



BILLING CODE: 4333-55

DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

[FWS-HQ-MB-2017-0092; 91200-FF09M20300-189-FXMB123109EAGLE]

Updated Collision Risk Model Priors for Estimating Eagle Fatalities at Wind Energy Facilities

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Notice of availability and request for comments.

SUMMARY: The U.S. Fish and Wildlife Service (Service) uses a collision risk model (CRM) to predict the number of golden and bald eagles that may be killed at new wind facilities. The model incorporates existing information on eagle exposure and collision probability in the form of prior distributions (priors). The Service has undertaken an analysis to update the priors using all available data that meet specific criteria for both species of eagle. This notice announces the availability of a summary report of that analysis, which generates new exposure and collision priors for both species of eagle. We are soliciting public comments on the summary report, which will be considered by the Service before using the new priors in the CRM.

DATES: To ensure consideration of written comments, they must be submitted on or before **[INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]**.

ADDRESSES: You may submit written comments by one of the following methods:

Electronically: Go to the Federal e-Rulemaking Portal: <http://www.regulations.gov>.

Search for FWS-HQ-MB-2017-0092, which is the docket number for this notice, and follow the directions for submitting comments.

By hard copy: Submit by U.S. mail or hand-delivery to Public Comments Processing, Attn: FWS-HQ-MB-2017-0092; Division of Policy, Performance, and Management Programs; U.S. Fish and Wildlife Service; MS: BPHC; 5275 Leesburg Pike, Falls Church, VA 22041–3803.

We will post all comments on <https://www.regulations.gov>. This generally means that we will post any personal information you provide us (see Request for Information below for more information).

We request that you send comments by only one of the methods described above. We will post all information received on <http://www.regulations.gov>. This generally means that we will post any personal information you provide us (see the **Public Availability of Comments** section below for more information).

FOR FURTHER INFORMATION CONTACT: Eliza Savage, at 703-358-2329 (telephone), or eliza_savage@fws.gov (email). Individuals who are hearing impaired or speech impaired may call the Federal Relay Service at 800-877-8337 for TTY assistance.

SUPPLEMENTARY INFORMATION:

Background

The U.S. Fish and Wildlife Service (Service) uses a collision risk model (CRM) to predict the number of golden and bald eagles that may be killed at new wind facilities (USFWS 2013; New et al. 2015). The CRM incorporates existing knowledge of eagle use around a proposed wind facility (exposure) and the probability of an eagle colliding with an operating turbine (collision probability). Essentially, the CRM uses three estimates to generate an annual eagle fatality estimate in the form of a probability distribution. These estimates are: (1) A project-specific estimate of eagle exposure; (2) a project-specific estimate of the amount of hazardous area and time that will be created by the project; and (3) an estimate of the probability that an exposed eagle that enters the hazardous area will be struck and injured or killed by a turbine blade. The median (50th quantile) fatality rate of the CRM-generated probability distribution is the point on the distribution at which there is an equal risk of under- and overestimating eagle fatalities. The Service uses the 80th quantile of the CRM fatality probability distribution to determine the take limit for incidental take permits, which lowers the risk of underestimating eagle take to a 20% chance.

In our 2016 revision to the eagle take regulations (81 FR 91494, Dec. 16, 2016), the Service reaffirmed both our intent to use the CRM to obtain initial estimates of eagle fatalities at new wind facilities, and that we would undertake a review of the background data used in the model to generate the estimates. The model is constructed using a Bayesian framework, and as such incorporates existing information on eagle exposure and collision probability in the form of prior distributions (priors). The priors are formally combined with site-specific data on exposure

and the amount of hazardous area and operational time for a site to estimate the expected number of annual eagle collision fatalities.

The current priors for the CRM use data for golden eagles from nine sites with complete survey effort information for exposure, and four sites for collision probability (New et al. 2015). There were no data available to estimate parameters specific to bald eagles when we initially developed the model, so the golden eagle priors were used as surrogates for bald eagles. Public comments on the 2016 eagle rule revision were critical of the Service's CRM because the priors for golden eagles had not been updated to include new information, and because priors have not been developed for bald eagles even though data on exposure and collision probability are now available for this species. In response to these comments, the Service committed to updating the golden eagle priors, and to explore whether sufficient data exist to develop separate bald eagle exposure and collision priors.

The Service has undertaken that analysis using all available data that meet specific criteria for both species of eagle. This notice announces the availability of a summary report of that analysis, which includes new exposure and collision priors for both species of eagle. The report may be downloaded from the Federal e-Rulemaking Portal: <http://www.regulations.gov>. Search for FWS-HQ-MB-2017-0092. You can also find the report on the Service's website at: <https://www.fws.gov/birds/management/managed-species/eagle-management.php>. The Service intends to incorporate these updated priors into our CRM after considering comments received in response to this notice; that update will be in the form of a revised version of Appendix D of the Eagle Conservation Plan Guidance (USFWS 2013).

For this update, the Service reviewed data sets for 419 wind energy facilities, but many did not meet our criteria for incorporation into the priors (see the summary report for criteria

used to filter projects). Data from 71 new and the nine original wind projects were used for the updated exposure priors. Of these 80 sites, 61 provided data for golden eagles and 59 for bald eagles. For the collision priors, 18 new sites in addition to the original four sites were identified as having data sufficient to include in the updated collision priors. We used data from 21 sites for golden eagles and 14 for bald eagles in the collision-prior update. The updated exposure prior is lower for both species than the prior currently in use. The updated collision prior is slightly lower than the current prior for golden eagles and higher for bald eagles.

Many of the commenters on the 2016 eagle rule revision encouraged the Service to develop a specific bald eagle prior because they believe collision risk for bald eagles is lower than for golden eagles. The data available to the Service suggest that there is more variation in both exposure and collision risk for bald eagles, and that uncertainty results in a higher expected collision probability for this species. The Service does not regard this outcome as counter-intuitive, because the range in abundance of bald eagles across the landscape is far greater than for golden eagles, and where bald eagles are abundant, they engage in social behaviors and intra-specific interactions that may make them more vulnerable than golden eagles to collisions (81 FR 91552). Thus, the implication that bald eagles are at high risk at a few wind facilities, while their risk is much lower at many others, is tenable. The Service acknowledges, however, that the bald eagle collision prior is based on data from relatively few sites that do not span the range of bald eagle density conditions that exist across the country, and therefore may not be representative of all locations. Given this, the Service is considering three alternatives for how to incorporate species-specific priors for bald eagles into the CRM and fatality modeling process:

- 1) Use the updated species-specific priors, and use the 80th quantile of the CRM fatality estimates as the initial permitted take number for permits, as is the current practice.

- 2) Use the updated species-specific priors, but because the status of bald eagles is secure, adopt a risk-tolerant policy for bald eagles and select a more liberal quantile on the CRM fatality distribution as the initial permitted take number for this species.
- 3) Given the limitations in data available to inform the bald eagle priors, initiate an expert elicitation process to further refine the bald eagle priors.

Under any of these scenarios, the Service would use data submitted under permits to make updates to the priors in the future.

Alternative 1 would mean that for a similar level of eagle use observed at a project site, the Service would use higher fatality estimates for bald eagles than for golden eagles. Alternative 2 would be a decision by the Service to be more ‘risk-tolerant’ for bald eagles. This would mean that initial fatality predictions would be lower, however it would also likely mean that more permits would have to be amended to increase the permitted take over time (i.e., the Service would be underestimating take more often). Alternative 3 would be a decision by the Service that more information is needed to understand the potential variability of exposure and collision probability for bald eagles. Such a process could result in either higher or lower (or more variable) priors. With this notice, we are soliciting input from the public on these three alternatives, and we will take those comments into consideration in making a final decision.

Many commenters on the draft 2016 rule urged the Service to adopt changes to the golden eagle CRM priors based on a recent peer-reviewed scientific article by Bay et al. (2016). Service staff coordinated with authors of the Bay et al. paper in development of this update, and all data used in the Bay et al. paper that were available to us and that met our criteria were incorporated. The Service decided not to incorporate the results of the Bay et al. paper directly, however, for two main reasons. First, the Service could access and utilize more data than were

used in the Bay et al. paper, and so our updated priors incorporate more recent information from a wider range of projects and sites than were used by Bay et al. Second, the Bay et al. analysis used a fatality estimator that did not account for the possibility of undetected eagle deaths during mortality monitoring when no dead eagles were found. The Service uses models in our update that account for imperfect detection when dead eagles are not encountered during monitoring, because there is ample evidence that finding no dead eagles does not mean there were no eagle fatalities. Thus, although the Service's updated collision probability for golden eagles is higher than that reported by Bay et al., our approach is more accurate and consistent with our risk-averse policy with respect to estimating and managing eagle take.

Public Availability of Comments

Written comments we receive become part of the public record associated with this action. Before including your address, phone number, email address, or other personal identifying information in your comment, you should be aware that the entire comment—including your personal identifying information—may be made publicly available at any time. While you can ask us in your comment to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so. All submissions from organizations or businesses, and from individuals identifying themselves as representatives or officials of organizations or businesses, will be made available for public disclosure in their entirety.

Literature Cited

Bay, K., Nasman, K., Erickson, W., Taylor, K., Kosciuch, K. (2016). Predicting Eagle Fatalities at Wind Facilities, *Journal of Wildlife Management* 80:1000-1010.

New, L., Bjerre, E., Millsap, B., Otto, M.C., Runge, M.C. (2015). A Collision Risk Model to Predict Avian Fatalities at Wind Facilities: An Example Using Golden Eagles, *Aquila chrysaetos*, *PLOS ONE*, [journal.pone.0130978](https://doi.org/10.1371/journal.pone.0130978).

U.S. Fish and Wildlife Service. 2013. Eagle conservation plan guidance. Module 1—land-based wind energy. Version 2. Division of Migratory Bird Management, Washington, DC.
URL <http://www.fws.gov/migratorybirds/pdf/management/eagleconservationplanguidance.pdf>.

Dated: April 6, 2018.

Susan Combs,

Senior Advisor to the Secretary,

Exercising the Authority of the Assistant Secretary

for Fish and Wildlife and Parks.

[FR Doc. 2018-13358 Filed: 6/20/2018 8:45 am; Publication Date: 6/21/2018]