April 3, 2019

Via Email and Certified Mail

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Sixty-Day Notice of Intent to Sue Pursuant to the Endangered Species Act

Dear Acting Secretary Bernhardt, Chief Christiansen, Acting Director Everson, and Forest Supervisor Weber:

The U.S. Forest Service ("Forest Service"), U.S. Fish and Wildlife Service ("FWS"), and the officers and supervisors to whom this letter is directed (collectively, the federal agencies) are hereby notified that the following organizations intend to bring a civil action to challenge the Forest Service's and FWS's failure to comply with Section 7 of the Endangered Species Act ("ESA"), 16 U.S.C. § 1536, concerning the 2018 revision of the Flathead National Forest Land Management Plan (hereafter, "revised Forest Plan").

The name and address of the organizations giving notice of intent to sue under the ESA are:

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As described below, the Forest Service and FWS have failed to comply with Section 7 of the ESA concerning the revised Forest Plan for the Flathead National Forest (hereafter, "Forest"). First, FWS violated the ESA in preparing the November 22, 2017 Biological Opinion on the revised Forest Plan, and the 2017 Biological Opinion is arbitrary, capricious, and contrary to the ESA. 16 U.S.C. § 1536; 5 U.S.C. § 706. Second, the Forest Service's reliance on the legally flawed 2017 Biological Opinion violates the Forest Service's independent duty under Section 7 of the ESA to ensure that the revised Forest Plan is not likely to jeopardize the continued existence of any listed or candidate species, or result in the destruction or adverse modification of designated critical habitat. *See* 16 U.S.C. § 1536(a)(2). We will file suit on these violations after the 60-day period has run unless the violations described in this notice are remedied.

Legal Background: Section 7 Consultation

Section 2(c) of the ESA establishes that it is "the policy of Congress that all Federal . . . agencies shall seek to conserve endangered species and threatened species and shall utilize their authorities in furtherance of the purposes of" the ESA. 16 U.S.C. § 1531(c)(1). The purpose of the ESA is to "provide a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved, [and] to provide a program for the conservation of such endangered and threatened species . . . ." 16 U.S.C. § 1531(b).

To implement this policy, Section 7(a)(2) of the ESA requires that each federal agency consult with FWS (or the National Marine Fisheries Service ("NMFS"), as appropriate) to ensure that any action authorized, funded, or carried out by such agency is not likely to (1) jeopardize the continued existence of any threatened or endangered species or (2) result in the destruction or adverse modification of the critical habitat of such species. *See* 16 U.S.C. § 1536(a)(2).

The ESA's consultation requirement applies "to all actions in which there is discretionary Federal involvement or control." 50 C.F.R. § 402.03. Agency actions requiring consultation are broadly defined by regulation to mean "all activities or programs of any kind authorized, funded, or carried out, in whole or in part, by Federal agencies" and include "actions directly or indirectly causing modifications to the land, water, or air." 50 C.F.R. § 402.02.

If listed species may be present in the area of agency action, the action agency must prepare a Biological Assessment ("BA") to determine whether the listed species may be affected by the proposed action. *See* 16 U.S.C. § 1536(c)(1); 50 C.F.R. § 402.12. If the agency determines that its proposed action "may affect" any listed species, the agency must engage in "formal consultation" with FWS or NMFS (collectively, the Services). 50 C.F.R. § 402.14; *see also Cal. ex rel. Lockyer v. U.S. Dep't of Agric.*, 575 F.3d 99, 1018 (9th Cir. 2009) ("any possible effect, whether beneficial, benign, adverse or of an undetermined character, triggers the requirement." (quoting 51 Fed. Reg. 19,926, 19,949 (June 3, 1986)).

The threshold for a "may affect" determination is very low, and ensures "actions that have any chance of affecting listed species or critical habitat—even if it is later determined that the actions are not likely to do so—require at least some consultation under the ESA." *Karuk Tribe of Cal. v. U.S. Forest Serv.*, 681 F.3d 1006, 1028 (9th Cir. 2012). Under the Fish and Wildlife Service Consultation handbook, the "may affect" threshold is met if "a proposed action may pose *any* effects on listed species or designated critical habitat." U.S. Fish and Wildlife Serv. & Nat'l Marine Fisheries Serv., *Endangered Species Consultation Handbook: Procedures for Conducting Consultation and Conference Activities Under Section 7 of the Endangered Species Act* at xvi (1998) (emphasis in original). The regulations implementing the ESA require an examination of both the direct effects of the action as well as the indirect effects of the action, which are defined as "those effects that are caused by or will result from the proposed action and are later in time, but are still reasonably certain to occur." 50 C.F.R. § 402.02. Therefore, an agency must consult in every situation except when a proposed action will have "no effect" on a listed species or critical habitat.

If the action agency concludes in a BA that the activity is not likely to adversely affect the listed species or adversely modify its critical habitat, and the Services concur with that conclusion in a Letter of Concurrence, then the consultation is complete. 50 C.F.R. §§ 402.12, 402.14(b). If, however, the action agency determines that the activity is likely to adversely affect the listed species or its critical habitat, then the Services complete a "biological opinion" ("BiOp") to determine whether the activity will jeopardize the species or result in destruction or adverse modification of critical habitat. *Id.* § 402.14. If the Services determine that an action will jeopardize the species or adversely modify critical habitat, they may propose reasonable and prudent alternative actions intended to avoid such results. 16 U.S.C. § 1536(b)(3)(A); 50 C.F.R. § 402.14(g)(5).

However, an agency's Section 7 duties do not end with the issuance of a BiOp. The action agency "cannot abrogate its responsibility to ensure that its actions will not jeopardize a listed species; its decision to rely on a FWS biological opinion must not have been arbitrary or capricious." *Pyramid Lake Paiute Tribe of Indians v. U.S. Dep't of Navy*, 898 F.2d 1410, 1415 (9th Cir. 1990). *See also Defenders of Wildlife v. EPA*, 420 F.3d 946, 976 (9th Cir. 2005) (rev'd on other grounds).

Further, once the consultation is complete, the agencies have a duty to ensure that it remains valid. To this end, an agency must re-initiate consultation if certain "triggers" occur. 50 C.F.R. § 402.16.

The ESA's implementing regulations require the Forest Service to re-initiate consultation where discretionary Federal involvement or control over the action has been retained or is authorized by law and:

> (a) If the amount or extent of taking specified in the incidental take statement is exceeded;
>
> (b) If new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered;
>
> (c) If the identified action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in the biological opinion; or
>
> (d) If a new species is listed or critical habitat designated that may be affected by the identified action.

50 C.F.R. § 402.16.

After consultation is initiated or reinitiated, ESA Section 7(d) prohibits the agency or any permittee from "mak[ing] any irreversible or irretrievable commitment of resources" toward a project that would "foreclos[e] the formulation or implementation of any reasonable and prudent alternative measures . . . ." 16 U.S.C. § 1536(d). The 7(d) prohibition "is in force during the consultation process and continues until the requirements of section 7(a)(2) are satisfied." 50 C.F.R. § 402.09.

Section 7(a)(4) of the ESA requires a Federal agency to conference with the Services if the proposed action is likely to jeopardize a species proposed for listing or destroy or adversely modify proposed critical habitat. 16 U.S.C. § 1536(a)(4); 50 C.F.R. § 402.10(a). *See also* 50 C.F.R. § 402.02 (defining "[c]onference" as "a process which involves informal discussions between a Federal agency and the Service under section 7(a)(4) of the [ESA] regarding the impact of an action on proposed species or proposed critical habitat and recommendations to minimize or avoid the adverse effects."). The agencies must record any results of a conference. *Id.* at § 401.10(e) ("The conclusions reached during a conference and any recommendations shall be documented by the Service and provided to the Federal agency").

FACTUAL BACKGROUND

Flathead National Forest's 2018 Forest Plan Revision

On December 24, 2018, Forest Supervisor Chip Weber issued the final Record of Decision ("ROD") selecting alternative B modified, as described in the November 2018 final environmental impact statement ("FEIS"), for the Flathead National Forest's 2018 revised Forest Plan.

Threatened grizzly bear, bull trout, and Canada lynx, bull trout critical habitat, Canada lynx critical habitat, as well as wolverine (proposed for listing), occur in the Flathead National Forest. The plan components in the Forest Service's revised plan will affect these species and designated critical habitat. *See* Attachments A (Grizzly Bear) and B (Bull Trout and Bull Trout Critical Habitat).

ESA Consultation Process

In October 2017, the Forest Service completed a Biological Assessment that concluded the revised Forest Plan is likely to adversely affect grizzly bear, bull trout, bull trout critical habitat, Canada lynx, and Canada lynx critical habitat. It also concluded the revised Forest Plan may affect, but is not likely to jeopardize wolverine.

Based on the Forest Service's Biological Assessment, analysis in the FEIS for the revised Forest Plan, and the consultation process, FWS concluded in its November 22, 2017 Biological Opinion that the revised Forest Plan is not likely to jeopardize the continued existence of grizzly bears, Canada lynx, and bull trout, or adversely modify Canada lynx and bull trout designated critical habitat.[1] FWS also concurred with the Forest Service's conclusion in its Biological Assessment that the revised Forest Plan may affect, but is not likely to jeopardize the wolverine, and that therefore formal consultation regarding effects to the wolverine was not required.[2] In its 2018 ROD, the Forest Service relies on FWS's 2017 Biological Opinion to conclude the revised Forest Plan will provide the ecological conditions necessary to contribute to the conservation and recovery of ESA listed species and to conserve proposed and candidate species.

Winter Travel Management & Prior ESA Consultation Process

In 2006, the Forest Service issued a final ROD for the Winter Motorized Recreation Forest Plan Amendment for the Flathead National Forest, commonly referred to as Amendment 24 or "A24." A24 amended the 1986 Forest Plan. A24 included both programmatic and site-specific decisions related to the use of motorized over-snow vehicles (OSVs) on the Flathead. A24 programmatically allowed OSVs on 787,200 acres and designated approximately 3,000 miles of roads and routes for OSV use on the Flathead.

The Forest Service prepared a 2004 Biological Assessment analyzing the impacts of A24 on grizzly bear, gray wolf, and Canada lynx. In 2008 the Forest Service prepared a modified Biological Assessment to assess impacts from A24 to grizzly bears. FWS issued a 2008 Biological Opinion that concluded A24 is not likely to jeopardize the continued existence of the grizzly bear.

The Forest Service adopted the OSV use designations from A24 in its revised Forest Plan. The Forest Service also made changes to the suitability of winter motorized travel designations in its revised Forest Plan. November 2018 revised Forest Plan FEIS, Volume 1, page 25 ("Based upon public collaboration and comment as well as on site-specific ecological conditions, the areas suitable for motorized over-snow vehicle use would be shifted from some parts of the Forest to others, resulting in a net increase of about 567 acres.").

Flaws in the Analysis

(1) FWS's 2017 Biological Opinion is arbitrary, capricious, and not in accordance with the ESA because FWS fails to analyze or consider relevant factors.

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[1] U.S. Fish and Wildlife Service, Endangered Species Act Section 7 Consultation: Biological Opinion on the Revised Forest Plan for the Flathead National Forest (Nov. 22, 2017), page I-1.
[2] 2017 Biological Opinion, Cover Letter.

FWS fails to analyze or explain key aspects of its jeopardy analysis for grizzly bear. The Northern Continental Divide Ecosystem ("NCDE") Conservation Strategy defines "baseline" as "conditions as of December 31, 2011, as modified by changes in numbers that were found to be acceptable through the [ESA] Section 7 consultation with USFWS while the grizzly bear was listed as Threatened." NCDE Subcommittee, Conservation Strategy for the Grizzly Bear in the Northern Continental Divide Ecosystem at 145 (July 2018) (hereinafter "NCDE Conservation Strategy"). Throughout its jeopardy analysis, FWS relies on the fact that the NCDE grizzly bear population was increasing in size and expanding in distribution when road densities on the Flathead were at 2011 numbers.

However, in adopting the 2011 road densities as a baseline based on this reasoning, FWS fails to analyze or consider several key factors. Specifically, FWS fails to analyze or consider the status of the grizzly bear population as a whole (grizzly bears of the Lower 48, not just the NCDE, which is the listed entity under the ESA) in 2011. Unlike the smaller NCDE population, in 2011 grizzly bears as a whole remained at levels far too low in size and distribution for survival and recovery in most of the contiguous U.S. Because the grizzly bear of the coterminous U.S. is the listed entity for purposes of ESA Section 7 consultation, by failing to consider the status of the grizzly bear population as a whole in 2011 – and how 2011 baseline road conditions may affect the species as a whole – FWS ignores key factors. At bottom, FWS ignores the importance of connectivity among the various grizzly sub-populations in its assessment of how the revised plan will affect grizzly bears. In addition, the 2011 baseline fails to account for changed and further degraded conditions since 2011, including food resource availability, increased wildfire impacts upon grizzly bear habitat, and climate change impacts.

FWS fails to analyze or explain key aspects of its jeopardy analysis for bull trout and its determination that the revised plan will not adversely modify bull trout critical habitat. In making an adverse modification determination, FWS must consider the factors responsible for the environmental baseline condition of the critical habitat in the action area. However, here FWS fails to consider the Forest Service's historic failure to conduct annual culvert monitoring,[3] as well as the documented increased risk of road failure and sediment loading into bull trout critical habitat as a result.[4] Not only does it fail to consider or analyze these relevant factors, but FWS goes further and eliminates the requirement for annual culvert monitoring as set forth in pre-existing biological opinions. 2017 Biological Opinion at II-71. Based on this faulty analysis, FWS determines the revised plan (and less stringent culvert monitoring required only every six years) will not result in an adverse modification of bull trout critical habitat. FWS also fails to consider how the modification to culvert monitoring requirements authorizes specific action that will have direct effects on bull trout

[3] *See, e.g.*, Nov. 9, 2016 Letter from Chip Weber, Forest Supervisor, Flathead National Forest to Jodie Bush, U.S. Fish and Wildlife Service (noting that "[s]ince 2009, engineering budgets have declined and monitoring has been inconsistent and incomplete.").

[4] *See* U.S. Fish and Wildlife Service Montana Ecological Services Office, Biological Opinion on the Effects to Bull Trout and Bull Trout Critical Habitat From the Implementation of Proposed Actions Associated with Road-related Activities that May Affect Bull Trout and Bull Trout Critical Habitat in Western Montana (April 15, 2015) (hereafter, 2015 Roads Programmatic BiOp), pages 45-46 ("Culverts that remain in the road behind gates and berms that are not properly sized, positioned, and inspected . . . have an increased risk for failure by reducing awareness of potential maintenance needs. The accumulation of debris has the potential to obstruct culverts and other road drainage structures. Without maintenance and periodic cleaning, these structures can fail, resulting in sediment production from the road surface, ditch, and fill slopes. The design criteria to address drainage structures left behind gates and berms require annual monitoring of these structures.")

and its designated critical habitat. *See* 2017 Biological Opinion at II-69 ("The proposed action represents a programmatic decision that authorizes no specific action, and therefore, would have no direct effects on listed species or their habitats.").

FWS fails to analyze or consider direct, on-the ground impacts that will result from adopting the OSV use designations from A24 and from making new OSV suitability determinations in the revised Forest Plan. The Forest Service's adoption of OSV designations from A24 and new OSV use suitability determinations allow for direct, on-the-ground impacts to not only grizzly bears but also Canada lynx, Canada lynx critical habitat, and wolverine that are new and different from those considered in the 2008 biological opinion assessing effects from A24. *See, e.g.*, November 2018 revised Forest Plan FEIS, Volume 1 at 10-11 ("In the forest plan, the designated routes and play areas and associated dates for motorized over-snow vehicle use identified in amendment 24 are retained, but changes are proposed to the boundaries of specific areas, as shown in figures 1-43 to 1-45 in appendix 1, as suitable or not suitable for motorized over-snow vehicle use in order to address recreation sustainability."). *See also* Attachment A (outlining direct, indirect, and cumulative impacts from OSV use to grizzly bear).

Ignoring these boundary changes ignores relevant factors. *See* 2017 Biological Opinion at I-26 – I-27 (describing a modification to Canada lynx Northern Rockies Lynx Management Direction ("NRLMD") human use guideline HU G11 (FW-GDL-REC-05), stating there shall be no net increase in the miles or areas designated for where OSV use would be suitable). The specific locations, not just the cumulative miles or acreage designated for OSV use, matters when assessing the impacts of OSV use suitability determinations. FWS and the Forest Service fail to consider all of the direct, indirect, and cumulative impacts of the A24 OSV designations and new OSV suitability determinations adopted in the revised plan on grizzly bear, and Canada lynx and its critical habitat.

FWS improperly relies on assumptions about the status of listed species. One glaring example is the assumption by the Forest Service and FWS that the NCDE grizzly bear population is recovered, despite its continued legal status as threatened. *See* 2017 Biological Opinion at III-2 ("Habitat conditions and management on NFS lands within the NCDE (including the FNF) have contributed to the increased population size and improved status of the grizzly bear across the NCDE. Supporting a healthy, recovered grizzly bear population in the NCDE will depend on continued, effective management of the grizzly bear habitat."). *See also* Flathead Forest Plan Revision FEIS at 8 ("supporting a healthy, recovered grizzly bear population will depend on the Forest Service's continued effective management of the NCDE grizzly bear habitat."). This flaw in the environmental baseline distorts or ignores the effects of agency action.

FWS improperly relies on flawed assumptions about the proposed action. For example, it relies on a flawed assumption that the revised plan components are sufficient to maintain road density at 2011 baseline levels (which, as described above, are themselves flawed). *See* 2017 Biological Opinion at I-25 ("Within the PCA, open motorized route density, total motorized route density, and secure core would be maintained at baseline levels . . . in each grizzly bear subunit."), I-26 ("In zone 1, habitat protections would focus on maintaining miles of roads open to public motorized use during the non-denning season at baseline levels."). This is a flawed assumption because it fails to analyze or consider how major exceptions provided in the plan components allow for increases beyond 2011 baseline levels, and how the revised Forest Plan monitoring plan is incapable of ensuring maintenance of 2011 baseline road densities. *See* Revised Forest Plan, FWS-STD-WL-03, FWS-STD-IFS-01, FWS-STD-IFS-02, FWS-STD-IFS-03, and FWS-STD-IFS-04. *See also* Revised Forest Plan at

150 (Monitoring Program). This flawed assumption about the efficacy of the revised plan components glosses over and distorts very real, direct effects that will result when the Forest Service is unable to track, much less ensure maintenance of the 2011 baseline road densities. FWS's biological opinion is flawed because it relies on flawed assumptions about the proposed action and thereby ignores relevant factors.

(2) FWS's 2017 Biological Opinion is arbitrary, capricious, and not in accordance with the ESA because FWS relies on an inconsistent and inaccurate description of the proposed action from the Forest Service.

As a result of inconsistent descriptions of the Forest Service's proposed action with regard to winter travel management on the Flathead, FWS fails to analyze direct and indirect effects from winter motorized use. As one example, the Forest Service states it is adopting A24. But, FWS states in its description of the action that the revised Forest Plan is replacing A24. 2017 Biological Opinion at I-25 ("the components included in the Revised Forest Plan would replace the 1986 Flathead National Forest plan in its entirety, including but not limited to A19, A24"). This inconsistent description of the proposed action in turn means FWS fails to consider relevant factors in its analysis such as direct and indirect effects to Canada lynx, Canada lynx critical habitat, and wolverine from winter motorized use (see above).

The Forest Service is also internally inconsistent in how it describes the nature of its proposed action, leading to a flawed analysis by FWS. Throughout its ROD, the Forest Service attempts to claim its action is completely programmatic in nature. *See, e.g.*, Final ROD at 45 ("This programmatic plan decision does not authorize additional motor vehicle use, or prohibit existing motor vehicle uses, therefore those maps remain unchanged."). Within the same decision document, however, the Forest Service claims its action complies with site-specific travel planning requirements under subpart C of the Travel Management Rule. *See* Final ROD at 45 ("The Forest also has completed subpart C through amendment 24 to the 1986 land management plan, and that is displayed in the Forest's Over-Snow Vehicle Use Map (OSVUM) as required by 36 CFR 212 subpart C."). Travel planning as required by subpart C of the Travel Management Rule is a site-specific action with direct impacts.

FWS's analysis contains similar inconsistencies. *Compare* 2017 Biological Opinion at I-10 (describing the revised Forest Plan as "strategic and programmatic and does not provide project-level decisions or result in irreversible or irretrievable commitment of resources.") *with* 2017 Biological Opinion at III-85 (noting two exceptions "related to the effects of motorized access route densities and over-snow motorized use"). By failing to accurately and consistently describe the proposed action, FWS's analysis fails to consider and analyze project-specific or short-term impacts that will flow from the winter motorized use authorized in the revised plan.

In the alternative, to the extent the agencies previously consulted over the winter motorized use designations when they were originally made (i.e., 2008 consultation on A24), the agencies must now reinitiate consultation because new information reveals that winter motorized use may affect listed species or critical habitat in a manner or to an extent not previously considered[5]; the revised plan

[5] For example, new technology that allows OSVs to travel farther into backcountry, into tighter spaces, and higher on slopes. *See* Attachment C (detailing new OSV technology, including the use of snowbikes, and encroachment of OSVs into areas not open to winter motorized use on the Flathead's OSVUM). *See also* FEIS, Volume 1 at 11 ("members of

modifies winter motorized use designations in a manner that causes an effect to the listed species or critical habitat that was not considered in the 2008 biological opinion on Amendment 24; changed circumstances about known habitat and species distribution since the original decision;[6] and new species have been proposed for listing (wolverine) and critical habitat designated (Canada lynx) that may be affected by the identified action in a manner that was not previously considered. Indeed, changed conditions is one of the main reasons why the Forest Service revised its plan. *See, e.g.*, 2017 Biological Opinion at I-9 (explaining the revised Forest Plan will "address changed conditions").

(3) FWS's 2017 Biological Opinion is arbitrary, capricious, and not in accordance with the ESA because FWS relies on inadequate conservation and mitigation measures that are not reasonably specific, certain to occur, capable of implementation, or enforceable.

FWS's no jeopardy determination for grizzly bear relies on inadequate conservation and mitigation measures that are not reasonably specific, certain to occur, capable of implementation, or enforceable. *See* 2017 Biological Opinion at III-78 – III-79 (stating that the revised plan may result in adverse effects to individual grizzly bears, especially as a result of revised plan direction for forest roads that will allow temporary reductions in secure core habitat and increases in open and total motorized route densities, but concluding the harms from these actions "would be limited by management area allocations" and relying on future project level analysis). In addition, the revised Forest Plan monitoring plan requires evaluation reports only every other year, making tracking the temporary increases of various projects difficult and unlikely.

FWS's no jeopardy determination for bull trout and no adverse modification determination for bull trout critical habitat relies on inadequate conservation and mitigation measures that are not reasonably specific, certain to occur, capable of implementation, or enforceable. *See* 2017 Biological Opinion at II-69 ("Minimization of the effects of land management activities on bull trout and their habitats is controlled through the management direction provided for in the Revised Forest Plan."); *id.* at II-70 ("Projects must be consistent with forest-wide standards and guidelines in the Revised Forest Plan, which are designed to minimize impacts to critical habitat by placing limits on activities that may occur in riparian areas and on the timing of such activities."). The forest-wide plan components eliminate many of the protections previously provided by INFISH under the 1986 Forest Plan, and that reflect the best available science.

For example, the revised Forest Plan replaced INFISH plan direction with a draft Aquatic Riparian Conservation Strategy ("ARCS"). The revised Forest Plan eliminated the riparian management objectives ("RMOs") from INFISH. The revised Forest Plan eliminated the requirements under INFISH to complete watershed analysis. Instead, the multi-scale watershed analysis required under the revised Forest Plan is less protective than the requirement under INFISH to complete watershed analysis. The revised Forest Plan replaced the standards and guidelines that applied to Riparian Habitat Conservation Areas ("RHCAs") under INFISH with plan components applicable to new Riparian Management Zones ("RMZs") that allow many activities that harm riparian areas. As just one example, the revised Forest Plan lacks any standards to prohibit the construction of roads and

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the public expressed a need to adjust the boundaries of areas that are currently open [to OSV use] because some have grown in with vegetation, because the public has difficulty recognizing some boundaries on the ground, and because it would assist the Forest Service in enforcing closure boundaries.").

[6] Attachments A, C, and D (discussing winter motorized use impacts to grizzly bear, Canada lynx and its critical habitat, and wolverine, respectively).

landings associated with vegetation management, or the use of ground-based equipment, within the RMZ. The revised Forest Plan allows vegetation management in the inner portion of the RMZ under numerous exceptions to the only standard for RMZs.

Much of FWS's 2017 Biological Opinion for bull trout relies on strategies not incorporated or explained in the revised Forest Plan. As just one example, FWS explains that Desired Condition FW-DC-P&C-16 for bull trout to trend toward recovery will be achieved by using the Bull Trout Recovery Plan and Columbia Headwaters Recovery Unit Implementation Plan (2015) to identify threats to core bull trout areas, and Western Montana Bull Trout Conservation Strategy (2013) to identify actions to address those threats. But the revised Forest Plan and its associated FEIS fail to explain how the Forest Service used the 2015 Recovery Plan or the 2013 Western Montana Bull Trout Conservation Strategy in the revised Forest Plan.

FWS removes the annual culvert monitoring requirements imposed by terms and conditions of previous biological opinions. It replaces annual culvert monitoring with a requirement to monitor only a select number of culverts every six years. FWS concludes, without justification, that the new culvert monitoring plan "will ensure an annual assessment of the effectiveness of implementation." 2017 Biological Opinion at II-72. The new plan components under the revised plan are inadequate and not reasonably specific, certain to occur, capable of implementation, or enforceable.

(4) The facts found in the 2017 Biological Opinion do not rationally support FWS's conclusion.

The Forest Service's revised Forest Plan replaces much of the Amendment 19 direction related to motorized use of roads and trails and security for grizzly bears with weaker Forest Plan components. FWS recognizes that Amendment 19 direction contributed importantly to the increased population size, increased distribution, increased genetic diversity, and improved status of the grizzly bear across the NCDE. Despite these gains, in its revised Forest Plan the Forest Service eliminates many of Amendment 19's standards and objectives for grizzly bear. *See* 2017 Biological Opinion at I-25 ("Within the PCA, open motorized route density, total motorized route density, and secure core would be maintained at baseline levels [from 2011] . . . in each grizzly bear subunit" but "Temporary increases in open and total motorized route densities and temporary decreases in secure core would be allowed for projects . . . as long as they comply with standards."). As explained above, the new plan components under the revised Forest Plan are inadequate and not reasonably specific, certain to occur, capable of implementation, or enforceable.

FWS's conclusion that the revised Forest Plan will not negatively impact the recovery of the NCDE grizzly bear population is not supported by the facts that the revised plan provides less protective direction (allowing reductions in secure core habitat, increases in open and total motorized route densities, and ineffective monitoring plans). *See* 2017 Biological Opinion at III-78 – III-81. *See also* 2017 Biological Opinion at III-84 (stating the revised plan "*reduces* the potential for adverse effects and incidental take to occur as a result of Forest management") (emphasis added). Further, FWS fails to articulate a rational connection between its reliance on 2011 road densities as a baseline standard (explained above) and its conclusion that the revised plan – including weakened plan components that require maintaining 2011 road density and grizzly secure core numbers – is not likely to jeopardize the continued existence of the grizzly bear population as a whole.

As explained above, the Forest Service's revised plan eliminates many of the INFISH protections for aquatic resources, bull trout, and bull trout critical habitat, and replaces them with weaker plan

components. FWS recognizes that the strategy under INFISH has been documented to be effective in protecting aquatic resources, but states that INFISH lacked an active restoration component. 2017 Biological Opinion at I-24. Instead of adding a restoration component and maintaining the effective aspects of INFISH, however, in its revised plan the Forest Service eliminates many of the INFISH protections that have proven effective in protecting aquatic resources.

FWS's findings and conclusions regarding bull trout critical habitat in the 2017 Biological Opinion contradict. FWS recognizes that the direct, indirect, and cumulative effects of the revised Forest Plan "will temporarily lower the function of spawning and rearing habitat in the action area due to some level of unavoidable sediment loading," but concludes "these effects are unlikely to significantly change the functional capacity of the Critical Habitat Subunits." 2017 Biological Opinion at II-70. On that basis, FWS concludes the revised Forest Plan is not likely to destroy or adversely modify bull trout critical habitat. *Id.* Again, FWS relies on the programmatic nature of the revised Forest Plan to gloss over any direct effects to critical habitat – despite many plan components that will have direct effects to critical habitat, including the revised and far less stringent culvert monitoring plan (see above).

(5) FWS fails to use the best available science in the 2017 Biological Opinion.

FWS's reliance on 2011 road density calculations as a baseline is not in accord with the best available science. The analysis and ESA consultation supporting Amendment 19 to the 1986 Forest Plan concluded that additional reductions in road density were necessary to support the survival and recovery of grizzly bears. Ignoring that science, FWS inappropriately concluded 2011 numbers are "good enough" to support survival and recovery of the NCDE population. And further, FWS inappropriately ignores the impact that using 2011 numbers will have on the grizzly bear throughout the coterminous United States (the listed entity under the ESA).

FWS fails to disclose and use more recent data on the species. For example, FWS fails to gather new information regarding grizzly bear denning habitat or current OSV uses on the forest. *See, e.g.*, 2017 Biological Opinion at III-85 (explaining the Forest Service "analyzed and reported the amount of modeled denning habitat that was impacted by late season over-snow vehicle use," despite requirements from the 1986 Forest Plan to monitor actual OSV use and impacts to wildlife). FWS fails to analyze or consider best available science demonstrating that OSV use negatively impacts grizzly bear, Canada lynx and its critical habitat, and wolverine. FWS recognizes that OSVs will impact grizzly bears as they emerge from their dens, and even anticipates the revised plan will result in incidental take where late season (after March 31) OSV use overlaps with modeled grizzly bear denning habitat. *See* 2017 Biological Opinion at III-88. But FWS fails to analyze or consider other scientific studies showing additional impacts from OSV use on grizzly bears.

As just one example, the FWS describes the literature review by Linnell and others (2000) as concluding "bears readily den within 0.6-1.2 mi of human activity (roads, habitations, industrial activity) and appear to be undisturbed by most activity that occurs further than 0.6 miles from the den site." 2017 Biological Opinion at III-27. But it ignores other very important conclusions from that study—that three in five brown bears showed physiological responses of increased heart rate or increased physical activity in response to loud noises at a distance of one to two kilometers. *See* J.D.C. Linnell et al., How vulnerable are denning bears to disturbance? 28 Wildlife Society Bulletin 2 (2000) (attached to Guardians' objection letter). Bear responses to denning disturbance appear to occur along a continuum. *Id.* Responses range from waking, to increases in temperature or heart

rate, and to den abandonment. The costs increase to the bear as responses escalate. The study also identified studies showing brown bears sometimes abandoned dens when approached directly, citing to Harding and Nagy (1980) and Reynolds et al. (1986).

FWS fails to use best available science demonstrating that OSV use negatively impact Canada lynx and wolverine as well.

FWS fails to use more recent data regarding the direct, indirect and cumulative impacts of climate change on bull trout and bull trout critical habitat. *See* 2017 Biological Opinion at II-5 – II-6 (discussing bull trout and climate change threats, but largely deferring to the 2015 Recovery Plan discussion of climate change threats to bull trout). FWS does not consider climate change science more recent than 2015.

(6) The scope of FWS's 2017 Biological Opinion misrepresents the health of grizzly bears.

By improperly limiting its analysis to the NCDE grizzly population within the action area, FWS fails to consider cumulative impacts. FWS fails to consider the effects of the revised Forest Plan on the lower 48 population of grizzly bears as a whole. FWS fails to consider how weakening road density and secure core standards my adversely impact the ability of the NCDE grizzly bear population to serve as a necessary source population for neighboring recovery zones.

(7) FWS improperly replaces the requirements for annual culvert monitoring through the 2017 Biological Opinion.

Despite not including an Incidental Take Statement for the take of bull trout as a result of the revised Forest Plan[7], FWS uses the 2017 Biological Opinion as a tool to modify the Terms and Conditions of past biological opinions, including projects that are ongoing on the Flathead National Forest. FWS eliminated the annual culvert monitoring requirements, imposed as Terms and Conditions in existing biological opinions for actions with direct impacts to bull trout, and imposes new culvert monitoring requirements that are far less stringent. The new monitoring plan requires a subset of culverts to be monitored every six years. The new culvert monitoring plan is unreasonable because this new plan will not measure take. It is not related to an Incidental Take Statement. It is also arbitrary and capricious because FWS fails to provide a rational explanation for the change. *See* 2017 Biological Opinion at II-72 ("We believe a more comprehensive, Forest-wide culvert monitoring and remediation effort will native fish and wildlife species.").

(8) Fails to include a quantifiable incidental take limit or an acceptable surrogate to retrigger consultation.

FWS fails to include a quantifiable incidental take limit or an acceptable surrogate in the revised plan to retrigger consultation for effects to grizzly bear from forest road management. FWS states that the amount of take is difficult to quantify, and instead provides surrogate measures of incidental take of grizzly bears related to road densities in the Primary Conservation Area ("PCA") and zone 1 (including the Salish Demographic Connectivity Area ("DCA")) in the form of Open Motorized

[7] 2017 Biological Opinion at II-71 ("The proposed action reduces the potential for incidental take to occur as a result of these actions" (vegetation management, road construction, use, and maintenance, etc.) and the "mere potential for future take from these actions is not a legitimate basis for providing an exemption for take.").

Route Density ("OMRD"), Total Motorized Route Density ("TMRD"), and secure core. 2017 Biological Opinion at III-86 – III-88.[8] These are not acceptable surrogates to retrigger consultation because the monitoring to track the surrogates is not certain to occur, capable of implementation, or enforceable.

The Flathead National Forest has a history of failing to accurately measure OMRD, TMRD, and secure core. There are no assurances in the revised plan to indicate to FWS that the Forest Service will accurately and consistently measure OMRD, TMRD, and secure core moving forward.

Monitoring of the proposed surrogates is not capable of implementation and largely unenforceable because the monitoring plan itself is deeply flawed (see section 3, above). As just one example, a 10-year running average will make it impossible to track whether various projects result in changes to OMRD, TMRD, or secure core beyond those permitted and thus trigger consultation reinitiation. *See* 2017 Biological Opinion at III-87 ("Changes are calculated using a 10-year running average"). What's more, the proposed surrogate to retrigger consultation for effects to grizzly bear from forest road management is inconsistent with and contradicted by the National Forest Management Act. 16 U.S.C. § 1604(d)(2)(A) (no additional consultation required after approval of land management plans).

FWS's surrogate to retrigger consultation for effects to grizzly bear from late season over-snow motorized use is also unacceptable.[9] The proposed surrogate is not reasonably specific, monitoring of this surrogate is not certain to occur, the approach is incapable of implementation, and the surrogate for retriggering consultation is unenforceable.

FWS's limited ITS for effects from forest roads and late season winter motorized use on grizzly bears fails to identify Reasonable and Prudent Measures that could reasonably be expected to reduce the amount of incidental take. 2017 Biological Opinion at III-89 (providing a single Reasonable and Prudent Measure that directs the Forest Service to "Minimize or reduce the potential for mortality and displacement of grizzly bears due to the proposed action.").

For Canada lynx, FWS anticipates take from vegetation management, but states it is difficult to quantify. Instead it relies on the number of acres of snowshoe hare habitat treated through exceptions and exemptions of vegetation management standards as a surrogate measure of the anticipated incidental take of lynx. 2017 Biological Opinion at IV-89. FWS's surrogate to retrigger consultation for effects to Canada lynx from projects under the exceptions and exemptions to

[8] 2017 Biological Opinion at III-87 ("Project resulting in changes to OMRD, TMRD, or secure core beyond those permitted by the Revised Forest Plan and analyzed in this biological opinion will result in levels of take that exceed the amount of incidental take we anticipate here, and reinitiation or project-specific consultation would be required."), 2017 Biological Opinion at III-88 ("If on-the-ground implementation of a project exceeds five years, or if a project concurrently impacts OMRD, TMRD, or secure core in more than three adjacent subunits, the level of take exempted under this biological opinion would be exceeded and reinitiation or project-specific consultation would be required (as appropriate).").

[9] 2017 Biological Opinion at III-88 – III-89 (stating that "[i]f late season motorized over-snow vehicle use (i.e., after March 31) occurs on more than three percent of modeled denning habitat within the PCA on the FNF, or more than 19 miles of routes are open to late season motorized over snow vehicles in modeled denning habitat, then the amount of take we anticipated in this biological opinion would be exceeded, and reinitiaton or project-specific consultation would be required.").

vegetation management standards in the revised plan is unacceptable.[10] And FWS's Reasonable and Prudent Measures and Terms and Conditions to minimize impacts of incidental take of lynx are overly vague, ambiguous, and incapable of implementation or enforcement. *See* 2017 Biological Opinion at IV-92 – IV-94.

FWS does not include an Incidental Take Statement for bull trout or its designated critical habitat, explaining that an ITS is not appropriate for the "mere potential for future take." 2017 Biological Opinion at II-71. However, the revised plan allows for increases in road density and a far less stringent culvert monitoring program, both of which are likely to result in take of bull trout. FWS's explanation for not including an ITS for bull trout is insufficient and fails to address these direct harms.

ESA VIOLATIONS

1. FWS violated the ESA in preparing the November 22, 2017 Biological Opinion for the Flathead National Forest's Revised Forest Plan, and the Biological Opinion is arbitrary, capricious, and contrary to the ESA. 16 U.S.C. § 1536; 5 U.S.C. § 706(2)(A). The 2017 Biological Opinion is unlawful, arbitrary, and capricious because: (1) FWS fails to analyze or consider relevant factors; (2) it relies on an inconsistent and inaccurate description of the proposed action; (3) FWS relies on inadequate conservation and mitigation measures that are not reasonably specific, certain to occur, capable of implementation, or enforceable; (4) the facts found in the 2017 Biological Opinion do not rationally support FWS's conclusion; (5) FWS fails to use the best scientific data available in making its findings and determinations; (6) the scope of FWS's 2017 Biological Opinion misrepresents grizzly bears' health; (7) FWS improperly replaces the culvert monitoring plan on the Flathead National Forest; and (8) FWS fails to include a quantifiable incidental take limit or an acceptable surrogate to retrigger consultation. Thus, FWS's determination that the revised plan is not likely to jeopardize the continued existence of grizzly bears, Canada lynx, and bull trout, or adversely modify Canada lynx and bull trout designated critical habitat is unsupported, arbitrary, and capricious.

2. The Forest Service's reliance on this legally flawed 2017 Biological Opinion violates the Forest Service's independent and continuing duty to ensure that the revised Forest Plan is not likely to jeopardize the continued existence of any threatened or endangered species, or result in the destruction or adverse modification of designated critical habitat, in violation of Section 7 of the ESA. 16 U.S.C. § 1536(a)(2).

3. The Forest Service has violated the ESA by failing to consult, or reinitiate consultation, under Section 7 regarding the winter motorized use designations on the Flathead National Forest. Section 7(a)(2) of the ESA requires that each federal agency consult with the Services to ensure that any action authorized, funded, or carried out by such agency is not likely to (1) jeopardize the continued existence of any threatened or endangered species or (2) result in

[10] 2017 Biological Opinion at IV-87 – IV-94 (stating that the level of take anticipated in the ITS would be exceeded if: more than 93,723 acres of lynx habitat in the WUI is treated under the exemptions from VEG S1, S2, S5 or S6 for fuel treatment projects; or more than 15,460 acres on the FNF is treated under exceptions to VEG S5 and S6 for other resource benefits).

the destruction or adverse modification of the critical habitat of such species. *See* 16 U.S.C. § 1536(a)(2). Section 7(a)(4) of the ESA requires a Federal action agency to conference with the Services if the proposed action is likely to jeopardize a species proposed for listing or destroy or adversely modify proposed critical habitat. 16 U.S.C. § 1536(a)(4); 50 C.F.R. § 402.10(a). The Forest Service's failure to consult, or reinitiate consultation over effects to grizzly bear and Canada lynx, and failure to conference over effects to wolverine, from the Flathead's winter motorized designations is a significant violation of the ESA.

4. The Forest Service is in violation of Section 7(d) of the ESA by adopting and implementing the winter motorized use designations from Amendment 24 of the 1986 Forest Plan before adequate and lawful consultation is complete. Such actions constitute an "irreversible and irretrievable commitment of resources." *See* 16 U.S.C. § 1536(d).

WildEarth Guardians and Western Watersheds Project will initiate litigation over the Forest Service's and FWS's ESA violations unless the Forest Service undertakes a new consultation with FWS to fully analyze whether the Flathead National Forest's revised plan will jeopardize grizzly bear, Canada lynx, bull trout, or the proposed wolverine, or destroy or adversely modify Canada lynx and bull trout designated critical habitat, and prevents any irreversible or irretrievable commitment of resources from occurring until consultation is completed.

For the above stated reasons, FWS and the Forest Service have violated and remain in ongoing violation of the ESA. The 60-day notice requirement is intended to provide you an opportunity to correct the actions that are in violation of the ESA.

Sincerely,

Marla Fox, Staff Attorney
WildEarth Guardians

Kelly Nokes, Wildlife Attorney
Western Environmental Law Center

Susan Jane M. Brown, Public Lands Director
Western Environmental Law Center

John Mellgren, Wildlife Director
Western Environmental Law Center

cc: William Barr, U.S. Attorney General

Attachment A: Grizzly Bear

Grizzly bears (*Ursus arctos horribilis*) are a subspecies of brown bear (*U. arctos*) that occur in North America, Europe, and Asia. Grizzly bears once occurred throughout the western half of the contiguous United States, central Mexico, western Canada, and most of Alaska. Prior to European settlement, there were approximately 50,000 grizzly bears in the western United States. By the 1930s, grizzly bears had lost approximately 98 percent of their historic range in the western United States. Of the 37 grizzly bear populations present in the contiguous United States in 1922, 31 were extirpated by 1975. By the early 1970s, only a few hundred grizzly bears remained in the contiguous United States.

In 1975, FWS listed all grizzly bears in the contiguous United States as a threatened species under the federal ESA. 40 Fed. Reg. 31736 (July 28, 1975). In the 1975 listing, FWS determined grizzly bears in the contiguous United States were threatened by a combination of factors. The primary factors establishing the need to list grizzly bear were: (1) present or threatened destruction, modification, or curtailment of habitat or range; (2) overutilization for commercial, sporting, scientific, or educational purposes; and (3) other manmade factors affecting its continued existence.[1] FWS determined grizzly bears in the contiguous United States had lost a significant amount of habitat in the contiguous United States. At the time, grizzly bear range was confined to only three regions, one of which was the Bob Marshall Ecosystem in northern Montana. Two primary challenges in grizzly bear conservation are the reduction of human-caused mortality and the conservation of remaining habitat.

In the 1993 Grizzly Bear Recovery Plan, the FWS identified six recovery ecosystems in the contiguous United States where grizzly bears are known to have inhabited and where suitable habitat available for grizzly bear conservation remains, including: (1) the Northern Continental Divide Ecosystem (NCDE); (2) the Greater Yellowstone Ecosystem; (3) the Cabinet-Yaak Ecosystem; (4) the Selkirk Mountains Ecosystem; (5) the Bitterroot Ecosystem; and (6) the North Cascades Ecosystem. The FWS also considered a seventh recovery zone in Colorado's San Juan Mountains Ecosystem. The following map is from the 1993 Grizzly Bear Recovery Plan, page 9:

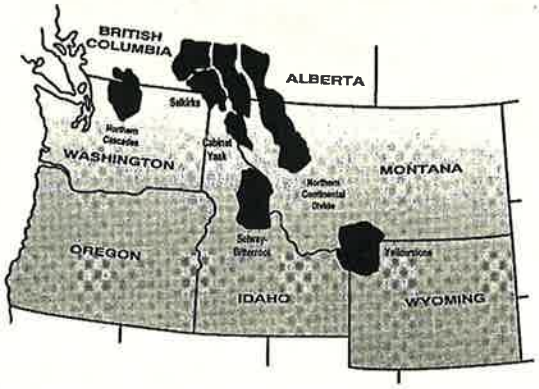

Figure 2. Present grizzly bear ecosystems in the conterminous 48 States, 1990 (the San Juan Mountains area of Colorado is not shown).

[1] 2017 Biological Opinion at III-4.

The Flathead National Forest is home to one of the largest remaining populations of grizzly bears in the contiguous United States. This population of grizzly bears on the Flathead National Forest is part of the NCDE grizzly bear population. There are approximately 900 grizzly bears in the NCDE.

Over 2.1 million acres of the Flathead's 2.4 million acres is in the NCDE primary conservation area (PCA). The following map is from the U.S. Fish and Wildlife Service, Grizzly Bear Recovery Plan Supplement: Habitat-based Recovery Criteria for the Northern Continental Divide Ecosystem (2018), page 4:

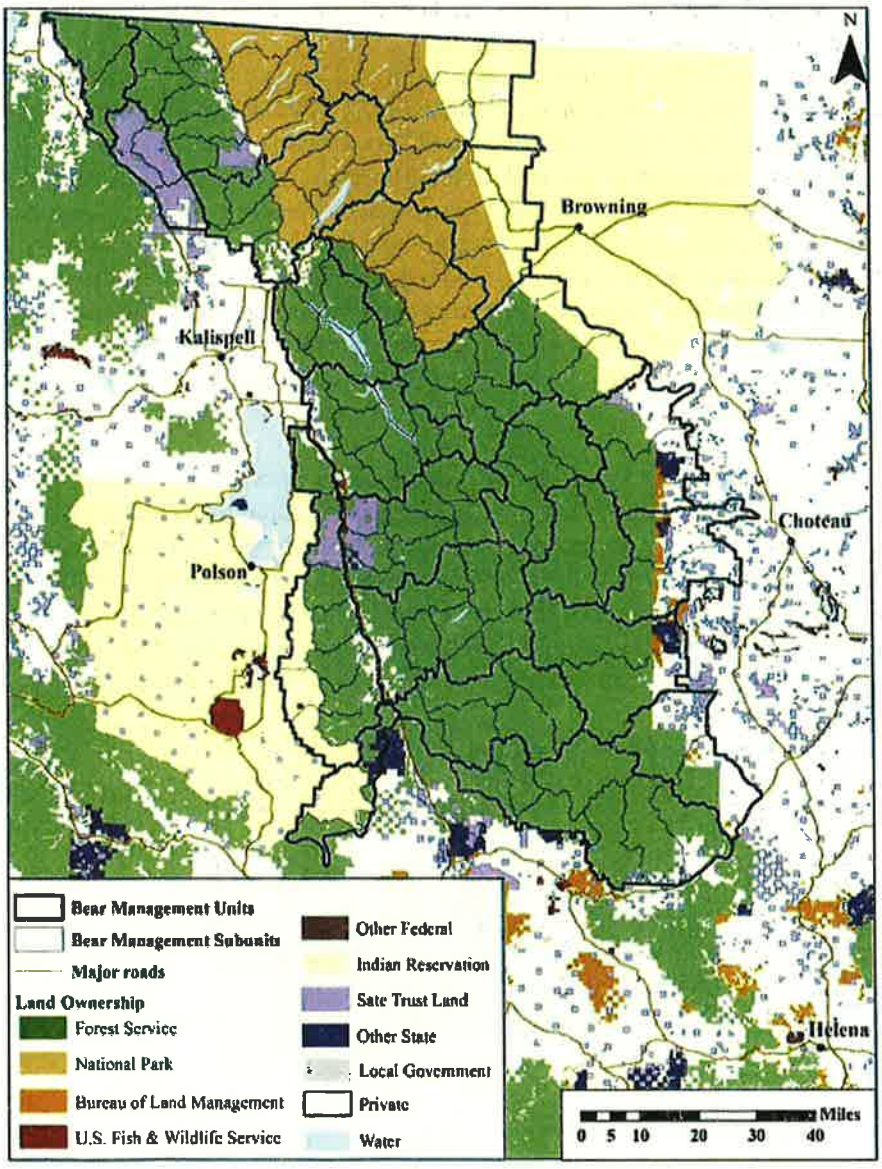

Figure 1. The NCDE Recovery Zone, bear management units, bear management subunits, and land ownership.

Threats to Grizzly bears in the NCDE

Grizzlies in the NCDE are threatened by multiple factors. In particular, grizzly bears in the NCDE are significantly threatened by roads.[2] FWS considers the management of roads to be one of the most important variables in managing grizzly bear habitat.[3]

Grizzly bears are adversely impacted by roads through direct mortality from vehicle strikes and illegal harvest, and indirect mortality resulting from habituation to humans.[4] Grizzly bears are also adversely impacted by roads through avoidance of key habitat as they attempt to move away from roads and road activity; through displacement from key habitat as they attempt to move away from roads and road activity; and through modification and fragmentation of their core habitat due to roads and road construction.[5] The presence of roads to human population centers and the presence of dispersed motorized recreation in habitat around roads poses risks to grizzly bears.[6] Access management is essential to reducing mortality risk to grizzly bears.[7] Roads may cause some grizzly bears to habituate to humans.[8] Grizzly bears that are habituated to humans suffer increased mortality risk.[9]

Many grizzly bears will under-use or avoid otherwise preferred habitats that are frequented by humans due to road proximity and related opportunities for human access.[10] This represents a modification of normal grizzly bear behavior that can result in detrimental effects. Grizzly bears will avoid roads and corridors adjacent to roads. Grizzly bears will also avoid roads and adjacent corridors even when the area contains preferred habitat for breeding, feeding, shelter, and reproduction.

Mace and Manley (1993) reported use of habitat by all sex and age classes of grizzly bears was less than expected where total road densities exceeded two miles per square mile.[11] Mace and Manley (1993) also found that adult grizzly bears used habitats less than expected when open motorized route density exceeded one mile per square mile.[12] Female grizzly bears in the Mace and Manley (1993) study area tended to use habitat more than 0.5 mile from roads or trails greater than expected.[13]

Grizzly bear core habitat is comprised of areas with no motorized access during the non-denning period.[14] Large blocks of secure core grizzly bear habitat are vital to grizzly bears.[15] Grizzly bear core habitat provides areas that are free from human influence.[16] Secure core habitat for grizzly bears

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2 2017 Biological Opinion at III-25.
3 2017 Biological Opinion at III-9.
4 2017 Biological Opinion at III-25; *Id. at II-48–50.*
5 2017 Biological Opinion at III-25–26; *Id. at II-48–50.*
6 *Id.*
7 *Id.*
8 *Id.*
9 *Id.*
10 2017 Biological Opinion at III-26; *Id. at II-48–50.*
11 2017 Biological Opinion at III-51.
12 *Id.*
13 *Id.*
14 *Id.*
15 *Id.*
16 2017 Biological Opinion at III-51.

allows the species to exist under natural, free-ranging conditions.[17] As in most grizzly bear ecosystems in the contiguous United States, in the NCDE, roads are the primary threat to large blocks of grizzly bear security core habitat.[18] Roads are a primary threat because they facilitate human presence and because they fragment large swaths of habitat into smaller blocks.[19]

Grizzly bears in the NCDE are currently isolated from other grizzly bear populations in the contiguous United States. Providing for grizzly bear connectivity is key towards eventually recovering the species across the contiguous United States.

Grizzly bears in the NCDE are also threatened by the impacts of climate change. The changing climate impacts the availability of grizzly bear food resources, and the number, size, and location of large wildfires. Wildfires can disrupt grizzly bear habitat.

Revised Forest Plan Components on the Flathead National Forest

Grizzly Bear Habitat Direction and the NCDE Conservation Strategy

The revised Forest Plan relies on the contents of the 2018 NCDE Conservation Strategy as the basis for its grizzly bear habitat management direction.[20] In 2013, the Interagency Grizzly Bear Committee, NCDE Sub-Committee developed a draft Conservation Strategy outlining a post-delisting management framework for grizzlies in the NCDE.[21] The NCDE Conservation Strategy was finalized in July 2018. The Forest Service is a signatory to the NCDE Conservation Strategy. The Forest Service relied on the 2013 draft NCDE Conservation Strategy during the notice and comment periods for the proposed revised Forest Plan, draft EIS, and during the objection period. The Forest Service adopted the management framework of the July 2018 NCDE Conservation Strategy for managing grizzly bear habitat on National Forest System lands in its final ROD for the revised Forest Plan.

The management framework consists of a number of management zones in which differing levels of protections for grizzly bears are applied: (1) the Primary Conservation Area (PCA) – the same area as the recovery zone identified in the FWS's 1993 Grizzly Bear Recovery Plan; (2) Management Zone 1 – a defined area surrounding the PCA within which the grizzly bear population status and trend are monitored; (3) Demographic Connectivity Areas (DCAs) – including the Salish and Ninemile DCAs, a portion of zone 1 with specific habitat measures to allow female grizzly bear occupancy and eventual dispersal to other ecosystems in the lower 48; (4) Management Zone 2 – an area where grizzly bears are expected to be present at low densities; and (5) Management Zone 3 – areas where management emphasis is primarily focused on conflict response.[22]

The PCA for the NCDE encompasses approximately 5.7 million acres.[23] The Forest Service manages 60.9 percent of these lands. The Flathead National Forest contains 37 percent of lands in

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[17] *Id.*
[18] *Id.*
[19] *Id.*
[20] 2017 Biological Opinion at III-1.
[21] *Id.*
[22] 2017 Biological Opinion at III-2.
[23] 2017 Biological Opinion at III-22.

the NCDE PCA and 5 percent of lands within Management Zone 1, including DCAs, as adopted by the NCDE Conservation Strategy.

The 2013 draft NCDE Conservation Strategy was never made available for public comment. The 2013 draft NCDE Conservation Strategy is not a NEPA document. The 2018 final NCDE Conservation Strategy was never made available for public comment. The 2018 final NCDE Conservation Strategy is not a NEPA document. The 2018 final NCDE Conservation Strategy was signed in July 2018, after the Flathead had completed its public review and comment process under NEPA, and after the Forest had completed the objection resolution meetings for the revised Forest Plan.

Road Density, Grizzly Bear Secure Core, and the 2011 Baseline

The revised Forest Plan adopts components relating to road density levels on the Forest. Managing road density is one of the most important factors for managing grizzly bear habitat security.

Flathead Forest Plan Amendment 19 to the 1986 Flathead Forest Plan (1995) incorporated forest-wide objectives and standards pertaining to motorized access and security core areas in grizzly bear habitat in order to provide adequate habitat protections for grizzly bears. Amendment 19 established a standard for no net increase in total motorized access density or open motorized access density and no net decrease in security for 54 grizzly bear management subunits.[24] Amendment 19 also established numeric objectives to limit open motorized route density and total motorized route density, and to ensure secure core at specified levels within each grizzly bear management subunit.[25] The grizzly bear objectives and standards of Amendment 19 were not discretionary.

Specifically, Amendment 19 required no net increase in total motorized route density greater than 2 miles/mile^2; no net increase in open motorized route density greater than 1 mile/mile^2; and no net decrease in the amount or size of security core areas in all grizzly bear management subunits on the Forest.[26] Amendment 19 also set objectives for all grizzly bear management subunits that are predominantly (greater than 75 percent) National Forest System lands to: (1) limit high-density, open motorized access to no more than 19 percent of a grizzly bear management subunit within 5 years; (2) limit high-density, total motorized access to no more than 24 percent of a bear management subunit in 5 years and no more than 19 percent in 10 years; and (3) provide security core areas that equal or exceed 60 percent of each grizzly bear management subunit in 5 years, and 68 percent in 10 years.[27]

The Flathead never achieved the objectives and standards of Amendment 19.[28] Ten grizzly bear management subunits have yet to meet the objectives for open motorized route density.[29] Fifteen grizzly bear management subunits have yet to meet the objectives for total motorized route density.[30] Sixteen grizzly bear management subunits fail to meet the objectives for secure core habitat.[31] The

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[24] 2017 Biological Opinion at III-35.
[25] *Id.*
[26] U.S. Forest Service, Forest Plan Amendment 19, Decision Notice at 4 (March 1995).
[27] *Id.*
[28] *See* 2017 Biological Opinion at III-35–38.
[29] *Id.*
[30] *Id.*
[31] *Id.*

Flathead would need to decommission 518 miles of roads to meet the objectives and standards of Amendment 19.[32]

The Amendment 19 road density and secure core standards and objectives are based on the best available science. But, the revised Forest Plan abandons the Amendment 19 road density and secure core standards and objectives. The revised Forest Plan instead adopts an arbitrary 2011 baseline by which to measure road density and secure core habitat in the future.

The 2011 baseline generally refers to conditions on the ground as of December 31, 2011.[33] The Forest Service justifies the use of a 2011 baseline because the NCDE population of grizzly bears was increasing in size and expanding in distribution as of that date.[34] The Forest Service concludes that maintaining the on-the-ground conditions that existed as of December 31, 2011 will not preclude the recovery of the NCDE grizzly bear population.[35]

The 2011 baseline is derived from the 2013 draft NCDE Conservation Strategy, and subsequently, the 2018 final NCDE Conservation Strategy. Reliance on the 2011 baseline fails to account for changed conditions since December 31, 2011. Reliance on the 2011 baseline fails to account for or consider important factors such as food resource availability, increased mortalities, and wildfire impacts to the NCDE grizzly bear population since December 31, 2011. Reliance on the 2011 baseline fails to account for changes in the NCDE grizzly bear population's size, distribution, and rate of population change since December 31, 2011.

The revised Forest Plan adopts plan components for road density and secure core levels that will maintain on-the-ground conditions as of December 31, 2011. The Forest Service concludes that on-the-ground conditions as of December 31, 2011 contributed to the growth and expansion of the NCDE grizzly bear population. The Forest Service concludes that on-the-ground conditions as of December 31, 2011 will be sufficient for the survival and recovery of the NCDE grizzly bear population. FWS-STD-IFS-02 states: "In each bear management subunit with the NCDE primary conservation area, there shall be no net decrease to the baseline … for secure core and no net

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[32] 2018 Flathead Forest Plan ROD at 37 ("given the improved condition of NCDE grizzly bear population and its habitat, it will not be necessary to further reduce public motorized access by about 518 miles, as would be needed to meet objectives of Amendment 19… Although I acknowledge that the direction from Amendment 19 … has been beneficial, the overall ecological conditions (both habitat and species populations) have improved to a point that further programmatic access restrictions to improve grizzly bear habitat are not necessary.").

[33] 2017 Biological Opinion at III-60.

[34] *See e.g.* 2017 Biological Opinion at III-61(road density levels consistent with 2011 conditions will not preclude recovery of NCDE population because consistent with conditions at time when NCDE population increasing in size and expanding distribution); 111-63 (temporary road density changes allowed under revised plan will be consistent with temporary changes made during a time when NCDE population known not only to be stable but also expanding in distribution and increasing in size); III-64 (temporary opening of roads for firewood gathering consistent with 2011 conditions, when NCDE grizzly bear population increasing in size and distribution with no apparent population-level effects); III-65 (overall road density components consistent with 'on-the-ground' conditions for grizzly bears during a period (i.e., 2004 to present) when the NCDE population known to be increasing in size and distribution); III-67 ("these conditions were present on the landscape while the NCDE grizzly bear population has continued to increase in size and distribution"); III-68 ("current level of spatial overlap [between grizzly bear denning and areas open to late-season over-snow motorized vehicle use] is what was occurring during time period when NCDE population was known to be increasing in size and distribution"); III-69 (developed recreation site components "consistent with what has occurred on the FNF while the NCDE grizzly bear population was stable to increasing and expanding in distribution").

[35] 2017 Biological Opinion at III-61; III-65; III-67; III-68.

increase to the baseline for open motorized route density or total motorized route density on National Forest System lands during the non-denning season."

Using the 2011 baseline maintains existing road conditions on the Flathead, with no requirement for future reductions of open motorized route density or total motorized route density, or increases in secure core. The FWS expects that conditions in 32 subunits on the Flathead National Forest will thereby continue to contribute to adverse effects to grizzly bears since motorized route densities are greater than those known to adversely affect grizzly bears (19 percent for open motorized route density and total motorized route density), or the percentage of secure core is less than the threshold known to adversely affect grizzly bears (at least 68 percent).[36]

The revised Forest Plan allows for increases in the number and density of forest roads for temporary and administrative uses above the arbitrary 2011 baseline. *See* FWS-STD-WL-03, FWS-STD-IFS-01, FWS-STD-IFS-02, FWS-STD-IFS-03, and FWS-STD-IFS-04. The revised Forest Plan standards allow temporary changes in the open motorized route density, total motorized route density, and secure core for projects within bear management subunits in the NCDE primary conservation area.

The Forest Service has moved away from a policy position — Amendment 19 — that it has stated is the best available science and is necessary for the conservation and recovery of grizzly bears. The Forest Service has instead adopted a revised Forest Plan with plan components that are not based on the best available science because it eschews necessary restrictions on road densities without explaining why it has made this policy decision. This is arbitrary and capricious and not in accordance with the law

Winter Motorized Travel & Grizzly Bears

Effects of snowmobiles on grizzly bears occur primarily when bears are entering or leaving their dens. Possible effects include den abandonment, loss of young, increased energetic costs while bears are in dens or displaced away from suitable habitat if outside dens, learned displacement from suitable habitat resulting from exposure to disturbance, and death. Grizzly bear denning habitat often overlaps with winter recreation areas, making them susceptible to disturbance, thereby increasing energy expenditures and the potential for den abandonment.[37] This is true for the Flathead, as evidenced in the following maps from the 2017 Biological Opinion for the revised Flathead Forest Plan:

[36] 2017 Biological Opinion at II-61.
[37] J.D.C. Linnell *et al.*, How vulnerable are denning bears to disturbance? 28 Wildlife Society Bulletin 2 (2000).

Figure19. Modeled grizzly bear denning habitat with amendment 19's designated late-season over-snow routes—north half Flathead National Forest.

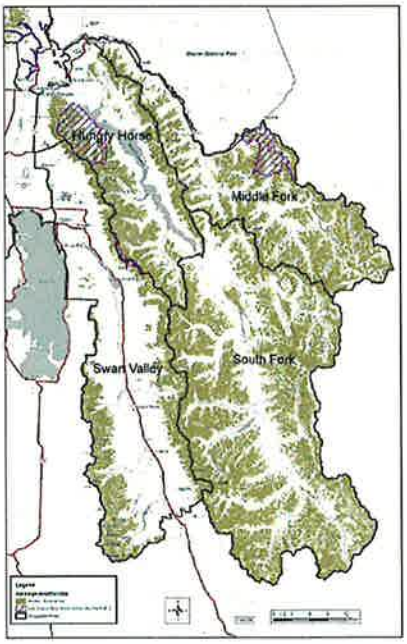

Figure 10. Modeled grizzly bear denning habitat with amendment 19's designated late-season over-snow areas—south half Flathead National Forest.

Grizzly bears typically den in relatively high elevation areas with more stable snow conditions and steep slopes.[38] Direct mortality is possible if an avalanche is triggered on a slope where bears are hibernating.[39] In general, grizzlies avoid roads[40] and select den sites one to two kilometers from human activity.[41] Snowmobiles can easily access these remote sites and therefore pose a potential for disturbance. A comprehensive review found human disturbance within one kilometer of a den site has a significant risk of causing abandonment, especially early in the denning season.[42]

Snowmobiles may have direct harmful effects to emergent bears, mainly females and cubs. Because females with cubs have high energetic needs and cubs have limited mobility for several weeks after leaving the den, they remain in the den site area for several weeks after emergence from dens. Disturbance levels that cause a female to prematurely leave the den in spring or move from the den area could impair the fitness of the female and safety of the cubs.[43] The mean week of den emergence ranged from the third week in March to the fourth week in May.[44] It is important to provide secure habitat—areas free of motorized access—so bears are able to fully use available resources.[45]

In its 2008 Biological Opinion analyzing the impacts of Amendment 24 to the 1986 Flathead Forest Plan, FWS concluded the snowmobile activity proposed under Amendment 24 was not likely to jeopardize the continued existence of the grizzly bear. Under the revised Forest Plan, the Forest Service adopted many of the OSV designations from Amendment 24 but also made some changes to OSV suitability on the Forest that resulted in an increase of about 567 acres as suitable for motorized OSV use.

FWS's 2017 Biological Opinion

In its 2017 Biological Assessment for the revised Forest Plan, the Forest Service determined the revised Forest Plan is likely to adversely affect grizzly bear. In its 2017 Biological Opinion, FWS concluded the revised Forest Plan is not likely to jeopardize the continued existence of grizzly bear, with two exceptions. 2017 Biological Opinion at III-84. First, FWS determined the science is clear that above certain motorized route densities, bears suffer adverse effects that can lead to significant impairment of the ability to feed, breed, or shelter. *Id.* at III-85. Second, FWS determined the best available science and information suggests that recently emerged females with cubs could be vulnerable to adverse disturbance effects of OSV use near den sites during the den emergence

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[38] *Id.*

[39] G.V. Hilderbrand *et al.*, A Denning Brown Bear, Ursus arctos, Sow and Two Cubs Killed in an Avalanche on the Kenai Peninsula, Alaska, 114 Canadian Field-Naturalist 3 (2000).

[40] R.D. Mace *et al.*, Relationships Among Grizzly Bears, Roads and Habitat in the Swan Mountains, MT, 33 Journal of Applied Ecology (1996).

[41] Linnell (2000).

[42] *Id.*

[43] USDI, Fish and Wildlife Service, Endangered Species Act Section 7 Consultation Supplement to the Biological Opinion (2010) on the Effects of the 2009 Revision of the Beaverhead-Deerlodge National Forest Land and Resource Management Plan on Grizzly Bears (2013).

[44] M. Haroldson and F.T. van Manen, Estimating Number of Females with Cubs, *in* Yellowstone grizzly bear investigation: annual report of the Interagency Grizzy Bear Study Team (F.T. van Manen *et al.*, eds. 2014).

[45] USDA Forest Service, Forest Plan Amendment for Grizzly Bear Habitat Conservation for the Greater Yellowstone Area National Forests (2006), page 7.

period. *Id.* FWS's 2017 Biological Opinion is arbitrary, capricious, and not in accordance with the ESA.

Attachment B: Bull Trout & Critical Habitat

Bull trout (*Salvelinus confluentus*) was listed as threatened under the ESA throughout the coterminous United States in 1999. Bull trout are a cold-water fish of relatively pristine streams and lakes. They have specific habitat requirements: cold, clean, complex and connected habitat. Primary threats to bull trout include habitat degradation and fragmentation, blockage of migratory corridors, poor water quality, past fisheries management, and the introduction of non-native species such as brown, lake, and brook trout. Effects resulting from climate change also threaten bull trout, because a warming climate is expected to shrink cool spawning and rearing areas. Bull trout occur over a large area, but their distribution and abundance has declined and scientists have documented several local extinctions. Remaining populations tend to be small and isolated from each other, making the species more susceptible to local extinctions.

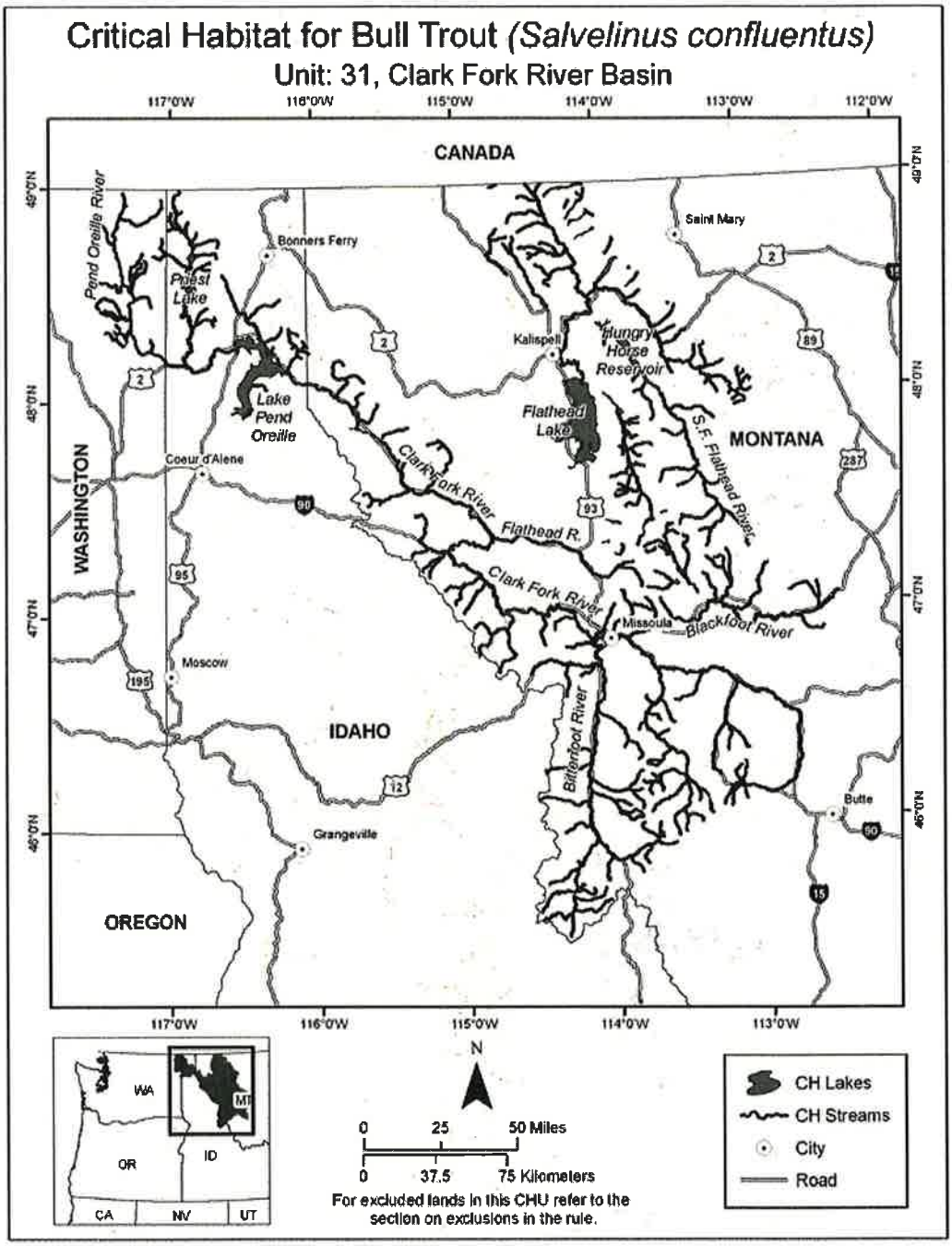
In 1995, Forest Service Regions 1, 4 and 6 adopted the Interim Strategy for Managing Fish-Producing Watersheds ("INFISH") to provide interim direction to protect habitat and population of resident native fish. INFISH is a broad-reaching aquatic habitat conservation strategy for the northwestern United States and was incorporated into Forest Plans, including the Flathead's Forest Plan, in a single Record of Decision.

In 1998, FWS issued a BiOp assessing the effects of implementing all affected Forest Plans as amended by INFISH ("1998 BiOp"). The 1998 BiOp analyzed the effects to bull trout from the Flathead Forest Plan, among others. In the 1998 BiOp, FWS noted, "within the range of the DPSs of bull trout, [Forest Plans] provide direction and standards for broad classes of project activities and land and water management practices that may affect bull trout. [Forest Plans] provide policy guidance for various federal activities carried out on the forest or management area." The programmatic 1998 BiOp ultimately concluded that continued implementation of the Forest Plans is not likely to jeopardize the continued existence of bull trout. However, the 1998 BiOp also concluded that because "[n]o critical habitat has been designated for the species [....] none will be affected."

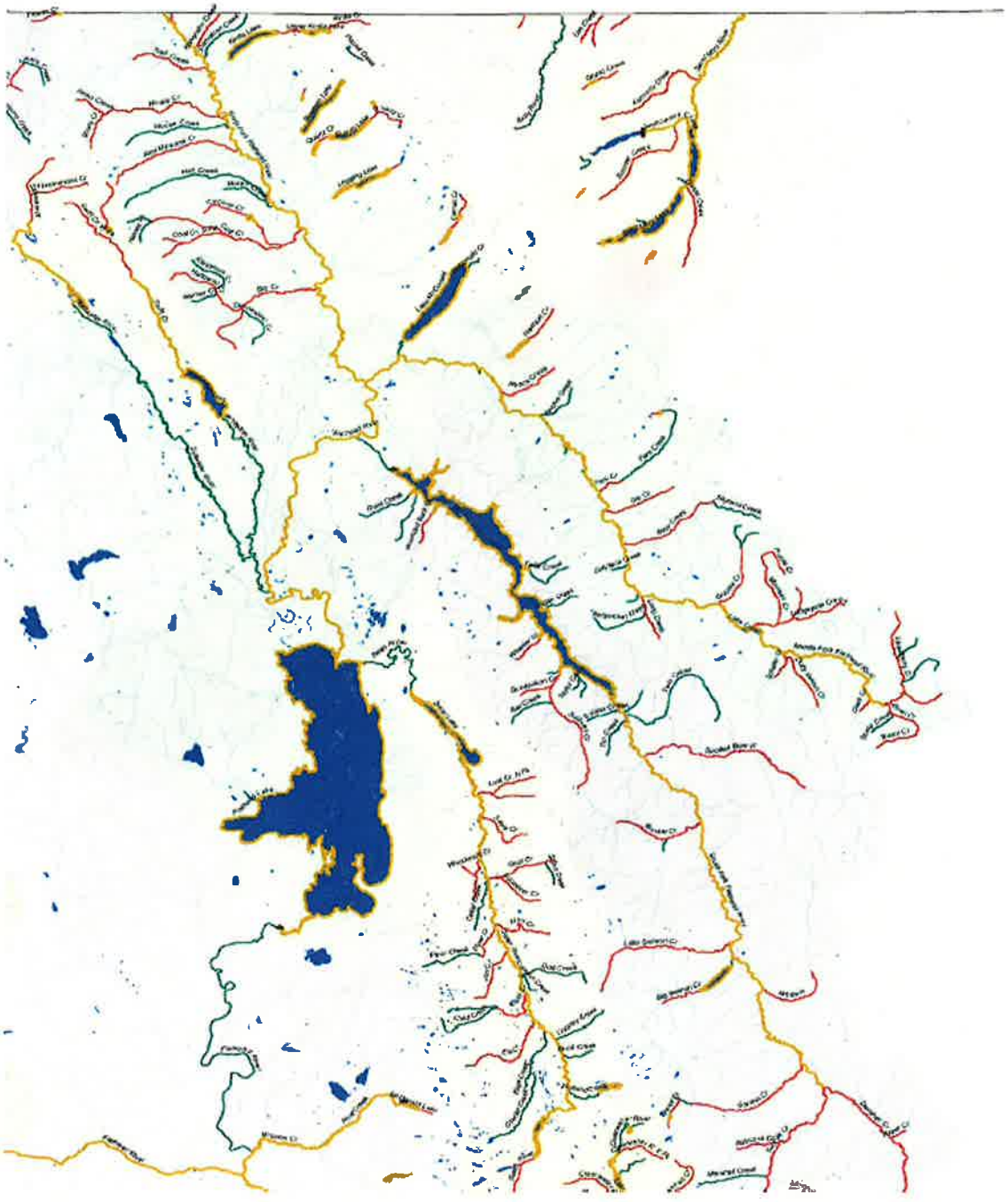
After years of legal and political wrangling, critical habitat for bull trout was most recently designated on October 18, 2010. 75 Fed. Reg. 63898 (Oct. 18, 2010). The rule designated a total of 19,729 miles of stream and 488,251.7 acres of reservoirs and lakes in the States of Washington, Oregon, Nevada, Idaho, and Montana as critical habitat for the bull trout.

<u>Bull Trout on the Flathead National Forest</u>

Bull trout and bull trout critical habitat exist on the Flathead National Forest. The following map shows Unit 31 of the bull trout critical habitat that was designated in 2010, 75 Fed. Reg. at 64,067, and includes the Flathead National Forest:


Critical Habitat for Bull Trout (Salvelinus confluentus)
Unit: 31, Clark Fork River Basin
117°0'W
116°0'W
115°0'W
114°0'W
113°0'W
112°0'W
49°0'N
48°0'N
47°0'N
46°0'N
CANADA
WASHINGTON
IDAHO
MONTANA
OREGON
Pend Oreille River
Priest Lake
Bonners Ferry
Lake Pend Oreille
Coeur d'Alene
Kalispell
Flathead Lake
Hungry Horse Reservoir
Saint Mary
S.F. Flathead River
Clark Fork River
Flathead R.
Clark Fork River
Missoula
Blackfoot River
Blackfoot River
Moscow
Grangeville
Butte
2
90
95
195
12
93
89
287
90
15
WA
MT
OR
ID
CA
NV
UT
N
0 25 50 Miles
0 37.5 75 Kilometers
For excluded lands in this CHU refer to the section on exclusions in the rule.
CH Lakes
CH Streams
City
Road

The following map shows spawning and occupied bull trout streams in the Flathead Forest Plan Amendment 19 project area in the Swan Lake and Flathead Lake bull trout core areas of northwest Montana:



See U.S. Fish and Wildlife Service Montana Ecological Services Office, Biological Opinion on Amendment 19 (A-19) Revised Implementation Schedule, Bull Trout (*Salvelinus confluentus*) (Nov. 22, 2010) (hereafter, 2010 Amendment 19 BiOp), page 7, Figure 1.

The following maps from FWS's 2017 Biological Opinion for the Flathead's revised Forest Plan show bull trout core areas on the Flathead:

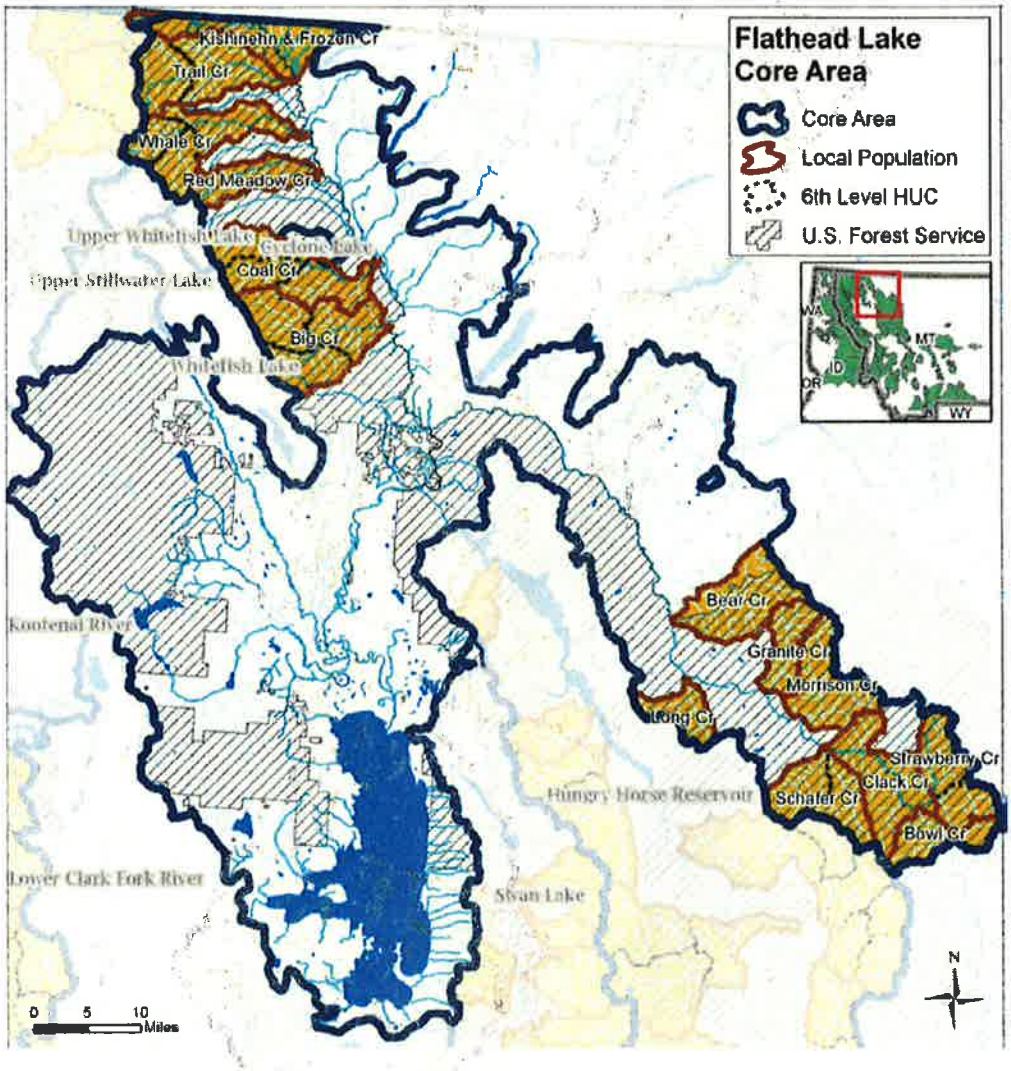


Figure 6. Flathead Lake Bull Trout Core Area.

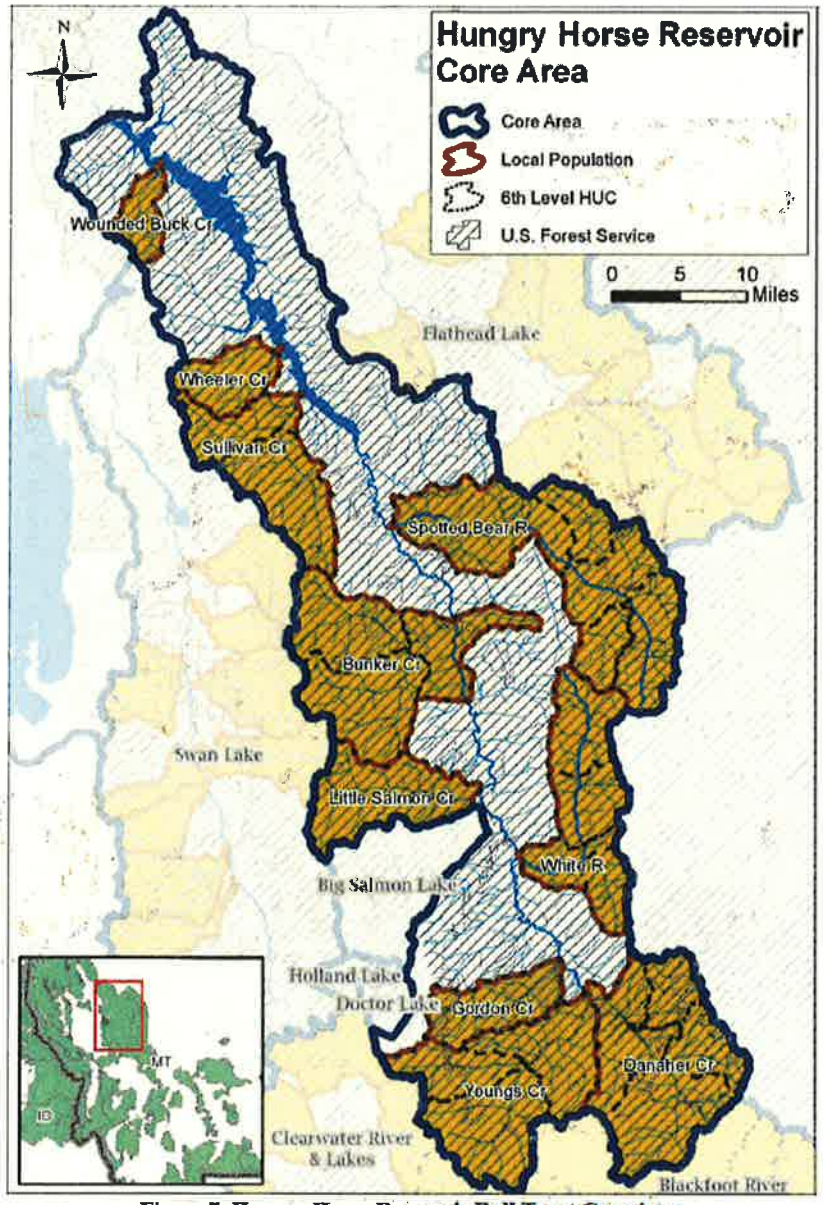


Figure 7. Hungry Horse Reservoir Bull Trout Core Area.

A1-7

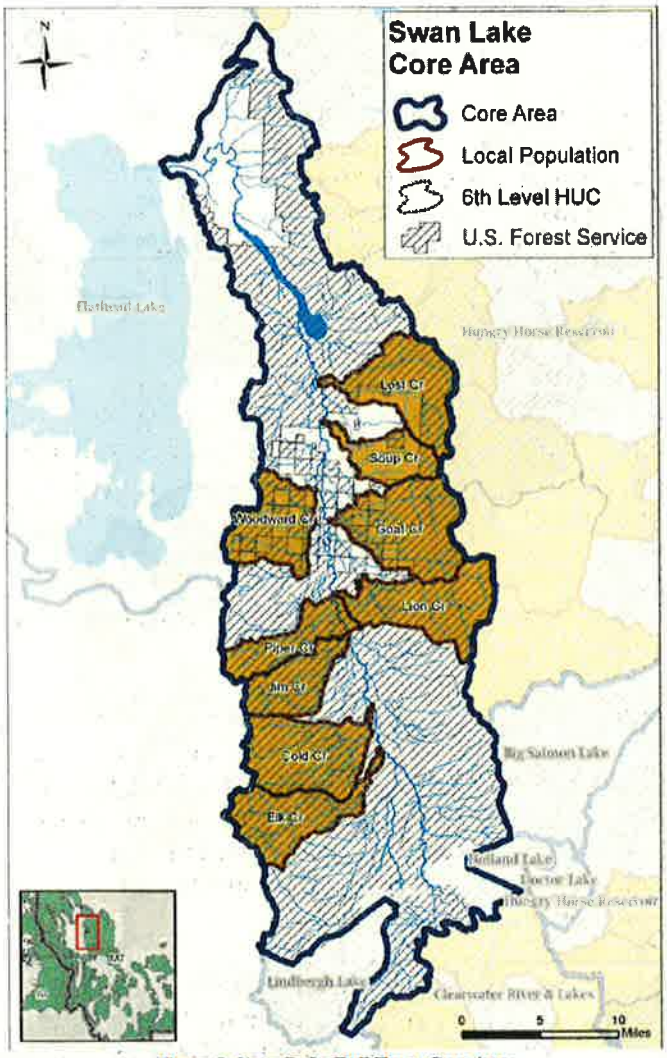


Figure 8. Swan Lake Bull Trout Core Area.

A1-8

Impacts to Bull Trout from Forest Roads & Culverts

The best available science shows that roads cause significant adverse impacts to National Forest resources. A 2014 literature review from The Wilderness Society surveys the extensive and best available scientific literature—including the Forest Service's General Technical Report synthesizing the scientific information on forest roads (Gucinski 2001)—on a wide range of road-related impacts to ecosystem processes and integrity on National Forest lands. *See* The Wilderness Society, *Transportation Infrastructure and Access on National Forests and Grasslands: A Literature Review* (May 2014). Erosion, compaction, and other alterations in forest geomorphology and hydrology associated with roads seriously impair water quality and aquatic species viability. Roads disturb and fragment wildlife habitat, altering species distribution, interfering with critical life functions such as feeding, breeding, and nesting, and resulting in loss of biodiversity. Roads facilitate increased human

intrusion into sensitive areas, resulting in poaching of rare plants and animals, human-ignited wildfires, introduction of exotic species, and damage to archaeological resources.

Roads often contribute to degraded baseline conditions in watersheds containing bull trout. Roads are a primary source of sediment impacts to developed watersheds. Accumulation of fine sediment is detrimental to bull trout habitat. Lee et al. (1997) found a pattern of decreasing strong populations of bull trout with increasing road density. Sediment delivered to streams is greatest in riparian areas where roads cross the streams. Fords and approaches to the crossings deliver sediment directly to streams. Roads and trails paralleling streams can interfere with large wood reaching the stream and cause increased erosion and decreased stream bank condition.

Culverts can deliver large amount of sediment to receiving waters when the culvert plugs and fails. The Forest Service and FWS have identified addressing the existing road system on the Flathead as the key opportunity to conserve bull trout. The agencies recognized that harms to bull trout from un-maintained forest roads and culverts behind gates and berms are legitimate concerns, and allowing culverts to remain increases the risk of losing a fish population and degrading water quality, as shown in the literature.

FWS's 2015 Biological Opinion on the effects to bull trout and bull trout critical habitat from road-related activities in Western Montana states:

> Culverts that remain in the road behind gates and berms that are not properly sized, positioned, and inspected . . . have an increased risk for failure by reducing awareness of potential maintenance needs. The accumulation of debris has the potential to obstruct culverts and other road drainage structures. Without maintenance and periodic cleaning, these structures can fail, resulting in sediment production from the road surface, ditch, and fill slopes. The design criteria to address drainage structures left behind gates and berms require annual monitoring of these structures.

See U.S. Fish and Wildlife Service Montana Ecological Services Office, Biological Opinion on the Effects to Bull Trout and Bull Trout Critical Habitat From the Implementation of Proposed Actions Associated with Road-related Activities that May Affect Bull Trout and Bull Trout Critical Habitat in Western Montana (April 15, 2015), pages 45-46.

In 2006, the Forest Service and FWS affirmed that high-risk culverts (or "pipes") left behind berms and gates on forest roads was the primary issue affecting bull trout habitat on the Flathead National Forest. *See* Meeting notes Seeley Lake 11/30/06 T&C Reporting. The maps provided at the end of this attachment—prepared by a GIS contractor from the Forest Service's own data—show that many forest roads and culverts directly affect, or affect waters upstream of, bull trout critical habitat.

Actions & Consultation: Flathead Forest Plan & Site-Specific Projects Requiring Culvert Monitoring

Since 2002, FWS has issued seven bull trout Biological Opinions to the Flathead National Forest that include no jeopardy determinations based on reasonable and prudent measures or terms and conditions requiring annual or biannual culvert monitoring on gated or closed roads for the purpose of identifying high risk culverts and repairing or removing them to reduce the risk of failure. *See, e.g.*, Nov. 9, 2016 Letter from Chip Weber, Forest Supervisor, Flathead National Forest to Jodie Bush, U.S. Fish and Wildlife Service. For at least five of these BiOps, FWS based its no jeopardy

determination in part on the Forest Service's commitment to annually inspect culverts on closed roads in bull trout habitat. For the Moose Post-Fire Project, FWS based its conclusions in part on the Forest Service's commitment to inspect culverts annually for the first two years following the project, and biannually thereafter. Although FWS did not explicitly base its no jeopardy determination for the West Side Reservoir Project on annual inspections of closed road culverts, reliance on this requirement is implicit given the requirement for the Forest Service to propose a culvert monitoring program and annually submit monitoring reports.

1. Chilly James Restoration Project (Jan. 2016)

In 2015, the Forest Service proposed the Chilly James Restoration Project, which included decommissioning 2.3 miles of road, placing 9 miles of road into intermittent stored service, implementing best management practices for 20.9 miles of road, and re-aligning 0.2 miles of road. *See* U.S. Fish and Wildlife Service Montana Field Office, Biological Opinions on the Effects of the Chilly James Restoration Project on Grizzly Bears, Bull Trout, and Bull Trout Critical Habitat (Jan. 20, 2016) (hereafter, 2016 Chilly James BiOp), page 5. FWS determined that the actions as proposed were not likely to jeopardize the continued existence of bull trout, and were not likely to destroy or adversely modify bull trout critical habitat. *Id.* at 46, 47. It based that determination, in part, on the Forest Service's commitment to comply with the conservation recommendations and design criteria identified in the 2015 Roads Programmatic BiOp. *Id.* at 45.

As explained below, the design criteria require all culverts behind road gates and permanent barriers be inspected annually and, if annual monitoring behind barriers is not feasible, require the Forest Service to remove all stream crossing structures when the road is closed. They also require all stream crossing structures be removed when a road is reclaimed or decommissioned so that annual inspections are not necessary.

FWS anticipated implementation of the Chilly James Restoration Project would likely impart a level of adverse effect, and thus incidental take would occur. *Id.* at 48. To minimize the impact of incidental take that might otherwise result, FWS identified non-discretionary reasonable and prudent measures with implementing terms and conditions, including annual monitoring in the same format as is required by the 2015 Roads Programmatic BiOp. *Id.* at 49-51.

2. Roads Programmatic BiOp (April 2015)

In its 2015 Roads Programmatic BiOp, FWS concluded that the proposed road-related maintenance activities would not appreciably reduce the survival and recovery of bull trout based on the information presented, including the Forest Service's commitment to implement design criteria for all road-related activities. 2015 Roads Programmatic BiOp at 61-63. *See also id* at 65 ("The proposed action requires that each land management unit will monitor projects to assure design criteria are implemented and findings are documented"). Design criteria, listed in Appendix A of the 2015 Roads Programmatic BiOp, expressly incorporate Appendix E as detailing the design criteria for road decommissioning and road storage or closure. *Id.* at 92 (Appendix A, Detailed Description of Road-Related Activities Included in the Proposed Action). Those design criteria require all culverts behind road gates and permanent barriers be inspected annually and, if annual monitoring behind barriers "is not feasible, remove all stream crossing structures when the road is closed." *Id.* at 99 (Appendix E, Standards for Road Closures). They also require removal of all stream crossing structures when a road is reclaimed or decommissioned so that annual inspections are not necessary.

Id. at 100.

3. Amendment 19 Revised Implementation (Nov. 2010)

In 2010, the Forest Service sought to delay implementation of road-related projects identified in Amendment 19 to the Flathead's Forest Plan (referred to as A-19 projects) through 2009. *See* 2010 Amendment 19 BiOp at 15. This meant further delaying the decommissioning of 16.5 miles of roads in four Grizzly Bear Management Unit (GBMU) watersheds (Red Meadow Creek, Granite Creek, Morrison Creek, and North Fork Lost Creek). *Id.* FWS estimated those roads to contain 28 culverts and two bridges in bull trout drainages, failure of which could produce approximately 476 tons of sediment. *Id.* at 15, 53. FWS affirmed that leaving roads that remain on the landscape without appropriate maintenance adversely affects bull trout. *Id.* at 48.

FWS determined the revised implementation schedule was not likely to jeopardize the continued existence of bull trout, would not appreciably reduce the survival or recovery of bull trout in the wild, and was not likely to destroy or adversely modify bull trout critical habitat. *Id.* at 60-62. Those determinations were based in part on the Forest Service's commitment to, *inter alia*: (1) implement minimization measures to reduce sediment generated by the project; (2) reduce sediment delivery as a result of road related improvements, road decommissioning, and culvert removal and or replacement elsewhere in the A-19 project area; and (3) eventually implement A-19 projects to reduce sediment delivery in the identified GBMU watersheds. *Id.* at 61. As part of its incidental take statement, FWS outlined non-discretionary measures the Forest Service must undertake. *Id.* at 64-69 (including reasonable and prudent measures and terms and conditions that require annual culvert inspection and maintenance for all inventoried culverts, and a plan and schedule to remove or upgrade high risk culverts).

4. Robert-Wedge Post-Fire Project (Nov. 2004)

In 2004, the Forest Service proposed broad scale treatment of forested land and associated land management activities under the Robert and Wedge Post Fire Project. *See* U.S. Fish and Wildlife Service Montana Field Office, Biological Opinion for Bull Trout, Flathead National Forest Robert-Wedge Post-Fire Project 2004 (Nov. 22, 2004) (hereafter, 2004 Robert-Wedge BiOp), pages 4-5. FWS determined the project as proposed was not likely to jeopardize the continued existence of the Columbia Basin DPS of bull trout. *Id.* at 40. As part of its proposal, the Forest Service committed to monitoring bermed or gated roads that remain on the system if funding allowed. *Id.* at 9.

FWS anticipated implementation of the Robert-Wedge Post-Fire Project activities may result in incidental take of bull trout. *Id.* at 42. To limit sediment delivery from those activities, the Forest Service proposed mitigation that included specific road maintenance mitigation activities identified in the *Biological Assessment of Road Related Actions on Western Montana's Federal Lands that are likely to Adversely Affect Bull Trout* (USDA 2001). *Id.* at 42. FWS also required the Forest Service to comply with non-discretionary reasonable and prudent measures and their implementing terms and conditions, including development of a proposal for monitoring culverts on bermed roads and reporting monitoring activities annually. *Id.* at 46.

5. West Side Reservoir Post-Fire Project (Dec. 2004)

In 2004, as part of the West Side Reservoir Post-Fire Project the Forest Service proposed post-fire

logging, road activities, and restoration. *See* U.S. Fish and Wildlife Service Montana Field Office, Biological Opinion for Bull Trout, Flathead National Forest, West Side Reservoir Post-Fire Project 2004 (Dec. 21, 2004) (hereafter, 2004 West Side BiOp), pages 5-6. As part of its proposal, the Forest Service committed to monitoring bermed or gated roads that remain on the system if funding allowed. *Id.* at 9. FWS noted concerns with the Forest Service's proposal to berm 36 miles of road due to the likelihood that culverts would be left in place behind berms, limiting access to clean, repair, or monitor high risk culverts. *Id.* at 36. FWS determined the project as proposed was not likely to jeopardize the continued existence of bull trout. *Id.* at 46. It based that determination in part on minimization measures the Forest Service committed to. *Id.*

FWS anticipated implementation of the West Side Reservoir Project might result in incidental take of bull trout. *Id.* at 47. To minimize incidental take of bull trout, FWS required the Forest Service to comply with non-discretionary reasonable and prudent measures and their implementing terms and conditions, including submission of a proposal for monitoring culverts on bermed roads with annual reports. *Id.* at 51-52.

6. Moose Post-Fire Project (Nov. 2002)

Under the Moose Post-Fire Project, the Forest Service proposed salvage harvest, alternative bark beetle control measures, fuels reduction, and road management. *See* U.S. Fish and Wildlife Service Montana Field Office, Biological Opinion on the Effects of the Moose Post-Fire Project on Bull Trout, Flathead National Forest (Nov. 14, 2002) (hereafter, 2002 Moose BiOp), page 4. The incidental take statement noted that regular monitoring and maintenance of all culverts—not just culverts on actively used roads—is necessary to reduce the potential for culverts to plug or fail and thereby reduce the risk of sediment delivery to bull trout streams. *Id.* at 45. FWS determined the project was not likely to result in jeopardy of bull trout. *Id.* at 42. FWS based its determination in part on the Forest Service's commitment to annually monitor culverts in the project area for the first two years, and then every-other year thereafter. *Id.* at 47 (terms and conditions), 61 (Appendix A).

7. Spotted Beetle Project (March 2002).

In 2002, the Forest Service proposed vegetation management and road management actions, including closing 29 miles of road with an earthen berm or gate and maintenance of all culverts on those closed roads, as part of the Spotted Beetle Resource Management Project. *See* U.S. Fish and Wildlife Service Montana Field Office, Biological Opinion, Bull Trout, Spotted Beetle Resource Management Project (Mar. 8, 2002) (hereafter, 2002 Spotted Beetle BiOp), page 2. FWS determined the project as proposed was not likely to jeopardize the continued existence of bull trout. *Id.* at 30.

As part of its proposed actions, the Forest Service proposed to inspect the culverts remaining on the 29 miles of closed roads to ensure they did not jam with debris and cause road bed erosion to occur. *Id.* at 25. It also committed to implementing the standards and guidelines for conducting road maintenance activities contained in the *Biological Assessment of Road Related Actions on Western Montana's Federal Lands that are Likely to Adversely Affect Bull Trout* (Forest Service and Bureau of Land Management 2001). *Id.* at 28.

FWS anticipated implementation of the Spotted Beetle Project would result in incidental take of bull trout. *Id.* at 31. To minimize incidental take of bull trout, FWS required the Forest Service to comply with non-discretionary reasonable and prudent measures and their implementing terms and

conditions, including annual inspections of culverts on roads closed by gates or berms. *Id.* at 32.

Changes to Identified Actions & New Information

Failure to Monitor Culverts

The Forest Service has failed to monitor forest road culverts as required by the terms and conditions of the seven BiOps, a commitment that FWS relied on in its original consultations. *See, e.g.*, Nov. 9, 2016 Letter from Chip Weber, Forest Supervisor, Flathead National Forest to Jodie Bush, U.S. Fish and Wildlife Service (noting that "[s]ince 2009, engineering budgets have declined and monitoring has been inconsistent and incomplete.").

For example, the Forest Service failed to comply with the terms and conditions of its incidental take permit on the West Side Reservoir Post-Fire Project. Under that decision, the agency committed to identify all high-risk culverts behind berms and gates and remove any high-risk culverts within one year, but failed to follow through on this commitment. The agency later documented two major water events and culvert failure, highlighting the issue of abandoned culverts and impacts to water quality and bull trout habitat. For the Forest Service, it was not a matter of whether the agency was failing to comply with the BiOp terms and conditions requiring culvert monitoring, but how far have it had missed the mark (i.e., by not meeting the commitments in the BA, it was possible take occurred over and above what was assessed in the BiOp).

The Forest Service has continued to fail to annually monitor stream-crossing culverts behind road closures in bull trout habitat forest-wide as required by the 2015 Roads Programmatic BiOp.

In 2007, the Forest Service surveyed 120 culverts on just 38 miles of road. In 2008, it surveyed 203 culverts on 47 miles of road. And in 2009 it surveyed 148 culverts on 65 miles of road. *See* Terms and Conditions Monitoring Report, Bull Trout Biological Opinions for Post-fire Salvage Operations, Flathead National Forest 2007-2009, Appendix A (Oct. 28, 2009).

As explained above, FWS relied on the Forest Service's compliance with the reasonable and prudent measures and terms and conditions requiring the Forest Service to annually monitor culverts—as well as commitments to annually monitor culverts—as part of the basis for its determination in at least five of the seven BiOps that the Forest Service's actions would not result in jeopardy to bull trout or destruction or adverse modification of critical habitat.

Culvert Failures

Based on the limited culvert monitoring in 2004 and the number of culvert failures, the agency underestimated the rate of "high risk" culverts and culvert failures.[1] In 2005 and 2006, the Forest Service documented three failed culverts and one road slump in the West Side Reservoir project area. The failed culverts were 48", 36" and 18" in diameter. Monitoring determined that 48% of the

[1] *See* Monitoring Plan for Culverts on Closed Roads, Robert-Wedge and West Side Reservoir Projects (2004), page 8 ("In 2004, we monitored 89 miles of roads and 234 stream crossings within the West Side Project . . . we found 7 failed culverts, 5 partially plugged culverts and 1 failed bridge. Once again, 15% of the culverts were identified as high risk to fail. There is an additional 19 miles of roads closed by vegetation, 38 miles closed by berms and 53 miles of gated roads that still need to be inventoried as a base level inventory to identify potential risks.")

culverts inspected and rated[2] were "high risk." *See* R. Stevens and C. Kendall, Biological Opinion Terms and Conditions Monitoring Report for Bull Trout, Flathead National Forest, 2006 (Mar. 22, 2007), pages 16, 21, 23. This type of monitoring results led FWS to conclude: "[We need to t]ry and determine the level/extent outside the take already issued. Remember that the [West Side Project] BO does not cover what was discovered. We based analysis on 10 to 15% of the culverts in the action area are at high risk of failure the[n] discovered its more like 35 to 40%." *See* FWS's Notes from 12/4/06 Conference Call.

In 2006, the Forest Service and FWS documented at least seven major culvert failures and expected that number to increase. Between 2007 and 2009, the Flathead observed 12 culvert failures (based on only a subset of stream culverts inventoried) as part of the agency's monitoring program to assess roads and culverts behind berms. *See* Terms and Conditions Monitoring Report, Bull Trout Biological Opinions for Post-fire Salvage Operations, Flathead National Forest 2007-2009, Appendix A (Oct. 28, 2009).

FWS relied on the Forest Service's compliance with terms and conditions requiring the Forest Service to annually monitor culverts to minimize sediment releases into bull trout habitat and critical habitat as part of the basis for its determination in at least five of the seven BiOps that the Forest Service's actions would not result in jeopardy to bull trout or destruction or adverse modification of critical habitat. The agency's failure to monitor culverts as required by the terms and conditions of the BiOps has resulted in culvert failures that degrade bull trout critical habitat and harm bull trout.

Modifications to Culvert Monitoring Plan

In 2016, the Flathead National Forest requested to amend the terms and conditions of the seven BiOps requiring annual (or biannual) forest road culvert monitoring. *See, e.g.*, Nov. 9, 2016 Letter from Chip Weber, Forest Supervisor, Flathead National Forest to Jodie Bush, U.S. Fish and Wildlife Service (requesting to "amend these Terms and Conditions such that the proposed monitoring plan would function in lieu of existing monitoring requirements."). Under its proposed rotating panel design, the Forest Service would monitor culverts on closed or gated roads in bull trout watersheds every sixth year instead of annually.

The Forest Service failed to reinitiate consultation to assess these proposed changes to the reasonable and prudent measures and terms and conditions of the road-related BiOps identified above.

Monitoring culverts once every six years is not adequate to assess the risk of and prevent culvert failures. The history of culvert failures on the Flathead due to lack of monitoring and maintenance in addition to best available science showing the harmful impacts of forest roads and culvert failures on water quality, bull trout, and bull trout critical habitat demonstrate it would be arbitrary and capricious for the Forest Service and FWS to modify the Flathead's culvert monitoring requirements. In response to FOIA requests, the Forest Service and FWS did not provide any records supporting the Forest Service's conclusions that annual culvert monitoring may be duplicative, or that a 5-10 year period may be reasonable to detect changes in culvert conditions or

[2] The Forest Service identified 319 culverts for inspection, but inspected and rated only 231, with 112 (48%) being high risk. *Id.* The agency removed nine more culverts and did not rate them. The agency apparently mistakenly divided 112 by 319 to arrive at the 35% high risk it reported.

trends. The Forest Service and FWS have historically under-estimated the number of high-risk culverts on the forest.

Climate Change Science

New information shows climate change is expected to lead to more extreme weather events, resulting in increased flood severity, more frequent landslides, altered hydrographs, and changes in erosion and sedimentation rates and delivery processes.[3] Forest roads that were designed for storms and water flows typical of past decades may fail under future weather scenarios, further exacerbating adverse ecological impacts, public safety concerns, and maintenance needs.[4]

New information shows that climate change is affecting bull trout and its critical habitat by warming stream temperatures, altering stream hydrology, and changing the frequency, magnitude, and extent of climate-induced events like floods, droughts, and wildfires. These new studies document the larger role of climate change in affecting the status of bull trout throughout their range:

1) Luce, C. H, J. T. Abatzoglou, and Z. A. Holden. 2013. The Missing Mountain Water: Slower Westerlies Decrease Orographic Enhancement in the Pacific Northwest USA. Science 342: 1360-1364 (documenting declining trends in streamflow timing and volume attributed to orographic precipitation enhancement, in addition to increased temperatures).

2) Isaak, D. J., *et al.* 2016. Slow climate velocities of mountain streams portend their role as refugia for cold-water biodiversity. Proc Natl Acad Sci, DOI: 10.1073/pnas.1522429113 (showing temperature resistance of mountain streams and highlighting their importance in buffering cold-water species from climate change).

The Forest Service's own Climate Shield website provides a wealth of new information identifying colder, high-elevation streams that serve as a refugia for native bull trout with the goal of improving the odds of preserving native trout populations:

3) U.S. Forest Service Rocky Mountain Research Station, Climate Shield Cold-Water Refuge Streams for Native Trout, *available at* http://www.fs.fed.us/rm/boise/AWAE/projects/ClimateShield.html (last accessed April 2, 2019).

The Forest Service predicts cold-water refuge streams will play an important role in the future protection of bull trout in light of anticipated climate change-related temperature increases.

In addition, new methods of documenting bull trout, new documentation, and new studies on management and restoration efforts indicate the Forest Service's actions may affect the species to a greater extent than previously considered:

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[3] *See, e.g.*, Halofsky, J.E. *et al eds.*, USDA, Forest Service, Pacific Northwest Research Station, *Adapting to Climate Change at Olympic National Forest and Olympic National Park*, PNW-GTR-844 (2011), pages 21-27.

[4] *See, e.g.*, Strauch, R.L. *et al.*, *Adapting transportation to climate change on federal lands in Washington State*, Climate Change 130(2), 185-199 (2015) (noting the biggest impacts to roads and trails are expected from temperature-induced changes in hydrologic regimes that enhance autumn flooding and reduce spring snowpack).

4) Auerbach, N. A., K. A. Wilson, A. I. T. Tulloch, J. R. Rhodes, J. O. Hanson, and H. P. Possingham. 2015. Effects of threat management interactions on conservation priorities. Conservation Biology 29:1626-1635 (concluding species conservation management that does not consider interactions between actions may result in misplaced investments or misguided expectations of the effort to mitigate threats to species).

5) Barnas, K. A., *et al.* 2015. Is habitat restoration targeting relevant ecological needs for endangered species? Using Pacific Salmon as a case study. Ecosphere 6(7), art 110 (identifying improvements for habitat management to improve efficiencies in matching identified needs for conserving a species with explicit management actions).

6) Meyer, K.A. *et al.* 2014. Bull trout trends in abundance and probabilities of persistence in Idaho. North American Journal of Fisheries Management 34:202-214 (describing bull trout population trends and probability of persistence in Idaho).

7) Wilcox, T. M. *et al.* 2014. A blocking primer increases specificity in environmental DNA detection of bull trout (*Salvelinus confluentus*). Conservation Genetics Resources 6:283-284 (newly developed environmental DNA survey methods are improving agencies' ability to assess bull trout distribution and identify watersheds where bull trout are at risk of extirpation).

The Montana Climate Assessment (MCA), an effort to synthesize, evaluate, and share credible and relevant scientific information about climate change in Montana, is another source of new information regarding climate change that the Forest Service failed to consider in its current BiOps. *See* http://montanaclimate.org.

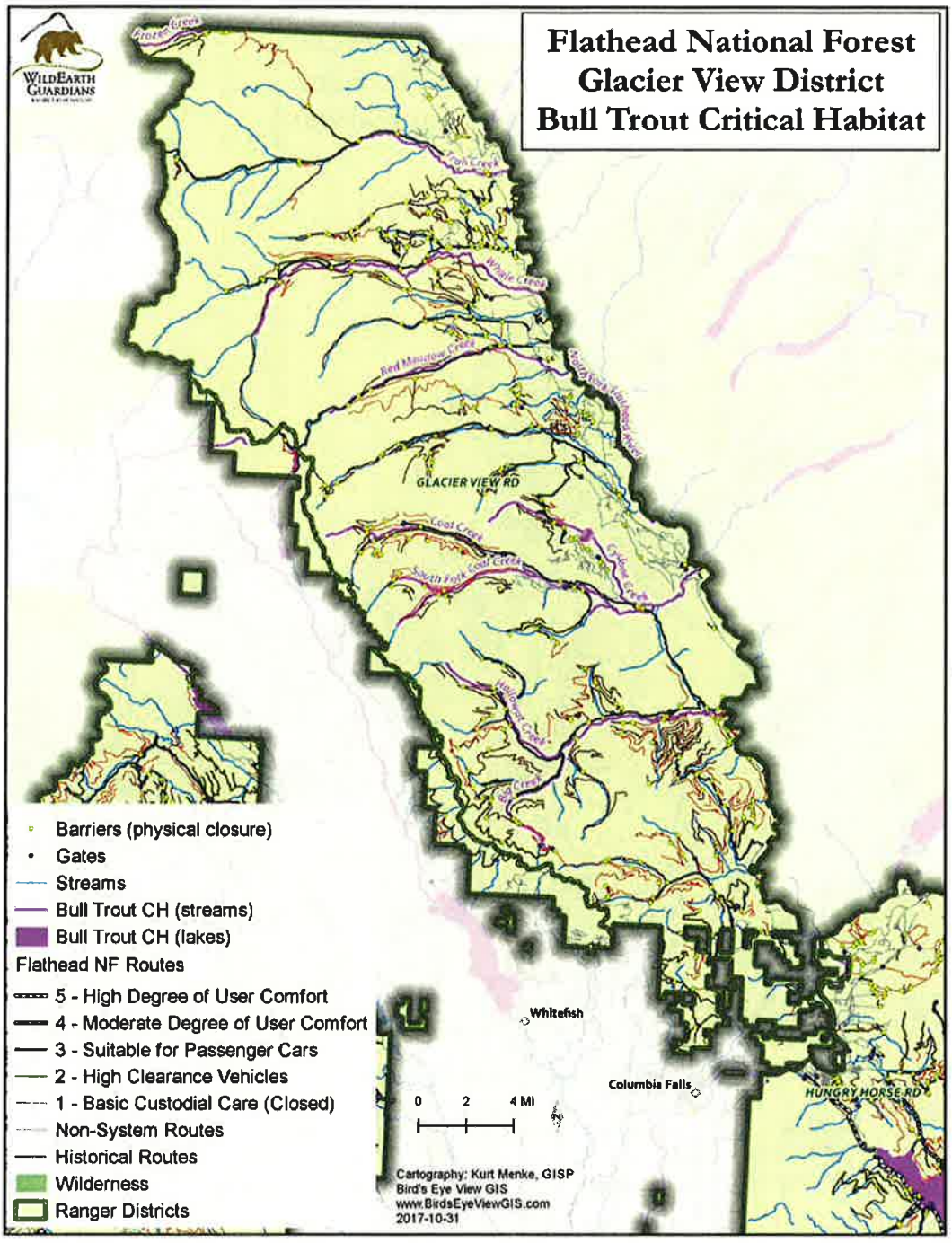
This wealth of significant new information reveals the revised Forest Plan may affect bull trout and its designated critical habitat in a manner not previously considered in the 2015 Recovery Plan or 2017 Biological Opinion. Climate change effects were not considered as a factor affecting bull trout at the time of listing in 1999. U.S. Fish and Wildlife Service, Recovery Plan for the Coterminous United States Population of Bull Trout (*Salvelinus confluentus*) (Sept. 2015), page iv.

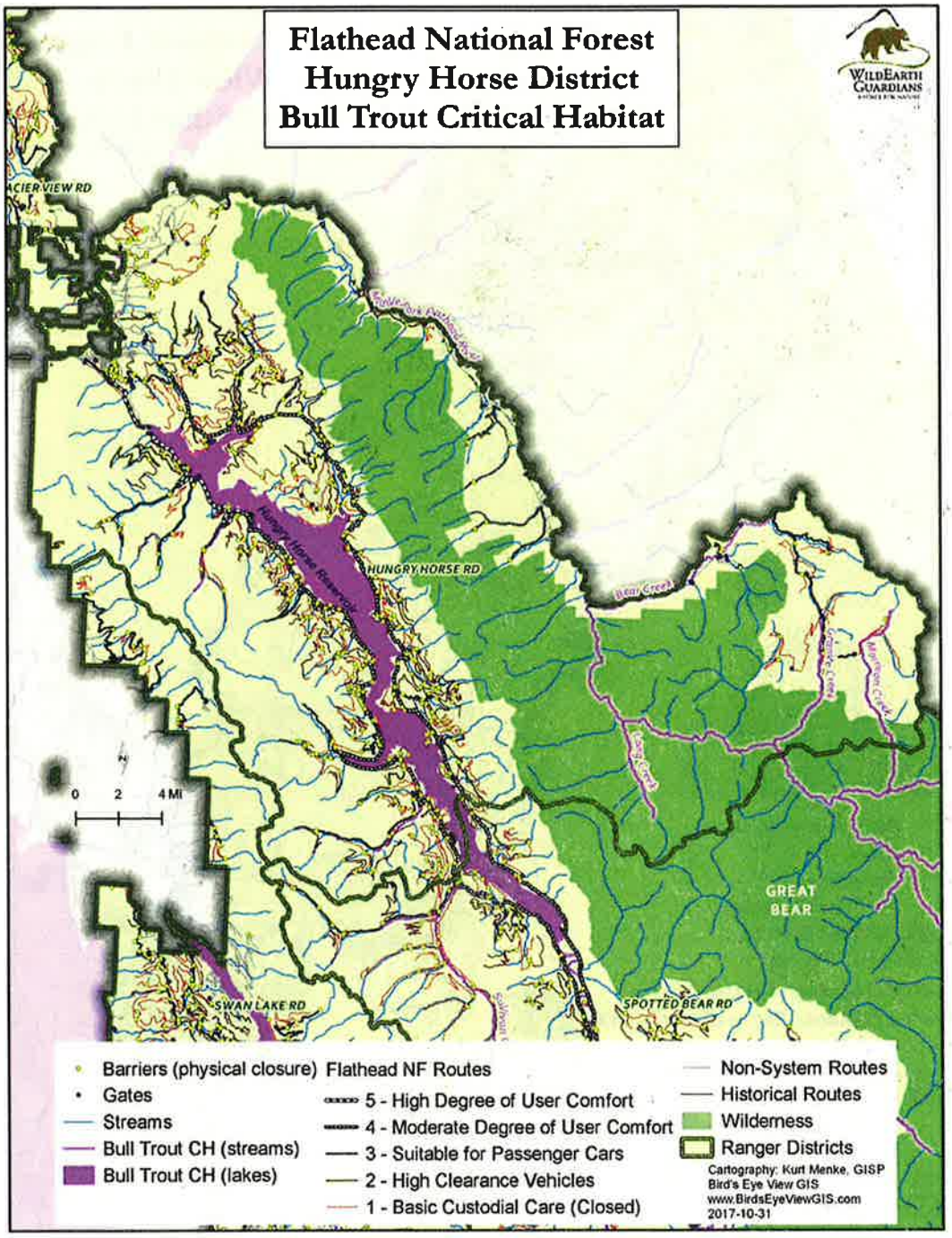
Changes from 1986 Forest Plan to 2018 Revised Forest Plan

The Inland Native Fish Strategy (INFISH) amended the Flathead's 1986 Forest Plan. INFISH plan components applied to all riparian habitat conservation areas (RHCAs), and addressed ten management issues in RHCAs (including timber management and roads management). INFISH had been the primary aquatic conservation strategy on the Flathead since 1995. Implementation of the INFISH plan components reduced risk to watersheds, soils, riparian, and aquatic resources from new and ongoing activities, and was effective in protecting aquatic resources, as proven through effectiveness monitoring.

The 2018 revised Forest Plan adds an active restoration component to supplement the retained passive components of INFISH. But it also largely eliminates and replaces INFISH plan components with an Aquatic Riparian Conservation Strategy (ARCS) to maintain or restore watershed conditions. The Forest Service relies on implementation of ARCS and priority watersheds (restoration and conservation watersheds) to restore habitats, maintain or improve the distribution of native aquatic and riparian dependent species, and contribute to the recovery of listed aquatic

species. 2017 Biological Opinion at II-2 – II-3. The revised Forest Plan established the Conservation Watershed Network (CWN), intended to identify watersheds that are native fish strongholds with appropriately functioning aquatic habitats. FWS concludes that plan components for CWN "will maintain high quality habitat and functionally intact ecosystems that are contributing to and enhancing conservation and recovery of bull trout." 2017 Biological Opinion at II-3. Yet the revised Forest Plan contains no standards to protect watersheds in the CWN. FWS's 2017 Biological Opinion is arbitrary, capricious, and not in accordance with the ESA.


Flathead National Forest
Glacier View District
Bull Trout Critical Habitat
WildEarth Guardians
Frozen Creek
Fish Creek
Whale Creek
Red Meadow Creek
GLACIER VIEW RD
Coal Creek
South Fork Coal Creek
Hallowed Creek
Big Creek
Barriers (physical closure)
Gates
Streams
Bull Trout CH (streams)
Bull Trout CH (lakes)
Flathead NF Routes
5 - High Degree of User Comfort
4 - Moderate Degree of User Comfort
3 - Suitable for Passenger Cars
2 - High Clearance Vehicles
1 - Basic Custodial Care (Closed)
Non-System Routes
Historical Routes
Wilderness
Ranger Districts
Whitefish
Columbia Falls
HUNGRY HORSE RD
0 2 4 MI
N
Cartography: Kurt Menke, GISP
Bird's Eye View GIS
www.BirdsEyeViewGIS.com
2017-10-31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Hungry Horse District
Bull Trout Critical Habitat
WildEarth Guardians
GLACIER VIEW RD
HUNGRY HORSE RD
SWAN LAKE RD
SPOTTED BEAR RD
GREAT BEAR
0 2 4 Mi
Barriers (physical closure)
Gates
Streams
Bull Trout CH (streams)
Bull Trout CH (lakes)
Flathead NF Routes
5 - High Degree of User Comfort
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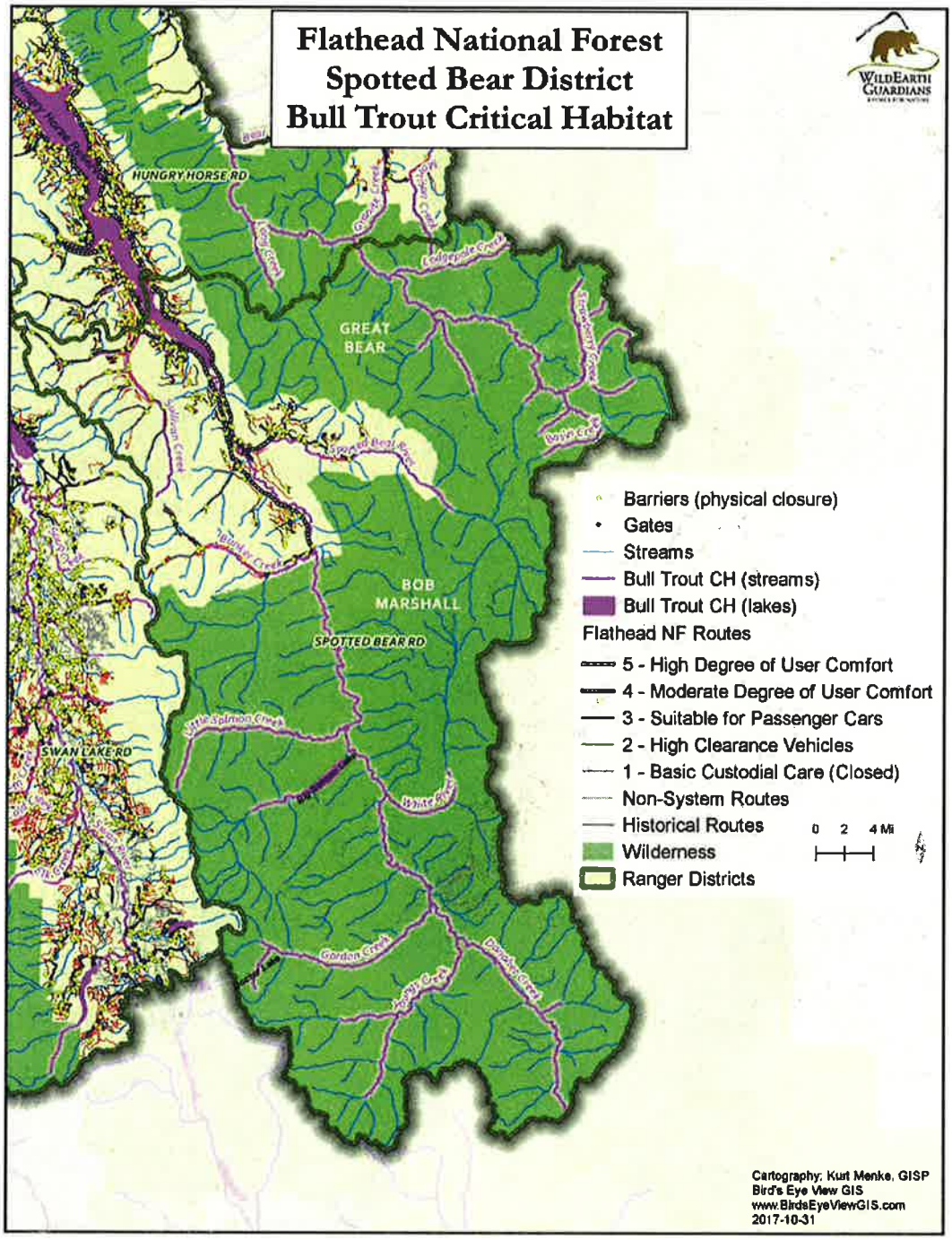
Historical Routes
Wilderness
Ranger Districts
Cartography: Kurt Menke, GISP
Bird's Eye View GIS
www.BirdsEyeViewGIS.com
2017-10-31


Flathead National Forest
Spotted Bear District
Bull Trout Critical Habitat
WildEarth Guardians
HUNGRY HORSE RD
GREAT BEAR
BOB MARSHALL
SPOTTED BEAR RD
SWAN LAKE RD
Barriers (physical closure)
Gates
Streams
Bull Trout CH (streams)
Bull Trout CH (lakes)
Flathead NF Routes
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3 - Suitable for Passenger Cars
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1 - Basic Custodial Care (Closed)
Non-System Routes
Historical Routes
Wilderness
Ranger Districts
0 2 4 Mi
Cartography: Kurt Menke, GISP
Bird's Eye View GIS
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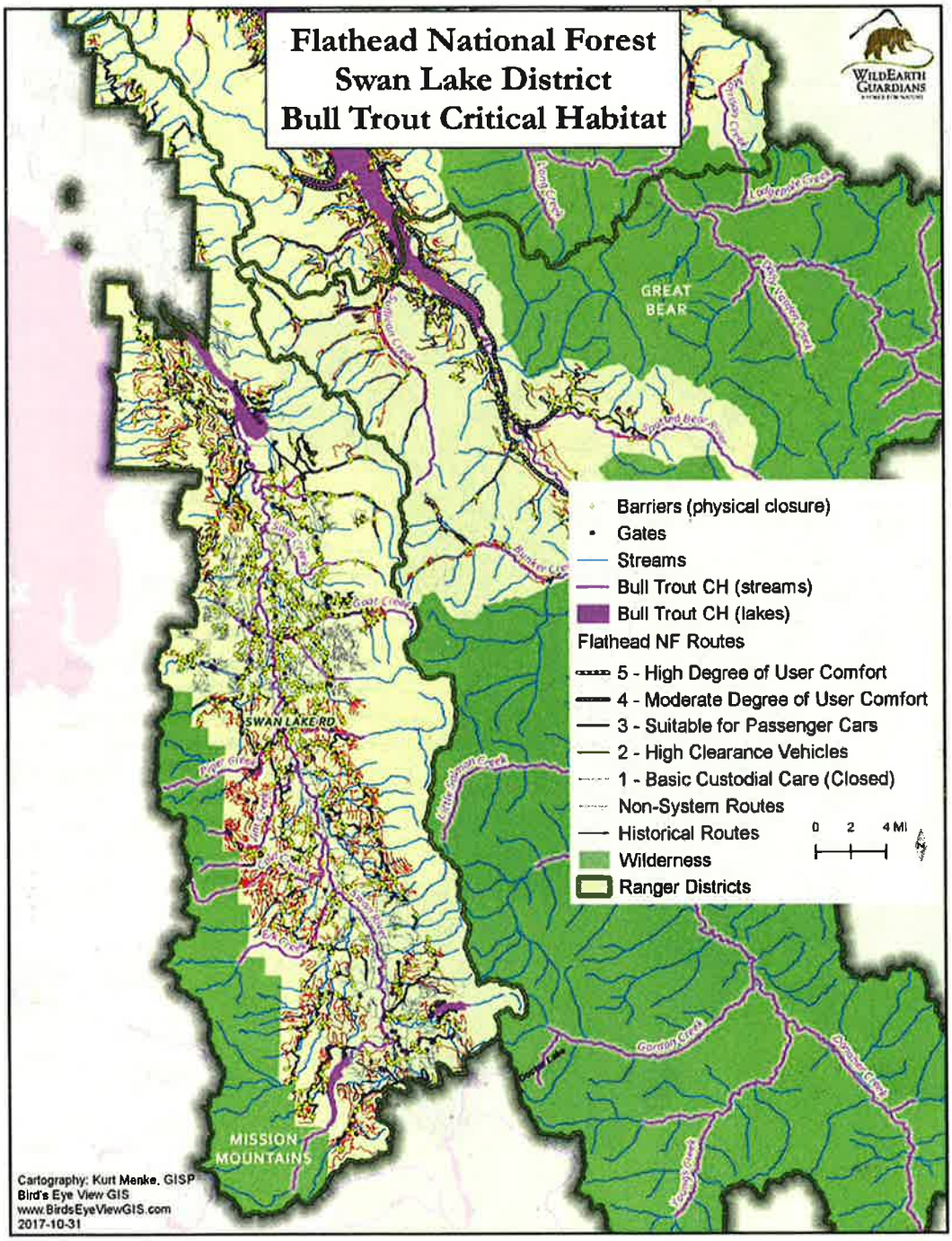
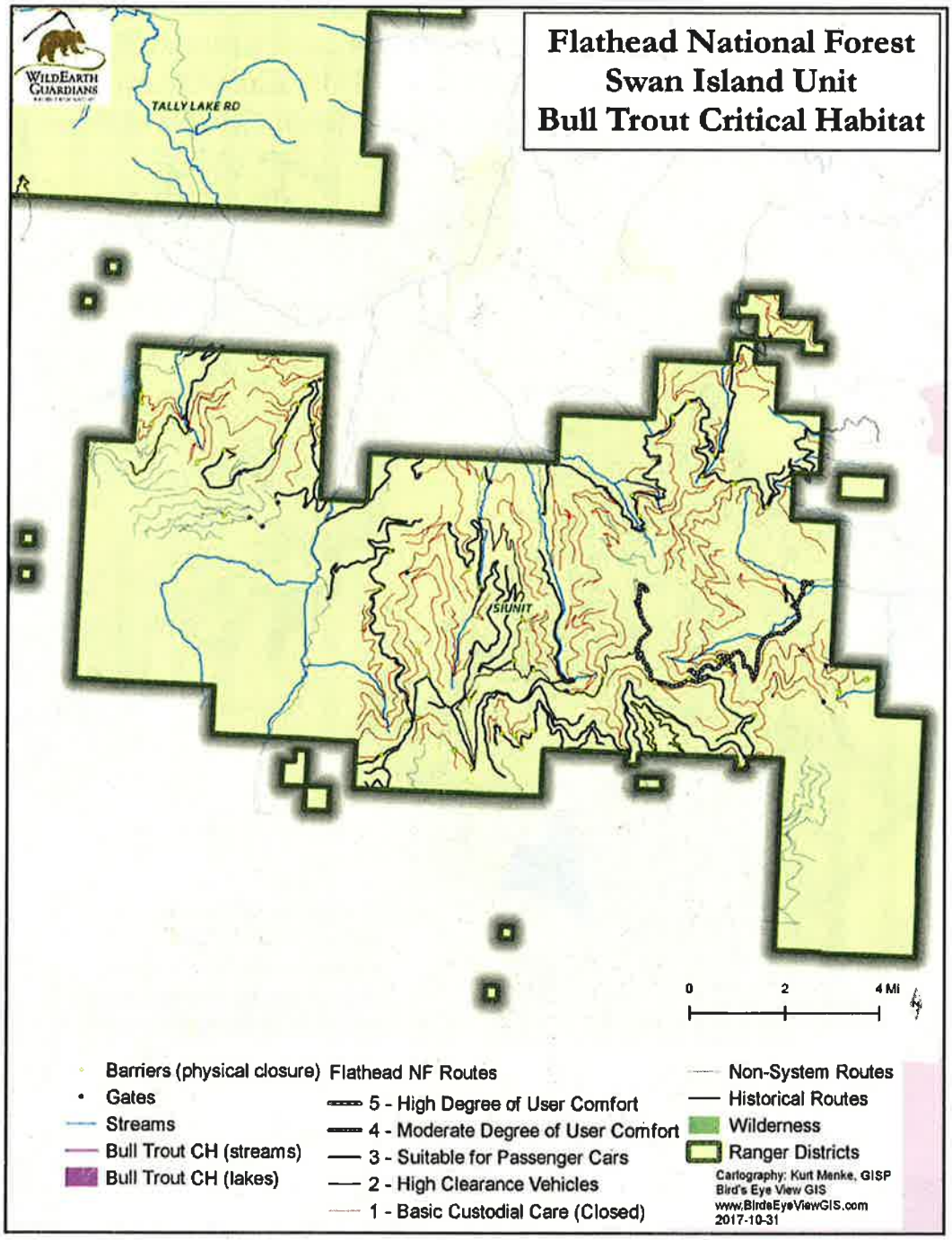
2017-10-31


Flathead National Forest
Swan Lake District
Bull Trout Critical Habitat
WildEarth Guardians
GREAT BEAR
SWAN LAKE RD
MISSION MOUNTAINS
Barriers (physical closure)
Gates
Streams
Bull Trout CH (streams)
Bull Trout CH (lakes)
Flathead NF Routes
5 - High Degree of User Comfort
4 - Moderate Degree of User Comfort
3 - Suitable for Passenger Cars
2 - High Clearance Vehicles
1 - Basic Custodial Care (Closed)
Non-System Routes
Historical Routes
Wilderness
Ranger Districts
0 2 4 MI
Cartography: Kurt Menke, GISP
Bird's Eye View GIS
www.BirdsEyeViewGIS.com
2017-10-31


Flathead National Forest
Swan Island Unit
Bull Trout Critical Habitat
WildEarth Guardians
TALLY LAKE RD
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4 Mi
Barriers (physical closure)
Gates
Streams
Bull Trout CH (streams)
Bull Trout CH (lakes)
Flathead NF Routes
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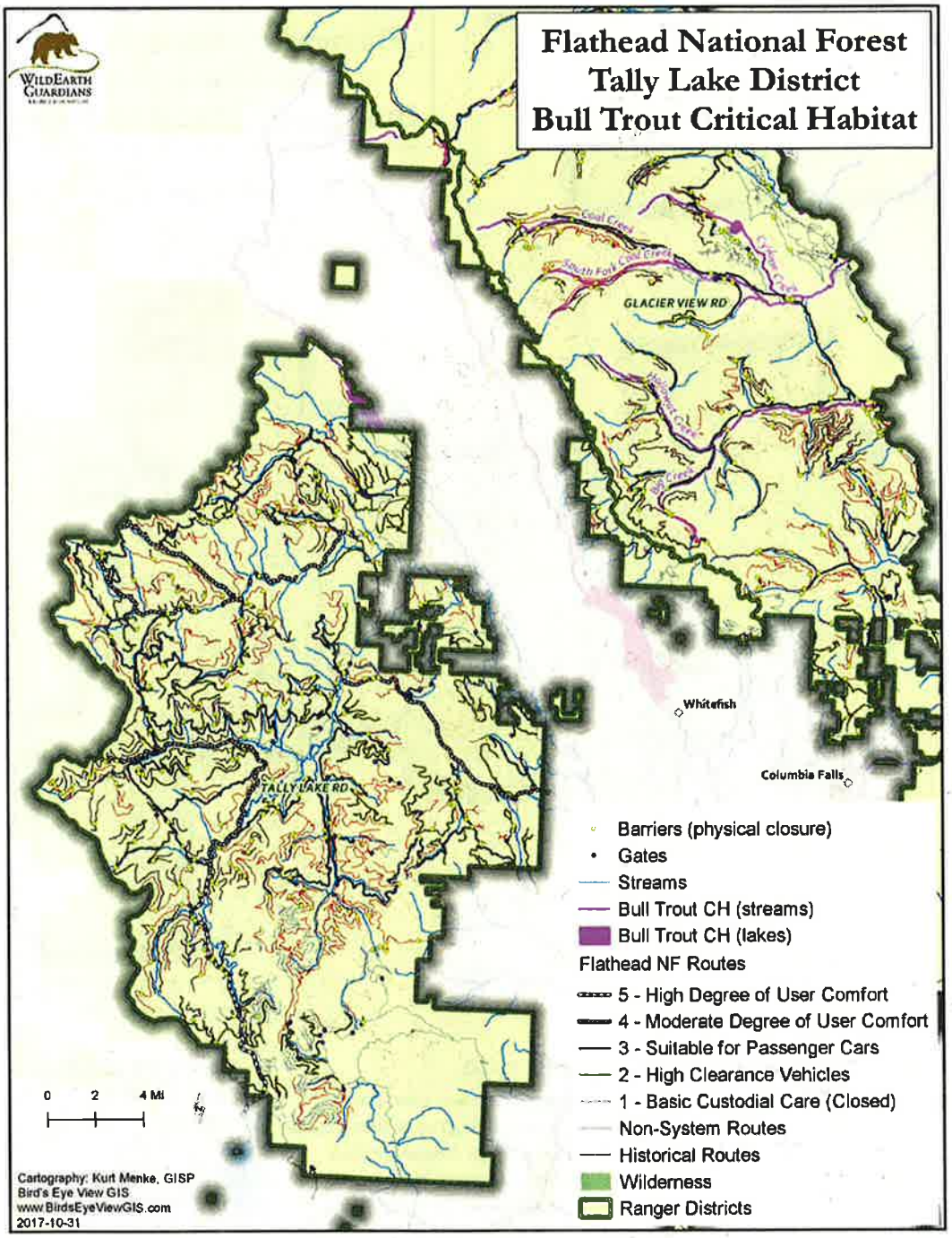
Non-System Routes
Historical Routes
Wilderness
Ranger Districts
Cartography: Kurt Menke, GISP
Bird's Eye View GIS
www.BirdsEyeViewGIS.com
2017-10-31


WildEarth Guardians
Flathead National Forest
Tally Lake District
Bull Trout Critical Habitat
Coal Creek
South Fork Coal Creek
Dickey Creek
GLACIER VIEW RD
Whitefish
Columbia Falls
TALLY LAKE RD
0 2 4 Mi
Cartography: Kurt Menke, GISP
Bird's Eye View GIS
www.BirdsEyeViewGIS.com
2017-10-31
Barriers (physical closure)
Gates
Streams
Bull Trout CH (streams)
Bull Trout CH (lakes)
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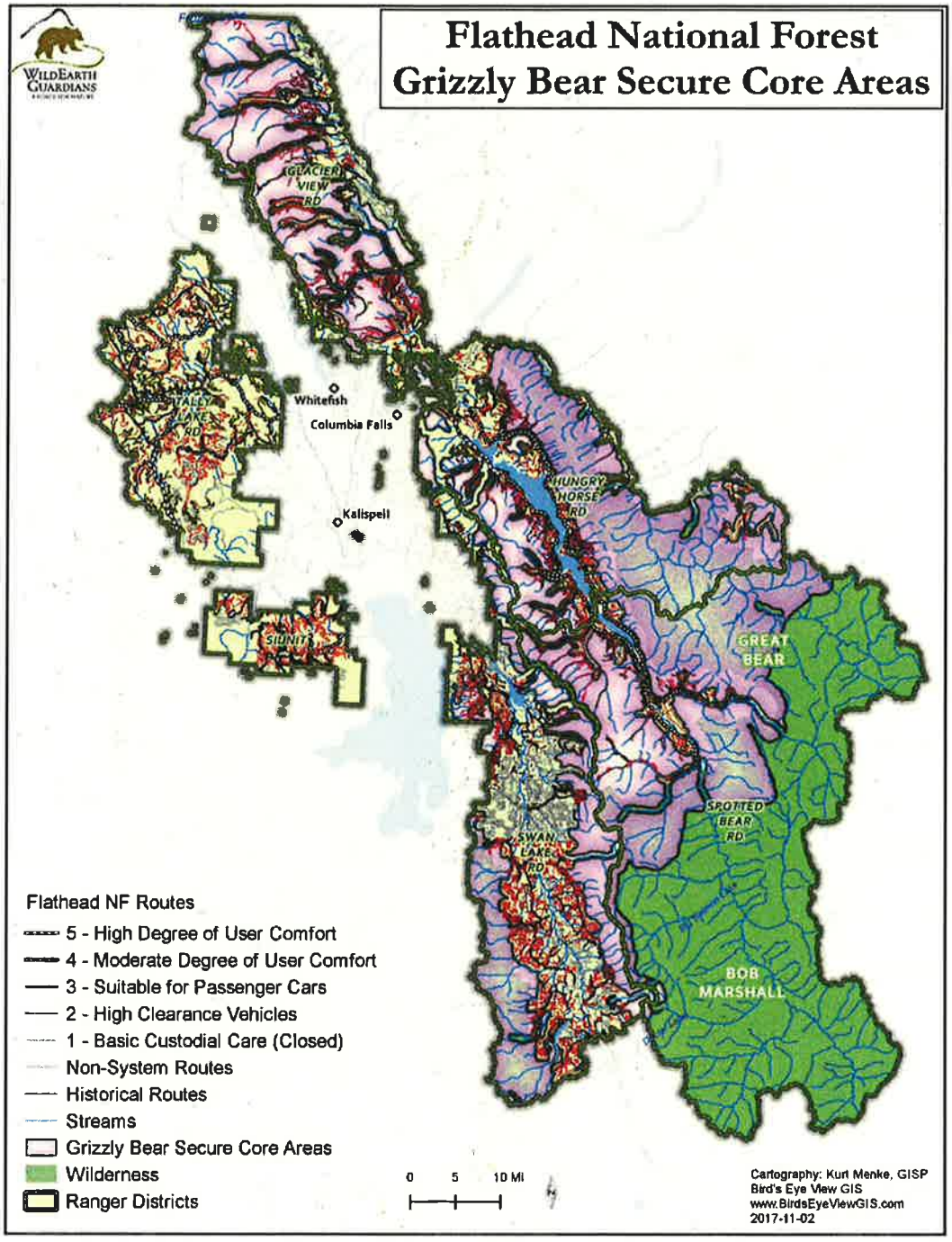
Non-System Routes
Historical Routes
Wilderness
Ranger Districts


Flathead National Forest
Grizzly Bear Secure Core Areas
WildEarth Guardians
Whitefish
Columbia Falls
Kalispell
GLACIER VIEW RD
HUNGRY HORSE RD
GREAT BEAR
SPOTTED BEAR RD
SWAN LAKE RD
BOB MARSHALL
SIUNIT
Flathead NF Routes
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Grizzly Bear Secure Core Areas
Wilderness
Ranger Districts
0 5 10 MI
Cartography: Kurt Menke, GISP
Bird's Eye View GIS
www.BirdsEyeViewGIS.com
2017-11-02