National Audubon Society * Natural Resources Defense Council * Sierra Club

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Division of Policy and Directives Management
U.S. Fish and Wildlife Service
4401 N. Fairfax Drive
MS 2042–PDM,
Arlington, VA 22203

Re: Eagle Management and Permitting (Docket No. FWS–R9–MB–2011–0094)

Submitted electronically at: http://www.regulations.gov

On behalf of the National Audubon Society, Natural Resources Defense Council and Sierra Club, and our millions of members and supporters, please accept and fully consider these comments regarding the U.S. Fish and Wildlife Service's (Service) Eagle Management and Permitting under the Bald and Golden Eagle Protection Act (BGEPA), Docket No. FWS–R9–MB–2011–0094. We appreciate the opportunity to comment on this docket and the important issues it raises concerning bald and golden eagle conservation.

For many years, our organizations have been deeply engaged in efforts to protect the publicly-owned resources under the jurisdiction of the Department of the Interior and plants and animals, such as bald and golden eagles, protected by federal law. Our groups also have a strong history of coming together to provide joint comments on eagle conservation concerns, particularly with respect to renewable energy development. While recognizing that the issues presented in this docket are much broader than eagle conservation concerns as related to renewable energy development, our engagement in that issue has helped highlight many concerns that are fundamental to effective eagle permitting and management overall.

Unfortunately, most of our previous recommendations continue to remain noticeably absent from the current eagle permitting program. Rather than restate the issues explored in prior comments, we are incorporating by reference our joint comments on: the Draft Eagle Conservation Plan Guidance, the proposed revisions and changes in the regulations governing eagle permitting, wind energy in the Desert Renewable Energy Conservation Plan (DRECP), and the Draft Environmental Assessment (DEA) and programmatic eagle take permit application for the Shiloh IV Wind Project.[1]

From the outset, we must reiterate the urgent need for a more comprehensive, conservation-driven and fully transparent approach to eagle permitting—this includes meaningful analysis and management beyond a project-specific or local population scale, as well as guaranteed opportunities for the public to understand and engage on monitoring, mitigation and adaptive

[1] Audubon, et al., Joint Comments on the Draft Eagle Conservation Plan Guidance (May 19, 2011); Audubon, et al., Joint Comments on Advance Notice of Proposed Rulemaking, Docket No. FWS-R9-MB-2011-0094 (July 12, 2012); Defenders of Wildlife, et al., Joint Recommendations on Wind Energy Development in DRECP (August 24, 2012); Audubon California, et al., Joint Comments on the eagle permit application for the Shiloh IV Wind Project (November 29, 2013).

management prescriptions throughout the full duration of any permit. The Service must safeguard against what are potentially unmitigable impacts, especially in the face of noted scientific uncertainty and significant potential for long-lasting impacts. Our concerns and recommendations continue to center on the need for a legally sound and scientifically credible framework for authorizing take of eagles as well as ensuring the enduring preservation of both species. One of the best strategies for conserving eagles will be to incentivize the siting of development projects and other impacts away from areas where they have the highest risks for eagles and towards areas with the least potential for impacts, *before* any such impacts occur.

We believe the following issues are fundamental to a successful permitting program and they can be summarized as:

- Clearly articulate and prioritize the overarching goal of conserving eagle populations throughout all decision documents, permit issuances and analyses.
- Follow-through on the commitments of the 2009 rulemaking and explain all proposed deviations, including how such changes will better promote the conservation of eagles.
- Establish an overarching national eagle conservation management plan with corresponding regional management plans to guide implementation of BGEPA.
- Create a process that guarantees full transparency and other safeguards for effective oversight, including:
    - Making all data and reports publicly available when received;
    - Integrating new science as soon as available;
    - Establishing standardized monitoring protocols and independent third-party verification of monitoring data; and
    - Keeping the public appraised of the status of experimental measures and adaptive management prescriptions.
- With respect to the management objectives implemented under BGEPA:
    - Clarify the use and definitions of take caps and thresholds, including examples;
    - Address the issues of disturbance and conserving eagle habitat—at least in part, by ensuring that eagle-use areas are avoided with appropriate buffers and setting goals for conserving eagle habitat and important use areas;
    - Emphasize and incentivize avoidance in conservation plans and institute the full mitigation hierarchy prior to requiring compensatory mitigation;
    - Distinguish between compensatory mitigation required for take exceeding thresholds and caps, and take below them;
    - Adopt a conservative approach in light of uncertainty and prioritize meeting management objectives to ensure the preservation of the species;
    - Establish explicit numerical quantitative population objectives based on the best available science to guide the conservation strategy at the appropriate scale and identify corresponding take thresholds and caps, incorporating an explicit level of risk tied to uncertainty.
- Regarding permit conditions and duration:
    - Maintain the “unavoidable take” standard;
    - Immediately establish a process for Advanced Conservation Practices (ACP) approval and implementation, including a transparent mechanism for selecting and assessing ACP effectiveness in minimizing eagle take and providing for a diversity of options;
    - Institute a full suite of conservation safeguards—including conservation plans for both species with regional population assessments and management parameters, a robust

menu of ACPs and compensatory mitigation options, a clear "net benefit" standard, and a transparent adaptive management process and criteria for modifying permit requirements—*before* considering permit durations beyond five years;
    - Ensure that low-risk permits will not be coupled with thirty-year and other longer-term permit durations, and guarantee that such permits, when issued over shorter time horizons, will be defined within the context of cumulative risk to local and regional eagle populations, as well as within the context of projected disturbance and habitat modification;
    - Consider the use and issuance of true programmatic approaches to planning that examine mitigation measures within the context of a local area population, or other regional characteristic, thereby adding population-scale data collection, analyses and mitigation efforts to the site-specific analysis that must occur for each individual take authorization.
- With respect to compensatory mitigation:
    - Institute higher standards of avoidance and mandatory mitigation for: Eagle Management Units (EMUs) not able to sustain take, important eagle use areas, Important Bird Areas (IBAs) and other special protection areas, eagle migration corridors, and areas of high value habitat—particularly areas known for eagle use for foraging, nesting or concentrated migration activity;
    - Carefully prioritize investment in mitigation options to provide for the greatest conservation benefit to the species, utilizing effective and measurable measures that provide tangible benefits to the affected species;
    - Immediately identify and test for additional compensatory mitigation measures—including consideration of permanent conservation of important eagle use areas;
    - Ensure that mitigation equivalency calculations take into account the level of eagle usage, both at the project site and at the mitigation site, and credit appropriately;
    - Provide for durable mitigation, especially when considering habitat enhancement or conservation, and plans for effectiveness monitoring throughout the life of the permit.
- Maintain the current standards for limited nest removal in cases of emergency situations and with respect to the "net benefit" requirement for removal of inactive nests, including further clarifications and a clear definition of what constitutes a "net benefit."

I. Conservation of Eagles is the Highest Priority

In 1940, confronted with the potential extinction of our national symbol, Congress acted to avert this threat and singled out preservation of the bald eagle as a "ward of the National Government" by enacting the Eagle Act.[2] In 1962, Congress extended the protections of the Eagle Act to golden eagles, both because the golden eagle population was in decline and to afford greater protection for the bald eagle.[3] It is against this backdrop, of a singular statutory purpose to conserve eagles, that we must examine any actions or authorizations that affect these iconic, culturally and biologically significant species.

[2] H.R. Rep. No. 2104, 76th Cong., 3d Sess. 1 (1940).
[3] Pub. L. No. 87-884, 76 Stat. 1246.

The Service is bound by the preservation standard set forth in BGEPA,[4] which currently endeavors to achieve and maintain stable or increasing breeding populations of bald and golden eagles. The preservation standard is the essential thrust of BGEPA, and in considering any changes to its interpretation or definition we would like to highlight the necessity of meeting this statutory mandate to preserve eagle populations. In previous comments, we have suggested that the Service also recognize the significance of juveniles, sub-adults and floaters in determining overall population status and trends in any interpretation of the preservation standard.[5] At this date, we would like to add that the uncertain but potentially large impacts of climate change[6] only increase the need for a strong preservation standard for these birds.

Our recommendations are made with a goal of addressing our most immediate conservation concerns and creating a means to move forward despite serious data gaps and uncertainty. The overarching purpose and frame for these actions, however, must not be lost. **Conserving eagles is the top priority and a necessary prerequisite for any authorization under BGEPA and absent this outcome, any "take" authorization is inappropriate.** This overarching goal of conserving eagle populations must be clearly articulated and prioritized throughout all decision documents, permit issuances and analyses.

Consideration of the 2009 Rulemaking

We very much appreciate the Service's efforts to reexamine and invite public comment on the eagle permitting program, as there are many areas of the eagle permitting program that need modification and have yet to be tested. It is also important to note, though, that the 2009 rulemaking[7] instituting the current eagle permitting program put in place key conservation targets, analyses and a framework that should not merely be set aside.

The 2009 rulemaking clearly delineated the overarching purpose of the eagle permitting program, which is to ensure the preservation of bald and golden eagles and conserve the species above all else. While that rulemaking may not have fully envisioned the issues presented today, it clearly set forth a framework centered on regional population status and a precautionary approach in the face of uncertainty, among other things. **Any proposed deviation from the 2009 rulemaking must be fully analyzed and explained, including articulation of how such a change will better promote the conservation of eagles.**

Any Environmental Assessment (EA) or Environmental Impact Statement (EIS) created in conjunction with the current rulemaking—and considering the breadth and significance of issues included, we recommend that an EIS be completed—must further include the commitments for future analyses set forth by the previous rulemaking, such as updated golden eagle population information, risk tolerances, and cumulative sources of take. If the Service cannot fulfill these obligations, it must be clearly

[4] 16 U.S.C. § 668a. In compliance with the preservation standard, unless permitted, BGEPA prohibits the "take" of any eagle—part, nest, or egg thereof—where "take" also includes to pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb. 16 U.S.C. § 668c.

[5] Audubon, et al., Joint Comments on Advance Notice of Proposed Rulemaking, p. 4.

[6] Audubon, *Birds and Climate Change Report* (September 2014), available at: http://climate.audubon.org/birds/baleag/bald-eagle.

[7] Final Rule, Eagle Permits; Take Necessary to Protect Interest in Particular Localities, 74 Fed. Reg. 46836 (September 11, 2009); Final Environmental Assessment, Proposal to Permit Take as Provided Under the Bald and Golden Eagle Protection Act (April 2009); Finding of No Significant Impact, Eagle Permits; Take Necessary to Protect Interest in Particular Localities (May 19, 2009).

articulated how and when the Service will fulfill these commitments or why the issue has been deemed irrelevant and therefore will not be completed. Such analyses will be integral to understanding how and why any additional changes should be made to the eagle permitting program.

II. Conservation Framework

First and foremost, we repeat our prior comments:

> **"There is an urgent need for an overarching national eagle conservation management plan with corresponding regional management plans to guide implementation of the Draft Eagle Conservation Plan Guidance and the Eagle rule. The lack of clarity in the absence of this guiding framework impedes all stages of site assessment and mitigation planning."[8]**
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> **"Science tells us that eagle populations must be managed on very large scales. In order for the Service to execute its duties with respect to eagle population health, management decisions will need to be placed within a regional population context much larger than the area immediately surrounding any proposed wind energy (or other) facility. To effectuate this, the Service should develop science-based regional conservation plans for each species. As part of this, area-specific risk assessment information should be used to establish development risk zones, paralleling the risk categories described in the guidance, but assessing landscape-level conditions. This would be a logical extension of the risk categorization framework delineated in the Guidance and would create a management tool more consistent with the population-level obligations imposed by the Eagle Act."[9]**

Unfortunately, the continued lack of an overarching conservation-driven framework to guide the eagle permitting program impedes our ability, as well as the Service's, to fully address many of the specific management questions that the Service is asking in this rulemaking. **We urge the Service to immediately define and set forth a strategy and timeline for instituting a conservation-driven framework for eagles and filling requisite data gaps**—this will be the only way the Service can issue permits while assuring the preservation of the species. A conservation-driven framework would include incorporating updated baseline population information, analyzing cumulative threats and supplying conservation goals and objectives for managing bald and golden eagle populations, fundamental elements to ensure the conservation of any species.

We suggest that the Service look to the successful recovery of the Bald Eagle under the Endangered Species Act (ESA) to mirror a conservation-driven process and how a conservation plan framework with delineated goals and objectives, can help achieve and dictate conservation gains for a species. The Service should articulate and analyze how an eagle permit framework could incorporate effective elements of ESA recovery efforts, especially regarding how to most effectively: set up and manage a framework to ensure successful conservation outcomes, meet standards of a federal statute, identify "best practices" for permitting and integrate technical advice and new information. Acknowledging significant differences in the statutory mandates, we do believe that it could be helpful for the Service to examine effective conservation-based corollaries between the statutes and particularly previous management of bald eagles under the ESA.

[8] Audubon, et al., Joint Comments on Advance Notice of Proposed Rulemaking, p.2.
[9] Audubon, et al., Joint Comments on the Draft Eagle Conservation Plan Guidance, p. 3.

The 2009 FEA Sets up a Conservation Plan Framework.

Setting-up a conservation plan framework would furthermore easily flow from commitments that the Service is already required to follow-through on from the 2009 FEA and Finding of No Significant Impact (FONSI), which called out key elements of conservation planning under BGEPA that would need to be updated and assessed to manage eagle populations. If the Service is not following through on these commitments in this rulemaking then we urge the agency to clearly explain why this analysis is no longer warranted and how it plans to ensure the preservation of eagles in the absence of an overarching conservation plan framework.

The 2009 FEA states:

> The Service will assess, at least every five years, overall population trends along with annual report data from permittees and other information to assess how likely future activities are to result in the loss of one or more eagles, a decrease in productivity of bald or golden eagles, and/or the permanent loss of a nest site, communal roost site, or important foraging area. The Service will also assess how such outcomes will likely affect population trends, taking into consideration the cumulative effects of other activities that take eagles and eagle mortalities due to other factors. In addition, the assessment will incorporate estimates of illegal purposeful take of eagles from persecution or trafficking as well as unauthorized non-purposeful take, both of which LE will continue to investigate. This periodic assessment will provide additional information for: (1) establishing permit thresholds; (2) determining the efficacy and applicability of mitigation; (3) confirming or modifying permit information and issuance criteria; (4) confirming or modifying the recommendations provided in the Guidelines.[10]

The current rulemaking should take this opportunity to provide up-to-date information with respect to each of these key elements in its environmental analysis. This analysis must address the differences between the two species in terms of their natural history, habitat requirements and behavior, and address how the management units, risk models and mitigation measures planned for each reflect the conservation requirements of that species. We suggest that the Service also assess unauthorized and unpermitted take from wind projects regionally, and from all other threats to eagles.

Transparency, Monitoring and Reporting Requirements and Adaptive Management

Similarly, at the heart of an effective eagle permitting program will be a firm commitment to transparency, standardized monitoring and reporting requirements and adaptive management prescriptions that provide for robust public engagement. Golden and bald eagles, other avian species and wildlife, in general, belong to the public trust and the public has an important role to play in the preservation of both species. **We recommend that the Service provide upfront and detailed measures in the permitting process that assure a fully transparent process, including making all data and reported information available to the public as soon as it is available, as well as integrating new science in real-time and keeping the public appraised of the integration of new information and status of authorized and unauthorized impacts.**

[10] Final Environmental Assessment, Proposal to Permit Take as Provided Under the Bald and Golden Eagle Protection Act, p. 32.

Impacts to wildlife should be documented and reported in the most accurate, honest and transparent manner to agencies and the public. Given the paucity of data about eagles, it is in the public's best interest to ensure that all the data is collected correctly and reported accurately. This information should be used to inform future permitting decisions and to modify prior ones. The Service has an opportunity in this rulemaking to establish a standardized system whereby accurate information is reported directly to the agency and the public. We are currently faced with situations where biological consultants collect data, monitor facilities and report directly to permit holders, which can lead to situations where the full suite of data is deemed proprietary information and not reported to agencies nor shared with the public. We have found this to be the case with some of the eagle take permit applications filed this year and it has impeded our ability to meaningfully comment on the permit application.[11] **The Service should establish a system whereby standardized monitoring protocols are set-up and monitoring is conducted by independent third party of qualified observers. Permit terms should also require the full submission of any raw data collected on-site.**

Regional management requires sound monitoring and reporting. It bears mention that it will not be feasible to implement the science-driven eagle management framework that is needed absent compliance with a standardized set of pre- and post-construction monitoring protocols. Specification of protocols does not guarantee their proper usage, as noted by one state wildlife agency: "Inconsistencies in data collection … have resulted in difficulties interpreting results and comparing the results among sites" as well as rejection of as much as a full year's observations for a particular site.[12] Clearly, these types of site-specific data problems interfere with compilation of data across a population's range, and would thus impede assessment of population-level effects. It cannot be overstated that the effectiveness of the Service's eagle management is dependent upon complete, consistent, and timely reporting from permittees.

The continued lack of baseline population data and predicted mortality estimates, particularly with respect to golden eagles, as well as the overall infancy of avoidance, minimization, and mitigation practices—and the Service's reluctance to utilize many of these practices—precludes our ability to predict with confidence the true outcome of permitting decisions. Programmatic take, in particular, is inherently uncertain and long-lasting, and the Service has few tools to accurately predict the amount, location and timeframe of take over the life of a programmatic permit. This extreme uncertainty places even more weight on the importance of a transparent process and effective adaptive management prescriptions—we must be able to understand what is happening in real-time and revise accordingly. **The public has an extremely important role to play, in working together to find solutions to data gaps, identify high-priority research needs, provide input as situations change and balance the need to authorize actions while preserving eagle populations, and this cannot happen if the public kept in the dark as new information becomes available.**

We agree with the Service's assessment that an adaptive management regime can and should be enacted to help reduce uncertainty, improve the ability to predict outcomes over time, and make future

[11] Audubon and NRDC, Preparation of an Environmental Assessment in Consideration of Issuance of a Bald Eagle Programmatic Take Permit and Implementation of the Associated Eagle Conservation Plan for the Great Bay Wind Energy Project, Somerset County, Maryland, Docket No. FWS–R5–ES–2013–0132-0001 (February 3, 2014), p. 2-3.
[12] John Traucher, Tracey Librandi Mumma, William Capouillez, *Pennsylvania Game Commission Wind Energy Voluntary Cooperation Agreement, Third summary Report* (December 27, 2012), p. 7, 11, and 19.

management actions more effective based on past learning where impacts are uncertain. However, we must also caution that use of experimental measures must be carefully monitored, updated and revised in real-time, as soon as the best science dictates, and incorporation of these measures into individual permit terms should not solely rely on the timeline of the proposed five-year reviews.

We recommend that the Service clearly outline a transparent public process for how to ensure that experimental measures transition to approved or unapproved measures, and how this will be collectively incorporated into ongoing permit terms as soon as available. Similarly, the use of clearly delineated triggers for additional action or examination will be extremely important in an effective adaptive management regime, and we suggest that the Service ensures that information is made available to the public when such trigger-points are reached for individual projects, as well as cumulatively on a population scale.

III. Management Objectives

In this rulemaking, the Service requests information on the management objectives implemented under BGEPA, which will direct the strategic management and monitoring of eagle populations and, ultimately, determine the amount of permitted eagle take that can be allowed. As an initial matter, the Service should clarify its policy on take thresholds and caps within the framework of conservation of regional populations of eagles.

The Service's current interpretation and implementation of take caps and thresholds are extremely confusing, and we recommend that clear definitions and examples be highlighted in the EA or EIS. For example, in the case of the recently permitted Shiloh IV wind project, the eagle permit was approved despite an estimated 12% local area population take, far exceeding the Service's identified 5% sustainable harvest rate which was assumed to be a take cap for the local area population.[13] If local area population upper limits are set in order to manage cumulative impacts and avoid population sinks then how does the Service plan on implementing these upper limits, if they are not considered take caps? Likewise, if take thresholds or caps do not determine whether a permit can be issued—as the Service's recent interpretation states that replacement mitigation may only be required when a take threshold is exceeded—how are we ensuring that upper-bound regional population objectives are not being meaningfully impaired?

Under current practice, it is possible to imagine a situation in which multiple Shiloh projects come forward, with alarming implications for regional eagle populations. If several such projects are permitted under a management regime that allows for take above sustainable levels for the regional population, the affected population would very soon not be a viable population. **The Service must specify how its use of take caps would be constrained to limit population-level take to sustainable levels and in compliance with the requirements of BGEPA.**

We also suggest that the Service has an interest in conservation planning and population analysis as a framework for clarifying how the Service sets thresholds and caps, and we would like to underscore the promise of the 2009 FEA:

[13] Audubon California, et al., Joint Comments on the eagle permit application for the Shiloh IV Wind Project.

> If data confirm populations at either national or regional scales are declining, depending on the source and severity of the decline, the Service will either establish lower take permit thresholds where appropriate or suspend permitting until data confirm the populations can support take. Conversely, if a population at one or the other scale is increasing, the Service may set take thresholds at a higher level. If we have inadequate data to run our modeling and no other means of assessing the status of the population where the take will occur, we may not be able to determine that the take is compatible with the preservation of the species, and if we determine that take is not compatible, we will not authorize it.[14]

Disturbance and Conservation of Eagle Habitat

An area that has received little attention, but should be squarely addressed in the management objectives is the issue of disturbance, especially in programmatic permit issuance, and conserving eagle habitat. **We suggest that important eagle-use areas be avoided with appropriate buffers, and that conservation of these areas and surrounding habitat should be a goal of the permit program.**

The 2009 FEA states:

> "The definition of 'important eagle-use area' is 'an eagle nest, foraging area, or communal roost site that eagles rely on for breeding, sheltering, or feeding, and the landscape features surrounding such nest, foraging area, or roost site that are essential for the continued viability of the site for breeding, feeding, or sheltering eagles."[15]

The Service should state clearly how a permit and the compensatory mitigation—if the risk cannot be avoided and minimized—will be used to conserve this essential habitat and the criteria for how it determines whether an "eagle-use area" is important or not. The Service should also clarify what role this habitat plays in assessing risk, developing avoidance and minimization measures, and in calculating compensatory mitigation for permanent conservation and management of habitat of equivalent "eagle-use area" characteristics, including buffers for human and development disturbance, to meet the regulatory standard of "no net loss" or "stable or increasing populations of eagles." The current permit process only recognizes eagle nests within limited wind energy project boundaries as habitat for eagles, and does not recognize foraging area, communal roost site or breeding, sheltering, or [habitat for] feeding, and the landscape features surrounding such a nest, foraging area or roost site that are essential for the continued viability of the site for breeding, feeding, or sheltering eagles.

As a reminder the Service should emphasize and incentivize avoidance in conservation plans, as the most effective mitigation measure including abandoning a site if risk to eagles is high. The standard pyramid of priorities for mitigating impacts is first avoidance, then minimization and finally compensatory mitigation. Compensatory mitigation should be a last resort and only considered if avoidance and minimization measures have been actively pursued and are not effective.

[14] Final Environmental Assessment, Proposal to Permit Take as Provided Under the Bald and Golden Eagle Protection Act, p. 32.
[15] *Id.*, p. 20.

All Compensatory Mitigation Is Not Equal

The Service should also make a distinction between compensatory mitigation when take is under thresholds or caps and when thresholds or caps have been exceeded, and clearly define how the Service will manage these events when take or caps are reached or exceeded with a clear decision tree and stated consequences in order to incentivize projects to develop confidence in their data to avoid high compensatory mitigation. Compensatory mitigation should be a tool to incentivize operations to stay below take thresholds, and as such per-eagle compensatory mitigation should be increased as take thresholds are met, and the amount of mitigation appropriately sized. However, compensatory mitigation should not be the only tool to disincentivize siting and practices that lead to take, and there may be points where compensatory mitigation is no longer appropriate and other measures are necessary.

Adopt a Conservative Approach

Given current uncertainty, the Service should employ a conservative approach to ensure a legally defensible permitting program consistent with BGEPA's primary statutory goal of eagle conservation. The eagle scoping materials ask "[i]s it more important that the Service ensure eagle management objectives are met, or that activities that might impact eagles are not unnecessarily restricted?" As discussed above, the statutory language of BGEPA does not provide for balancing tests or considerations of economic feasibility as alluded to in this question. BGEPA only authorizes take in limited circumstances for otherwise legal activities and requires that such authorization must be compatible with the preservation of eagles regardless of any restrictions it may impose on the proposed project or activity. As such, BGEPA mandates that the permitting program contain sufficient safeguards against uncertain outcomes to ensure eagle preservation. Until the Service can better predict the impacts of permitted actions, it must proceed with extreme caution and a low risk tolerance when authorizing take. Moreover, meeting eagle management objectives that ensure preservation of the species must always be the highest priority given the statutory framework of BGEPA.

Establish Explicit Numerical Quantitative Objectives Based on the Best Available Science

We acknowledge that the Service needs a regulatory pathway to facilitate responsible development to address current uncertainty and refine risk through monitoring and research. This pathway exists through the adoption of a systematic regional conservation framework based on the best available science, that authorizes responsible take when warranted, precludes it when necessary to account for risk and uncertainties, and incorporates learning into management to improve permitting over time.

For this framework to be effective, the Service must establish explicit numerical population objectives to guide the conservation strategy at the appropriate scale and identify appropriate corresponding quantitative take thresholds and caps. Numeric population objectives are vital to guide consistent decision-making in a transparent fashion, providing more certainty for developers and allowing administrative efficiency. Numeric population objectives also provide a measurable basis for evaluating whether the BGEPA permitting program is achieving the preservation standard and building the foundation for an adaptive approach through standardized monitoring data and other research. Quantitative objectives provide benchmarks to evaluate whether mitigation decisions are effectively minimizing and offsetting to achieve eagle management objectives.

If population objectives are going to be effective, they must be:

- Consistent with the preservation standard;
- Applicable at a variety of spatial scales (e.g., local populations, EMUs, and potentially flyways);
- Developed through a standardized approach that is based on the best available science and incorporates the appropriate level of uncertainty and risk;
- Refined on a consistent basis based on monitoring and the status of trends for eagles;
- Developed within a collaborative, peer-reviewed process; and
- Representative of population parameters, such as sex or age ratios, genetic characteristics, etc.

We caution that the alternative qualitative approach proposed in the scoping materials "to not meaningfully impair the bald or golden eagles continued existence" is vague, ambiguous and subject to interpretation. The suggestion that extinction is a threshold is alarming and contradicts the regulatory standard of BGEPA. While qualitative objectives may provide a larger degree of flexibility, they often rely far too heavily on the judgment of individuals, often working in isolation and overwhelmed with permit reviews.[16] It is impossible to determine whether an individual project is consistent with the preservation standard absent an understanding of the full set of cumulative impacts likely to affect both the local and regional populations (e.g., wind facilities, residential development, drought, lead ammunition, climate change, etc.) examined against the backdrop of meaningful population goals and objectives. These threats often interact in complex ways and as such evaluating cumulative impacts on an ad-hoc project by project basis is nearly impossible and incredibly inefficient. Furthermore, qualitative objectives are susceptible to the "shifting baseline syndrome" where successive generations of wildlife managers rely on the baseline conditions at the start of their careers resulting in lower expectations with each new generation.[17]

Establish Take Thresholds and Caps that Incorporate an Explicit Level of Risk Tied to Uncertainty

Numerical population objectives alone are not sufficient to guide permitting decisions without appropriate take thresholds and caps for regional and local populations as described above. Take thresholds and caps for local and regional populations should be based on the amount of take that can be sustained to achieve or maintain the population objectives after accounting for an explicit level of risk tolerance relative to the uncertainty in population data. We acknowledge that this means that for golden eagles, there may be several EMUs with scarce baseline data, and in turn very low risk tolerances. While such low risk tolerances may result in very low take thresholds in certain areas in the short-term, this approach ensures eagle conservation while incentivizing and prioritizing strategic research and monitoring where there is significant population uncertainty to refine risk tolerances. Like population objectives, take thresholds and caps should be evaluated periodically and risk should be refined based on monitoring data and other research over time.

[16] Stanford, J.A. and G.C. Poole, *A protocol for ecosystem management*, Ecological Applications (1996), 6:741-744.
[17] Tear et. al, *How Much Is Enough? The Recurrent Problem of Setting Measurable Objectives in Conservation*, BioScience (2005), 55 (10): 835-849.

IV. Permit Conditions and Duration

Maintain Unavoidable Take Standard

The Service seeks clarification on whether the eagle permit regulations should revise the permit issuance criteria for programmatic permits—currently required to be "unavoidable take"—to parallel that described for standard permits, or consistent with "take that cannot practicably be avoided." In this case, the burden is placed squarely on the Service to demonstrate why this issue is problematic.[18] Without further illustration of a biological need it is our strong opinion that the issuance criteria should *not* be changed. Not only has a mechanism already been identified and defined to demonstrate when take is "unavoidable," i.e. ACPs, but the mere notion of on-going, sustained take that is allowed under a programmatic permit requires a heightened standard to demonstrate consistency with the preservation standard. We further agree that "applicants for both types of permits must take all practicable steps to avoid and minimize take"[19] and do not believe that this is inconsistent with the programmatic permit issuance criteria that take is "unavoidable."

While BGEPA expressly prohibits the take of bald and golden eagles, it does allow the Service to permit the otherwise unlawful take of eagles—in the form of mortality—in very *limited* circumstances. The stress on *limited* is an issue expressly acknowledged throughout the 2009 rulemaking as well as the reliance on "unavoidable" take for programmatic permits, and both are clearly articulated in the Description of the Rulemaking,

> We anticipate that permits issued under this regulation will usually authorize take that occurs in the form of disturbance; however, *in some limited cases*, a permit may authorize lethal take that results from but is not the purpose of an otherwise lawful activity. Programmatic take (take that is recurring and not in a specific, identifiable timeframe and/or location) will be authorized *only where it is unavoidable* despite implementation of comprehensive measures developed in cooperation with the FWS to reduce the take below current levels…This type of authorization can be extended to industries, such as electric utilities or transportation industries, that currently take eagles in the course of otherwise lawful activities but *who can work with the FWS to develop and implement additional, exceptionally comprehensive measures to reduce take* to the level where it is essentially unavoidable (*emphasis added*).[20]

Programmatic permits for lethal take undoubtedly envision a different type of impact on eagle populations, an effect that carries a much higher possibility of harm and uncertainty. Not only is the possibility of harm greater, but also the nature of the harm is quite different than that presented for standard permits. Rather than presenting discrete "one-time" take or a defined impact, as a standard permits does, programmatic permits by their very nature are "activities that may disturb or otherwise take eagles on an on-going operational basis" and "occurs over the long term and/or in a location or locations that cannot by specifically identified."[21] This is precisely the reason that the Service incorporated the use of ACPs, or "scientifically supportable measures approved by the Service that

[18] *See N.Y. Public Interest Research Group, Inc. v. Johnson*, 427 F.3d 172, 182-83 (2nd Cir. 2005) for a discussion on the requirement that an agency explain a change in position and its reasons for changing its policy.
[19] Final Rule, Eagle Permits; Take Necessary to Protect Interest in Particular Localities at 46838 .
[20] *Id.* at 46838.
[21] *Id.* at 46841.

represent the best available techniques to reduce eagle disturbance and ongoing mortalities to a level where remaining take is unavoidable," to ensure that programmatic permits would be compatible with the preservation of eagles.[22]

Continuing to allow only "unavoidable" take for programmatic permits—especially considering that there has not yet been any demonstration and documentation of successful implementation of such a process for issuing and administering a programmatic eagle take permit, or adoption of a full tool-box of avoidance or minimization measures—is entirely consistent with first taking all practicable measures to avoid and minimize take. Such a requirement is cornerstone to the well-accepted mitigation hierarchy, outlined in the Service's official mitigation policy as a tiered approach for first incorporating avoidance, then minimization measures and finally requiring compensatory mitigation for large-scale impacts with greater, unavoidable impacts.[23] We place extreme importance on continuing to incorporate sound, smart from the start planning and siting, which include avoidance measures and the best available minimization measures, prior to addressing the standard for and requirements stemming from the actual "take" of the species.

Process for ACP Approval and Implementation

There are very few Advanced Conservation Practices (ACPs) which are available to developers to minimize project impacts, because so few ACPS have been studied for effectiveness in minimizing eagle take; more work to quantify the effectiveness of new options is a clear necessity. **A coordinated and well-defined research program that explores potential innovations in ACPs should be instituted to examine, supplement, and prioritize a menu of validated, effective measures.**

Testing should include a diversity of options, including operational curtailments, automated curtailment technologies, deterrent technologies, adjustments in turbine siting, and prey management at the site. This should be undertaken in an expedited fashion, with no more than two years elapsing before a menu of approved ACPs is issued. Clearly successful experimental pilot programs, such as the radar detection with human confirmation and avoidance program, should be expedited in even less time. Annual reports filed by facility operators can be used to assess and validate ACP performance, and justify approvals. The testing of ACPs should use before-and-after control impact (BACI) studies to rigorously establish effectiveness. Standardization of data collection and reporting will be necessary, hence data protocols must be developed by the Service to ensure the results are used and useful.

The Service should articulate a process to assess and approve ACPs for eagle take minimization. In particular, the criteria for classifying ACPs as experimental and/or approved merit immediate action. The lack of approved ACPs is one of the most critical gaps in implementing the eagle take permitting program and the impediment here is not only the lack of identified measures, but the lack of a clear mechanism for how ACPs will be vetted and approved. The Service must articulate a mechanism for scientifically, transparently, and defensibly selecting approved ACPs; this crucial step should be prioritized for expeditious action.

[22] 50 C.F.R. § 22.3 (2011).
[23] U.S. Fish and Wildlife Service Manual (501 FW 2). *See also* 74 Fed. Reg. at 46852 and 46 Fed. Reg. 7656 (Feb. 24, 1993).

Permit Duration

The Service has not yet demonstrated the effectiveness of five-year take permitting in protecting eagle populations; as a result, a move toward longer permit durations is not scientifically supportable at this time. **Minimum conditions which need to be in place before permit durations can be defensibly extended include:**

- **Creations of conservation plans for both species with regional population assessments and management parameters**
- **A robust menu of both ACPs and compensatory mitigation options**
- **Sound equivalency calculations or a clear net benefit standard and calculus**
- **A clear adaptive management review process and criteria for modifying take permit requirements as necessary.**

None of these elements exist today, hence now is not the time to implement thirty-year take permits for eagles. Rather, the Service should be prioritizing the completion of these necessary steps upon which a sound conservation and permitting program can be founded, allocating the resources and setting the milestones for addressing these critical gaps. A thirty-year permitting horizon greatly increases management uncertainty; with this must come the safeguards that a strong, conservation-centric framework with proven methods for addressing adverse impacts would provide. By putting the cart before the horse and extending permit durations without the benefit of proper conservation frameworks, measures, and processes, the Service is increasing the risk of adverse impacts to bald and golden eagles.

Low-risk Permits

As an initial matter, we are opposed to "low risk" permits due to numerous inadequacies in the conservation framework and permitting process for eagle take. At a minimum, "low risk" permits should not be issued in combination with thirty-year permits, since it creates far too much risk that eagle take will be insufficiently managed and exacerbates the risk management issues for both species.

A potentially fatal flaw in the concept of "low risk" permits is the lack of reliable means to accurately predict risk at wind project sites. Inaccuracies in site risk assessment have been identified in both federal and state oversight processes. In California, the Pine Tree Wind Project and North Sky Wind Project, which predicted low mortality rates for Golden Eagles, are both under investigation by the Service for eagle take.[24] The degree of inaccuracy of the preconstruction data was significant, for example the Pine Tree Wind Project is under investigation for taking eight eagles in its first year and a half of operations. Although these are some of the most egregious examples, they are not the only cases of underestimated risk. In Pennsylvania, raptor risk classification based upon pre-construction data has been found to be in error, leading to site reclassification within five years.[25] While the frequency of misclassification was relatively low, the likelihood of underestimating raptor risk was twice

[24] U.S. Fish and Wildlife Service, Pacific Southwest Region, *Service Seek Information on Eagle Deaths at Tehachapi Range Wind Farms (March 11, 2013)*, available at: http://www.fws.gov/cno/press/release.cfm?rid=468.

[25] John Traucher, Tracey Librandi Mumma, William Capouillez, *Pennsylvania Game Commission Wind Energy Voluntary Cooperation Agreement, Third summary Report* (December 27, 2012). Note: the incidence of risk reclassification was 6% for raptors and 8% for bats. The likelihood that the reclassifications resulted in a higher risk class was 2:1 for raptors and 3:1 for bats.

as likely as overestimating risk, an outcome of significance to species management and impacts mitigation.

Current uncertainty precludes the Service from predicting, with certainty, the outcome of its permitting decisions, and in turn impedes accurately assigning risk to proposed actions. As such, until this uncertainty is resolved, it is inappropriate for the Service to redefine "low-risk" to "allow a slightly higher probability of taking eagles" as proposed. We would only be supportive of a "low risk" permit once ACPs are approved by the Service and developers begin using them as effective avoidance measures to make a project truly "low risk." Projects with "no risk" to eagles do not have to apply for a permit. **We would also urge the Service to consider defining low-risk projects in any risk assessment in a manner that looks beyond anticipated project take and considers the context of cumulative risk to local and regional eagle populations, as well as the projected disturbance and habitat modification.** And any "low-risk" project must continue to be subject to same transparency, standardized reporting and monitoring requirements and ACP implementation as other programmatic permits.

We suggest that the Service look towards the incorporation of true regional programmatic approaches, implemented within a local or regional conservation framework and providing for coordinated mitigation opportunities and analyses. As stated throughout our comments, the Service must acknowledge that eagle conservation actions should not be considered in isolation and should provide for the highest conservation value. As such, the Service should consider creating a programmatic framework that provides an opportunity for multiple permitees within an EMU or other geographic area to work collectively with each other, the Service and other stakeholders to provide a net conservation benefit for eagles. It is important to note, though, that any specific take authorization must continue to be based on sound site-specific information, review and analyses.

A true programmatic approach could provide permit efficiencies and streamlining for applicants while ensuring improved conservation outcomes through better siting, minimization and effective compensatory mitigation tailored to the region and species. This type of effort would be consistent with CEQ's draft programmatic NEPA guidance, which states that programmatic NEPA analyses "provide a more comprehensive picture of the consequences of possible actions" including cumulative impacts, and present an opportunity to further advance mitigation planning by incorporating "comprehensive mitigation planning and monitoring strategies into the process at broad or strategic rather than specific or site-by-site, level."[26]

V. Compensatory Mitigation

The Service has indicated that it wishes to "establish consistent standards for when compensatory mitigation would be required", further elaborating that the approaches under consideration include:

1. Require replacement mitigation for take that exceeds established take thresholds.
2. Require compensatory mitigation for all authorized take. There could be some scaled level of compensatory mitigation for every permit, with minimal restrictions on how the money could be spent so long as it was for eagle conservation.

[26] Council on Environmental Quality, *Draft Guidance on Effective Use of Programmatic National Environmental Policy Act Reviews* (August 2014), available at: http://www.whitehouse.gov/sites/default/files/docs/draft_effective_use_of_programmatic_nepa_reviews_august_2014.pdf.

3. Require compensatory mitigation under some predetermined circumstances for take that is within established thresholds but nevertheless may affect the long-term preservation of eagles.

In addressing this matter, we are first compelled to address those circumstances in which site avoidance and mitigation must always be assumed to be mandatory. These circumstances would include: EMUs in which the populations have been determined as not able to sustain take, important Eagle Use Areas as defined in the FEA, IBAs[27] and other special protection areas recognized for their importance to bald or golden eagles, eagle migration corridors, and areas of high value habitat, particularly areas known for eagle usage for foraging, nesting, or concentrated migration activity prior to the applicant's interest in developing a wind facility or other use. Reduced mitigation requirements should not be contemplated for project sites having these characteristics, and, in fact, higher standards of avoidance may be required.

The proposed language "with minimal restrictions on how the money could be spent so long as it was for eagle conservation" is inadequate to ensure that the Service's obligations to protect eagle populations will be met. Mitigation requirements must focus on measures that provide tangible benefits to the affected species, deploying mitigation options in a way that is effective and measurable. Furthermore, these mitigation requirements should complement and be additional to the mitigation activities of other parties. **Investments in mitigation options should be carefully prioritized to provide for the greatest conservation benefit for the affected species. We agree there is room for flexibility in compensatory mitigation, but instituting minimum *standards* for sound mitigation is not equivalent to proceeding with minimal *restrictions* on the selection of mitigation requirements or the use of mitigation funds.** We strongly suggest the Service change this language and instead more clearly articulate the type of mitigation flexibility it intends to wield.

Additional effective compensatory mitigation measures must be identified, and the scientific research to establish the effectiveness of compensatory mitigation measures is a widely recognized need. As we've stated on multiple occasions, the current suite of approved compensatory mitigation options only includes power-pole retrofits – this is an inappropriate and unsustainable long-term mitigation option. A number of factors will need to be addressed in assessing the performance of mitigation options, including differences between the species, consideration of demographics for both facility impacts and mitigation performance, differences between the site of the facility and the site where the mitigation measures are deployed and the influences these may have on effects, and the timing of compensatory impacts produced by the mitigation measures in relation to those effects produced by the facility.

In considering additional compensatory mitigation options, we offer the following considerations:

- We suggest that permanent conservation of "important eagle use areas" and other areas considered important for conservation of eagles could be considered as "landscape level" mitigation for "take' of eagles, and that the Service should set a ratio for this mitigation through scientifically defensible analysis and approve this ACP as soon as possible.

[27] IBAs are part of an international program to scientifically identify priority areas where threatened, restricted-range, biome-restricted and congregatory birds occur. These locations provide essential habitat to one or more species of birds during some portion of the year (nesting areas, crucial migration stop-over sites, or wintering grounds). For more information, see http://web4.audubon.org/bird/iba/.

- Mitigation equivalency calculations must take into account the level of eagle usage in the landscape both at the site of the turbines or other impact and at the site of the compensatory mitigation. Measures should be taken where they are likely to yield the greatest benefit; if this is infeasible, additional compensatory mitigation should be required. Compensatory measures installed in low eagle use areas should not be credited with the same degree of benefit as measures installed where the likely impacts will be higher.
- Mitigation in the form of habitat enhancement or conservation needs to be durable. The measures should have persistent benefits and the land upon which the measures are installed should be protected from land conversion that conflicts with eagle use. The mitigation research program must include plans to empirically document effectiveness through long-term monitoring to create the fund of data which can provide the needed assurances that required mitigation measures will reliably provide the degree of impacts determined to be necessary.

Lastly, we wish to reiterate some of the considerations which will help ensure that the mitigation approaches used in issuing eagle take permits result in good outcomes for the affected populations. Mitigation agreements associated with take permits must be flexible enough to provide for adaptive management and monitoring must be extensive and detailed enough to detect when changes in management are warranted. New information developed during the life of the permit must be integrated with the initial requirements. Post-construction fatality monitoring data must be used to adjust preconstruction assumptions and requirements. In addition to continued monitoring of eagle use and mortality during and after facility construction, effectiveness monitoring is also essential to evaluate and modify mitigation as needed.

VI. Nest Removal

Currently, the Service can issue permits to remove an active or inactive eagle nest under a limited number of circumstances. The present criterion for the removal of an active nest is for the resolution of a safety emergency. We recommend that under most circumstances this standard remain.

The Service asks whether permits should be available to remove nests with no eggs or young but which are attended by adults for purposes of breeding? **We suggest that a clear decision making process must be established which includes discreet criteria as to what constitutes an anticipated emergency situation.** Permits should be limited to cases where human health or safety is highly likely to be endangered if no action is taken, and there is high confidence that the nest does not contain eggs or young. This determination should be made in accordance with the Bald Eagle Monitoring Guidelines or Golden Eagle Inventory and Monitoring Protocols, as appropriate.

Further, permits should not be made available for removal or relocation of active nests, with eggs or unfledged young for purposes other than safety emergencies. This would set a dangerously lax standard for the removal of eagle nests, and would enable take of young and eggs, and the destruction of demonstrably productive eagle nests. Were such permits made available, they would be in conflict with the statutory mandate and preservation standard of BGEPA.

The Service has also requested comment on whether permits should be made available to remove inactive eagle nests without requiring applicants to provide a “net benefit” to eagles. The Service currently has appropriate criteria for the removal of inactive eagle nests, and those criteria should be maintained to include the requirement for a “net benefit” to eagles. However, the Service’s current use of the “net benefit” provision does not adequately define what constitutes a “net benefit” or at what

scale it is applied (local, regional, EMU). **"Net benefit" must be clearly defined and include sound biological justification for what constitutes a "net benefit" to a given eagle population or EMU.**

Permits should not be made available to include additional circumstances when there is no demonstrated "net benefit" to eagles. Inactive eagle nests are used by a variety of species for nesting, and can be re-occupied by eagles years after their last recorded active season. Maintaining the "net benefit" requirement, in addition to providing a clear definition of what constitutes a "net benefit" is important to maintaining the preservation standard of BGEPA.

Conclusion

We appreciate the opportunity to comment on the regulations governing take permits for bald and golden eagles and we urge the Service to fully consider these recommendations—particularly with respect to the need for conservation management plans, strong assurances of mitigation effectiveness and management oversight of the same, emphasis of avoidance and ACPs over compensatory options, and, above all, the need for a legally sound and scientifically credible, conservation-driven framework.

Our organizations are fully committed to working with the Service, industry, and other stakeholders to identify and incorporate a collaborative, legally sound and scientifically credible framework for addressing these important eagle conservation concerns.

Thank you for your consideration of these comments.

Sincerely,

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