical habitat:

modeled after that found in present Department of the Interior Regulations. Under the present regulations, critical habitat includes air, land or water areas--the loss of which would appreciably decrease the likelihood of conserving a listed species under the present regulation, the Secretary could designate as critical habitat all areas, the loss of which would cause any decrease in the likelihood of conserving the species so long as that decrease would be capable of being perceived or measured.

In the committee's view, the existing regulatory definition could conceivably lead to the designation of virtually all of the habitat of a listed species as its critical habitat.

Under the definition of critical habitat included in H.R. 14104, air, land or water areas would be designated critical habitat only if their loss would significantly decrease the likelihood of conserving the species in question. The committee believes that this definition narrows the scope of the term as it is defined in the existing regulations.

H.R. Rep. no. 95-1625, at 25, *reprinted in* 1978 U.S.C.C.A.N. 9453, 9475. Far from resolving the debate over the definition of critical habitat, this led to further discussion of the purpose of the statute and how the definition of this term can align with that purpose. One representative hazarded that "I think that if we are concerned with critical habitat, that word 'critical' implies essential to its survival." House Consideration and Passage of H.R. 14104, with amendments, October 14, 1987, *reprinted in* 1 Congressional Research Service of the Library of Congress, A Legislative History of the Endangered Species Act of 1973, As Amended in 1976, 1977, 1978, 1979, and 1980, at 818 (1982) (Rep. Duncan).

Duncan would later add an amendment. This amendment defined "critical habitat" to cover

(A) the specific areas within the geographical area occupied by the species at the time it is listed in accordance with the provisions of section 4 of this Act, on which are found those physical or biological features (i) which are essential to the conservation of the species and (ii) which require special management consideration or protection; and

(B) specific areas periodically inhabited by the species which are outside the geographic area occupied by the species at the time it is listed in accordance with the provisions of section 4 of this Act (other than any marginal habitat the species may be inhabiting because of pioneering efforts or population stress), upon a determination by the Secretary at the time it is listed that such areas are essential for the conservation of the species.

House Consideration and Passage of H.R. 14104, with amendments, (October 14, 1978), *reprinted in* 1 Congressional Research Service of the Library of Congress, A Legislative History of the Endangered Species Act of 1973, As Amended in 1976, 1977, 1978, 1979, and 1980, at 879 (1982) (Rep. Duncan). Representative Duncan explained the motivation for his amendment was the lack of a definition of critical habitat in the original bill and the subsequent regulations promulgated by the Department of the Interior. *See id.* Duncan maintained that for habitat to be identified as critical it need be shown to be “essential to the conservation of the species and not simply one that would appreciably or significantly decrease the likelihood of conserving it.” *Id.* at 880.

Another representative provided a more exhaustive description of the failings of the then-present law, and what a new definition of critical habitat should resemble. Representative Bowen restated that, under the ESA as it then stood, it included no definition of critical habitat. House Consideration and Passage of H.R. 14104, with amendments, October 14, 1978, *reprinted in* 1 Congressional Research Service of the Library of Congress, A Legislative History of the Endangered Species Act of 1973, As Amended in 1976, 1977, 1978, 1979, and 1980, at 817 (1982) (Rep. Bowen). He endorsed a definition that would provide “fairly rigid guidelines” to ensure “a very careful analysis of what is actually needed for survival of this species.” House Consideration and Passage of H.R. 14104, with amendments, October 14, 1978, *reprinted in* 1 Congressional Research Service of the Library of Congress, A Legislative History of the Endangered Species Act of 1973, As Amended in 1976, 1977, 1978, 1979, and 1980, at 818 (1982) (Rep. Bowen). Again, the focus was on survival of the species.

The House voted on H.R. 14104, and it was passed on October 14, 1978. The House then adopted the language of H.R. 14104 into S. 2899 and requested a conference with the Senate to resolve the differences between the two bills. Once those differences were resolved, the bill was signed into law as Pub. L. 95-632 on November 10, 1978. Pub. L. No. 95-632, 92 Stat. 3751 (1978). One of the notable issues that the two chambers finally agreed upon was “an extremely narrow definition of critical habitat, virtually identical to the definition passed by the house.” House Agree to Conference Report, November, October 14, 1978, *reprinted in* 1 Congressional Research Service of the Library of Congress, A Legislative History of the Endangered Species Act of 1973, As Amended in 1976, 1977, 1978, 1979, and 1980, at 1221 (1982) (Rep. Murphy). The definition of critical habitat, thus, came to closely align with the amended version of the house bill as submitted by Representative Duncan.

The law, when finally passed, set out that “critical habitat” would encompass:

- (i) the specific areas within the geographical area occupied by the species, at the time it is listed in accordance with the provisions of section 4 of this Act, 16 U.S.C. § 1533, on which are found those physical or biological features (I) essential to the conservation of the species and (II) which may require special management considerations or protection; and
- (ii) specific areas outside the geographical area occupied by the species at the time it is listed in accordance with the provisions of section 4 of this Act, upon a determination by the Secretary that such areas are essential for the conservation of the species.

Pub. L. No. 95-632, 92 Stat. 3751 (1978). This final version mirrored the sentiments of its authors, as they emphasized the particular nature of this designation and how it should be applied to only that land deemed essential for the conservation of the species. With the definition of critical habitat unaltered since the 1978 amendment, it is undeniable that the persons crafting this definition believed critical habitat to focus on survival rather than recovery.

This summary of the legislative evolution of critical habitat strongly suggests that the *Gifford Pinchot* and *Sierra Club* decisions are not correct. If that is the case then the two proposed rules also are proceeding on a flawed premise that will give far too much regulatory significance to critical habitat designations and severely complicate consultation under section 7(a)(2) under a standard for adverse modification that is too rigorous. The additional collaboration and stakeholder participation requested above will help resolve the important question of Congressional intent and statutory meaning.

## **B. WUWC policy position on adverse modification**

The WUWC has a longstanding policy recommendation on the definition of adverse modification. Exhibit 2. This position paper begins by accepting the principle that the courts have left the Services with little room to develop a new definition and that there is now a need to tie the term adverse modification to “conservation,” as defined in section 3(3) of the ESA to mean “the use of all methods and procedures which are necessary to bring any endangered species or threatened species to the point at which the measures provided pursuant to this chapter are no longer necessary.” 16 U.S.C. § 1532(3). The courts have therefore determined that adverse modification must be effectively be tied to a recovery standard; however, as noted above, this important issue has not been fully briefed in either the *Sierra Club or Gifford Pinchot* cases. A full judicial review should be undertaken before such sweeping rule changes are made.

If the Services nonetheless proceed to amend the definition, as stated in the WUWC position paper, there are five key principles that should be used to develop the meaning of adverse modification. These are:

- 1) As required by the court decisions, the term needs to be linked to “conservation.”
- 2) Adverse impacts should be tied to the condition of the specific biological and physical habitat elements that were identified in, and the basis for, designation of critical habitat in the first instance. As required by section 7(a)(2), the determination as to whether those elements have been appreciably diminished must be based upon the “best scientific and commercial data available” at the time of the specific consultation. Thus, although the most current data should be used, the measure for recovery is to be based on the reasons for designation in the first instance.
- 3) The concept of “net effects” should be reflected, so that adverse impacts can be offset by protective measures and replacement habitat associated with the proposed action. This concept is already reflected in reasonable and prudent alternatives in biological opinions, and it should be incorporated into the determination of whether adverse modification would occur.
- 4) In addition, guidance should provide that the agencies must avoid too narrow an analysis of the relationship between the impacts of the proposed action and conservation. Assessing conservation solely in the context of impacts of the activity in the action area could lead to a finding of adverse modification even though those effects are inconsequential when viewed from the perspective of the overall designated area. This is especially likely to be the case when large areas are designated. In such a circumstance, even an impact that affects a significant amount of habitat in the action area still may not appreciably diminish the overall recovery prospects for the species. The analysis should therefore consider the effect of the action on species conservation throughout all or a significant portion of its range. In addition, the impact should be long-term or persistent, not merely a brief or one-time occurrence.
- 5) The term “jeopardy” should be defined. This term should reflect the same concepts of direct/indirect net effects, best available science, and offsetting mitigation as discussed previously for critical habitat. Furthermore, jeopardy should be defined to prohibit actions that would cause a species to be placed at risk of not sustaining a minimum viable population level or that would appreciably diminish its current status. This would distinguish jeopardy from adverse modification but not allow actions that would cause effects to a point where the species is placed at risk of survival or caused to be worse off than its current condition.

The WUWC is pleased that the proposed definition reflects some of these principles, including the need to evaluate impacts across the entire range. 79 Fed. Reg. 27,062 (“we will need to consider several variables for the entire critical habitat, including the specific areas . . . designated.”). The proposed definition of “destruction or adverse modification” does not reflect some of the other key principles in the WUWC definition. In addition, however, the proposed rule does not contain a clear linkage to the biological and physical elements of the habitat at the time of designation, the concept of net effects, and the consideration of long-term or persistent effect, not merely one-time or brief occurrences. As a result, if the Services nonetheless proceed with this rulemaking on the assumption that Congress intended adverse modification of critical habitat to relate to a recovery standard, the WUWC requests that its recommended definition, as set forth below, should be adopted in place of the language set forth in the proposed rule. Our recommended definition is:

*Destruction or adverse modification means the net effect of a direct or indirect alteration that appreciably diminishes the value of the physical or biological features of the designated area such that they no longer meet the needs considered to be essential to the conservation of the species at the time of designation, after consideration of offsetting improvements in habitat or protection for replacement habitat associated with the proposed action.*

We request that the services adopt this definition in the final rule.

**C. The proposed regulatory definition of “adverse modification” should be revised to clearly distinguish the term from “jeopardy”**

The WUWC appreciates the Services’ attempt to clarify and distinguish the destruction of adverse modification from the term jeopardy. The WUWC supports this step in its policy paper. We believe, however, that the Services should continue to work with the public through public hearings and other forums to make clear their intentions as to what factors and conditions differentiate the two terms. In the proposed rule, the Services’ attempt to distinguish the two issues becomes muddled when they weave the basis of the two issues together in their analysis. They identify this “inherent linkage” between a species and its habitat and indicate “alterations to a species’ habitat will, in many cases, impact the species’ reproductive success, numbers or distribution” (*Proposal to Revise the Definition of “Destruction or Adverse Modification” of Designated Critical Habitat Questions and Answers*). Ultimately the Services conclude the review of “jeopardy” to a species primarily examines threats to the species population, while the adverse modification rule looks to the longer-term effects of the action on habitat needed to support recovery of the species. *See also*, 79 Fed. Reg. 27,064. As stated in the preamble:

The “destruction or adverse modification” standard focuses on how Federal actions affect the quantity and quality of the physical or biological features in the area that is designated as critical habitat

for a listed species and, especially in the case of unoccupied habitat, on any impacts to the area itself. Specifically, as discussed above, the Services should first evaluate Federal actions against the “destruction or adverse modification” definition standard by considering how the action affects the quantity and quality of the physical or biological features that determine the habitat’s ability to support recovery of a listed species. If the effects of an action appreciably diminish the quantity and quality of those features to support the conservation value of critical habitat, then the Services generally conclude that the Federal action is likely to “destroy or adversely modify” the designated critical habitat. . . . Conversely, the “jeopardize the continued existence of” definition focuses on the effects of a Federal action on a listed species’ likelihood of continuing to survive and recover in the wild. Specifically, the Services evaluate Federal actions against the “jeopardize the continued existence of” definition by considering how the action affects a species’ reproduction, numbers, or distribution. If the effects of an action would likely reduce the species’ reproduction, numbers, or distribution in a manner or to a degree that would appreciably reduce the species’ likelihood of surviving and recovering in the wild, the Services would conclude that the Federal action is likely to “jeopardize” the species’ continued existence.

We generally agree with this characterization, however, the distinction described in this text remains very general and will need to be spelled out in greater detail in agency guidance, such as a revised section 7 Handbook. We strongly encourage a participatory public process in developing this guidance to avoid continuing ambiguity.

**D. As proposed, several terms within the draft rule definition are vague, overly broad, confusing, and inconsistent with case law as they are applied**

The WUWC recognizes the current regulatory definition of the term “adverse modification” has been invalidated by two Circuit Court of Appeals decisions, *Gifford Pinchot Task Force v. United States*, 378 F.3d. 1059 (9th Cir. 2004) and also in *Sierra Club v. U.S. Fish and Wildlife Service*, 245 F.3d. 934 (5th Cir. 2001). In *Pinchot* the court found the critical habitat analysis in six biological opinions (BiOps) was fatally flawed because it relied on an unlawful regulatory definition of “adverse modification.” Specifically, the court took issue with how the FWS’s definition of “destruction or adverse modification” equated “recovery” with “survival,” resulting in a regulation that failed to consider the effects of alterations in critical habitat on a species recovery. The Fifth Circuit in *Sierra Club* found the Services’ regulatory definition of the destruction or adverse modification standard to be invalid based on similar reasoning that recovery and survival were separate considerations.

What has been proposed in the rule goes beyond the intended purpose of correcting the “adverse modification” definition pursuant to these decisions. Instead, the rule creates new terms and standards upon which to evaluate the role critical habitat plays in recovery. The Services stated that the regulatory changes were to address the court decisions and “to add clarity and predictability to the analysis of potential impacts to critical habitat during the section 7 consultation process.” While the WUWC supports efforts to add clarity and predictability to the ESA process, the changes to the regulation—particularly how “conservation value” is determined and “appreciably diminish” is applied—do just the opposite, opening the door to increased public confusion and continued litigation on this issue.

### **1. Appreciably diminish**

The proposed rule has enlarged the scope of what would be considered a direct or indirect alteration that “appreciably diminishes,” from a standard of “considerably reduce the capability” of habitat (*Joint Consultation Handbook* (Services 1998)) to simply a recognition of the quality, significance, or magnitude of the diminishment. This broadening of the scope and increased ambiguity will create great uncertainty about what actions the Service might deem to be adverse modifications of habitat. Under this new standard, presumably any action that has a recognizable diminishment could be found to be an adverse modification. We believe that this new lower bar is not consistent with either recent court decisions or the best available science. Furthermore, coupled with the ambiguity identified below in the way “conservation value” is determined, we believe the Services will certainly see increases in litigation from a multitude of parties.

The Services’ introduce the new determination of “appreciably diminish” with an excerpt from *The Joint Consultation Handbook*. Specifically, the *Handbook* excerpt defines the term “appreciably diminish the value” as “to *considerably reduce the capability* of designated or proposed critical habitat to satisfy the requirements essential to both the survival and recovery of a listed species.” *Handbook*, at 4-36 (emphasis added). In effect, it equates “appreciably” with a considerable reduction of critical habitat while still requiring the satisfaction of requirements essential to survival and recovery. The Services then find this *Handbook* definition, seemingly in whole, to be inconsistent with the Ninth Circuit’s *Pinchot* decision.

While we agree that the portion of this definition that pertains to “both the survival and recovery of a listed species” would be inconsistent under the *Pinchot* decision, the remaining portion of the *Handbook* definition—including the use of the term “considerably” to describe “appreciably”—is appropriate and consistent with recent decisions.

This point is best illustrated in the Ninth Circuit *Butte* decision. *Butte Environmental Council v. US Army Corps*, 620 F.3d 936 (9th Cir. 2010). In this case, where the proposed project would destroy 234.5 acres of critical habitat for the vernal pool crustaceans and 242.2 acres of critical habitat for slender Orcutt grass, the court found that *Pinchot* did not alter the rule that an “adverse modification” occurs only when there is “a direct or indirect alteration that *appreciably diminishes* the value of critical habitat” 50 C.F.R. § 402.02 (emphasis added) (*see Pinchot*, 378

F.3d at 1070). Instead, as *Butte* points out, the court in *Pinchot* only took issue with the use of “and” instead of “or” in the regulatory definition of “adverse modification” (*id.* at 1075) (discussing appreciable diminishment). The court further found “an area of a species’ critical habitat can be destroyed without appreciably diminishing the value of critical habitat for the species’ survival or recovery.” *Butte*, 620 F.3d at 948. In fact the *Butte* decision recognizes the validity of the Services’ reliance on this standard in the *Handbook*:

Adverse effects on individuals of a species or constituent elements or segments of critical habitat generally do not result in jeopardy or adverse modification determinations unless that loss, when added to the environmental baseline, is likely to result in significant adverse effects throughout the species’ range, or appreciably diminish the capability of the critical habitat to satisfy essential requirements of the species. USFWS/NMFS, ESA Section 7 Consultation Handbook (March 1998), at 4–34.

*Id.* In *Butte*, the court also found the FWS’s determination that critical habitat would be destroyed was not inconsistent with its finding of no “adverse modification,” and that an area of a species’ critical habitat could be destroyed without appreciably diminishing the value of critical habitat for the species’ survival or recovery. *Butte*, 620 F.3d at 947. Thus, the need to equate a recognizable diminishment of critical habitat with adverse modification, as the Services now propose, is not necessary under the Ninth Circuit’s post-*Gifford Pinchot* reasoning. Instead, the currently used “considerable reduction” standard is a far better principle to apply and has been upheld by the Ninth Circuit.

*Pacific Coast Federation v. Gutierrez*, 606 F. Supp. 2d 1195, 1209 (E.D. Cal. 2008) also recognized that the Services have interpreted the term “appreciably diminish” to mean “considerably reduce,” once again citing the *Handbook*, at 4–34. The court in *Pacific Coast* specifically identified the *Joint Consultation Handbook*’s treatment of the term “appreciably” and found NMFS’s interpretation of 50 C.F.R. § 402.02, to be “controlling” unless “plainly erroneous or inconsistent with the regulation” (citing *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 359, 109 S.Ct. 1835, 104 L.Ed.2d 351 (1989)).

The Services are not alone in their attempts to determine how the modifying term “appreciably” is applied. For decades the Federal Aviation Administration (FAA) has struggled with how to apply to the term “appreciable” when considering what constitutes a “major” or “minor” repair or alteration. In 2001, an FAA task force issued a report that also attempted to find an answer in dictionary definitions that relied on “measurable” and “perceivable.” See *Technical Report of The Clarification of Major/Minor Repairs or Alterations Working Group For Aviation Rulemaking Advisory Committee*, June 21, 2001, at 11). The FAA task force criticized the kind of definition that the Services propose, reasoning that from a scientific point of view “a scientist could argue that all change is measurable or perceivable with modern technology” and “an

appreciable effect seems to be something more than just the slightest scientifically discernable effect” (*Id* at 11).<sup>2</sup>

We agree with the FAA Task Force’s criticism. By reducing the Services’ current definition to a recognizable “quality, significance, or magnitude” or grasping “the nature, worth, quality, or significance,” any direct or indirect alteration could be argued to “appreciably diminish the conservation value of critical habitat.” 79 Fed. Reg. 27,063. In fact, in *Forest Guardians v. Veneman* the court found the plaintiffs’ citation to the dictionary definition of “appreciably” was inconsistent with the FWS interpretation of the term, when plaintiffs argued the term should “mean capable of being perceived or recognized. *Forest Guardians v. Veneman*, 392 F.Supp.2d 1082, 1091 (D. Ariz. 2005). The court found while the FWS had not specifically interpreted the term “reduce appreciably,” it had interpreted the term “appreciably diminish the value of” in relation to destruction or adverse modification to mean “to considerably reduce the capability of designated critical habitat to both the survival and recovery of a listed species.” *Id.* at 1092 (citing, *FWS and NMFS, “ESA Section 7 Consultation Handbook,”* March 1998 pp. 4–34).

Once again a post-*Pinchot* court appropriately gave deference to the Services’ Handbook’s interpretation of “appreciably diminish,” finding it was a reasonable interpretation of the term. Furthermore, in *Forest Guardians* the court specifically recognized the plaintiffs’ attempt at using a dictionary definition of “appreciably” to mean “capable of being perceived or recognized” as inconsistent with how the Services use the term. This precedent is especially useful as the Services are proposing a similar definition in the proposed rule.

We are also troubled by the Services’ reliance on the definition of “appreciate” to determine the appropriate meaning of “appreciably” in an attempt to distance itself from the standard currently used. No matter the dictionary, “appreciate” and “appreciably” are different words with separate meanings. To replace “appreciably” with “appreciate” would seem to be an attempt to circumvent the “plain language of the regulation.” Furthermore, we disagree that the definition of “appreciably” and “appreciable” are not helpful or useful in the Services’ analysis or that the existing practice of equating “appreciably” with “considerably” is contrary to the Act’s intention or court decisions, as noted previously. In fact, the use seems to be entirely consistent with the

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<sup>2</sup> The FAA finally concluded in its regulations that a “minor change” is one with no appreciable effect on the weight, balance, structural strength, reliability, operational characteristics, or other characteristics affecting the airworthiness of the product and all other changes are “major changes.” 14 C.F.R. § 21.93(a). The FAA also defined “major alteration” to mean “an alteration not listed in the aircraft, aircraft engine, or propeller specifications 1) that might appreciably affect weight, balance, structural strength, performance, power plant operation, flight characteristics, or other qualities affecting airworthiness.” 14 C.F.R. § 1.1.

current standard of the regulation that several courts have upheld and recognized to be an appropriate standard and meaning of “appreciably diminish.”<sup>3,4</sup>

The standard of “appreciably diminish” is intended to be based on the best available science while conducting an analysis to determine if the conservation value of critical habitat is diminished in such a way that may affect either the survival or recovery of a listed species. Reducing the standard to simply “noticeable” inserts a subjective term seemingly not rooted in what the Services have used previously to make a sound scientific determination. The WUWC therefore recommends that the new discussion of “appreciably diminishes” set forth in the preamble on pages 27,063-64 be revised to support the continued use from the current *Handbook* of “considerably reduce the capability of designated . . . critical habitat to satisfy the requirements essential to . . . the . . . recovery of a listed species.” The only change that should be made, to be consistent with the *Gifford Pinchot* decision is to remove the term “both the survival and recovery” of the species.

## 2. Conservation value

The proposed rule creates a new term by inserting the word “conservation” before “value” in the Services’ “destruction or adverse modification” definition. This new term—“conservation value”—greatly expands the current reach of what type of habitat can be considered in an adverse modification of critical habitat analysis, including a habitat’s past, present, and future suitability. We agree with the Services that critical habitat is to be established for conservation purposes and that the *Pinchot* court found that the purpose of establishing “critical habitat” is for the government to designate habitat “that is not only necessary for the species’ survival but also essential for the species’ recovery.” While we agree the definition needs to consider species recovery actions, the way the Services drafted and discuss the proposed rule means that almost any action a federal agency undertakes or authorizes could be challenged under this broad and ambiguous standard.

First, to determine the conservation value of critical habitat, the Services set forth several variables that must be considered for the entire critical habitat. One of these variables includes consideration of the critical habitat’s current condition, including the ability (*or likelihood*) for the critical habitat to fulfill its role in the recovery of the species. 79 Fed. Reg. at 27,062 (emphasis added). How the Services are to apply these variables is particularly confusing, especially when considering both habitat that is degraded and how the Services previously treated it.

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<sup>3</sup> By contrast, Dictionary.com defines appreciable as “sufficient to be readily perceived or estimated; *considerable*” giving the example of “there is an appreciable difference between socialism and communism” available at [dictionary.reference.com/browse/appreciable](http://dictionary.reference.com/browse/appreciable) (accessed Sept. 29, 2014).

<sup>4</sup> *The Legal Thesaurus* includes “considerable” and “substantial” in its list of synonyms for appreciable. *Legal Thesaurus*, W.C. Burton, 2<sup>nd</sup> edition at 29.

For example, and as cited in a 2011 district court opinion denying plaintiffs injunctive relief, on May 13, 2010, NMFS issued a Biological Opinion (BiOp) on a proposed dredging action. In the BiOp, NMFS concluded the proposed dredging action was not likely either to jeopardize the continued existence of several species of salmon and steelhead or damage their critical habitat, or “result in the destruction or adverse modification of designated critical habitats for these salmonids.” *Audubon Soc. of Portland v. Nat’l Marine Fisheries Serv.*, 849 F. Supp. 2d 1017, 1018-19 (D. Or. 2011) (citing the BiOp at 20). While discussing the “conservation value” of a degraded area, NMFS indicated that the Willamette River likely would continue to be used as a major shipping lane “for decades,” during which the “current degraded value of critical habitat” would continue unabated. *Id.* Furthermore, NMFS found that “the negative effects of the action will be brief or an extension of the existing conditions, and will not contribute to a reduction in the conservation value of designated critical habitat for the ESA-listed species.” *Id.* (citing the BiOp at 20–21). The judge in this case held that NMFS properly analyzed the effects of previous agency actions under ESA and that the organizations challenging the BiOp failed to demonstrate that irreparable harm would likely occur absent an injunction.

The discussion of conservation value in the preamble on pages 27,062-63—specifically, “the potential for some of the features not already present or not yet fully functional to be developed, restored, or improved and contribute to a species recovery” in a degraded habitat area – is far too broad an extension of the habitat values that are protected under the adverse modification prohibition. Additionally, the Services will consider looking at past and present actions that may impede recovery or otherwise degrade the critical habitat. Ultimately, through this new analysis, that Services would find that actions that “would preclude or significantly delay the development or restoration of physical or biological features needed to achieve that capability” would be likely to result in a destruction or adverse modification determination. This test is far too broad and will cover almost any action that impacts any habitat type that could theoretically develop into critical habitat in the future, regardless of how improbable that future occurrence might be.

In the dredging BiOp upheld in *Audubon Soc. of Portland*, NMFS considered the degraded condition as a condition that would continue “for decades” in its analysis of conservation value, without considering features that might one day be available. Rather, NMFS appropriately considered the critical habitat in its current state and then correctly found “the negative effects of the action will be brief and will not contribute to a reduction in the conservation value of designated critical habitat for the ESA-listed species.” Thus, it does not follow, as the proposed rule suggests, that currently degraded habitat must be improved in the future to meet a recovery standard.

We also are concerned with the use of the best available science and its prospective application to determining which habitats “have the ability to provide” recovery support during a species’ life history. It is not clear where this science exists and how a “foreseeable future-type” analysis would be used to determine the critical habitat’s ability to support the species recovery. If the foreseeable-future standard is based on the 2009 FWS Solicitor’s Memorandum of Opinion (M Opinion) on the meaning of foreseeable future in section 3(20) of the ESA, we believe the public

would be confused about how that standard would be applied. In the M Opinion, the FWS found that the foreseeable future is a reasonable reliance on future predictions about the conservation status of the species. As the foreseeable-future standard is based on the status of the species (which varies greatly from species to species) rather than habitat, it seems to be inconsistent with an analysis of a condition that might not yet be functional.

For these reasons, the WUWC recommends that the Services withdraw the explanation of “conservation value” set forth in the preamble. A more narrow definition should be adopted that does not depend on so heavily on predicted future habitat development but instead is concerned with current conditions and sets realistic thresholds so that not every adverse impact equates with a loss of conservation value.<sup>5</sup>

#### **IV. Proposed Rule on Criteria and Procedures**

The WUWC does not believe the proposed regulations set forth in the proposed rule for *Implementing Changes to the Regulations for Designating Critical Habitat*, 79 Fed. Reg. 27,066-78, should go forward at this time. The net effect of adopting these proposed rules, especially as amplified in the preamble, will have a sweeping effect on the implementation of the critical habitat designation process, consultation and jeopardy/adverse modification findings, and the development of species conservation plans, including habitat conservation plans (HCPs). In most respects, the effect of the proposed rules on these important elements of ESA implementation will be to increase areas of confusion, potentially leading to increased conflict and litigation. These proposed changes are not needed to bring the Services’ regulations into conformance with the Court of Appeals decisions addressing adverse modification vs. jeopardy and, as a result, we consider it far more helpful and appropriate for the Services to undertake a collaborative public input process to discuss the issues that are touched upon in this proposed rule.

The need for more upfront public input and discussion, followed by further analysis before rulemaking, is made clear by the many uncertainties and areas of ambiguity in the proposed rules. To illustrate the importance of further deliberation, we list a few examples of areas of confusion or excessive generality found in the proposed regulations.

- The proposed rule would selectively delete some regulatory definitions on the grounds that they are defined in the ESA, (*i.e.*, critical habitat, endangered species, plant, Secretary, State Agency, threatened species) while retaining others (*i.e.*, conserve, conserving, conservation), without explanation for the difference. 79 Fed. Reg. 27,068.

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<sup>5</sup> We also note that the explanation in the preamble includes a number of vague and broad terms that will leave far too much ambiguity for effective implementation in the field or by applicants. These terms include: “optimal successional stage,” “optimal condition,” “fully functional,” “significantly delay” “capability . . . to support the species’ recovery.” Given the context for their use as described in the preamble, the likely effect is that virtually any adverse impact on designated critical habitat will constitute an adverse modification. Clearly, the section 7(a)(2) prohibition was not intended to reach so far.

- A new definition is proposed for “geographical area occupied by the species” to mean “the geographical area which may generally be delineated around the species occurrences, as determined by the Secretary . . . .” This definition is very unclear, for example what does it mean for an area to “generally be delineated”? *Id.* at 27,068. Is not a “delineation” intended to be certain and precise? How much leeway is envisioned by “generally?” And, the term is further defined to include areas “use throughout all or part of the species life cycle, even not used on a regular basis.” *Id.* at 27,069. Again, what does this mean? Why specify “all or part of”? Does not that simply mean “any part of”? Is there a limit on how small or insignificant a “part” of a life cycle should be covered? What does “regular basis” mean? And if it does not matter that the area is used on a “regular basis,” why is it necessary to say so?
- The proposed rule would replace the current concept of “principal biological or physical constituent elements” and “primary constituent elements” with the term “physical or biological features.” *Id.* at 27,071. This change removes any qualifier for the habitat features that will be covered, such that every element is covered regardless of whether it is important at all.
- The vagueness and ambiguity of the term “physical or biological features,” especially without any qualifier, becomes even more problematic when it is related to the covered “life history needs,” which is described on page 27,069 on the basis of an exceedingly broad range of functions ranging from equally broad terms like “water characteristics, soil type, geological features, sites, prey, vegetation, symbiotic species, or other features.” *Id.*
- The area to be covered is defined “at a scale determined by the Secretary to be appropriate.” *Id.* Like so many other components of the proposals, this phrase is so general, and so thoroughly imbued with discretion, that it is virtually meaningless for purposes of establishing limits and guidance as to how critical habitat will be defined and applied. The rule does not even account for the factors to be considered in defining what is appropriate.

These issues are just a subset of the significant questions we have about this proposed rulemaking. It is very difficult to envision how the procedures and criteria discussed in the proposed rule will be applied in the real world, except to cover everything -- all habitat features will be deemed physical and biological characteristics meriting designation throughout all occupied and unoccupied habitat resulting in all areas being designated and, under the first proposed rule, any activity having an impact would be considered an adverse modification. Under the 2013 rule on economic impacts, very few areas will be subject to exclusion based on adverse impacts that outweigh benefits and even the proposed policy suggests that HCPs and similar plans may no longer be the basis for removing certain areas from designation. These determinations would be cloaked in so much discretion, at least as envisioned by the proposed rules and policy, that affected parties will have little recourse. The WUWC does not believe

Congress intended critical habitat to have such broad and sweeping effect, especially if it is tied to a recovery standard. Consequently, we strongly urge the Services to put this proposed rule aside while it engages in stakeholder outreach to develop a more realistic, manageable, and clear set of guiding principles and regulatory provisions.

While we believe the best approach is to step back and re-evaluate the foundational principles reflected in the proposed procedures and criteria rule, there are a few specific issues that merit comments, as follows:

- Changes to Designation of Unoccupied Habitat.

Critical habitat can be designated on specific areas outside the geographical area occupied by the species upon a determination by the Secretary that such areas are essential for the conservation of the species. 16 U.S.C. § 1532(5)(A)(ii). The Services' existing regulations provide that the Secretary shall designate such unoccupied habitat only when "a designation limited to its present range would be inadequate to ensure the conservation of the species." 50 C.F.R. § 424.12(e). The Services propose to delete this restriction on the designation of unoccupied habitat because "this provision is both unnecessary and unintentionally limiting." 79 Fed. Reg. 27,073. The WUWC disagrees with the deletion of this limitation. Congress clearly intended that the emphasis for designation be placed on occupied habitat, and the Services have not provided a sufficient justification for abandoning the current approach.

In addition, the proposed rule would allow for designation of unoccupied areas that lack the physical and biological features needed to support the species; areas could be designated as critical habitat based solely on the land's *potential* for development of habitat features that would fulfill a life history need of the species. 79 Fed. Reg. at 27,073; 79 Fed. Reg. at 27,061, 27,064. The proposed rule is silent as to how these affirmative improvements on designated but unsuitable areas would be identified, evaluated, and implemented to provide the potential recovery support. We believe that only rarely should areas that are both unoccupied and lacking in species habitat be designated. Should the Services retain this approach, clear criteria need to be established, including express findings supported by a record that the current occupied range does not offer, and cannot be expected to offer in the future, the characteristics necessary for recovery and that the unoccupied and unsuitable lands offer significant benefits for that purpose which are economically and legally attainable.

- Changes to Criteria for Occupied Habitat.

The preamble to the proposed rule states that, in determining whether special management or protection is needed, the Services will *not* evaluate the extent of protections that are already in place. 79 Fed. Reg. at 27,070. Rather, the determination of whether features in an area may require special management or protection "occurs

independent of whether any form of management or protection occurs in the area.” *Id.* From a practical standpoint, this inquiry would effectively strip out all meaning from the statutory requirement that an area be in need of special management, as there would be few instances where a species would be listed without any habitat threats that might require protection. The Services themselves concede that such circumstances would be rare. *Id.* Among other problems, the proposed approach strips away incentive to encourage new landowner agreements. The WUWC therefore requests that the determination of whether special management considerations or protections may be required (1) remain a factual determination supported by an administrative record, and (2) take into consideration the existence of state, local and voluntary management and protection measures that are in place.

Finally, the proposed rule defines the “geographical area occupied by the species” to include the general location in which members of the species are found throughout all or part of their life cycle. “Occupied” would include areas that are used only periodically or temporarily by a listed species during some portion of its life history, and would not be limited to those areas where the species is present more or less continuously. 79 Fed. Reg. at 27,077, 27,069. This provision is far too broad. We request that the regulatory definition be refined to state that a determination of “occupancy” by the listed species must be based on (1) evidence of *regular periodic use* by the species during a portion (or all) of the listed species’ life history; and (2) a finding, based on the best available scientific data, that this area is of material concern or risk to conservation of the species.

- New Definition for “Physical and Biological Features.”

Under the proposed rule, the “physical and biological features” that can support an area being designated would be broadly defined to include essentially any features that support life-history needs of the species. 79 Fed. Reg. at 27,077, 27,069-27,070. The proposed regulatory definition states that such “[f]eatures may include habitat characteristics that support ephemeral or dynamic habitat conditions.” *Id.* As defined, this is vague and uncertain. Any designation based on dynamic or ephemeral habitat conditions should be supported by documented occurrences of these conditions and a reasonable expectation, based on the record, that these conditions will occur on a regular periodic basis and are significant to species conservation. We request that the proposed regulatory language be clarified for this purpose.

## V. Draft Policy

The WUWC supports some of the basic policy objectives of the proposed policy -- the maintenance of non-federal partnerships as the basis for exclusions, *id.* at 27,054-55, and the same treatment for HCPs and similar plans. *Id.* at 27,054, 27,057. We believe, however, that these elements should be the basis for automatic exclusion, absent special circumstances or the request of the landowner.

The draft policy overstates the degree of “discretion” available to the Services to make exclusions from critical habitat. As an initial matter, on pages 27,053 and 54 of the Federal Register notice, the draft policy states that “the Act affords a great degree of discretion to the Services in implementing section 4(b)(2).” It is unclear what is meant by “a great degree of discretion.” As a legal matter, an agency either has discretion or it does not. The Administrative Procedure Act establishes one standard regarding judicial review of discretion. *See* 5 U.S.C. § 706(2)(A) (requiring courts to set aside agency action for “abuse of discretion.”). *See Motor Vehicle Mfrs. Assn. v. State Farm Mut.*, 463 U.S. 29, 43 (1983) (establishing rational basis test for determining when exercise of discretion is arbitrary and capricious). The draft policy goes on to state on page 27,054 that “the decision to exclude is always completely discretionary.”

By “completely discretionary,” do the Services mean that judicial review would not be available because there is no law to apply? *See* 5 U.S.C. § 701(a)(2) (providing that judicial review is permitted unless “agency action is committed to agency discretion by law”). *See Citizens to Preserve Overton Park, Inc v. Volpe*, 401 U.S. 402, 410 (1971) (finding that the agency’s action was reviewable under § 701(a)(2) because the exception precludes review only in rare cases where the statute provides “no law to apply”). “Completely discretionary” would mean that there was “no law to apply,” and we disagree that the ESA does not provide an intelligible standard to judge the exercise of the Services’ discretion here. Does the policy conceive of situations where actions under the ESA are semi-discretionary or partially, rather than completely discretionary? As stated above, an action is either discretionary or not. If the Services believe there are degrees of discretion as a matter of administrative law, and within the ESA, it should explain what those are in a revised proposed policy so the meaning of the authority to exclude is fully explained.

Whatever the Services intend by the claim of “great” and “complete” discretion, the draft policy is incorrect to ignore the differentiation between the first and second sentences of section 4(b)(2) of the ESA. The first sentence is set forth in mandatory terms -- the Secretary “shall designate critical habitat ... .” 16 U.S.C. § 1533(b)(2). That designation is to be based upon “the best scientific data available and after taking into consideration the economic impact, the impact on national security, and any other relevant impact, of specifying any particular area as critical habitat.” *Id.* The second sentence is freestanding from the first and states that the “Secretary may exclude any area from critical habitat if he determines that the benefits of such exclusion outweigh the benefits of specifying such area ... .” *Id.*

The Services err by reading these sentences as linked, with the exclusion authority in the second sentence intended to define what areas to leave out from the designation undertaken through the first. The better reading is that the first sentence mandates the designation be based on the equal consideration of the conservation basis for the designation (as provided by the definition of critical habitat) and the economic impacts and national security and all other relevant factors. This means that each factor must be given equal weight and considered in defining the area to be designated. The Secretary lacks discretion to avoid any of these factors and therefore must establish a decision record that accounts for each one under a rational basis test. *See Motor*

*Vehicle Mfrs. Assn.*, 463 U.S. at 43. To avoid an arbitrary and capricious outcome, the final designation must account for all factors, and areas cannot be designated -- there is no discretion - - when the economic, national security, or other relevant factors provide reasons for not doing so. This is not necessarily a balancing or weighting test between conservation, on the one hand, and economic, national security, and relevant factors, on the other. It is up to the Secretary to determine how these factors relate to each other and make the mandatory designation decision on that basis.

The second sentence of section 4(b)(2) offers more leeway and incorporates a true balancing test. It provides a second look at the critical habitat designation decision under the first sentence and confers discretion to exclude (*i.e.*, “may include”) areas otherwise designated when the benefits of excluding outweigh the benefits of including. In this case a balancing test is involved and the Secretary has discretion whether to exclude. Any factor can be considered for this purpose, whereas under the first sentence economics and national security must be taken into account. It therefore is important for this policy to recognize the clear distinction between an exclusion, made through the discretionary power of the second sentence, and the designation that serves as the starting point for defining the area under the first sentence, which may already have locations deleted on economic, national security, or other grounds. The policy needs to make it clear that, from the starting point of defining the area of potential designation in the first step to weighing benefits versus adverse impacts under the second step, the area defined for conservation purposes can be narrowed under both phases – first, as a result of the mandatory consideration of economics and national security and other factors, and second, as a result of a decision based on weighing the benefits of inclusion and exclusion. As drafted, the policy suggests that areas can be subtracted only under the discretionary balancing test of the second sentence.

While the WUWC appreciates and supports the use of exclusions for areas that are subject to HCPs, candidate conservation agreements with assurance, safe harbor agreements, wildlife and similar plans on federal and tribal lands, we do not agree that such areas may nonetheless be subject to designation. 79 Fed. Reg. 27,055. For many years, these plans have been subject to a presumption of exclusion. Virtually all such plans are developed to meet species’ conservation needs, and as a result, if acceptable to the permit-holder, or landowner, should be excluded. In addition, the discussion in the policy suggests that the Services can pick and choose areas within the HCP or other plan, excluding some areas but designating others. Plans of this nature are developed on the whole, and should be excluded from designation on this basis. *Id.* at 27,055. We also believe that, contrary to the policy, the Services should continue to follow the practice of excluding HCPs and similar plans that are close to completion. *Id.* at 27,057. Failure to do so will force complex rulemaking procedures to subsequently exclude such area.

## **VI. Economic Impacts**

In addition to the comments set forth above on the proposed rules and policy, the WUWC believes that the Services must take an additional very important step to further clarify the information that will be taken into account in designating critical habitat. Even though the

Services published a final rule on August 28, 2013, 78 Fed. Reg. 53,058, regarding the timing of economic analyses for purposes of designating critical habitat, no guidance was provided as to how such an analysis should be conducted. The Services are left to an essentially ad hoc approach on the methodology to be used to evaluate impacts. The lack of a consistent approach has resulted in widely divergent results when economic impacts have been considered. Because the August 28, 2013 final rule and these two proposed rules seek to bring clarity and consistency to the critical habitat designation and consultation processes, now is also the time to develop a uniform methodology for determining economic impacts for purposes of critical habitat designation and excluding areas where the public interest value in doing so outweighs the benefit to the species.

The WUWC believes there are two important steps to be taken at this time. First, if adverse modification is to be equated with a recovery standard, then the threshold of regulatory significance for determining economic effects also must rise above the baseline used for listing purposes. The Services have adopted the so-called “incremental approach” to economic impact analysis, which attributes most impacts to the listing decision and therefore often assigns minimal economic impacts to critical habitat designations. In some cases, as a result of the proposed adverse modification definition, designation will require measures over and above what is necessary to avoid jeopardy. This means the economic consequences will be more significant for complying with critical habitat requirements. Under the August 28, 2013 final rule, the baseline for economic impacts is determined based on the listing of the species. Most of the costs are attributed to listing. If, however, adverse modification is set at recovery as now proposed, the measures to advance delisting will be at a higher level than the costs attributed to the listing decision. Thus, there will be a need to pay much greater attention to economic consequences of designation after this proposed rule is promulgated.

Second, the Services must confront the need for a consistent methodology to calculate those costs. As explained in detail in the WUWC comments of October 23, 2012, a cost-effectiveness framework should be used for this purpose. *See* Exhibit 3. We have provided information on the cost effectiveness method to the Services on several occasions, and that information is again included in Exhibit 3. In general, a cost-effectiveness method is practical and realistic because it accepts the statutory objective of protecting habitat essential for species conservation and focuses on limiting the analytical resources on estimating the costs of including specific geographic areas for special management within the designation. The costs of each habitat area can be compared to the biological value of the habitat that arrives at exclusion decisions that protect the most essential habitat while minimizing economic cost. FWS and NMFS should not leave this important piece of the critical habitat puzzle open-ended, and now is the time to develop guidance on an economic exclusion methodology through a collaborative public review process.

Thank you for the opportunity to comment on the proposed rules and draft guidance. If you have any questions regarding the comments in this letter, please contact our counsel, Donald C. Baur of Perkins Coie, LLP at (202) 654-6200.

October 9, 2014  
Page 26

Sincerely,

A handwritten signature in black ink, appearing to read "David Modeer". The signature is fluid and cursive, with a long horizontal flourish extending to the right.

David Modeer, Chair  
Western Urban Water Coalition

cc: Perkins Coie, LLP  
700 Thirteenth St. NW, Suite 600  
Washington, D.C. 20005-3960

# Exhibit 1

## Exhibit 1

The relevant briefs referenced as Exhibit 1 will be hand-delivered to U. S. Fish and Wildlife Service, Public Comments Processing Division of Policy and Directives Management.

# Exhibit 2



## **Position Paper on Reform of the Endangered Species Act**

The Western Urban Water Coalition (WUWC) consists of the largest urban water utilities in the West, serving over 30 million water consumers in 16 metropolitan areas in seven states. These utilities established the WUWC in 1992 in recognition of the critical role that water plays in the growth of the most urbanized regions of the western United States.

Water requirements for municipal, agricultural and environmental purposes have increased competition for the finite water resources of this region. Application of the Endangered Species Act (ESA) in the West has heightened this competition by requiring that water resources be reserved and used for the protection and recovery of listed species.

WUWC utilities, which provide a critical water supply to millions of homes and businesses daily, are constantly challenged to continue to provide that service. ESA issues abound in water collection, transportation and delivery, and water is critical to the survival and recovery of many species throughout the West. The resulting interplay between water supply and species conservation has caused the WUWC to seek creative solutions to ESA issues. In particular, the WUWC has long supported the use of proactive approaches to species conservation problems, with an emphasis on preventing the need to list species under the Act and using regulatory incentives to encourage non-federal parties to contribute to species conservation. For this purpose, the WUWC has developed the following recommendations for ESA reform.

- 1) Critical habitat requirements should be evaluated to determine how to better provide for habitat protection in relationship to the jeopardy and recovery planning requirements of the Act. At a minimum, the critical habitat provisions of the ESA should be amended in the following ways:
  - a) The designation requirement should be moved from the species listing stage to the recovery plan stage so that sufficient information will be available to make more accurate designations possible. In addition, adequate funding must be provided to carry out agency decision-making and recovery plan implementation.
  - b) Congress should provide guidance on how to analyze the economic impacts of critical habitat for purposes of excluding areas where costs outweigh benefits. That guidance should require the use of a cost-effectiveness approach that values economic impacts to specific areas through direct and indirect effects and then weighs those costs against the biological benefits. The WUWC has prepared a detailed position paper describing the methodology that should be used for this purpose.
  - c) Critical habitat should exclude areas subject to habitat conservation plans (HCPs), safe harbor agreements, candidate conservation agreements, or government land use plans that include significant species conservation measures. If all applicants for a particular

incidental take permit/HCP agree, however, it should be permissible to include all or part of those plan areas within critical habitat designation on a voluntary basis.

- d) The Act should define the term "essential to the conservation of the species," which is a prerequisite for critical habitat designation, to ensure that only habitat vital to species conservation is designated, as based upon the objective gathering and analysis of the best available science and the weighing of economic factors.
- 2) In terms of administrative reform, the term "adverse modification" should be defined to link the term to the conservation concept, as required in the court's decision in Gifford Pinchot Task Force v. U.S. The definition should take into account the net effect of direct or indirect alterations of critical habitat that appreciably diminish its value for conservation purposes, but after considering offsetting improvements in habitat and mitigation. In addition, the term "jeopardy" should be defined to prohibit actions that would cause a species to decline below minimum sustainable levels, with the limitation that the current status of a species should not be appreciably diminished. This definition should be:

*Destruction or adverse modification means the net effect of a direct or indirect alteration that appreciably diminishes the value of the physical or biological features of the designated area such that they no longer meet the needs considered to be essential to the conservation of the species at the time of designation, after consideration of offsetting improvements in habitat or protection for replacement habitat associated with the proposed action.*

For purposes of legislative reform, Congress should consider approaches that apply section 7(a)(2) consultation and jeopardy in a manner that, while taking species conservation goals into account, does not set an unduly restrictive standard for the effects of an action or allow speculative, insignificant, or short-term effects to trigger the prohibition.

- 3) The ESA should codify regulatory incentives to non-federal landowners such as no surprises and safe harbor agreements.
- 4) The Act should require more efficient and effective recovery plans that include recovery milestones, mid-course progress evaluations, and projected time-frames. These plans should be developed through public review procedures, and should be available on a habitat-based approach that covers multiple species in defined geographic areas.
- 5) Federal agencies should be required to meet their own obligations under cooperative recovery plans and similar initiatives. Such agreements should be fully enforceable against all parties, and any necessary waivers of the sovereign immunity of the United States should be provided for. If federal agencies fail to perform, other participants in such plans and initiatives should not be required to expand their own obligations to make up for the federal failure to perform.

# Exhibit 3



October 23, 2012

**FILED VIA WWW.REGULATIONS.GOV**

Ms. Nicole Alt  
U.S. Fish and Wildlife Service  
Division of Conservation and Classification  
4401 N. Fairfax Drive, Ste. 420  
Arlington, VA 22203

Ms. Marta Nammack  
National Marine Fisheries Service  
Office of Protected Resources  
1315 East-West Highway  
Silver Spring, MD 20910

**Re: Comments on Proposed Revisions to the Regulations for Impact Analyses of Critical Habitat**

Dear Ms. Alt and Ms. Nammack:

This letter provides comments on behalf of the Western Urban Water Coalition (WUWC), regarding the Department of the Interior and Department of Commerce proposed rulemaking for *Revisions to the Regulations for Impact Analyses of Critical Habitat*, 77 Fed. Reg. 51,503 (Aug. 24, 2012).

The WUWC consists of the largest urban water utilities in the West, serving over 35 million western water consumers in 13 metropolitan areas in five states. The membership of the WUWC includes the following urban water utilities: *Arizona* – Central Arizona Project, City of Phoenix; *California* – East Bay Municipal Utility District, Metropolitan Water District of Southern California, Los Angeles Department of Water and Power, San Diego County Water Authority, City and County of San Francisco Public Utilities Commission, Santa Clara Valley Water District; *Colorado* – Aurora Water, Denver Water; *Nevada* – Las Vegas Valley Water District, Southern Nevada Water Authority, Truckee Meadows Water Authority; and *Washington* – Seattle Public Utilities.

Ms. Nicole Alt  
Ms. Marta Nammack  
October 23, 2012  
Page 2

As individual urban water utilities, WUWC members are in the position of serving both as public entities, for purposes of providing services to urban customers, and as nonfederal entities, for purposes of regulation under the Endangered Species Act (ESA). As an organization, the WUWC has a longstanding commitment to, and involvement with, ESA issues, beginning at a policy level during the Clinton Administration nearly 20 years ago, and has continued with multiple meetings with DOI and involvement throughout the Administration's current ESA improvement process. First initiated by President Obama's Executive Order No. 13,563 (Jan. 18, 2011), and affirmed by Executive Order No. 13,610 (May 10, 2012), federal agencies have been ordered to reduce unjustified regulatory burdens and costs, including those associated with ESA compliance. As explained in our comment letters of March 28, 2011, August 10, 2011, and April 23, 2012, the WUWC strongly supports administrative actions to improve the ESA. Our principal concern with the Administration's current reform program is that it is too limited in scope and, to date, has resulted in few concrete actions. We welcome the proposed rule as an important step in ESA improvement, but strongly encourage more far-reaching and action-forcing initiatives in the near future.

Our agenda for reform is set forth in the attached Position Paper on Reform of the Endangered Species Act (Attachment 1), which has been previously discussed with DOI officials. The WUWC would be pleased to consult with federal agency officials about all of the issues discussed in these position papers.

One of the most significant ESA issues that has been evaluated and acted on by the WUWC is the manner in which areas have been excluded from proposed critical habitat designations on the basis of economic considerations. Following the 2001 Tenth Circuit decision in *New Mexico Cattle Growers Ass'n v. U.S. Fish and Wildlife Service*, 248 F.3d 1277 (10th Cir. 2001), the Services determined that it would be necessary to establish a meaningful and consistent approach for determining the economic impacts caused by critical habitat designation. Recognizing the importance of this issue, the WUWC participated with other parties in developing such an approach and submitting it to the U.S. Fish and Wildlife Service and the National Marine Fisheries Service (Attachment 2). While many elements of the WUWC's recommended approach were adopted by the Services for some past designations, in the intervening decade, the methodology used to calculate economic impacts has become confused, with a wide variation in standards and inconsistent results. The WUWC appreciates the Services' renewed commitment to establishing a transparent and consistent method of analyzing economic impacts during the critical habitat designation process, and welcomes the opportunity to submit the comments below.

### **Timing of Release of Draft Economic Analyses**

As a preliminary matter, the WUWC strongly supports the President's March 2012 Memorandum and the proposed rule to release draft economic analyses concurrent with the proposal of critical habitat designation. This approach will allow for greater public participation in the critical habitat designation process, allowing stakeholders the opportunity to provide the Services with valuable information necessary to fully determine impacts, as required under section 4(b)(2) of the ESA. This approach also provides more information and allows stakeholders and the Services the opportunity to collaborate prior to and during the period following the proposed designation in the development of effective habitat conservation and recovery while minimizing negative impacts on parties committed to protecting listed species.

Although the WUWC agrees the economic analyses should be made available for comment at the time of the proposed designation, we are concerned that the actual exclusions based on the economic analyses will lag behind the final critical habitat designation. We therefore recommend that the regulations also should specify that another step will be involved where the *actual proposed exclusions* to be made based on the economic analysis that is released at the time of the proposed rule are released for public comment *before* the final designation determination. Ideally, the exclusion proposal would be made the same as the proposed listing/critical habitat designation. Indeed, section 4(a)(3)(A) of the ESA requires critical habitat designations (including economic exclusions) to be promulgated concurrently with listing. 16 U.S. C. § 1533(a)(3)(A). The Services should *not* adopt a process whereby the final designation would be made on biological grounds only, leaving the economic exclusions for a later date, which could result in reluctance to make exclusions from an already completed designation. Nor should the Services fail to provide for timely public review and comment on proposed exclusions. We therefore request that the procedure be modified so that comments can be submitted on proposed exclusions such that the excluded areas would be acted on at the same time as the final designation.

### **Economic Framework for Weighing Costs and Benefits of Designations**

In the preamble to the proposed rule, the Services note a plan to consistently adopt the so-called "incremental approach" to evaluating the economic impacts associated with critical habitat designations. As discussed in previous briefing papers to the Services, the WUWC recommends that a cost-effectiveness methodology be applied. A detailed discussion of this approach is set forth in Attachment 2.

The cost-effectiveness framework is designed to find the least-costly means to achieving the ESA-mandated objective of designating and protecting habitat that is essential for species conservation. A cost-effectiveness framework is practical because it accepts the statutory

objective of protecting habitat essential for species conservation and focuses on limiting analytical resources on estimating the costs of including specific geographic areas for special management within the designation. The cost for each habitat area can then be compared to the biological value of the habitat to arrive at a designation of critical habitat areas that protects the most essential habitat while minimizing economic costs.

In implementing the cost-effectiveness framework, it is vital that biologists, rather than economists, be given the authority to determine which habitat and physical or biological elements of that habitat have the greatest biological value for the conservation of listed species and what special management measures are necessary to conserve species beyond those necessary to prevent jeopardy to, and likely extinction of, a species. After biologists are given the autonomy to make these initial distinctions, economists have the tools necessary to provide meaningful cost-estimates for comparison with the biological benefits of protecting critical habitat in a particular area.

In making these determinations, economists have several tools that can be used to estimate the full economic costs of critical habitat designation. Some tools are simple to apply, require little data, and can be used to quickly provide pertinent information on the direct economic costs of critical habitat designation. Other, more complex tools, including input-output analysis, allow economists to employ complex modeling and account for additional data, providing a richer analysis of the direct and indirect costs of habitat protection for a particular region or industry.

In evaluating economic impacts associated with critical habitat designation, the Services should be afforded some flexibility in choosing the economic tool that is most appropriate for each designation. The more complicated economic models should be used to analyze designations of large geographic areas and situations where economic activity is concentrated. The simple, direct-cost method should be used where designations are small in area or there is little variation in the type of land use and economic activity throughout the proposed designation.

Under the WUWC's proposed cost-effectiveness approach, the Services are provided with information on the relative costs and benefits for designating or excluding specific geographic areas from designation as critical habitat. Areas with high habitat value and low economic costs should generally be included in such designations; conversely, areas with low habitat value and high economic costs should generally be excluded from designation. The Service will also have the flexibility to consider including high, value-high cost areas, or low, value-low cost areas should the areas described above not provide sufficient habitat to achieve species conservation objectives.

The Services should develop a detailed framework and methodology for economic analysis of critical habitat designation. This framework should be developed through public notice and

Ms. Nicole Alt  
Ms. Marta Nammack  
October 23, 2012  
Page 5

comment, including face-to-face discussions with affected interest groups. The new approach may be embodied in the Services' joint regulations on critical habitat designation, 50 C.F.R. Part 424, or in a formal guidance document. Specifically, the framework and methodology should: 1) eliminate the "incremental" or "baseline" approach and include an exclusion process based on meaningful economic analysis; 2) delineate and prioritize habitat segments based on their relative value in conserving a listed species; 3) use a least-cost or an ordinal ranking cost-effectiveness approach that avoids the monetization of biological benefits, and searches for a critical habitat configuration that satisfies the conservation objective while minimizing costs; 4) require the Services to distinguish between measures necessary to avoid jeopardy and those necessary to conserve the species; 5) calculate the costs of designation using methods and data that are scaled to the scope and impacts of a proposed designation; 6) use an accounting stance that recognizes localized and regional impacts in the near-term, and that considers direct, indirect and cumulative economic impacts.

The importance of developing a uniform method for evaluating economic impacts becomes clear in light of the current Administration's track record on economic exclusions. As revealed in the enclosed Table, based on all crucial habitat designations since 2009, only about 11% of such final actions received any kind economic exclusion (7 out of 59). (Attachment 3). This number is very low and suggests that the Services are not taking the economic exclusion process seriously.

The research set forth in Attachment 3 also reveals the confusing and inconsistent nature of the Services' economic analyses. There is no consistent methodology or procedure that has been used. A review of nearly 200 proposed and final designations shows that only about one-third have been subject to any economic impact analysis. Eight of the analyses used the co-extensive method endorsed by the Tenth Circuit in the *Cattle Growers* decision. Another 15 use the so-called incremental approach accepted by the Ninth Circuit under *Gifford Pinchot Task Force v. USFWS*, 328 F.3d 1059 (9th Cir. 2004). The remainder relied on what appears to be a combined approach. This highly inconsistent record confirms the need for a uniform methodology that would govern all economic exclusion analyses, and the WUWC requests that our proposed cost-effectiveness method be used for this purpose. Merely adjusting the timing of economic analyses as set forth in the proposed rule will not solve the regulatory efficiency problem identified by the President's March 2012 memorandum; adopting standardized exclusion methods and guidelines is far more important.

### **Habitat Conservation Plan Exclusions**

While not the subject of the proposed rule, the WUWC believes it is very important for the Services to reaffirm the strong past practice of excluding areas subject to habitat conservation plans (HCPs) from critical habitat. Exclusion of land and waters within HCPs is required in

Ms. Nicole Alt  
Ms. Marta Nammack  
October 23, 2012  
Page 6

many cases because those plans meet the “special management considerations” requirement of the definition of critical habitat. 16 U.S.C. § 1532(5)(A)(i). When an HCP meets this test, the covered area does not qualify as critical habitat and cannot be included. In addition, even if this rationale does not apply, the Services have discretion under section 4(b)(2) to exclude HCP areas when the benefit for doing so exceeds the benefit from inclusion. *Id.* § 1533(b)(2). In almost every case, the benefits attained by encouraging nonfederal property rights holders to participate in species conservation through an HCP will justify the exclusion. This policy has been a longstanding practice for the Services, and the WUWC requests that formal guidance be adopted to confirm the presumption in favor of excluding HCP areas from critical habitat.

### **Conclusion**

The WUWC commends the Services for their continued efforts to reform implementation of the ESA, and appreciates the opportunity to provide comments on the important subject of how economic analyses should be incorporated into the critical habitat designation process. Please do not hesitate to contact WUWC counsel at Perkins Coie LLP, Guy Martin at (202) 654-6363 or Donald Baur at (202) 654-6234 to discuss any aspects of these recommendations in greater detail.

Very truly yours,



David Modeer  
Chair, Western Urban Water Coalition  
General Manager, Central Arizona Project

# ATTACHMENT 1



## **Position Paper on Reform of the Endangered Species Act**

Urban populations in the West continue to grow rapidly. Established in 1992, Western Urban Water Coalition (WUWC) addresses the legal, policy and technical issues related to the critical role that water plays in the growth of the most urbanized regions of the western United States. The WUWC consists of the largest urban water utilities in the West, serving over 35 million western water consumers in 13 metropolitan areas in five states.<sup>1</sup>

Water requirements for municipal, agricultural and environmental purposes have increased competition for the finite water resources of this region. Application of the Endangered Species Act (ESA) in the West has heightened this competition by requiring that water resources be reserved and used for the conservation and recovery of species protected under that law. The current review of the ESA by Congress offers an opportunity to assess the relationship among the demands placed upon water resources for municipal, agricultural and biological purposes, and to make appropriate adjustments to the statute and the manner in which it has been implemented to address the realities of the changing water usage demands and environmental values of the modern West.

The WUWC's approach to water management embodies a conservation ethic shared by the ESA. The WUWC supports the ESA but believes that the Act and its implementation need to be improved. To successfully advance this ethic, the ESA must encourage conservation efforts before species are endangered or threatened and must adequately and promptly follow through with recovery efforts for listed species.

Water utilities are increasingly frustrated over the uncertainty and delay encountered by projects subject to ESA requirements. Traditional ESA programs emphasize single-species efforts, often initiated only when species are facing extinction. Such crisis

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<sup>1</sup> The membership of the Western Urban Water Coalition (WUWC) includes the following urban water utilities: *Arizona* – Central Arizona Project, City of Phoenix; *California* – East Bay Municipal Utility District, Metropolitan Water District of Southern California, San Diego County Water Authority, City and County of San Francisco Public Utilities Commission, Santa Clara Valley Water District; *Colorado* – City of Aurora, Denver Water; *Nevada* – Las Vegas Valley Water District, Southern Nevada Water Authority, Truckee Meadows Water Authority; and *Washington* – Seattle Public Utilities.

management results in constantly changing and fragmented recovery efforts that are protracted and costly.

If the ESA is to reach its full potential for conserving the habitat of endangered and threatened species, the traditional manner in which it has been implemented must change. These changes should include: proactive conservation initiatives before species are listed; broadening ESA efforts from a single- to a multiple-species approach; creating opportunities for voluntary participation in ESA programs; use of a consistent and accountable decision-making process; better implementation of recovery plans; more precise and properly-timed designations of critical habitat; and assurances that federal agencies will fulfill their own duties under ESA programs. To address the concerns contained in this Position Paper and to assist Coalition members in fulfilling their responsibilities, the WUWC supports sufficient funding for the initiatives discussed below. These areas of concern, as well as specific recommendations on changes that should be made to the ESA, are described in greater detail in the text that follows.

At the heart of the WUWC approach to ESA implementation is the theme that early intervention should be encouraged to protect species and ecosystems in a more cost-effective manner. Proactive conservation initiatives, undertaken before species are listed as endangered or threatened, prevent conditions from deteriorating to levels that require (a) severe restrictions on human activity in a habitat area, and (b) intensive and expensive recovery efforts. Proactive implementation of such programs would emphasize a consensus approach to conservation issues, and it would avoid the delays that result from the present listing and recovery processes which are often adversarial in nature.

There is a growing recognition that in many cases the most effective way to deal with the current situation is through multiple-species programs initiated in advance of listing. To accomplish this, the ESA must be amended to give formal recognition to such programs, assure those undertaking these efforts that they will receive appropriate authorization for incidental take of species covered by these advance plans, and provide that actions undertaken in accordance with such plans will be considered to be consistent with the requirements of the ESA.

The goals of such programs would be to: (1) make listing a species unnecessary due to proactive multiple-species management efforts; (2) reduce the impacts of a future listing should it occur; (3) provide an in-place mechanism to resolve problems associated with listing to avoid delays in on-going projects; and (4) establish the basis for more effective recovery efforts that will have the least adverse impact on development projects for species that are, or will become, listed under the ESA. These goals, as well as mechanisms to make decisions on recovery plans and critical habitat designations more timely and focused on special needs, serve as the basis for the WUWC ESA reform agenda.

## **Critical Habitat Designation Should Be Moved from the Listing Stage to the Recovery Plan Stage and Should Take Into Account Economic Considerations and Existing Plans that Provide for Species Conservation**

The most problematic aspect of the ESA today is the designation and protection of critical habitat. Section 4(b)(2) requires that critical habitat be designated at the time of listing, except when it is not reasonable and prudent to do so. In fact, for most species, critical habitat designations are not made at the time of listing. This has resulted in an explosion of litigation to compel such designation, which has in turn placed a huge administrative and financial burden on the U.S. Fish and Wildlife Service (FWS) and the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NOAA Fisheries, or NMFS), often to the detriment of other aspects of the ESA program. A far better approach is to provide for critical habitat to be designated later in the process, when more or better information is available to assist in more accurate designation and lessen the administrative burden at the listing stage. The ideal time for such designation is at the species recovery plan issuance stage, at such time as the relevant plan has been completed and has entered the implementation stage. WUWC recommendations regarding recovery plan implementation are set forth on pages 9-10.

While making such designations, the agencies have often failed to account properly for the economic impacts caused by designation. Section 4(b)(2) of the Act requires evaluation of economic impacts, and exclusion of those areas where the costs outweigh the benefits, yet no principles exist to guide the evaluation of such impacts so as to factor them into a designation decision. In particular, there is a need for legislative guidance on how economic impacts should be evaluated. This should be done through a cost-effectiveness framework designed to find the least-cost means of achieving the ESA objectives of designating and conserving habitat that is essential for species conservation. Under such an approach, the economic costs for each habitat area should be evaluated by addressing direct and indirect costs, and then comparing such costs with the biological value of the same area. The WUWC has prepared a detailed position paper on how this methodology should be applied.

Finally, critical habitat should exclude areas where special management tools are provided that eliminate the need for designation. This principle has been applied to exclude areas covered by conservation management instruments such as habitat conservation plans (HCPs), safe harbor agreements, and federal land management plans that include species conservation components (e.g., federal land use management plans). In certain situations, however, areas included in HCPs as mitigation lands or other components are appropriate to *include* in critical habitat because of the management goals of all of the applicants/permit holders. HCPs are voluntary agreements, and accordingly their proponents should be allowed to opt for inclusion of such areas in critical habitat when there is unanimous agreement among them to do so.

## Recommendations

- Require critical habitat designations to be made when recovery plans are issued in final, not at the listing stage.
- Require the promulgation of rules to specify the methodology used to evaluate economic impacts of critical habitat designation, based upon cost-effectiveness principles and the evaluation of direct and indirect economic impacts.
- Require the exclusion from critical habitat of those areas subject to HCPs, safe harbor agreements, candidate conservation agreements, prelisting agreements or government land or water management plans that include species conservation components that meet ESA standards. For areas subject to non-federal party management, allow the responsible entity or entities to “opt in” such property to critical habitat designation when all of the applicants/permit holders agree to do so.
- Define the term “essential to the conservation of the species” to ensure that only high quality habitat vital for species conservation is designated.

### **The Definition of the Term “Adverse Modification” of Critical Habitat Should Be Revised to Address Recent Litigation**

Another problematic aspect of the critical habitat program is the manner in which impacts to designated areas are evaluated pursuant to ESA consultation. Under section 7(a)(2), federal agencies must consult with FWS or NMFS to ensure that their activities do not cause jeopardy to listed species or adversely modify or destroy critical habitat. The current regulatory definition of the term “adverse modification” has been invalidated by two Circuit Court of Appeals decisions, most recently in *Gifford Pinchot Task Force v. United States*, 378 F.3d. 1059 (9<sup>th</sup> Cir. 2004). See also *Sierra Club v. U.S. Fish and Wildlife Service*, 245 F.3d. 934 (5<sup>th</sup> Cir. 2001). As a result of these decisions, the term adverse modification has been linked with a recovery standard under the Act. This is a much higher test than previously applied and leaves unresolved the question of what actions will violate the jeopardy prohibition of section 7(a)(2).

To date, FWS and NMFS have not provided guidance on the meaning of these terms. Efficient and effective administration of the Act requires a clear definition of these terms.

Through new rulemaking, adverse modification should be defined to accomplish several key objectives:

- 1) As required by the court decisions, the term should be linked to conservation.

- 2) Adverse impacts should be tied to the condition of the specific biological and physical habitat elements that were identified in, and the basis for, designation of critical habitat in the first instance. As required by section 7(a)(2), the determination as to whether those elements have been appreciably diminished must be based upon the “best scientific and commercial data available” at the time of the specific consultation. Thus, although the most current data should be used, the measure for recovery is to be based on the reasons for designation in the first instance.
- 3) The concept of “net effects” should be reflected, so that adverse impacts can be offset by protective measures and replacement habitat associated with the proposed action. This concept is already reflected in reasonable and prudent alternatives in biological opinions, and it should be incorporated into the determination of whether adverse modification would occur.
- 4) In addition, congressional guidance should provide that the agencies must avoid too narrow an analysis of the relationship between the impacts of the proposed action and conservation. Assessing conservation solely in the context of impacts of the activity in the action area could lead to a finding of adverse modification even though those effects are inconsequential when viewed from the perspective of the overall designated area. This is especially likely to be the case when large areas are designated. In such a circumstance, even an impact that affects a significant amount of habitat in the action area still may not appreciably diminish the overall recovery prospects for the species. The analysis should therefore consider the effect of the action on species conservation throughout all or a significant portion of its range. In addition, the impact should be long-term or persistent, not merely a brief or one-time occurrence.
- 5) The term “jeopardy” should be defined. This term should reflect the same concepts of direct/indirect net effects, best available science, and offsetting mitigation as discussed previously for critical habitat. Furthermore, jeopardy should be defined to prohibit actions that would cause a species to be placed at risk of not sustaining a minimum viable population level or that would appreciably diminish its current status. This would distinguish jeopardy from adverse modification but not allow actions that would cause effects to a point where the species is placed at risk of survival or caused to be worse off than its current condition.

Based upon these concepts, the revised definition of critical habitat would read as follows:

*Destruction or adverse modification means the net effect of a direct or indirect alteration that appreciably diminishes the value of the physical or biological features of the designated area such that they no longer meet the needs considered to be essential to the conservation of the species at the time of designation, after consideration of offsetting improvements in habitat or protection for replacement habitat associated with the proposed action.*

While regulatory reform is confined to the principles of the current Act as limited by the courts, there is more flexibility for legislative change. In ESA amendments, Congress should reexamine section 7(a)(2) to ensure that the conservation goals of the Act are adhered to while, at the same time, avoiding an unnecessarily high standard for the acts that trigger the prohibition. With this objective in mind, Congress should consider amending section 7(a)(2) to consider the net effects (including beneficial impacts of the action), and provide that the section 7(a)(2) prohibition would apply only to negative effects that are significant, long-term, and cause the species impacts throughout all or a significant portion of its range.

### Recommendation

The regulatory definition of “adverse modification” should be revised to clearly distinguish the term from “jeopardy.” The definition should relate to the factors that were the basis for the listing decision and take into account “net effects” by accounting for offsetting measures that improve habitat conditions. In taking up legislative reform, these principles should be considered, with the understanding that more flexibility exists to redefine the terms in section 7(a)(2) to address conservation concerns without setting the prohibited action test too high.

### **Confirm the No Surprises Rule and Other Regulatory Incentives**

One of the most important innovations in ESA implementation over the last decade has been the increased use of regulatory incentives to encourage non-federal parties to participate in species conservation efforts. The most significant such innovation is the so-called “No Surprises” rule, which guarantees parties to HCPs that the government will not require them to make new and unexpected investments to keep their incidental take permits. This concept, implemented by regulation, has been one of the principal motivating factors for bringing non-federal parties into the ESA program. For over eight years, the No Surprises rule has been challenged in litigation, casting a cloud over its use. It is therefore essential to legislatively confirm the No Surprises rule. The same is true for other agreements that cover incidental take, regulatory incentives, such as safe harbor agreements, pre-listing agreements, candidate conservation agreements, and ecosystem-based HCPs.

### Recommendations

- Authorize federal agencies to develop conservation plans for individual species throughout their entire range on federal land, and for entire ecosystems on federal land. Such plans must be adequately funded by the federal government.
- Authorize federal funding that provides resources to support development and implementation of regional programs (e.g., mitigation banking agreements).

- Confirm the No Surprises Rule, including its application not only to HCPs, but also to other ESA plans and agreements that focus on proactive initiatives involving listed species, such as safe harbor agreements.

### **Enhance the Program for Developing Recovery Plans**

The ESA recovery plan concept should be broadened so that multiple-species approaches can be pursued. Current programs focus on recovery and preservation of single species. Such programs may benefit listed species, but they can fail to protect unlisted species or ensure biological diversity. Designation of critical habitat and implementation of recovery plans for a single species allow habitat modifications that may be detrimental to other coexisting species, and they can delay protection until the capacity of a habitat to support a diverse biota is severely compromised.

Project proponents should have the option under the ESA of pursuing solutions to ESA problems based on multiple-species approaches covering species subject to the ESA that may be affected by their actions. The discretionary use of a multiple-species habitat conservation initiative, as an alternative to single-species conservation and recovery programs, provides a process for long-term planning by state and local agencies to avoid resource conflicts. It also provides a flexible and effective tool that allows the private sector and resource users to work cooperatively with the federal government, and it promotes ESA goals without stifling needed resource development and economic growth initiatives.

Recovery plans should be developed through more open and cooperative procedures whereby: affected agencies and parties are allowed to participate; relevant data are shared; data collection needs are identified through a cooperative process; and reasonable time frames are developed and adhered to in order to complete the plans and implement them.

In addition, recovery plans need to be prepared with more attention to detail and specific deadlines. They should be required to include quantifiable and clearly defined milestones that make it possible to track the progress toward recovery. Clearly detailed recovery targets should be set forth, and plans should be required to follow an “adaptive management” approach where they can be revised mid-course, if necessary.

Finally, the program must ensure that adequate funding is available to develop and carry out recovery plans. The failure to provide such funds is especially deleterious if, as recommended above, critical habitat designation is tied to recovery plan development. Failure to fund recovery plan development will lead to a new round of litigation, defeating the purpose of the amendment. It also will hamper the goal of the ESA to promote species conservation.

### Recommendations

- Provide for the development of multiple-species or habitat-based recovery plans, including plans that will apply to species throughout their entire range on federal lands.
- Require recovery plans to be more detailed, and include requirements for content, recovery milestones, mid-course progress evaluations, and projected time frames for ultimate recovery and delisting. Recovery plans themselves should be developed under time lines that require implementation as expeditiously as practicable. Such plans must be developed through procedures that allow for input from affected stakeholders.
- Ensure adequate funding to develop recovery plans.

### **Implementation of ESA Recovery Plans Must Be Better Prescribed and Managed**

One frustration with the ESA is that recovery plan implementation efforts are not always undertaken expeditiously or effectively. Also, in many cases these measures do not allow sufficient flexibility to deal with species conservation problems as they arise. Administrative and legislative actions are needed to address these problems.

Species conservation efforts that result from recovery plans do not always contain measurable milestones by which the progress toward species recovery can be gauged. This limits the ability of responsible agencies and regulated parties to evaluate the effectiveness of such efforts and the time and costs estimated to achieve the plan's goals. Moreover, responsible agencies have no means to require other federal or regional agencies and other parties to implement the actions identified in the plans.

Thus, delayed recovery efforts place species and habitats at greater risk, and require more extensive and costly actions when the efforts are initiated. Recovery of listed species is the underlying goal of the ESA, and more must be done to strengthen and expedite agency recovery plans. Frequently, involved agencies lose track of the fact that recovery plans advance the dual purpose of assisting species conservation and making possible resource use and development activities. For example, such plans could, but seldom do, include specific factors that may be adopted for mitigation purposes by parties whose activities may affect listed species or designated critical habitat. Such guidance would benefit species as well as provide options to affected parties regarding how to conduct their activities in a way that is consistent with the Act.

### Recommendations

- Require timely implementation of recovery plans.

- Require standards for cooperative decision-making and data gathering procedures for implementing recovery plans.

### **A Consistent Decision-Making Process Must Be Used to Execute Provisions of the ESA**

A uniform decision-making process based on scientifically credible information would improve species preservation and habitat protection efforts. If stakeholders in agency decisions are able to review and comment at critical points in the process, there would be clearer expectations and greater confidence that program efforts would benefit endangered and threatened species.

Implementing agencies often lack sufficient staff and resources to thoroughly review and consistently apply all available data when preparing listing decisions, biological opinions, incidental take permits, recovery plans, and designation of critical habitat. This has caused protracted, acrimonious debates that often result in judicial challenge. Such litigation fails to provide timely protection for threatened and endangered species, and it often impedes or halts important water resource development projects. Greater confidence in the credibility and consistency of ESA decisions reduces the hesitation of agencies, developers and the public to participate in the process, and speeds implementation of ESA decision-making and recovery initiatives. Species conservation and ecosystem preservation efforts based on sound technical information and objective decision-making provide the most cost-effective use of limited resources.

It is in the best interest of ESA stakeholders, including municipal water utilities, to assist FWS and NMFS in acquiring the resources necessary to gather, evaluate and utilize sound scientific information. Additional resources could be made available through memoranda of understanding between stakeholders and FWS/NMFS, or through agreements with state or regional agencies assisting the federal agencies. Designation of critical habitat based on accurately characterized sites results in focused recovery plans that use the minimal resources necessary to achieve program objectives. It is particularly important that federal agencies have the funds necessary to fulfill their own obligations in recovery and other initiatives, and that failure to do so does not result in an undue burden on non-federal parties.

#### Recommendations

- Develop such mechanisms as cooperative agreements with other stakeholders to provide technical assistance to federal agencies in undertaking analysis of biological data, public comments, and other pertinent information needed to make objective, thoroughly-researched and publicly accountable decisions under the ESA.
- Encourage promulgation of regulations and agency guidelines that require agencies implementing ESA programs to develop comprehensive, step-by-step procedures to guide agency decisions and public participation in all key

aspects of ESA implementation, including recovery plans, listing decisions, biological opinions and critical habitat designations, and procedures for appealing questionable decisions rendered by agency staff. Guidance should emphasize procedural standardization and a uniform decision-making process.

- Establish assurances that non-federal parties who participate in joint ESA initiatives with the federal government will not have their own obligations increased in situations where the federal government fails to fulfill its commitments.

### **Federal Agencies Should Be Required To Fulfill Their Own ESA Obligations**

In complex, multi-party species conservation initiatives, federal parties often assume their own affirmative obligations. The responsibilities of other parties are frequently linked to these federal duties and actions. Some examples of such arrangements include:

1) The Lower Colorado River Multi-Species Conservation Plan, including numerous non-federal participants whose contributions to the ESA conservation goals for 26 species are closely tied to the federal agency commitments;

2) The Roosevelt Reservoir HCP, where the ESA commitments of the non-federal parties are tied to federal actions taken under reasonable and prudent alternatives and measures included in the biological opinion for the raising of the Dam and reoperation of the Reservoir for conservation purposes; and

3) The Upper Colorado River Endangered Fish Recovery Program. This cooperative program was signed by the four upper basin states and the Department of the Interior in 1988. It mandates actions to recover four species of endangered fish, pursuant to a state and federal cooperative program funded 50% by the federal government and 50% by the states. Although the program has received the necessary funding, for the last couple of years the federal OMB has attempted without success to eliminate a portion of the federal funds. While the portion in dispute affects only FWS's approximately \$1 million annual share of the program, and not the larger U.S. Bureau of Reclamation contribution, withdrawal of that funding could be problematic. It could jeopardize the continuance of the program as the "reasonable and prudent alternative" which allows many Upper Colorado River water use and development efforts to proceed.

The WUWC is concerned that federal participants in such programs may sometimes not be able to meet their requirements. This can often be the result of a lack of funding, or sometimes just the demands of other federal business. Unfortunately, when this occurs it often weakens the overall ESA program for that plan and places an added burden on the other parties. Such an outcome can lead to unfair results where the approach reflected in the plan is undermined and the costs and responsibilities of all the parties increased beyond agreed levels.

To avoid this situation, it is important to ensure adequate funding of federal participation in such programs as well as federal government fulfillment of its duties. If the federal participants do not meet their duties, the other non-federal participants should not be required to increase their own obligations. Finally, the parties to such plans should be ensured that the terms of the agreement are fully enforceable and not subject to the defense of sovereign immunity.

#### Recommendations

- Provide adequate funding of federal participation in cooperative, multi-party conservation programs.
- Mandate federal agency compliance with their agreed-upon duties under such programs.
- Ensure that non-federal participants will not have their obligations increased to compensate for federal noncompliance.
- Provide for the full enforceability of such agreements for all parties.

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# ATTACHMENT 2



**Position Paper  
Administrative Reform of Endangered Species Act**

**A Recommended Method for Economic Analysis for Critical Habitat  
Designation Under the Endangered Species Act**

**Introduction**

When a species of fish or wildlife is listed under the Endangered Species Act (“ESA”), the U.S. Fish and Wildlife Service and the National Marine Fisheries Service (collectively, “the Services”) are required to designate “critical habitat” for the species. The ESA defines critical habitat as “specific areas . . . on which are found those physical or biological features” that are “(I) essential to the conservation of the species and (II) which may require special management considerations or protection.” The ESA also requires that the Services weigh the economic costs of critical habitat designation against the benefits of species conservation before making a final determination.

This whitepaper describes and recommends a method for weighing the economic costs of critical habitat designation against the benefits of habitat protection for species conservation. It is grounded in a belief that economists should focus their analysis on giving policymakers the input they need to make sound decisions in accordance with the law.

**1. A cost-effectiveness approach is the appropriate framework of economic science for weighing the economic costs and benefits of critical habitat designation.**

The Services should employ a cost-effectiveness framework that is designed to find the least-cost means to achieving the ESA-mandated objective of designating and protecting habitat that is essential for species conservation. A cost-effectiveness framework is practical because it accepts the statutory objective of protecting habitat essential for species conservation and focuses limited analytical resources on estimating the costs of including specific geographic areas for special management within the designation. The costs for each habitat area can then be compared to the biological value of the habitat to arrive at a designation of critical habitat areas that protects the most essential habitat while minimizing economic costs.

**2. Agency biologists should determine the biological value of specific habitat areas for the conservation of the species.**

Biologists – not economists – should decide which habitat and physical/ biological elements of that habitat have the most biological value for species conservation and what special management measures are needed to conserve species beyond those measures necessary to prevent jeopardy to, and likely extinction of, a species. When biologists make these distinctions, economists can provide meaningful cost-estimates for comparison with the biological benefits of protecting critical habitat in a particular area.

**3. Economists can estimate the direct and indirect economic costs of critical habitat designation for specific geographic areas and standards for habitat protection.**

Economists have several tools that can be used to estimate the economic costs of critical habitat designation. Some tools are simple to apply, require little data, and can be employed to quickly provide information on the direct economic costs of critical habitat designation. Other tools, such as input-output analysis, involve complex modeling and additional data, but provide a richer analysis of the direct and indirect costs of habitat protection for a particular region or industry.

The Services should be afforded some flexibility in choosing the economic tool that is most appropriate for each designation. The more complicated economic models should be used to analyze designations of large geographic areas and areas where economic activity is concentrated. The simple, direct-cost method should be used where designations are small in area or there is little variation in the type of land use and economic activity throughout the proposed designation.

**4. Use a practical approach for weighing the costs of critical habitat designation against the benefits of critical habitat protection.**

Under the recommended cost-effectiveness framework, the Services are provided with information on the relative costs and benefits for designating or excluding specific geographic areas from habitat designation. Areas that have high habitat value and low economic cost will usually be included. Areas that are low in habitat value, but high in economic cost should be excluded. And, if high habitat value – low cost areas do not provide enough habitat for the conservation of the species, then the Services can consider including high, value-high cost areas, or low, value-low cost areas to achieve species conservation objectives.

### **Discussion**

When a species of fish or wildlife is listed under the ESA, the Services are required to designate “critical habitat” for the species. The ESA defines critical habitat as “specific areas . . . on which are found those physical or biological features” that are “(I) essential to the conservation of the species and (II) which may require special management

considerations or protection.”<sup>1</sup> The ESA also requires that the Services weigh the economic costs of critical habitat designation against the benefits of species conservation before making a final determination.<sup>2</sup>

This whitepaper describes and recommends a method for weighing the economic costs of critical habitat designation against the benefits of habitat protection for species conservation.

## **I. How Does the Science of Economics Approach a Problem Like the Economic Costs of Critical Habitat Designation?**

The discipline of economics provides several different analytical frameworks to address the economic costs of a specific project or proposal. The utility of each framework depends on the type of economic question being asked.

Efforts to affect government policies and projects based on anticipated economic effects have a long history. For example, federal water projects frequently were the subject of such analysis. Beginning in the early 1960s, the U.S. Water Resources Council (“WRC”) sought to codify an appropriate methodology for estimating water project costs and benefits. Evolving from this process, the WRC Principles and Guidelines (1983) standardized water project evaluation.

Under the National Environmental Policy Act, many federal actions and policies, not just federal water projects, require environmental impact statements that generally include estimates of the economic impacts. Often the economic methodologies codified in the WRC Principles and Guidelines are used as a template for the economic analysis in an Environmental Impact Statement.

In 1978, the ESA was amended to require that economic effects be considered in the designation of critical habitat. The Safe Drinking Water Act Reauthorization introduced the concept of cost/benefit analysis in a realistic framework that exists as a model today. The lessons learned from previous attempts to apply economic analysis to government decision-making should also be taken into account in developing an economic methodology for critical habitat designation.

### **A. Alternative Accounting Frameworks for Economic Analysis**

Among the first questions that must be answered before the economic impacts of critical habitat designation decisions can be estimated is “impacts to whom?” While the question

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<sup>1</sup> 16 U.S.C. § 1532(5).

<sup>2</sup> The ESA requires that the critical habitat determination be based on the best scientific and commercial data available and take into account probable economic impacts. 16 U.S.C. § 1533(b)(2); 50 C.F.R. § 424.12(a); *see also*, *New Mexico Cattle Growers Ass’n v. U.S. Fish & Wildlife Serv.*, 248 F.3d 1277 (10<sup>th</sup> Cir. 2001) (requiring analysis of economic impacts of critical habitat designation).

could be framed in several ways, such as impacts to particularly important regional economic sectors, the question is usually framed in terms of impacts on particular geographic units or areas. The WRC Principles and Guidelines identify two alternative economic accounting frameworks that should be used to analyze the impacts of alternative actions or projects: National Economic Development (“NED”) and Regional Economic Development (“RED”).

## **1. National Economic Development**

The NED accounting framework views the impacts of a project from the perspective of the entire United States. The question posed is: “Does the project actually result in a net change in the economic activity of the nation? By how much does it increase or decrease the amount of goods and services produced in the country?”

When the WRC formulated the Principles and Guidelines, it gave the NED perspective a dominant role in framing the economic impacts of water projects. In that context, the persuasive underlying economic assumptions of NED made sense. The big water projects under consideration in the 1930s through 1960s were to be paid for mostly with federal dollars, and were being justified by the assertion that they would be good for the economic development of the entire country.

In the context of today’s critical habitat issues, it is much less clear that the NED criteria should dominate economic analysis. Congress preempted the NED criteria when it passed the ESA – implicitly concluding that the national “benefits to whomsoever they shall accrue” of preserving endangered species always exceed the costs of such preservation. This means that the NED benefits that are directly attributable to the decision to list and preserve the species are largely irrelevant to the cost of critical habitat designation.

Misapplication of the NED framework could lead to costly analysis of issues that are irrelevant to the designation of critical habitat. For example, because several recent analyses mixed listing and critical habitat issues, they were led unnecessarily into such NED benefit considerations such as existence values, recreation benefits, and quality of life. A full NED accounting would be appropriate if the policy question were whether it is in the national interest to conserve a species that qualifies for listing under the ESA, but Congress has already made that decision. In a NED framework, all of the economic impacts of species conservation are a consequence of the listing decision, but those impacts cannot be considered in the listing decision. The ESA presumes that the national benefits of conserving listed species will always exceed the costs of critical habitat designation. That is why the ESA requires critical habitat designation for listed species. The possible exception to the above is for NED effects that are incidental to the designation of particular tracts or attributes of critical habitat. If adding critical habitat designation on top of the protections already provided to an endangered or threatened species either makes possible some economic activity in the designated area or precludes some economic activity in the area, then this could have NED consequences. In most cases however, such NED effects will be mitigated by the national economy’s ability to adjust to changes in one sector or geographic area, and any net impacts will be so small that they approach insignificance in the US economy.

If a critical habitat designation just moves economic activity around, impacting some sectors or places but producing offsetting effects elsewhere as the larger economy adjusts, then the designation has no NED effect. Given that the national economy reasonably approximates a general equilibrium system, where most inputs and outputs are mobile, and impacts to one sector or place are transferred to other sectors or places, it is common for project or policy impacts to a sector or region to mostly wash out from the NED perspective. For example, if an action eliminates 100 jobs, and the displaced workers find equally productive work elsewhere, then the net NED impact would be properly estimated as zero. For all of these reasons, the NED accounting framework is of little practical value to the decision-making process for critical habitat designation.

## 2. Regional Economic Development

Rather than NED, most of the economic and policy issues surrounding the designation of critical habitat relate to the Regional Economic Development (RED) accounting framework. Under this approach, the regional, local, and near-term impacts matter for a full social accounting of who is impacted.

Congress explicitly opened the door for economic analysis of critical habitat designation decisions, and the courts have reinforced this directive, saying that the Secretary must “weigh the benefits of exclusion against those of inclusion of particular areas within the designated habitat.”<sup>3</sup> While such “weighing” might have a NED component, it is much more likely that these benefits or costs will be regional or local.

The RED accounting framework could potentially be focused at several possible regional levels. One could look at the economic consequences of critical habitat designation at a state level; at the level of a sub-state region, perhaps counties; or at a very local level, perhaps even at the level of specific firms or property owners. Economic analysis could also conceptualize these regional consequences as affecting particular industries, economic sectors, or other groups of particular concern.

**Recommendation: To be useful to the critical habitat decision-making process, economic analysis should focus on the regional economic effects of such designations.**

It is these kinds of regional consequences that are really important to the decision-making process for critical habitat designation. The NED effects of designation will almost always be minor, but what really matters is if there is a region, an industry, or a firm that is likely to be substantially damaged or substantially benefited by the inclusion or exclusion of specific geographic areas from critical habitat designation.

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<sup>3</sup> *Catron County Bd. of Comm'rs v. U.S. Fish and Wildlife Serv.*, 75 F.3d 1429, 1435 (10<sup>th</sup> Cir. 1996).

## **B. Alternative Ways of Conceptualizing the Role of Costs and Benefits**

Given that attention should be focused on the RED accounting framework when we evaluate the designation of critical habitat, what does this imply about the relevant economic methodology? There are two main ways to conceptualize the economic analysis appropriate to this setting.

### **1. Cost-Effectiveness Analysis**

When a specific project outcome or project budget is predetermined, alternative project designs or elements may be considered using cost-effectiveness analysis. A cost-effectiveness analysis identifies the least-cost method for providing a given level of output, where the output is specified in non-monetary terms, e.g. biological improvements. Cost-effectiveness analysis can identify the lowest cost project elements that meet a given standard. If there are alternative menus of project elements each with an equal chance of meeting the standards, the decision is simple – choose the least costly alternative.

### **2. Benefit-Cost Analysis**

A benefit-cost analysis includes the full cost analysis and devotes equal attention to quantification of project benefits. Benefits reflect the increased value of market goods and non-market recreational, esthetic, and cultural values attributable to a project. Benefit-cost analysis is commonly summarized in the form of a benefit-cost ratio, with a ratio of greater than one signaling the economic feasibility of the project. Successful application of cost-effectiveness or benefit-cost analysis depends upon complete scientific understanding of the underlying processes. Hydrology, river ecology, biology and engineering help us to understand the biological and physical consequences of the alternative actions, economics helps us to understand and quantify some of the human and economic consequences of choosing among the feasible alternatives. If the underlying science is deficient, economic assessment cannot fill the gaps.

**Recommendation: Cost-Effectiveness Analysis is the appropriate framework for weighing the costs and benefits of critical habitat designation.**

Which of these alternative analytic frameworks is most appropriate for the economic analysis required as a part of the critical habitat designation process? There are several considerations, which, on balance, demonstrate that cost-effectiveness analysis is the preferable approach for critical habitat designation.

The listing decision and the consequent jeopardy standard are intended to assure that the listed species will be protected from extinction. Thus, as stated above any NED and RED benefits that are attributable to the assurance that the species will avoid extinction are a consequence of the listing decision, not the critical habitat designation. Because the purpose of the ESA is to conserve and de-list listed species, the marginal NED and RED benefits of critical habitat designation, above those already conferred by listing, will be small to zero for

most species. In other words, the benefits of critical habitat designation are a given under the ESA, which requires such designation for listed species. The critical habitat designation can be considered a delineation of those areas within which the specific obligations and burdens of species conservation will be concentrated.

If the economic benefits of critical habitat designation are small to zero, then the remaining economic decision criterion is the cost of designation for specific geographic areas. If economic analysis is to be useful in deciding what habitat to designate as critical, it must assist in deciding which alternative habitat tracts or elements thereof are the most cost-effective. The resulting designation must be shown to assure the conservation of the listed species. We conclude that cost-effectiveness is the appropriate analytic framework for assessing the economic impacts of critical habitat designation decisions.

This lack of expected benefits from critical habitat designation allows us to sidestep a full-scale cost/benefit analysis. This has several advantages. It considerably reduces the data requirements for the analysis. It eliminates the need to impute economic values for changes in the abundance of the listed species. It avoids the difficult issue of how to measure non-use values (such as the value of knowing that something exists), and non-priced outputs (such as recreation). In other words, if one can adopt the cost-effectiveness framework when estimating the economic impacts of designation for most species, this will considerably reduce the scale and the agency costs of doing such analyses. This approach produces a more reliable assessment of economic impacts associated with designation because the economic consequences of listing, which the ESA does not allow to be considered, are already taken as a given. The result is a true assessment of economic impacts, which occurs within the statutory mandates laid out by the Act.

## **II. What Is the Role of Benefits in the Critical Habitat Decision?**

It serves no purpose to estimate total economic benefits of critical habitat designation. That would only be useful in a decision whether to designate critical habitat at all based on net benefit, but Congress has already made the determination that species that are threatened or endangered with extinction must be listed and protected through various means, including the designation of critical habitat. Because critical habitat must be designated, the only questions are: (1) What are the physical and biological features of habitat that are essential for the conservation of a species?; (2) Which specific habitat areas contain those elements that are essential for the conservation of the species?; (3) How much of the specific habitat areas containing those elements is essential for the conservation of the species?; and (4) What are the special management measures that would be applied to protect the essential physical and biological features of areas designated as critical habitat? By answering these questions, biologists can delineate the sum total of eligible habitat areas and the relative value of each habitat area as a contribution toward the statutory objective of species conservation.

To implement a cost-effectiveness framework, biologists would delineate and rank-order or score specific habitat segments for their relative value as contributions toward the conservation of the species. A logical basis for delineating and scoring a habitat area would

be the quality of physical and biological features that the ESA identifies as criteria for critical habitat designation. In addition, biologists would provide economists with information that differentiates between the level of protection that might be required to avoid jeopardy to the species and the level of protection that would be required to prevent destruction or adverse modification of areas designated as critical habitat. The differentiation between jeopardy and critical habitat protection should be based on special management measures or protection standards that biologists determine to be necessary for the physical or biological features that are essential for the conservation of species. For example, native growth buffers, water temperature, old growth percentages, and other habitat protection measures would be defined in terms of a jeopardy standard and a critical habitat or conservation standard.

**Recommendation: The benefits of critical habitat designation should be weighed in biological terms – not economic terms.**

For cost-effectiveness analysis, the only relevant benefit is the objective of protecting enough critical habitat for the conservation of the species. Biologists within the federal agencies should delineate and rank-order specific geographic areas as potential critical habitat and identify special management measures or protection standards for the physical and biological features that make habitat “critical.”

Under this approach, the primary burden for providing data on the biological objectives and means for achieving those objectives falls on the Services and their biologists. This burden is consistent with the data and decision-making requirements that agency biologists must satisfy in status reviews, listing decisions, critical habitat designation, and recovery planning for species. Moreover, it is in the interest of listed species to differentiate and prioritize habitat segments so that the critical habitat designation and exclusion process is informed by relative biological value as well as costs of protection. However, it is essential that such a ranking be undertaken in an objective manner that avoids the often relied upon practice of simply asserting that all habitat is of “equal value.”<sup>4</sup> The need to rank order or score habitat areas according to biological value must be enforced as a cornerstone of cost-effectiveness analysis.

**III. How Should the Costs of Critical Habitat Designation Be Estimated?**

Using habitat units and levels of protection provided by biologists, economists can estimate the costs for each unit of critical habitat protection above the baseline of jeopardy protection. The various available economic tools can then be applied to estimate total direct and indirect costs.

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<sup>4</sup> “Except in those circumstances determined by the Secretary, critical habitat shall not include the entire geographical area which can be occupied by the threatened or endangered species.” 16 U.S.C. § 1532(5)(C).

As discussed above, economic analysis of critical habitat designation should, in most cases, focus on the RED stance and adopt the cost-effectiveness framework. What does this imply about which of the analytic methodologies available to economists are appropriate tools to estimate these regional costs?

### **A. Direct Impacts**

The direct impacts of designating critical habitat are the immediate consequences to the directly affected individual(s) and business(es) from the designation. The measure of these direct economic impacts is the income lost because of the designation. The estimation of direct impacts is a relatively straightforward application of economic and accounting principles. For example, if the damaged sector is agriculture, the loss of farm income can be estimated using crop or livestock budgets that are usually available from the state Cooperative Extension Service. Budgets can be estimated for other affected sectors drawing on local knowledge, secondary data, or from the sector purchase coefficients of an input-output model estimated for the region.

Note that federal agency section 7 consultation costs are not likely to be direct RED costs. Consultation costs would only affect regional production and spending patterns if they affect the agency's spending patterns in the region. Any added agency spending to support the section 7 consultations would be a stimulus to the economy of the region – not a cost. Conversely, consultation costs incurred by local stakeholders are part of the economic impact and should be included as costs in the direct RED accounting.

### **B. Secondary Impacts**

Secondary economic impacts result as the direct economic effects ripple through the rest of the regional economy. These secondary impacts occur when the directly affected sector(s) would ordinarily buy inputs from other regional businesses (backward linkages) or produce outputs that serve as raw materials for other regional industries (forward linkages). For example, a new irrigation project will cause agriculture to buy more from backward-linked fertilizer, machinery, and insurance sectors, and may allow expansion of forward-linked livestock and food-processing sectors. Damages to an existing irrigation sector would have opposite effects – business losses in both forward-and backward-linked sectors.

The measure of these secondary impacts is often conceptualized as lost “value added;” the lost wages, rents, and profits that would have accrued to the labor, land, and capital in the regional economy as a result of the primary shock. It is generally held that secondary impacts are small or absent given a national accounting (NED) perspective. The WRC (1983) directed that secondary impacts not be included in NED analyses of federally funded water resources projects unless there is massive national-level unemployment of labor and capital. The logic is that resources employed by a new water project are generally bid away from other productive employment elsewhere in the national economy (the “wash out” assumption).

The WRC Principles and Guidelines do allow secondary impacts to be a part of the RED account of a project analysis – making it possible for the economic analysis to not only estimate the magnitude of the secondary impacts, but to also trace these secondary impacts to other affected sectors of the regional economy.

The direct regional impacts of critical habitat designation will generally be much larger than the secondary impacts, and thus will dominate the critical habitat decision process. The smaller secondary regional impacts will play a lesser role, primarily as they track impacts among the affected sectors. Note that the regional secondary impacts of designating critical habitat will also grow disproportionately smaller for smaller regions. This is because the directly affected people and businesses in a region are more likely to purchase production inputs and consumer goods outside of a smaller region. Spending “leaks” more rapidly from smaller regions.

### **C. Alternative Regional Economic Models to Estimate Secondary Impacts**

For many critical habitat designations, where the proposed designations are small in scale and in remote areas, it may be unnecessary to estimate the secondary regional effects of designation since these will often be small in magnitude and small relative to the direct effects. Note that estimating secondary impacts increases the accuracy of the regional economic impacts, but in many cases adding secondary impacts will not affect the rank order of habitat areas by economic impact. This is because the multipliers will increase each estimate of direct impacts by similar proportions. The exception is where economic uses differ dramatically between different areas of proposed critical habitat and carry with them different income multipliers.

In cases where the secondary impacts are expected to be larger, there are a range of available estimation tools that can be used to estimate these secondary impacts on regional economic activity and on regional value-added. With the tools now available, estimation of the backward-linked secondary economic impacts to an affected economic region is relatively straightforward.

While input-output models is the tool commonly used to estimate secondary impacts, there are several choices, so the appropriate tool may depend on the scale of analysis justified by the scale of the critical habitat designation. Several alternatives are:

#### **1. Economic Base Models**

This method may be justified as a shortcut alternative in economic analysis of quite small-scale critical habitat designations. Economic base analysis begins by identifying the export base sectors of the regional economy (which bring money into the region by exporting goods and services) and the non-basic sectors. The non-basic sectors are viewed as service, support, and local consumption sectors supported by the income generated in the basic sectors. The base ratio is the ratio between these two sector groupings. If a critical habitat designation damages one of the basic sectors, then the base ratio could be used to project a corresponding secondary impact to the non-basic sectors of the regional economy. The

virtue of economic base models is that they are relatively cheap, and relatively easy to construct. The downside is lowered accuracy and sectoral detail, but the results may be adequate for small-scale critical habitat designations, where the regional secondary impacts are likely to be small anyway.

## **2. Input-Output Models**

This is the economic modeling tool most commonly used to estimate secondary impacts. The methodology of input-output analysis dates to the 1930s, but has only recently been made available for routine regional impact problems, due to advances in computer technology and the availability of non-survey input-output technique. The IMPLAN database and software package is widely used for applied studies and would be appropriate for analysis of critical habitat designation. In the hands of a practitioner familiar with the IMPLAN software package and the procedures needed to apply it, the cost of an IMPLAN study need be little more than the cost of an economic base study. The IMPLAN study may have the added advantage of being able to provide industry regional purchase coefficients that could be helpful in estimating the direct impacts of the designation.

## **3. Computable General Equilibrium Models**

Input-output models have been criticized for their failure to account fully for the way the economy adjusts to strong impacts. They essentially assume that resources made redundant by some strong impact to the economy are never reemployed by some other sector or region, and reductions in outputs from the region are never replaced by production from other producers or regions. The following section talks about ways to circumvent this problem of input-output models. The other alternative is to build these relationships into the model – which is the premise of Computable General Equilibrium (“CGE”) models. The state-of-the-art for CGE modeling is still time consuming, expensive to construct, and requires special modeling expertise. In a few cases, for large-scale and important designations, a CGE modeling approach may be justified. However, in most cases where the secondary regional impact is expected to be significant to a critical habitat decision, an IMPLAN based input-output model should be adequate for the task.

**Recommendation: The choice of model and method depends on the scope of designation and the affected economic landscape.**

There is no one right method; rather, the method should be scaled to the designation. Large designations and designations affecting significant concentrations of economic activity may warrant analysis of direct, secondary, and dynamic effects through data-intensive models such as input-output and CGE. Smaller designations may deserve only a direct effects analysis. In some cases, the direct effects analysis may be all that is necessary to compare and decide between the relative costs and benefits of designation for particular habitat segments regardless of indirect economic impacts where the economic value/activity across the various habitat segments is relatively small or comparable. The method used should also reveal the incidence of costs not only by area, but also by economic sector or property owner.

While the ESA does not explicitly require that the incidence of economic costs be considered, a meaningful attempt to weigh benefits against costs should also consider who bears the costs and whether that burden is concentrated on particular interests. These equitable considerations should also inform the critical habitat designation process. Each of the models provides information that decision-makers could use to determine who will bear the costs of protection for critical habitat and whether those who will be hurt by a designation decision could be compensated for their losses.<sup>5</sup> That information could, in turn, be used to design public policies and programs to ameliorate economic adjustments and dislocations caused by protection for critical habitat.<sup>6</sup>

While the regional direct and secondary impacts of critical habitat designation can be estimated quite easily with techniques such as input-output modeling, translating these impact estimates into estimates of costs is more difficult. Secondary effects expressed as changes in value added are not valid measures of net damages or benefits, primarily because these economic effects are transitory. Moreover, economic impacts as measured in an input-output analysis contain large measures of both benefits and costs in affected sectors. Change in net economic welfare is an appropriate measure of damage (or benefit) from an event. While the precipitating event may indeed ripple along the purchase and sales transactions to impact other businesses in the regional economy, these secondary impacts are generally not permanent because the regional economy will adjust over time. In time, much of the displaced labor will find alternative employment inside or outside the region. Much of the capital will, in time, either move to other uses, or be depreciated. Even land, although immobile, nearly always has some alternative use. Economists call the value of a resource in its next-best alternative use its “opportunity cost.” CGE models purport to model this readjustment, but with considerable complexity and cost. An alternative is to compute secondary damages after the displaced resources have been reemployed by subtracting opportunity costs from the estimated secondary impacts. As a rule of thumb, about 80 percent of the secondary impacts are offset by the opportunity costs of the displaced resources reemployed in their next-best alternative, leaving 20 percent of the impacts as

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<sup>5</sup> For example, in *Tulare Lake Basin Water Storage Dist. v. United States*, 49 Fed. Cl. 313 (Fed. Cl. 2001), just compensation was required for owners of water rights whose water delivery contracts were diminished to provide instream flows beneficial to ESA-listed fish species.

<sup>6</sup> The need for and use of such information is implicit in several policies and programs designed to compensate property owners, businesses, individuals, and communities that are injured by protection for ESA-listed species. For example, in response to the listing of the Northern Spotted Owl and protection for its critical habitat, the Northwest Forest Plan included the Northwest Economic Adjustment Initiative. Over a decade, the Initiative targeted hundreds of millions of dollars in grants-in-aid, loan guarantees, and other programs to assist forest-products dependent communities, workers, and businesses to adjust to economic dislocation caused by protection for the northern spotted owl. Similarly, the nonprofit organization Defenders of Wildlife has created the Bailey Wildlife Foundation Wolf Compensation Trust as a program to compensate ranchers for livestock losses caused by depredation for ESA-listed wolves.

damages. This approach can serve as a shortcut in the economic analysis of critical habitat designation – allowing the conversion of regional secondary impacts to regional secondary costs.

#### **IV. The Exclusion Process: Weighing the Costs Against the Benefits**

Under the recommended approach, decision-makers are provided with two key sets of information:

- 1) Biologists provide a rank-ordered pool of specific geographic areas that are eligible for designation and have been stratified as possessing more or less biological value for the conservation of the species.
- 2) Economists estimate the economic costs of including each geographic area defined by biologists within the designation of critical habitat, based on the appropriate model choice noted above.

With this information, decision-makers can implement a critical habitat exclusion process by (1) developing alternative configurations of habitat designations that provide equivalent biological benefits and selecting the least-cost alternative or (2) by assigning habitat segments ordinal rankings of biological and cost values and including or excluding areas based on their marginal contributions to total costs and benefits. We do not offer a definitive statement here on the most appropriate method of cost-effectiveness analysis, but we do assert that such an approach is the most meaningful and pragmatic way to fulfill the ESA's requirement that economic costs be considered in the process of critical habitat designation. The examples we offer here can be more fully developed if the Services accept as a first principle the cost-effectiveness approach.

Under the first cost-effectiveness approach, each of the options to be analyzed may be defined as a combination of habitat areas that provides equivalent biological benefits, so that economists may perform a least-cost analysis to select a habitat configuration that achieves conservation objectives but imposes the least cost by excluding areas where higher costs may be avoided.

Under the second cost-effectiveness approach, each habitat area may be analyzed by locating it in a 2x2 matrix that assigns ordinal values for high and low economic costs and high and low biological values. Areas with high costs and low biological values will be good candidates for exclusion. Areas with low economic costs and high biological values will be good candidates for designation. Areas that are low cost and low value may be excluded or included by the Services with less potential for public controversy. Areas that are high cost and high biological value can be intensely debated by the public for inclusion or exclusion. An equivalent method would be to compare habitat areas rank-ordered by biological value and economic impact, and use a triage analysis.

Using a simple matrix and decision-making process such as this will promote meaningful public participation by making the decision process accessible to the lay public. It will focus decision-makers and the interested public on the most important factors in a complicated process. It will also approximate the least-cost analysis method that assumes species conservation as a given objective and minimizes the costs of obtaining that objective.

### **Recommendations**

The Services should develop a detailed framework and methodology for economic analyses of critical habitat designation through public notice and comment, including face-to-face discussions with affected interest groups. The new approach may be embodied in the Services' joint regulations on critical habitat designation, 50 C.F.R. Part 424, or in a formal guidance document. Specifically, the framework and methodology should: 1) eliminate the "incremental" or "baseline" approach and include an exclusion process based on meaningful economic analysis; 2) delineate and prioritize habitat segments based on their relative value in conserving a listed species; 3) use a least-cost or an ordinal ranking cost-effectiveness approach that avoids the monetization of biological benefits, and searches for a critical habitat configuration that satisfies the conservation objective while minimizing costs; 4) require the Services to distinguish between measures necessary to avoid jeopardy and those necessary to conserve the species; 5) calculate the costs of designation using methods and data that are scaled to the scope and impacts of a proposed; 6) use an accounting stance that recognizes localized and regional impacts in the near-term, and that considers direct, indirect and cumulative economic impacts.

### **Related Literature**

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# ATTACHMENT 3

SPECIES	FEDERAL REGISTER	CRITICAL HABITAT DESIGNATION		ECONOMIC ANALYSIS			ECONOMIC FRAMEWORK			CHANGES OR EXCLUSIONS MADE BASED ON ECONOMICS	
		proposed	final	no mention	in progress	draft or final	co-extensive impacts (including all actions that may have an impact, including listing) - 10th Circuit	incremental impacts (impacts above a set baseline that includes impacts associated with listing) - 9th Circuit	hybrid (combination of baseline impacts and incremental impacts)	yes	no
9 Bexar County, TX, Invertebrates	76 FR 9872 (2/22/11)	x			x						
	76 FR 46234 (8/2/11)	x (Reopening of the Comment Period)				draft November 14, 2011			x		
	77 FR 8450 (2/14/12)		x			final June 24, 2011			x		x
10 Subspecies of Great Basin Butterflies	76 FR 61532 (10/4/11)	x		x							
29 Mollusk Species	76 FR 61826 (10/5/11)	<i>(Notice of 90-day finding on petition to list and designate CH)</i>		x							

<b>124 Species on Oahu</b>	77 FR 21936 (4/12/12)	x (Reopening of the Comment Period)				draft February 2012		x			
						final July 2012					
<b>135 Species on Molokai, Lanai, Maui, and Kahoolawe</b>	77 FR 34464 (6/11/12)	x			x						
<b>Alabama Sturgeon</b>	74 FR 26488 (6/2/09)		x			October 2008			x		x
<b>Altamaha Spinymussel</b>	75 FR 61664 (10/6/10)	x			x						
<b>Arizona Striped Whiptail</b>	74 FR 66866 (12/16/09)	<i>(Notice of partial 90-day finding on petition to list and designate CH)</i>		x							
<b>Arkansas River Speckled Chub</b>	74 FR 66866 (12/16/09)	<i>(Notice of partial 90-day finding on petition to list and designate CH)</i>		x							
<b>Arroyo Toad</b>	74 FR 52612 (10/13/09)	x			x						
	76 FR 7246 (2/9/11)		x			x	<i>report not available on www.regulations.gov</i>			x	

<b>Austin Blind Salamander</b>	77 FR 50768 (8/22/12)	x			x			x			
<b>Big Red Sage</b>	74 FR 66866 (12/16/09)	<i>(Notice of partial 90-day finding on petition to list and designate CH)</i>		x							
<b>Black Abalone</b>	75 FR 59900 (9/28/10)	x				2010	<i>report not available on www.regulations.gov</i>				
	76 FR 66806 (10/27/11)		x			2011	<i>report not available on www.regulations.gov</i>		x		
<b>Black-Spotted Newt</b>	74 FR 66866 (12/16/09)	<i>(Notice of partial 90-day finding on petition to list and designate CH)</i>		x							
<b>Blanco Blind Salamander</b>	74 FR 66866 (12/16/09)	<i>(Notice of partial 90-day finding on petition to list and designate CH)</i>		x							
<b>Brush-pea</b>	74 FR 66866 (12/16/09)	<i>(Notice of partial 90-day finding on petition to list and designate CH)</i>		x							
<b>Buena Vista Lake Shrew</b>	74 FR 53999 (10/21/09)	x		x							
	76 FR 23781 (4/28/11)	x (Reopening of the Comment Period)				draft	<i>report not available on www.regulations.gov</i>				

	77 FR 40706 (7/10/12)	x (Reopening of the Comment Period)				x					
<b>Bull Trout in the Coterminous United States</b>	75 FR 2270 (1/14/10)	x					x	<i>report not available on www.regulations.gov</i>			
	75 FR 13715 (3/23/10)	x (Reopening of the Comment Period)					x	<i>report not available on www.regulations.gov</i>			
	75 FR 63898 (10/18/10)		x				x	<i>report not available on www.regulations.gov</i>			x
<b>Bushy Whitlow-wort</b>	74 FR 66866 (12/16/09)	<i>(Notice of partial 90-day finding on petition to list and designate CH)</i>		x							
<b>Bylas Springsnail</b>	74 FR 66866 (12/16/09)	<i>(Notice of partial 90-day finding on petition to list and designate CH)</i>		x							
<b>Cactus Ferruginous Pygmy Owl</b>	76 FR 61856 (10/5/11)	<i>(Notice of 12-month finding on petition to list and designate CH)</i>		x							
<b>California Red- Legged Frog</b>	74 FR 51825 (10/8/09)	x				September 2009			x		
	75 FR 12816 (3/17/10)		x			x	<i>report not available on www.regulations.gov</i>				

<b>Canada Lynx</b>	74 FR 66937 (12/17/09)	<i>(Notice of 12-month finding on petition to change final listing of DPS to include New Mexico)</i>		x								
<b>Casey's June Beetle</b>	74 FR 32857 (7/9/09)	x			x							
<b>Chihuahua Catfish</b>	74 FR 66866 (12/16/09)	<i>(Notice of partial 90-day finding on petition to list and designate CH)</i>		x								
<b>Chiricahua Leopard Frog</b>	76 FR 14126 (3/15/11)	x			x							
	76 FR 58441 (9/21/11)	x (Reopening of the Comment Period)				draft September 15, 2011			x			
	77 FR 16324 (3/20/12)		x			final March 19, 2012			x		x	
<b>Chihuahua Scurfpea</b>	74 FR 66866 (12/16/09)	<i>(Notice of partial 90-day finding on petition to list and designate CH)</i>		x								
<b>Chupadera Springsnail</b>	77 FR 25668 (5/1/12)	x (Reopening of the Comment Period)				draft November 1, 2011			x			
	77 FR 41088 (7/12/12)		x			final March 1, 2012			x		x	

<b>Chisos Coralroot</b>	74 FR 66866 (12/16/09)	<i>(Notice of partial 90-day finding on petition to list and designate CH)</i>		x							
<b>Chucky Madtom</b>	76 FR 63360 (10/12/11)	x			x						
	77 FR 30988 (5/24/12)	x (Reopening of the Comment Period)				draft May 2012			x		
<b>Clay-Loving Wild Buckwheat</b>	74 FR 49835 (9/29/09)	<i>(Notice of 12-month finding on a petition to revise CH)</i>		x							
<b>Coachella Valley Milk Vetch (Astragalus Lentiginosus var. Coachellae)</b>	76 FR 53224 (8/25/11)	x									
	77 FR 28846 (5/16/12)	x (Reopening of the Comment Period)				draft May 2012					
<b>Colorado Tiger Beetle</b>	74 FR 66866 (12/16/09)	<i>(Notice of partial 90-day finding on petition to list and designate CH)</i>		x							
<b>Comal Blind Salamander</b>	74 FR 66866 (12/16/09)	<i>(Notice of partial 90-day finding on petition to list and designate CH)</i>		x							
<b>Contiguous U.S. DPS of Canada Lynx</b>	74 FR 8616 (2/25/09)		x			October 2008			x		x

<b>Cook Inlet Beluga Whale</b>	74 FR 17131 (4/14/09)	<i>(advance notice of proposed rulemaking to designate CH)</i>		x							
	74 FR 63080 (12/2/09)	x				November 2009		x			
	75 FR 1582 (1/12/10)	x (Reopening of the Comment Period)				x	<i>report not available on www.regulations.gov</i>				
	76 FR 20180 (4/11/11)		x			x	<i>report not available on www.regulations.gov</i>				x
<b>Cook's Lomatium</b>	74 FR 37314 (7/28/09)	x			x						
	75 FR 1568 (1/12/10)	x (Reopening of the Comment Period)				draft	<i>report not available on www.regulations.gov</i>				
	75 FR 42490 (7/21/10)		x		x		<i>report not available on www.regulations.gov</i>				x
<b>Coqui Llanero</b>	77 FR 36457 (6/19/12)	x (Reopening of the Comment Period)				draft	<i>report not available on www.regulations.gov</i>				
<b>Cook's Peak Woodlandsnail</b>	74 FR 66866 (12/16/09)	<i>(Notice of partial 90-day finding on petition to list and designate CH)</i>		x							
	76 FR 63360 (10/12/11)	x			x						

<b>Cumberland Darter</b>	77 FR 30988 (5/24/12)	x (Reopening of the Comment Period)				May 2012			x		
<b>DeBeque Phacelia</b>	76 FR 45078 (7/27/11)	x			x						
	77 FR 18157 (3/27/12)	x (Reopening of the Comment Period)				draft March 2, 2012			x		
	77 FR 48368 (8/13/12)		x			final June 7, 2012			x		x
<b>Delaware County Cave Crayfish</b>	74 FR 66866 (12/16/09)	<i>(Notice of partial 90-day finding on petition to list and designate CH)</i>	x								
<b>Dona Ana Talussnail</b>	74 FR 66866 (12/16/09)	<i>(Notice of partial 90-day finding on petition to list and designate CH)</i>	x								
<b>Dusky Gopher Frog (see Mississippi Gopher Frog, below )</b>											
<b>Edwards Aquifer Diving Beetle</b>	74 FR 66866 (12/16/09)	<i>(Notice of partial 90-day finding on petition to list and designate CH)</i>	x								
	73 FR 72209 (11/26/08)		x			September 2008		x			x

<b>Elkhorn and Staghorn Corals</b>	75 FR 3711 (1/22/10)	<i>(Notice of 12-month determination on how to proceed with petition to revise CH designation)</i>		x							
<b>False Spike Mussel</b>	74 FR 66261 (12/15/09)	<i>(Notice of 90-day finding on petition to list and designate CH)</i>		x							
<b>Ferris's Copper</b>	74 FR 66866 (12/16/09)	<i>(Notice of partial 90-day finding on petition to list and designate CH)</i>		x							
<b>Fish Creek Fleabane</b>	74 FR 66866 (12/16/09)	<i>(Notice of partial 90-day finding on petition to list and designate CH)</i>		x							
<b>Florida Manatee</b>	74 FR 49842 (9/29/09)	<i>(Notice of 90-day finding on a petition to revise CH)</i>		x							
	75 FR 1574	<i>(Notice of 12-month finding on petition to revise CH designation)</i>		x							
<b>Flying Earwig Hawaiian Damselfly</b>	74 FR 32490 (7/8/09)	<i>(listing proposal, CH not prudent)</i>		x							
<b>Franciscan Manzanita</b>	77 FR 54517 (9/5/12)	x			x						
<b>Frosted Flatwoods Salamander</b>	74 FR 6700 (2/10/09)		x			June 2008			x		x
<b>Georgetown Salamander</b>	77 FR 50768 (8/22/12)	x			x			x			

<b>Georgia Pigtoe Mussel</b>	74 FR 31144 (6/29/09)	x			x						
	75 FR 6613 (2/10/10)	x (Reopening of the Comment Period)				draft	<i>report not available on www.regulations.gov</i>				
	75 FR 67512 (11/2/10)		x			x	<i>report not available on www.regulations.gov</i>				x
<b>Gierisch Mallow</b>	77 FR 49894 (9/17/12)	x			x						
<b>Gila Tryonia Snail</b>	74 FR 66866 (12/16/09)	<i>(Notice of partial 90-day finding on petition to list and designate CH)</i>		x							
<b>Glowing Indian-Paintbrush</b>	74 FR 66866 (12/16/09)	<i>(Notice of partial 90-day finding on petition to list and designate CH)</i>		x							
<b>Golden Orb Mussel</b>	74 FR 66261 (12/15/09)	<i>(Notice of 90-day finding on petition to list and designate CH)</i>		x							
<b>Golden Sedge</b>	75 FR 45592 (8/3/10)	x (Reopening of the Comment Period)				x	<i>report not available on www.regulations.gov</i>				
	76 FR 11086 (3/1/11)		x			x	<i>report not available on www.regulations.gov</i>				x
<b>Grand Canyon Cave Scorpion</b>	74 FR 66866 (12/16/09)	<i>(Notice of partial 90-day finding on petition to list and designate CH)</i>		x							
<b>Grand Wash Springsnail</b>	74 FR 66866 (12/16/09)	<i>(Notice of partial 90-day finding on petition to list and designate CH)</i>		x							
<b>Gulf of Maine DPS of Atlantic Salmon</b>	74 FR 39903 (8/10/09)		x			May 2009		x		x	

<b>Hawaiian Monk Seal</b>	74 FR 27988 (6/12/09)	<i>(Notice of 12-month finding on a petition to</i>		x							
	76 FR 32026 (6/2/11)	x				x	<i>report not available on www.regulations.gov</i>				
	76 FR 41446 (7/14/11)	x (Notice of Public Hearings)				x	<i>report not available on www.regulations.gov</i>				
	76 FR 68710 (11/7/11)	x (Reopening of the Comment Period)				draft 2010	<i>report not available on www.regulations.gov</i>				
	77 FR 37867 (6/25/12)	x (Reopening of the Comment Period)				draft 2010	<i>report not available on www.regulations.gov</i>				
<b>Hine's Emerald Dragonfly</b>	74 FR 18341 (4/22/09)	x				March 2007	x				
	75 FR 21394 (4/23/10)		x			x	<i>report not available on www.regulations.gov</i>				x
<b>Huachuca Milk-Vetch</b>	74 FR 66866 (12/16/09)	<i>(Notice of partial 90-day finding on petition to list and designate CH)</i>		x							
<b>Huachuca Woodlandsnail</b>	74 FR 66866 (12/16/09)	<i>(Notice of partial 90-day finding on petition to list and designate CH)</i>		x							
	74 FR 31144 (6/29/09)	x			x						

<b>Interrupted Rocksnailed</b>	75 FR 6613 (2/10/10)	x (Reopening of the Comment Period)				draft	<i>report not available on www.regulations.gov</i>				
	75 FR 67512 (11/2/10)		x			x	<i>report not available on www.regulations.gov</i>				x
<b>Jaguar</b>	77 FR 50214 (8/20/12)	x			x						
<b>Jollyville Plateau Salamander</b>	77 FR 50768 (8/22/12)	x			x			x			
<b>Kaibab Bladderpod</b>	74 FR 66866 (12/16/09)	<i>(Notice of partial 90-day finding on petition to list and designate CH)</i>		x							
<b>Kingman Springsnailed</b>	74 FR 66866 (12/16/09)	<i>(Notice of partial 90-day finding on petition to list and designate CH)</i>		x							
<b>Koster's Springsnailed</b>	74 FR 10701 (3/12/09)	x				July 2005	x				
	75 FR 35375 (6/22/10)	x				draft	<i>report not available on www.regulations.gov</i>				
	76 FR 9297 (2/17/11)	x (Reopening of the Comment Period)				x	<i>report not available on www.regulations.gov</i>				
	76 FR 33036 (6/7/11)		x			x	<i>report not available on www.regulations.gov</i>				x
<b>La Graciosa Thistle</b>	74 FR 10211 (3/10/09)	x				January 2009			x		
	74 FR 56978 (11/3/09)		x			July 2009		x			x
	75 FR 16404 (4/1/10)	x			x						

<b>Lane Mountain Milk Vetch</b>	75 FR 67676 (11/3/10)	x (Reopening of the Comment Period)				draft	<i>report not available on www.regulations.gov</i>				
	76 FR 29108 (5/19/11)		x			x	<i>report not available on www.regulations.gov</i>				x
<b>Large-Flowered Woody Meadowfoam</b>	74 FR 37314 (7/28/09)	x			x						
	75 FR 1568 (1/12/10)	x (Reopening of the Comment Period)				draft	<i>report not available on www.regulations.gov</i>				
	75 FR 42490 (7/21/10)		x		x		<i>report not available on www.regulations.gov</i>				x
<b>Laurel Dace</b>	76 FR 63360 (10/12/11)	x			x						
	77 FR 30988 (5/24/12)	x (Reopening of the Comment Period)				May 2012			x		
<b>Leatherback Sea Turtle</b>	75 FR 319 (1/5/10)	x		so far, relying on other reports				x		x	
	75 FR 7434 (2/19/10)	x (Reopening of the Comment Period)				x	<i>report not available on www.regulations.gov</i>				
	75 FR 41436 (7/16/10)	<i>(Notice of 90-day finding)</i>		x							
	76 FR 25660 (5/5/11)	<i>(Notice of 90-day finding on a petition to revise CH)</i>		x							

	77 FR 4170 (1/26/12)		x			x	<i>report not available on www.regulations.gov</i>				x
	77 FR 32909 (6/4/12)	<i>(Notice of 12-month determination on how to proceed with petition to revise CH designation)</i>		x							
<b>Loach Minnow</b>	75 FR 66521 (10/28/10)	x			x						
	76 FR 61330 (10/4/11)	x (Reopening of the Comment Period)				draft July 6, 2011			x		
	77 FR 10810 (2/23/12)		x			x	<i>report not available on www.regulations.gov</i>				x
<b>Lost River Sucker</b>	76 FR 76337 (12/7/11)	x			x						
	77 FR 43796 (7/26/12)	x (Reopening of the Comment Period)				draft April 17, 2012			x		
<b>Louisiana Black Bear</b>	74 FR 10350 (3/10/09)		x			November 2008			x		x

<b>Louisiana Pigtoe Clam</b>	74 FR 66866 (12/16/09)	<i>(Notice of partial 90-day finding on petition to list and designate CH)</i>		x							
<b>Lower Columbia River Coho Salmon and Puget Sound Steelhead</b>	76 FR 1392 (1/10/11)	x (ANPR)			x						
<b>Marbled Murrelet</b>	74 FR 6852 (2/11/09)	x		x							
	76 FR 61599 (10/5/11)		x			x	<i>report not available on www.regulations.gov</i>				x
<b>Mexican Fawnsfoot Mussel</b>	74 FR 66261 (12/15/09)	<i>(Notice of 90-day finding on petition to list and designate CH)</i>		x							
<b>Mimic Cavesnail</b>	74 FR 66866 (12/16/09)	<i>(Notice of partial 90-day finding on petition to list and designate CH)</i>		x							
<b>Mineral Creek Mountainsnail</b>	74 FR 66866 (12/16/09)	<i>(Notice of partial 90-day finding on petition to list and designate CH)</i>		x							
	75 FR 31387 (6/3/10)	x			x						
	75 FR 77817 (12/14/10)	x (Reopening of the Comment Period)				draft	<i>report not available on www.regulations.gov</i>				

<b>Mississippi Gopher Frog</b>	76 FR 59774 (9/27/11)	x (Reopening of the Comment Period)				draft August 17, 2011			x		
	77 FR 2254 (1/17/12)	x (Reopening of the Comment Period)				x	<i>report not available on www.regulations.gov</i>				
	77 FR 35118 (6/12/12)		x			September 2011	<i>report not available on www.regulations.gov</i>				x
<b>Morton's Wild Buckwheat</b>	74 FR 66866 (12/16/09)	<i>(Notice of partial 90-day finding on petition to list and designate CH)</i>		x							
<b>Moss</b>	74 FR 66866 (12/16/09)	<i>(Notice of partial 90-day finding on petition to list and designate CH)</i>		x							
<b>Munz's Onion</b>	77 FR 23008 (4/17/12)	x			x						
	77 FR 55788 (9/11/12)	x (Reopening of the Comment Period)				draft August 3, 2012			x		
<b>Navasota False Foxglove</b>	74 FR 66866 (12/16/09)	<i>(Notice of partial 90-day finding on petition to list and designate CH)</i>		x							
	74 FR 10701 (3/12/09)	x				July 2005	x				
	75 FR 35375 (6/22/10)	x				draft	<i>report not available on www.regulations.gov</i>				

<b>Noel's Amphipod</b>	76 FR 9297 (2/17/11)	x (Reopening of the Comment Period)				x	<i>report not available on www.regulations.gov</i>				
	76 FR 33036 (6/7/11)		x			x	<i>report not available on www.regulations.gov</i>				x
<b>North Pacific Right Whale</b>	73 FR 19000 (4/8/08)		x	x							x
<b>Northern Spotted Owl</b>	77 FR 14062 (3/8/12)	x			x						
	77 FR 27010 (5/8/12)	x (Reopening of the Comment Period)			x						
	77 FR 32483 (6/1/12)	x (Reopening of the Comment Period)				x	<i>report not available on www.regulations.gov</i>				
<b>Notodontid Moth (4 distinct varieties)</b>	74 FR 66866 (12/16/09)	<i>(Notice of partial 90-day finding on petition to list and designate CH)</i>		x							
<b>Nueces Shiner</b>	74 FR 66866 (12/16/09)	<i>(Notice of partial 90-day finding on petition to list and designate CH)</i>		x							
<b>Oregon Chub</b>	74 FR 48211 (9/22/09)	x				September 2009			x		
	75 FR 11010 (3/10/10)		x			x	<i>report not available on www.regulations.gov</i>				x
	75 FR 18107 (4/9/10)		x (correction)	x							

<b>Oregon Coast Evolutionarily Significant Unit of Coho Salmon</b>	73 FR 7816 (2/11/08)		x			December 2007	x			x	
<b>Pacific Coast Population of Western Snowy Plover</b>	76 FR 16046 (3/22/11)	x			x						
	77 FR 2243 (1/17/12)	x				April 2, 2012			x		
<b>Pacific Hawaiian Damsselfly</b>	74 FR 32490 (7/8/09)	<i>(listing proposal, CH not prudent)</i>		x							
<b>Pagosa Skyrocket</b>	76 FR 45078 (7/27/11)	x			x						
	77 FR 18157 (3/27/12)	x (Reopening of the Comment Period)				draft June 7, 2012			x		
	77 FR 48368 (8/13/12)		x			March 2, 2012			x		x
<b>Parachute Beardtongue</b>	76 FR 45078 (7/27/11)	x			x						
	77 FR 18157 (3/27/12)	x (Reopening of the Comment Period)				draft June 7, 2012			x		
	77 FR 48368 (8/13/12)		x			x March 2, 2012			x		x
	74 FR 10701 (3/12/09)	x				July 2005	x				
	75 FR 35375 (6/22/10)	x				draft	<i>report not available on www.regulations.gov</i>				

<b>Pecos Assimineia</b>	76 FR 9297 (2/17/11)	x (Reopening of the Comment Period)				x	<i>report not available on www.regulations.gov</i>				
	76 FR 33036 (6/7/11)		x			x	<i>report not available on www.regulations.gov</i>				x
<b>Pecos Pupfish</b>	74 FR 66866 (12/16/09)	<i>(Notice of partial 90-day finding on petition to list and designate CH)</i>		x							
<b>Pecos Springsnail</b>	74 FR 66866 (12/16/09)	<i>(Notice of partial 90-day finding on petition to list and designate CH)</i>		x							
<b>Peninsular DPS of Desert Bighorn Sheep</b>	74FR 17288 (4/14/09)		x			June 2008			x		x
<b>Phyllostegia Hispida</b>	74 FR 11319 (3/17/09)	<i>(listing decision, CH not prudent)</i>		x							
<b>Pinaleno Talussnail</b>	74 FR 66866 (12/16/09)	<i>(Notice of partial 90-day finding on petition to list and designate CH)</i>		x							
<b>Plateau Shiner</b>	74 FR 66866 (12/16/09)	<i>(Notice of partial 90-day finding on petition to list and designate CH)</i>		x							
<b>Polar Bear</b>	74 FR 56086 (10/29/09)	x				x					
	75 FR 24545 (5/5/10)	x (Reopening of the Comment Period)				draft	<i>report not available on www.regulations.gov</i>				

	75 FR 76086 (12/7/10)		x			x	<i>report not available on www.regulations.gov</i>				x
<b>Preble's Meadow Jumping Mouse</b>	74 FR 52066 (10/08/09)	x				x					
	75 FR 29700 (5/27/10)	x (Reopening of the Comment Period)					x	<i>report not available on www.regulations.gov</i>			
	75 FR 78430 (12/15/10)		x				x	<i>report not available on www.regulations.gov</i>			x
<b>Prostrate Milkweed</b>	74 FR 66866 (12/16/09)	<i>(Notice of partial 90-day finding on petition to list and designate CH)</i>					x				
<b>Queen Conch</b>	77 FR 51763 (8/27/12)	<i>(Notice of 90-day finding on petition to list and designate CH)</i>					x				
<b>Quino Checkerspot Butterfly</b>	74 FR 28776 (6/17/09)		x			October 2008			x	x	
<b>Quitobaquito Tryonia Snail</b>	74 FR 66866 (12/16/09)	<i>(Notice of partial 90-day finding on petition to list and designate CH)</i>					x				
<b>Rattlesnake-master Borer Moth</b>	74 FR 66866 (12/16/09)	<i>(Notice of partial 90-day finding on petition to list and designate CH)</i>					x				
<b>Reticulated Flatwoods Salamander</b>	74 FR 6700 (2/10/09)		x			June 2008			x		x
	76 FR 31686 (6/1/11)	x					x				

<b>Riverside Fairy Shrimp</b>	77 FR 12543 (3/1/12)	x (Reopening of the Comment Period)				draft	report not available on www.regulations.gov				
<b>Rocky Mountain Monkeyflower</b>	77 FR 52293 (8/29/12)	(Notice of 90-day finding on petition to list and designate CH)									
<b>Roswell Springsnail</b>	74 FR 10701 (3/12/09)	x				July 2005	x				
	75 FR 35375 (6/22/10)	x				draft	report not available on www.regulations.gov				
	76 FR 9297 (2/17/11)	x (Reopening of the Comment Period)				x	report not available on www.regulations.gov				
	76 FR 33036 (6/7/11)		x			x	report not available on www.regulations.gov			x	
<b>Rough Hornsnail</b>	74 FR 31144 (6/29/09)	x			x						
	75 FR 6613 (2/10/10)	x (Reopening of the Comment Period)				draft	report not available on www.regulations.gov				
	75 FR 67512 (11/2/10)		x			x	report not available on www.regulations.gov			x	
<b>Royal Moth</b>	74 FR 66866 (12/16/09)	(Notice of partial 90-day finding on petition to list and designate CH)		x							
	76 FR 63360 (10/12/11)	x			x						

<b>Rush Darter</b>	77 FR 30988 (5/24/12)	x (Reopening of the Comment Period)				May 2012				x		
<b>Sabino Dancer</b>	74 FR 66866 (12/16/09)	<i>(Notice of partial 90-day finding on petition to list and designate CH)</i>		x								
<b>Salado Salamander</b>	77 FR 50768 (8/22/12)	x			x				x			
<b>Salina Mucket Mussel</b>	74 FR 66261 (12/15/09)	<i>(Notice of 90-day finding on petition to list and designate CH)</i>		x								
<b>Salt Creek Tiger Beetle</b>	74 FR 19167 (4/28/09)	x				July 2007			x			
	75 FR 17466 (4/6/10)		x			x	<i>report not available on www.regulations.gov</i>				x	
<b>San Bernardino Springsnail</b>	76 FR 71300 (11/17/11)	x (Reopening of the Comment Period)				draft	<i>report not available on www.regulations.gov</i>					
						final March 9, 2012			x			
<b>San Jacinto Valley Crownscale</b>	77 FR 23008 (4/17/12)	x			x							
	77 FR 55788 (9/11/12)	x (Reopening of the Comment Period)				draft August 3, 2012				x		

<b>Sangre de Cristo Peaclam</b>	74 FR 66866 (12/16/09)	<i>(Notice of partial 90-day finding on petition to list and designate CH)</i>		x							
<b>San Diego Ambrosia</b>	74 FR 44238 (8/27/09)	x			x						
	75 FR 27690 (5/18/10)	x (Reopening of the Comment Period)				x	<i>report not available on www.regulations.gov</i>				
	75 FR 74546 (11/30/10)		x			x	<i>report not available on www.regulations.gov</i>				
<b>San Felipe Gambusia</b>	74 FR 66866 (12/16/09)	<i>(Notice of partial 90-day finding on petition to list and designate CH)</i>		x							
<b>San Xavier Talussnail</b>	74 FR 66866 (12/16/09)	<i>(Notice of partial 90-day finding on petition to list and designate CH)</i>		x							
<b>Santa Ana Sucker</b>	74 FR 65056 (12/9/09)	x			x						
	75 FR 38441 (7/2/10)	x (Reopening of the Comment Period)				x	<i>report not available on www.regulations.gov</i>				
	75 FR 77962 (12/14/10)		x			x	<i>report not available on www.regulations.gov</i>				

<b>Santa Rita Yellowshow</b>	74 FR 66866 (12/16/09)	<i>(Notice of partial 90-day finding on petition to list and designate CH)</i>		x							
<b>Shortnose Sucker</b>	76 FR 76337 (12/7/11)	x			x						
	77 FR 43796 (7/26/12)	x (Reopening of the Comment Period)				draft April 17, 2012			x		
<b>Slickspot Peppergrass</b>	74 FR 52014 (10/8/09)	<i>(listing decision, CH not prudent)</i>		x							
	76 FR 27184 (5/10/11)	x			x						
	76 FR 39807 (7/7/11)	x (Reopening of the Comment Period)		x							
<b>Smooth Pimpleback Mussel</b>	74 FR 66261 (12/15/09)	<i>(Notice of 90-day finding on petition to list and designate CH)</i>		x							
<b>Sonoma County DPS of California Tiger Salamander</b>	74 FR 41662 (8/18/09)	x			x						
	76 FR 2863 (1/18/11)	x				x	<i>report not available on www.regulations.gov</i>				
	76 FR 36068 (6/21/11)	x (Reopening of the Comment Period)				draft January 2011	<i>report not available on www.regulations.gov</i>				
	76 FR 54346 (8/31/11)		x			final July 27, 2011			x		x

<b>Southern DPS of Eulachon</b>	76 FR 515 (1/5/11)	x				2010	<i>report not available on www.regulations.gov</i>			
	76 FR 65324 (10/20/11)		x			2011	<i>report not available on www.regulations.gov</i>			x
<b>Southern DPS of North American Green Sturgeon</b>	74 FR 52300 (10/9/09)		x			September 2009		x		x
<b>Southern Purple Lilliput Clam</b>	74 FR 66866 (12/16/09)	<i>(Notice of partial 90-day finding on petition to list and designate CH)</i>		x						
<b>Southern Resident Killer Whale</b>	71 FR 69054 (11/26/06)		x			November 2006	x			x
<b>Southern Selkirk Mountains Population of Woodland Caribou</b>	76 FR 74018 (11/30/11)	x			x					
	77 FR 16512 (3/21/12)	x (Reopening of the Comment Period)			x					
	77 FR 32075 (5/31/12)	x (Reopening of the Comment Period)				draft May 2, 2012			x	
<b>Southwest Alaska DPS of Northern Sea Otter</b>	74 FR 51988 (10/8/09)		x			May 2009			x	x
<b>Southwestern Willow Flycatcher</b>	76 FR 50542 (8/15/11)	x			x					
	77 FR 41147 (7/12/12)	x (Reopening of the Comment Period)				draft June 2012			x	
	75 FR 66482 (10/28/10)	x			x					

<b>Spikedace</b>	76 FR 61330 (10/4/11)	x (Reopening of the Comment Period)				draft July 6, 2011			x		
	77 FR 10810 (2/23/12)		x			x	<i>report not available on www.regulations.gov</i>				x
<b>Spreading Navarretia</b>	74 FR 27588 (6/10/09)	x			x			x			
	75 FR 19575 (4/15/10)	x (Reopening of the Comment Period)				x	<i>report not available on www.regulations.gov</i>				
	75 FR 62192 (10/7/10)		x			x	<i>report not available on www.regulations.gov</i>				x
<b>Squaw Park Talussnail</b>	74 FR 66866 (12/16/09)	<i>(Notice of partial 90-day finding on petition to list and designate CH)</i>		x							
<b>Stonefly</b>	74 FR 66866 (12/16/09)	<i>(Notice of partial 90-day finding on petition to list and designate CH)</i>		x							
<b>Tamaulipan Agapema</b>	74 FR 66866 (12/16/09)	<i>(Notice of partial 90-day finding on petition to list and designate CH)</i>		x							
<b>Texas Fatmucket Mussel</b>	74 FR 66261 (12/15/09)	<i>(Notice of 90-day finding on petition to list and designate CH)</i>		x							
	74 FR 66261 (12/15/09)	<i>(Notice of 90-day finding on petition to list and designate CH)</i>		x							

<b>Texas Heelsplitter Mussel</b>	74 FR 66261 (12/15/09)	<i>(Notice of 90-day finding on petition to list and designate CH)</i>		x								
<b>Texas Pimpleback Mussel</b>	74 FR 66261 (12/15/09)	<i>(Notice of 90-day finding on petition to list and designate CH)</i>		x								
<b>Texas Salamander</b>	74 FR 66866 (12/16/09)	<i>(Notice of partial 90-day finding on petition to list and designate CH)</i>		x								
<b>Texas Troglobitic Water Slater</b>	74 FR 66866 (12/16/09)	<i>(Notice of partial 90-day finding on petition to list and designate CH)</i>		x								
<b>Tharp's Blue-star</b>	74 FR 66866 (12/16/09)	<i>(Notice of partial 90-day finding on petition to list and designate CH)</i>		x								
<b>Thread-Leaved Brodiaea</b>	74 FR 64930 (12/8/09)	x			x							
	75 FR 42054 (7/20/10)	x (Reopening of the Comment Period)				x	<i>report not available on www.regulations.gov</i>					
	76 FR 6848 (2/8/11)		x			x	<i>report not available on www.regulations.gov</i>					
<b>Three Forks Springsnail</b>	76 FR 71300 (11/17/11)	x (Reopening of the Comment Period)				draft	<i>report not available on www.regulations.gov</i>					
						final March 9, 2012			x			

<b>Tidewater Goby</b>	76 FR 64996 (10/19/11)	x			x						
	77 FR 43222 (7/24/12)	x (Reopening of the Comment Period)				draft July 12, 2012			x		
<b>Toothless Blindcat</b>	74 FR 66866 (12/16/09)	<i>(Notice of partial 90-day finding on petition to list and designate CH)</i>		x							
<b>Triangle Pigtoe Clam</b>	74 FR 66866 (12/16/09)	<i>(Notice of partial 90-day finding on petition to list and designate CH)</i>		x							
<b>Tumbling Creek Cavesnail</b>	75 FR 35752 (6/23/10)	x			x						
	76 FR 2076 (1/12/11)	x (Reopening of the Comment Period)				draft	<i>report not available on www.regulations.gov</i>				
	76 FR 37663 (6/28/11)		x			March 15, 2011			x		x
<b>Umtanum Desert Buckwheat</b>	77 FR 28704 (5/15/12)	x				February 2012		x			
<b>U.S. DPS of Smalltooth Sawfish</b>	74 FR 45353 (9/2/09)		x			October 2008	x				x
<b>Verde Rim Springsnail</b>	74 FR 66866 (12/16/09)	<i>(Notice of partial 90-day finding on petition to list and designate CH)</i>		x							
	74 FR 63366 (12/03/09)	x			x						

<b>Vermilion Darter</b>	75 FR 37350 (6/29/10)	x (Reopening of the Comment Period)				x	<i>report not available on www.regulations.gov</i>				
	75 FR 75913 (12/7/10)		x			x	<i>report not available on www.regulations.gov</i>				x
<b>Vernal Pool Fairy Shrimp and Vernal Pool Tadpole Shrimp</b>	76 FR 7528 (2/10/11)	<i>(Notice of 90-day finding on a petition to revise CH)</i>		x							
<b>Western Snowy Plover</b>	77 FR 36728 (6/19/12)		x			x	<i>report not available on www.regulations.gov</i>				x
<b>Wet Canyon Talussnail</b>	74 FR 66866 (12/16/09)	<i>(Notice of partial 90-day finding on petition to list and designate CH)</i>		x							
<b>White Bluffs Bladderpod</b>	77 FR 28704 (5/15/12)	x				February 2012		x			
<b>White Sands Pupfish</b>	74 FR 66866 (12/16/09)	<i>(Notice of partial 90-day finding on petition to list and designate CH)</i>		x							
<b>Widemouth Blindcat</b>	74 FR 66866 (12/16/09)	<i>(Notice of partial 90-day finding on petition to list and designate CH)</i>		x							
<b>Willow Monardella (<i>Monardella linoides</i> <i>ssp. viminea</i>)</b>	76 FR 33880 (6/9/11)	x			x						
	76 FR 59990 (9/28/11)	x (Reopening of the Comment Period)				draft August 25, 2011			x		
	77 FR 13394 (3/6/12)		x			x	<i>report not available on www.regulations.gov</i>				x

<b>Wintering Population of Piping Plover</b>	74 FR 23476 (5/19/09)		x			November 2008			x		x
<b>Yellowcheek Darter</b>	76 FR 63360 (10/12/11)	x			x						
<b>Yellowcheek Darter</b>	77 FR 30988 (5/24/12)	x (Reopening of the Comment Period)				May 2012			x		