



Bringing back the birds

14 January 2019

Katherine B. Hollar,
Acting Deputy Regional Director, Pacific Region, U.S. Fish and Wildlife Service

RE: <http://www.regulations.gov> Docket No. FWS–R1–ES–2018–0095; Draft Environmental Impact Statement ([DEIS](#)) and Draft Habitat Conservation Plan ([DHCP](#), with [appendices](#)); Receipt of an Application for an Incidental Take Permit (ITP) for Marbled Murrelets, Bald Eagles, and Golden Eagles; Skookumchuck Wind Energy Project, Lewis and Thurston Counties, Washington

Dear Ms. Hollar,

We are writing to express our concerns regarding the proposed Skookumchuck wind energy project, DEIS, DCHP, and the project's potential impact on birds, particularly the federally Threatened Marbled Murrelet. American Bird Conservancy (ABC) is a 501(c)(3), non-profit membership organization whose mission is to conserve native birds and their habitats, working throughout the Americas to safeguard the rarest bird species, restore habitats, and reduce threats. ABC supports the effort to combat climate change, decrease air pollution, and reduce our dependence on fossil fuels through responsible renewable energy development. However, wind turbines can have adverse impacts on birds, particularly threatened and endangered species.

Bird Smart Wind Energy

ABC's bird-smart wind energy policy adheres to the mitigation hierarchy, which prioritizes decision tiers in wind energy development: "avoid when planning, minimize while designing, reduce at construction, compensate during operation, and restore as part of decommissioning."¹

¹ May. R. (2017). "Mitigation for birds" in Perrow, M. (Ed.). Wildlife and Wind Farms-Conflicts and Solutions, Volume 2: Onshore: Monitoring and Mitigation. Pelagic Publishing Ltd. pp 124-144.

ABC supports wind power when it is bird-smart, which means following six principles:

- (1) proper siting of turbines away from high-bird-collision-risk areas;
- (2) independent, transparent pre-and-post-construction monitoring of bird impacts;
- (3) effective construction and operation mitigation by wind energy facilities to minimize bird mortality;
- (4) compensation to reduce and redress any unavoidable bird mortality and habitat loss from wind energy development;
- (5) environmental compliance with a rigorous local, state, and federal regulatory framework; and
- (6) evaluation of wind energy as part of a complete analysis on all feasible renewable alternatives.

This letter focuses on ABC's bird-smart principles 1-3 (i.e., siting, monitoring, and mitigation) in the DEIS, and principle 4 (compensation) in the DHCP for the Skookumchuck project.

We are particularly concerned about the direct and cumulative impacts of the proposed project on the Threatened Marbled Murrelet. The proposal places high risk activities on both sides of the murrelet flyway, from sea (foraging) to forest (nesting) habitat. The developer proposes an incidental take permit of 85 Marbled Murrelets, and proposes to compensate for those losses by producing approximately 85 Marbled Murrelets according to their DHCP. However, as detailed below, the stated compensation is greatly overestimated. Furthermore, the population trajectory of murrelets is in decline and we support actions that help in the recovery trajectory for endangered species, rather than those providing a zero-sum net gain. Any take would contribute significantly to the population decline of Marbled Murrelets, by producing a genetic bottleneck in the Washington population, and threatening the connectivity of the metapopulation in a very important management zone for the species. The developer therefore needs to substantially reduce the proposed take through minimization alternatives and increase the proposed compensation. American Bird Conservancy recommends the No Action alternative under the given scenarios. However, we would be willing to consider a re-analysis of the proposed minimization, mitigation, and compensation measures, with a conservative combination of Alternatives 2 and 3.

We provide our detailed comments under the following headings, which correspond to the information specifically requested in the federal register [notice](#).

(2) The proposed adaptive management framework for marbled murrelets and for bald and golden eagles;

We support the proposed use of Identiflight testing for detection-and-curtaiment, however, unfortunately, Identiflight is targeted only towards eagles. We encourage the testing and use of other monitoring technologies that detect other species (Dirksen 2017)². For example, turbine-mounted systems such as vibration/bioacoustics and multi-sensor (MUSE) wildlife detection systems; radar and infrared camera Thermal Animal Detection Systems (TADS); accelerometers, microphones, and video cameras (WT-Bird).

In the DHCP, proposed adaptive management considers the possibility of using dogs to detect carcasses (p. 16 of Attachment G in the DHCP). The use of dogs is *imperative* to achieve sufficient detection of carcasses. Additionally, the DHCP proposes searches for carcasses of murrelets in a 140-m x 140-m plot (70-m radius plot) and eagles in a 200-m x 200-m plot (100-m radius plot). Smallwood 2018³ (p. 13) states the following: “fatality rates are being underestimated because too often investigators and permitting agencies have assumed that disproportionate numbers of fatalities fall straight down or near the wind turbine. This common assumption has justified maximum search radii that fall far short of the area needed to adequately detect available carcasses of birds and bats. Even at the recent wind projects in the [Altamont Pass Wind Resource Area], the search radius of 105 m appears to be too short.” Thus, the use of dogs within search radii > 105m should be required.

In the DHCP, “mitigation measures intended to benefit the marbled murrelet include acquisition and management of conservation lands to promote the preservation and enhancement of suitable nesting habitat for the species, and funding the removal of abandoned or derelict fishing nets in the Salish Sea.” The land acquisition is estimated at \$3 million, the net removal at \$450,000, and the continued monitoring at about \$750,000 (Table 35 of the DHCP). The land acquisition is focused on Willapa Bay (Fig. 16 of the DHCP).

The project proposes establishing conservation easements near the Willapa Bay National Wildlife Refuge, of approximately 600 acres, containing over 300 acres with tree stands up to 75 years old (Tables 24-25 in DHCP). Based on average productivity levels, the DHCP estimates that this will produce 15-30 adult murrelets over the course of the 30-year permit. However, this is an overestimate given the characteristics of the proposed habitat. Parcel A is dominated by Western Hemlock and Parcel B is dominated by Douglas Fir. Murrelets nest in Douglas Firs that are over 150 years old and Western Hemlocks that are 70-100+ years old (Desimone 2016⁴, p. 2), therefore this forest is young for murrelets.

² Dirksen, S. 2017. Review of Methods and Techniques for Field Validation of Collision Rates and Avoidance Amongst Birds and Bats at Offshore Wind Turbines. 47 p.

<https://tethys.pnnl.gov/sites/default/files/publications/Dirksen-2017.pdf>

³ Smallwood, K.S., Bell, D., Standish, S. 2018. Skilled Dog Detections of Bat and Small Bird Carcasses in Wind Turbine Fatality Monitoring. Unpublished Report

⁴ Desimone, S. M. 2016. Periodic Status Review for the Marbled Murrelet. Washington Department

Furthermore, the proposed conservation parcels (600 acres) include only about 300 acres of low quality habitat and are not likely to support the number of birds (15-30) requested for the ITP. In the state of Washington, murrelets nest in low densities amounting to a large quantity of habitat per pair: “>150 ha [370 acres] of habitat per murrelet available” (Raphael et al. 2002⁵, p. 340). Therefore, while we encourage the developer to purchase such lands to help support marbled murrelets into the future, as the forests age, 600 acres is not nearly enough to produce 30 murrelets – the acquisition would need to be expanded to 11,100 acres to support that number of individuals. For example, the New Carissa Oil Spill Natural Resource Trustees acquired 3,851 acres of habitat following the recovery of 26 dead Marbled Murrelets⁶.

To increase compensation for proposed take, the developer has proposed to remove derelict fishing nets to save an additional estimated 53 murrelets and 3-4 two-year olds, through indirect gain. While this is an effective measure for other bird species, such as sea ducks, the estimated gain is based on very sparse data that are not peer-reviewed (USFWS 2017⁷). There exists a lot of uncertainty surrounding how many Marbled Murrelets get entrapped by derelict fishing gear (USFWS 2012⁸).

In summary, the proposed DHCP provides insufficient compensation to reduce and redress unavoidable bird losses.

(3) Potential impacts to the human environment that may occur during the construction or decommissioning phases of the project (e.g., through collisions with construction equipment, stationary wind turbines, or associated infrastructure);

The DHCP covers post-construction operational impacts, but we are deeply concerned that the developers are not planning to monitor for impacts during construction. Furthermore, the project may begin construction before the final EIS is determined, and this is likely to disturb Marbled Murrelets. The project needs to set an adequate monitoring baseline against which to measure disturbance to Marbled Murrelets during construction and operations.

of Fish and Wildlife, Olympia, Washington. 28+iii pp.

https://wdfw.wa.gov/commission/meetings/2016/11/nov0416_5_summary_murrelet.pdf

⁵ Raphael, M. G., Mack, D. E., & Cooper, B. A. (2002). Landscape-scale relationships between abundance of marbled murrelets and distribution of nesting habitat. *Condor*, 331-342

⁶ <https://www.fws.gov/oregonfwo/contaminants/spills/newcarissa/default.asp>

⁷ USFWS 2017. Biological Opinion 2017-2036 Puget Sound Treaty and Non-Treaty (All-Citizen) Salmon Fisheries. Puget Sound, Washington. Reference 01EWF00-2016-F-1181. Lacey, Washington.

⁸ USFWS 2012. Report on marbled murrelet recovery implementation team meeting and stakeholder workshop. USFWS, Lacey, Washington, April 17, 2012. 66 pp.

<https://www.fws.gov/wafwo/pdf/FinalReporMarbledMurrelerRITandStakeholderWorkshop.pdf>

(4) Biological information and relevant data concerning the covered species and other wildlife;

The region straddles two management zones for MAMU: Zone 1 (Puget Sound) and 2 (Outer WA coast). The PVA conducted in the DHCP, based on at-sea data (with quite a bit of uncertainty), suggests that the population of Marbled Murrelets is declining and will be extirpated from these two sites with or without take. A precautionary approach would support the selection of the No Action alternative to avoid any further impact to the murrelet than the status quo, to maintain connectivity in the metapopulation.

(5) Information on bald eagle, golden eagle, and marbled murrelet collisions with both stationary and moving objects such as wind turbines in the terrestrial environment, particularly in a forested environment;

According to the DHCP, “Lighting will be directed downward and shielded, and Federal Aviation Administration (FAA)-required lighting on WTGs will be blinking.” This standardized protocol is used to prevent disorientation or attraction to wind turbines at night. However, given that most of the turbine components will be unlit at night, nocturnal curtailment is important to minimize impacts to Marbled Murrelets.

(6) Potential direct, indirect, and cumulative impacts that implementation of the proposed wind project and mitigation/minimization measures could have on the covered species; and other endangered or threatened species, and their associated ecological communities or habitats; and other aspects of the human environment;

Any take would contribute significantly to the population decline of Marbled Murrelets, by producing a genetic bottleneck in the Washington population, and threatening the connectivity of the metapopulation in a very important management zone for the species.

(7) Whether there are additional connected, similar, or reasonably foreseeable cumulative actions and their possible impacts on the human environment including, without limitation, marbled murrelet, bald eagle, and golden eagle, which were not identified in the DEIS;

Other actions should include increased minimization (e.g., full curtailment), and increased compensation (e.g., habitat acquisition); see headers 2 (above) and 8 (below) for more details.

(8) Other possible reasonable alternatives to the proposed permit action that the Service should consider, including additional or alternative avoidance, minimization, and mitigation measures;

The applicant requested a 30 year take permit of 75 Marbled Murrelets (2.5 individuals per year), plus 10 adult equivalents to cover indirect effects of the take (p. 69 of the DEIS); however, this information is unclear and needs to be stated more clearly in the DHCP. The USFWS suggests 3 alternatives to No Action (which would halt construction and operations).

Alternative 1 issues a take permit at the levels requested by the applicant, but with seasonal curtailment to reduce the estimated take to 65 individuals plus 9 adult equivalents (p. 69 of the DEIS and Table S-1). According to the DHCP (p. 62), the seasonal curtailment (May 1 to August 9) “would occur at 10 turbines (T1 through T5 and T34 through T38) located at the eastern and western ends of the Project for a period of three hours each morning (i.e., 1.75 hours before sunrise and 1.25 hours after sunrise)”.

Alternative 2 reduces the proposed take of Marbled Murrelets to 58 individuals, and effectively removes the 5 turbines (i.e., prohibits operation of T34-T38) closest to a cluster of known Marbled Murrelet nests (see map in Appendix 5 of the DHCP and Fig. 7 from Attachment A of the DHCP, copied below). The 5 turbines to be removed under Alternative 2 are in close proximity to Marbled Murrelet and Northern Spotted Owl critical habitat⁹ in the [Gifford Pinchot National Forest](#) (see ABC’s [Wind Risk Assessment Map](#)). Table 3.7-1 of the DEIS states that Northern Spotted Owls are not likely to be found in the study area, based on avian surveys. Alternative 2 is absolutely necessary to minimize murrelet mortality.

Alternative 3 further reduces the proposed take of Marbled Murrelets to 38 individuals, and proposes crepuscular curtailment (during dawn and dusk hours) from 1 Apr – 30 Sep, to cover the periods of high foraging activity. “The daily curtailment period would begin 2 hours before sunrise and end 2 hours after sunrise, and the dusk curtailment period would begin 2 hours before sunset and end 1 hour after sunset” (p. 16 of DEIS).

Unfortunately, crepuscular curtailment is not enough to minimize impacts to murrelets, particularly given the proposed DHCP compensation package. The dawn/dusk time window corresponds to flights of murrelets into the tree stands (landward), but adults return to sea (seaward) at other times during the day. Furthermore, while feeding their chicks, adults fly back and forth at all times of day (Hamer and Nelson 1995¹⁰). Therefore, full curtailment during the breeding season (during all hours of the day and night) should be mandatory for all sites with Marbled Murrelets (i.e. all turbines, based on Fig. 7).

⁹ <https://databasin.org/maps/new#datasets=d15113e3006042bc87714ba557364bc9>

¹⁰ Nelson, S. K., & Hamer, T. E. (1995). Nesting biology and behavior of the Marbled Murrelet. In: Ralph, C. John; Hunt, George L., Jr.; Raphael, Martin G.; Piatt, John F., Technical Editors. 1995. Ecology and conservation of the Marbled Murrelet. Gen. Tech. Rep. PSW-GTR-152. Albany, CA: Pacific Southwest Research Station, Forest Service, US Department of Agriculture; p. 57-68, 152

The proposed project is on a ridge, and according to the DHCP, murrelets fly within rotor height. The rotor swept area (RSA) of the proposed turbines is 25-135m; and 8 of 21 murrelet targets flew below 135m, thus within height of the blades (p. 15 in Attachment A of the DHCP). The DHCP conducted a collision-risk analysis using high avoidance rates (90-99%), which are based on no murrelet-specific studies (p. 20 of Attachment A in the DHCP). The DHCP should consider more recent studies to better approximate avoidance rates (e.g., see Kelsey et al 2018¹¹ for vulnerability scores).

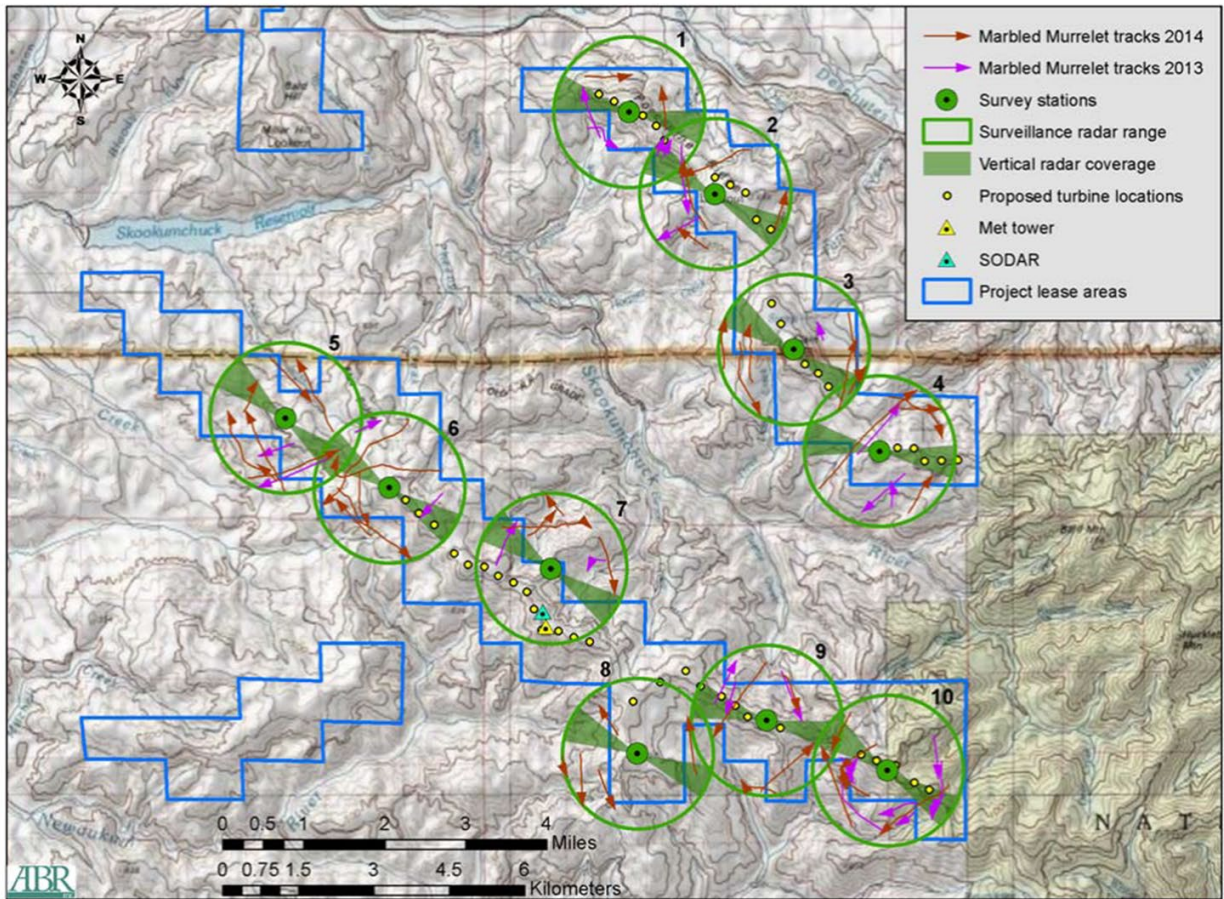


Fig. 7 from Attachment A of the DHCP (p. 14). “Map showing the flight paths of Marbled Murrelet radar targets heading in landward and seaward directions observed before sunrise at each of ten radar sampling stations at the proposed Skookumchuck Wind Energy Project, Lewis and Thurston counties, Washington.” Under Alternative 3, the 5 turbines to be removed (T34-T38) would be the ones in the bottom right, near radar survey station 10, where there is a cluster of known murrelets in critical habitat near the Gifford Pinchot National Forest.

¹¹ Kelsey, E. C., Felis, J. J., Czapanskiy, M., Pereksta, D. M., & Adams, J. (2018). Collision and displacement vulnerability to offshore wind energy infrastructure among marine birds of the Pacific Outer Continental Shelf. *Journal of environmental management*, 227, 229-247

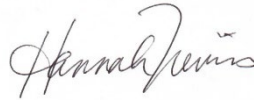
American Bird Conservancy recommends the No Action alternative under the given scenarios in the DEIS and DHCP. The proposed take under the given Alternatives is too high, particularly given the suggested compensation package. However, we would be willing to consider a re-analysis of the proposed minimization, mitigation, and compensation measures, with a conservative combination of Alternatives 2 and 3: remove the 5 southeast turbines and implement full curtailment during the murrelet breeding season.

We appreciate the opportunity to comment on this wind energy project, but given the government shutdown, we were not able to access all the necessary resources. Therefore, we request an extension to the comment period.

Sincerely,



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