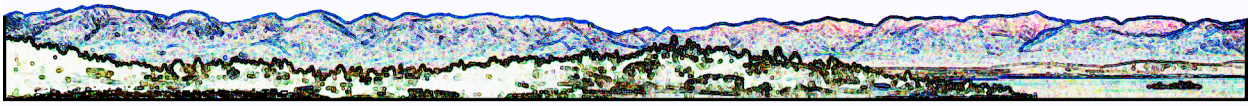
Swan View Coalition *Nature and Human Nature on the Same Path*



3165 Foothill Road, Kalispell, MT 59901 swanview.org & swanrange.org ph/fax 406-755-1379

October 13, 2020

Kurt Steele
Flathead Forest Supervisor
650 Wolfpack Way
Kalispell, MT 59901

Re: Comments on Mid-Swan Project DEIS
Submitted as PDF to comments-northern-flathead-swan-lake@usda.gov
With DVD of supporting documents hand-delivered to Swan Lake Ranger District

Dear Supervisor Steele;

Please accept these comments on the Mid-Swan Project DEIS. We submitted a DVD of supporting documents with our 12/19/18 scoping comments, which we refer to hereafter as Scoping DVD. We submit with these comments a second DVD of supporting documents, hereafter referred to as DEIS DVD. These comments are submitted on behalf of Swan View Coalition and the undersigned people and organizations. We incorporate by reference the comments submitted in this matter by Friends of the Wild Swan, Brian Peck, Friends of the Clearwater, Alliance for the Wild Rockies, Native Ecosystems Council, WildEarth Guardians, and Center for Biological Diversity.

Executive Summary

We find this Project entirely misdirected toward logging forest "fuels" well away from homes and structures. We ask that federal money instead be directed at helping landowners better fireproof their homes and at helping electric utilities move their above-ground power lines below ground. As fires in California and elsewhere are teaching us, these actions can actually reduce fire ignitions, and protect lives and property, whereas logging and other forest manipulations do not.

We find the DEIS lacking in detail to adequately describe the effects this massive "landscape restoration" project will have on the environment. Nor does it adequately describe the specific locations or effects of any of the individual timber sales and associated road-building that would produce nearly 30,000 - 60,000 truckloads of logs under the action alternatives (DEIS at 176). The public will be denied the opportunity to review those timber sales and road projects under the NEPA (DEIS at A-4), which is a violation of NEPA recently confirmed by the U.S. District Court of Alaska in its decision on the Prince of Wales Landscape Level Analysis Project.

We also find the DEIS is a thinly veiled attempt to disguise logging and road-building as "restoration" and as possessing the super-human ability to appreciably decrease the spread of wildfire across the landscape and in the WUI. These landscapes were and remain fire-dependent and were historically without roads, yet the DEIS considers no alternative that would remove those roads in order to restore the landscape - not even as a point of comparison for other DEIS alternatives. This landscape will continue to see intense wildfire spread during hot, dry and windy weather regardless of human intervention. A significant reduction in the road system, however, would help to reduce human-caused ignitions - but this the DEIS does not propose.

Instead, the DEIS (at 29) claims that 85% of the project area is in need of some form of human intervention and that almost all of the Forest Service's 567-mile road system in the area is needed to provide access for logging and other mechanized treatments. It proposes decommissioning only 44 miles of existing roads while building 38 miles of new permanent roads and 11 miles of temporary roads (DEIS at xiv, Alt. B). Even the "no new roads" Alternative C builds new roads (DEIS at xiii). This hardly qualifies as landscape restoration or aquatic restoration, a purported purpose of this project.

To the degree the DEIS does propose watershed restoration activities such as storm-proofing roads and removing or replacing culverts, it states clearly that "Implementation of restoration actions, under either alternative, would be subject to available funding at the time of implementation and do not guarantee full deployment of proposed activities . . ." (DEIS at 47 and A-58). The Flathead has a long history of moving forward with logging activities and timber sales without implementing the road decommissioning, culvert removals and other restoration activities promised as a part of those decisions. For example, 60-70 miles of logging road to be decommissioned under the 1996 Crane Mountain Salvage Sale decision remain on the landscape and on the road system today. (Scoping DVD Folder 3, SVC et al on Bug Creek 180121.pdf).

The public has little reason to believe the Forest Service will actually implement road decommissioning and other restoration activities either at the project level or system-wide. Congress invested $35.5 million into the Southwest Crown Collaborative, which includes most of the Mid-Swan Project Area, via the Collaborative Forest Landscape Restoration Program (CFLRP) from 2010-2019. Logging and vegetation goals were exceeded by 100% or more while road decommissioning fell 50% short. (https://static1.squarespace.com/static/58ac86718419c25e73caff05/t/5e28994378c38064ef9a2927/1579719022078/FY19+CFLRP+Annual+Report_SWCC_Final.pdf and DEIS DVD Folder 1, CFLRP Dollars Spent in SWCC.pdf).

Nationally, the Forest Service's CFLRP, when it measured its performance against its goals, similarly over-performed on its timber volume sold and fell short of its road decommissioning goals by nearly half. (DEIS DVD Folder 1 and https://www.fs.fed.us/restoration/documents/cflrp/CFLRP_5-YearReport.pdf). There will be no more CFLRP funding for this project area, which served during the 10-year pilot period as an incentive for private partners to match at least 20% of the CFLRP dollars they received with their own time and money. (DEIS DVD Folder 1, CFLRP Dollars Spent in SWCC.pdf).

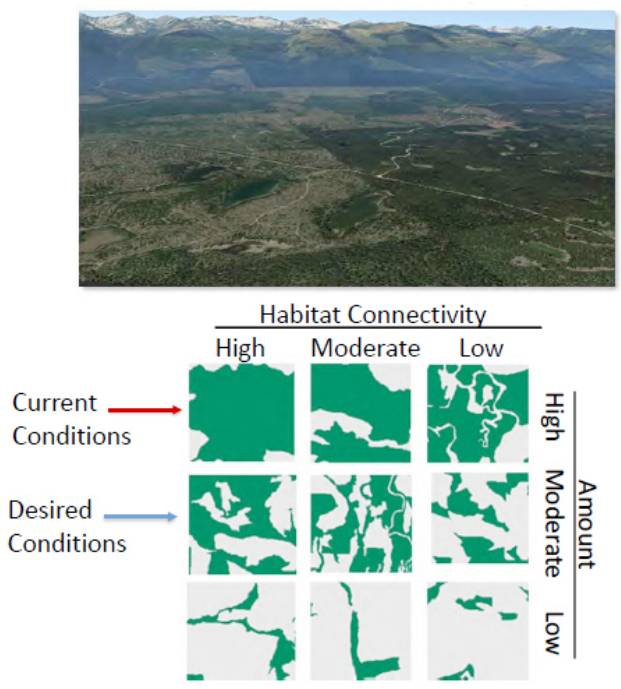
The DEIS is essentially a scam trying to get the public to accept up to 60,000 truck loads of logging in exchange for a pittance of true restoration that isn't even likely to get fully funded and implemented. The DEIS includes no reliable funding plan.

In short, the DEIS has replaced the proven scientific principles of natural selection with a self-serving framework wherein the human hand and chainsaw is the answer to everything, as though nature cannot restore itself. Furthermore, the DEIS provides false reassurance that logging and thinning far distant from homes will protect them from wildfire, when Forest Service and other research shows it is instead treatments of fuels immediately adjacent to and including the home that determine its survivability.

This is a disservice to the American people and local residents. We urge the Forest Service to significantly reduce the area's road and culvert network, to focus its efforts on helping residents in the WUI make their homes more resistant to wildfire, and to help provide federal assistance for replacing all above-ground power lines with buried lines. This will help reduce human-caused ignitions, which often include power lines, roadsides and logging sites, and help local residences survive wildfire.

This will in turn remove major impediments to nature's ability to restore itself through fire and other natural processes. This is a far more sane alternative than those proposed in the DEIS, which essentially claim that logging and road-building will restore a landscape that has been damaged by logging and road-building.

Indeed, the DEIS falsely portrays the existing forest landscape as not fragmented enough and sets about rationalizing the need to further fragment it in order to save lynx habitat and stem the spread of wildfire. This bogus notion is summarized in the following graphic taken from page 20 of the September 2 Mid-Swan Virtual Meeting Slideshow presented by the Mid-Swan Planning Team:



Along with these comments we will provide scientific studies warning against this type of habitat fragmentation and finding that natural genetic selection of trees able to withstand natural disturbances is superior to thinning and logging. The former results in trees that are more wind-firm, beetle resistant, drought resistant and fire resistant while the latter indiscriminately removes trees best suited for sustainability and restoration. We will also provide photos demonstrating that forest fragmentation via road building and logging does not appreciably stem the spread of wildfire.

1. The DEIS Does Not Provide Timely Details Required by NEPA

The DEIS provides only large-scale maps and broad-based categories and tables describing existing conditions, the Level-of-Change (LOC) needed to achieve desired conditions, and the potential vegetative treatments needed to achieve them (DEIS Section 1.5). The DEIS provides no adequate details of the individual timber sales needed to produce up to 60,000 trucks full of logs to purportedly achieve desired conditions, nor the specific roads and timing that would apply to each timber sale.

Instead, the DEIS defers these details to the time of implementation under its Appendix A Implementation Guide on Implementation (IGOR). For example, "The actual selection of one or several management tools listed in each table cell would vary by alternative and be dependent on the result of stand conditions at the time of implementation." (DEIS at 31).

While the IGOR (at A-4) allows for public involvement during project implementation, it states "Public feedback periods associated with individual treatment proposals will be considered informal . . . It needs to be clearly understood that public engagement is not intended to 're-scope' or re-analyze potential environmental effects." This violates NEPA in denying the public the right to participate in the site-specific assessment of environmental effects within a formal NEPA process.

Here's what the U.S. District Court for the District of Alaska ruled in its 6/24/20 Order on Remedy after ruling the Prince of Wales Landscape Analysis Project legally flawed:

> The Project EIS's lack of site-specificity and inadequate comparison of alternatives precluded the Forest Service from taking the requisite hard look at the Project's potential impacts and deprived the public of the opportunity to comment on those impacts, thus undermining the "two fundamental objectives" of NEPA: the agency's careful consideration of 'detailed information concerning significant environmental impacts' and the public's ability to participate in the decision-making process.

The Flathead is fully aware of this court ruling, obviously has not remedied the similarly flawed approach in its Mid-Swan DEIS, and yet is proceeding full steam ahead - reportedly with the blessings of the Southwest Crown Collaborative. (DEIS DVD Folder 1, SWCC+Meeting+Notes+May+5+2020.pdf). This in spite of disappointments in project specifics expressed by SWCC's Jim Burchfield and Luke Lamar during the September 23 Mid-Swan Virtual Meeting. (Meeting recording at https://www.fs.usda.gov/detailfull/flathead/landmanagement/projects/?cid=fseprd787388&width=full).

Indeed, in spite of the length and complexity of the DEIS, IGOR, Appendix B Maps, and supporting documents, the Flathead denied numerous people and organizations a requested extension to the 45-day public comment period, including several retired Forest Service staff with considerable expertise to offer in their review of the DEIS. (DEIS DVD Folder 2; SVC Extension Request.pdf, SVC Extension Denial.pdf, Retired FS Extension Denial.pdf). It is disingenuous of the Flathead to take two years to write a complicated DEIS, deny the public and its former colleagues enough time to fully review and comment on it, and also tell them they will get no later chance to participate in a NEPA process for the planning of the individual projects alluded to in the DEIS.

2. Science, Natural Selection, and Intentional Forest Habitat Fragmentation

The graphic in our Executive Summary was presented within the context of lynx habitat by the Planning Team during the September 2 Virtual Meeting. The Planning Team during the September 23 Virtual Meeting acknowledged similar fragmentation of other forest habitat would occur via logging for fuels reduction and other purposes. The DEIS essentially argues that, if the FS doesn't intentionally fragment this habitat via logging and other vegetative treatments, nature will destroy and fragment a lot more habitat via wildfire.

This argument belies the fact that road building and logging in the Swan Valley has failed to appreciably stem the spread of wildfire during times of heat, drought and wind. Keith Hammer used a Flathead Fire History map overlay and Google Earth satellite imagery to see whether roads and previous logging appeared to stem the spread of wildfire in the 2012 Condon Mountain Fire and the 2003 Crazy Horse Fire, both of which included roaded, logged and unroaded areas. He found that "these fires readily burned through previously logged areas and crossed logging roads to continue their spread into unlogged forest areas. Ridgelines, north-facing slopes and riparian areas appeared to be generally more consistent at deterring the spread of these fires than did logging and road-building."

His conclusions and the six images they are drawn from are included in DEIS DVD Folder 3 as Condon Crazy Fire Area Image Comparisons.pdf. That document is also attached to these comments as Exhibit A. Similar satellite photos and conclusions are included in Dr. Dominic DellaSala's 9/27/17 testimony before the U.S. House of Representatives Natural Resources Committee (Scoping DVD, Folder 33). Dr. DellaSala concludes, among other things, that wilderness and other protected areas are not especially prone to forest fires, that thinning is ineffective in extreme fire weather, and that "there is a very low probability of a thinned site actually encountering a fire during the narrow window the tree density is lowest."

We had the rare opportunity to visit a recently thinned site following wildfire, however, and found the thinned stand totally burned. See DEIS DVD Folder 3, SAP 49 Comparison.pdf, which compares a photo of a thinning unit taken a year after thinning with a photo of that unit taken a year later after a wildfire burned through it.

The DEIS contradicts itself about whether large regeneration opening sizes harm habitat connectivity. Page 95 states "Maximum opening sizes for proposed regeneration harvests would likely exceed 40 acres to avoid further fragmentation of the Mid-Swan landscape that is apparent in the valley bottom and lower elevations of the analysis area." Page 199 states "The Forest Plan also identifies maximum opening sizes in order to limit habitat fragmentation and maintain connectivity (FW-STD-TIMB-07)," which allows openings up to 150 acres. The only way to reconcile these two statements is to assume the Forest Service has a hard target of acres to be logged and reasons that fewer huge openings of up to a quarter-square-mile are better than more, smaller openings.

The Forest Service should not assume a hard target for regeneration openings and then try to trick the public into taking the lesser of two evils. What it should do is clearly acknowledge to the public that the tree mortality caused by logging will most likely be in addition to the tree mortality caused by natural processes like fire, drought and wind - not replace it. This simple fact has been confirmed by renowned scientists like Dr. Dominic DellaSala and Dr. Diana Six (Scoping DVD, Folder 33) - and by simply looking at Forest Service logging projects.

We've attached as Exhibit B a photo we took 5/23/20 from the Hall Lake Trail of a recently logged Weed Lake Landscape Restoration Project unit on the slopes of Sixmile Mountain. It is clear that the unit subsequently had significant blow-down of residual trees where the forest canopy had been thinned, compared to the adjacent un-thinned forest.

We've attached as Exhibit C a comparison of two photos also taken 5/23/20 along the Hall Lake Trail. The top photo shows the significant blow-down of residual trees in a Swan Lake Fuels Reduction Unit logged a few years prior. The bottom photo shows, from the same camera position, the minimal blow-down in the adjacent forest that was not thinned in the name of "fuels reduction." Exhibits B and C show the failure of logging to select for the most wind-firm trees and show how a logging "cure" can be worse than the "problem" by adding tree mortality from logging to tree mortality from natural events (while exacerbating the latter via the prior).

In contrast, we've attached as Exhibit D two photos of an unlogged forest west of Birch Lake that has been thinning itself during wind events funneling through the Birch Lake "notch" of the Swan Crest over the past few years. The first photo shows this hillside on 9/27/20 and the second is a telephoto shot of the same hillside taken 10/15/19. No road, no chainsaw, no feller-buncher necessary, and the stored carbon remains onsite instead of being hauled away to the sawmill.

We include Exhibit D as an example of natural selection in action. High wind events are toppling trees with "too much" crown and/or "too little" root, which may in turn ensure that the surviving trees are more drought resistant in the face of climate change via smaller canopies and more root. Thinning through logging can instead select for or produce trees that end up needing more water in a drying future and are more susceptible to blow-down due to large canopy size. In more scientific terms, Tague and Moritze (2019) put it this way.

> In terms of thinning to promote drought resilience, we also find that some counter-intuitive responses are possible. For example, we show that the greater biomass and productivity supported by thinning can become . . . "too much of a good thing" in drier years when water to support the increased biomass is not available.

(DEIS DVD Folder 4, Tague and Moritz 2019 Tree Thinning and Water.pdf).

The problem of logging not mimicking natural genetic selection has also been addressed by Dr. Diana Six (Scoping DVD, Folder 33, Six et al 2018.pdf). In short, pine beetle outbreaks "may result in strong selection for trees with greater resistance to attack" while logging may instead remove the trees genetically most resistant to beetle attacks.

Returning to the habitat fragmentation graphic included in our Executive Summary, the DEIS relies too much on the narrow findings of Kosterman et al. (2018) to support the proposed degree of lynx habitat fragmentation via logging/thinning to create "stand initiation snowshoe hare habitat." (DEIS at 71). Indeed, Kosterman warns against too much conversion to stand initiation stages:

> Thus, mature forest in a connected configuration is particularly important for core use areas of lynx . . . hypothetically, if the stage of small-diameter forest lasts for around 10 years after disturbance, and the mature forest stage takes at least 40 years to establish, managing for 20-30% small-diameter regenerating forest in isolation would facilitate a predominantly young forest structure throughout the core area over a short time frame (e.g., within 40 years).

Mowat and Slough (2003) issue a similar warning about trying to replace the positive effects of fire on lynx habitat with logging:

> Logging will likely only provide similar benefits if a dense pine understory results, which is unlikely in intensively managed stands.

(DEIS DVD Folder 5, SVC on Beaver Creek EA 160129.pdf). The DEIS nonetheless attempts to violate the Northern Rockies Lynx Management Direction and the revised Flathead Forest Plan with this habitat fragmentation plan, necessitating a project-specific amendment to the Forest Plan. (DEIS at 71).

This notion of purposefully violating the NRLMD is not new and first surfaced on the Flathead NF with the 2013 Whitefish Range Partnership Agreement (WRPA), which agreed to "challenge existing lynx management strategies . . . This should allow more cultural treatments (precommercial thinning, etc.) . . ." (DEIS DVD Folder 5, WRP_Final_11_18_2013.pdf, at 28). Unfortunately, collaborative efforts on the Flathead NF have all too often been used to provide political support for the Forest Service to violate its own Forest Plan and other directives, such as the NRLMD.

The Flathead was deeply involved in the 2013 WRPA, ignored our request in our Mid-Swan scoping comments that it approach this "problem" via an amendment to the NRLMD, and now is attempting to "challenge existing lynx management strategies"

instead with a site-specific amendment to its brand-new Forest Plan via the Mid-Swan Project - while laying claim to support from the SW Crown Collaborative. We object to this process and the proposed site-specific amendment. The Forest Service needs to "man up" and amend the NRLMD if it thinks the science supports doing so and quit evading the NRLMD and its own Forest Plans.

Whether to "improve" lynx habitat or to reduce fire fuels, the DEIS is fatally flawed in its rationale to further fragment the forest. The DEIS would have the public believe that nature can no longer sustain and restore forest ecosystems in the Swan. The DEIS, argues that some 1,145 miles of road (DEIS at 190) are needed in the project area in order to manually restore the landscape and that even forests in protected Wilderness areas need manual restoration in order to limit fire severity. This is not supported by science, using Bradley et al. (2016) as an example:

> We found forests with higher levels of protection had lower severity values even though they are generally identified as having the highest overall levels of biomass and fuel loading. Our results suggest a need to reconsider current overly simplistic assumptions about the relationship between forest protection and fire severity in fire management and policy.

(DEIS DVD Folder 4, Bradley_et_al-2016-Ecosphere.pdf). The DEIS fails to provide an adequate range of alternatives and an adequate comparison of alternatives free of the unfounded bias that roads are essential to landscape restoration and the protection of homes from fire.

3. The DEIS Contains an Inadequate Range of Alternatives

The DEIS contains only two action alternatives, both of which include identical "aquatic habitat restoration actions." Both decommission only 44 miles of existing road and retain the rest of the existing 567 Forest Service road system. Both stormproof and store the same mileage of roads. This is an inadequate range of alternatives to determine the efficacy of methods intended to "maintain and improve instream habitat conditions and water quality" and to conduct "landscape restoration."

The decommissioning of roads, for example, has been a longstanding method of simultaneously restoring stream conditions for aquatic life and habitat security for grizzly bear and other terrestrial wildlife. Former Flathead Forest Plan Amendment 19 (A19) was based on the best available grizzly bear research and established upper limits on Open Motorized Route Density and Total Motorized Route Density, along with a lower limit on Security Core. These limits were, respectively, known as 19/19/68, and remain today the thresholds beyond which the effects of roads significantly harm (a.k.a. "take") grizzly bear. They are now referred to as "research benchmarks" by which to measure the "taking" of grizzly bear.

The DEIS fails to include an alternative that would close, reclaim and decommission enough roads to meet the 19/19/68 research benchmarks in order to eliminate the "taking" of grizzly bear. Such an alternative is necessary to provided a reasoned comparison among alternatives intended to restore the landscape and protect

threatened grizzly bear. This alternative is also necessary to expand the range of aquatic habitat restoration measures that include road stormproofing, road storage and road decommissioning. (Forest Plan revision planning records indicate 518 miles of road would need to be "reclaimed" to meet 19/19/68 thresholds. See Scoping DVD Folder 25, Planning Record 00172).

Similarly, the DEIS fails to develop and analyze an alternative that would remove all roads in order to restore the landscape to its historic condition. This "landscape restoration" DEIS is big on proposing to restore nebulous historic vegetation patch size that magically involves more logging, but fatally ignores the elephant in the room; over 1,000 miles of roads now exist on a once roadless project area landscape, with half of those being on the Forest Service road system.

Instead, the DEIS attempts to measure its "restoration" actions through a screen of ever diminishing watershed priorities including a limited Conservation Watershed Network. Nowhere does this "landscape restoration" DEIS provide a "full restoration" alternative against which to measure the paltry grizzly bear and aquatic restoration measures proposed in Alternatives B and C. Alternative C appears to be little more than a bone thrown to the SWCC, some of whom were highly critical of the amount of new road construction contained in the proposed action, and is consistently belittle in the DEIS as not implementing enough logging-style restoration.

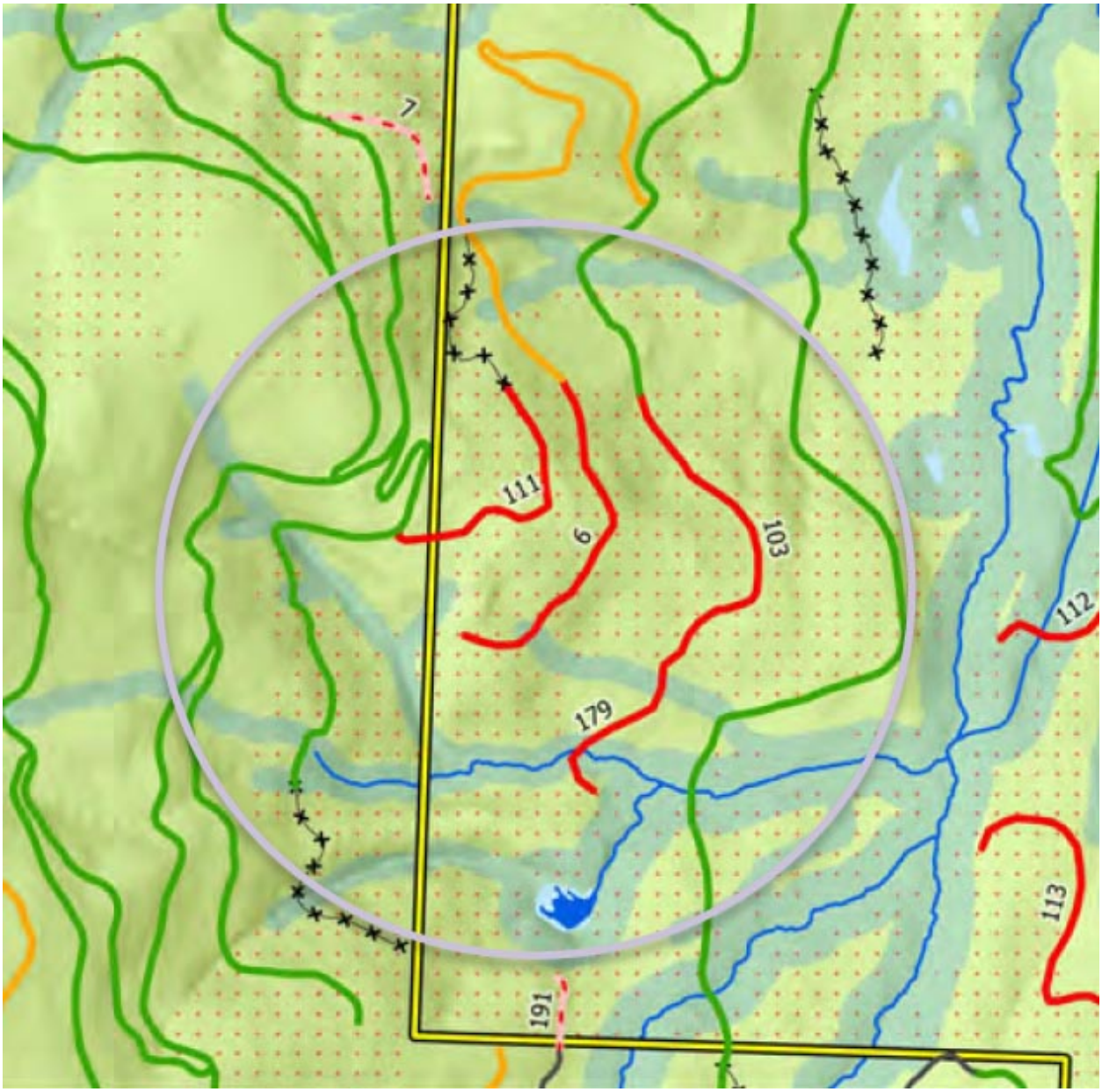
4. Roads and Culverts

The DEIS and Travel Analysis documents are fatally skewed toward retaining and building new roads to provide access for logging renamed "restoration." Following is but one example.

Planning Team member Don Long, at minute 58 in the September 29 Mid-Swan Virtual Meeting recording, explains how several new roads are proposed for construction as pictured on Slide 29, a pertinent clip of which is reproduced below. He states:

> Each proposed new road was evaluated for ecological costs and benefits as we presented at our first presentation. You can see the little balancing act over on the right side there. As an example we'd like to focus your attention on the set of roads 6, 111, 103, and 179 enclosed by that gray circle.
>
> These are new system roads proposed for construction in the Jim Creek area. These new spur roads are extensions of existing roads [and] are needed to provide access to implement vegetative treatments, with the red dots on that map indicating areas proposed for commercial mechanical harvest.
>
> Our evaluation found that these roads had high to moderate ecological benefits, but also high ecological costs . . . Our data shows that these roads will be constructed through areas with older and larger trees and there is a new perennial stream crossing of a Jim Creek tributary which flows into important bull trout spawning habitat in Jim Creek.

The stands may qualify as old growth and per Forest Plan guidance and design criteria in IGOR we are trying to avoid road construction in old growth. But without these roads we would have few tools available for actively managing this part of the project area and this would leave these older groups of trees at risk of a stand replacing fire and its within the WUI. Alternative C does not build these roads and does retain this area, but with a high canopy fire risk.



The Travel Analysis Process is obviously flawed if this proposal to build three more parallel roads across a hillside of old growth in a key "critical habitat" bull trout watershed already damaged by road building and logging even makes it into an action alternative in the DEIS (Jim Creek had 39.1% fine sediment in 2018 and is still on Montana's list of "impaired water bodies." See DEIS page 19 and the DEIS comments submitted by FOWS). Moreover, the roads would be built to facilitate commercial

logging in old growth, which has survived wildfire for a very long time to become old growth, as though logging is needed to keep the old growth from being destroyed by wildfire.

The result will be the fragmentation of old growth by roads, a reduction in old growth characteristics by logging, and an increased risk of fire due to thinning and drying of the now-less-shady old growth forest - which will nonetheless remain susceptible to large stand-replacing fires driven by drought, heat and wind. (See Exhibit A). It is not enough for the Forest Service to state "per Forest Plan guidance and design criteria in IGOR we are trying to avoid road construction in old growth" and then propose to construct roads in old growth. The inadequacies of the Forest Plan, the Mid-Swan DEIS and its IGOR could not be more clearly described than by this failure of the DEIS and Travel Analysis Process to strike these roads from serious consideration.

It bears mentioning here that, if the Forest Service feels this type of road construction in a "landscape and aquatic restoration" DEIS constitutes a "reasonable" alternative (B), then it must also consider alternatives that decommission more than 44 miles of the Forest's 567 miles of road in the project area to be reasonable and within the purposes of this project. But let's take a closer look at whether even those 44 miles of road will be adequately decommissioned under Alts. B and C.

The DEIS has conflicting description of what "decommissioning" means and whether it means all stream-aligned culverts will be removed from decommissioned roads. While the DEIS in places states that decommissioned roads will be totally removed from the road system, it does not state they will be totally removed from the landscape. Only in the Glossary does the DEIS state "Decommissioned roads will have all stream aligned culverts removed and road entrances blocked." This definition, however, is inconsistent with the Forest Plan Glossary, which simply states "An unneeded road that has been stabilized and restored to a more natural state (36 CFR 212.1). Decommissioned roads do not count towards total motorized route density as long as they meet the definition of impassable."

The Forest Plan definition of impassable, however, does not require the removal of all stream-aligned culverts and, in turn, punts to the definition of "intermittent stored service," which does not require the removal of stream-aligned culverts either. ISS instead only requires that the road be "in a condition such that there is little resource risk if maintenance is not performed." In other words, stream-aligned culverts can remain at the Forest Service's discretion and determination of risk.

These circular and vague road definitions have real consequences. Under the prior Flathead Forest Plan's Amendment 19, a reclaimed or decommissioned road must have all stream-aligned culverts removed. These two terms were used synonymously up until about 2012, when the Flathead decided it did not have to decommission (remove from the system) its reclaimed roads and started instead designating them "impassable" and keeping them in the road system.

When challenged by Swan View Coalition and others, the Flathead took a second look at a number of its impassable roads to see if they also met the then-current Amendment 19 definition of reclaimed. It found it had not removed all stream-aligned culverts from

17 of 78 reclaimed/impassable road segments it had removed from calculations of TMRD. (Scoping DVD Folder 20, Subfolder 180829 Correction, Keith Corrected Digest INTMRD.pdf). As a result, the Flathead had to recalculate TMRD and report those stream-aligned culverts to FWS in its 2016 and 2017 Amendment 19 Monitoring Reports. (Scoping DVD Folder 01, 2016_A19Report.pdf and DEIS DVD Folder 6, 2017_A19 Report.pdf).

That's the kind of mistakes that got made and the abuse that occurred when the Forest Plan had a clear definition of "reclaimed" road requiring that all stream-aligned culverts be removed before the road could be removed from TMRD calculations and the road system. The revised Forest Plan and Mid-Swan DEIS instead have no definition for a "reclaimed" road but an array of inconsistent definitions for storm-proofed, impassable, stored, ISS, ITS, and decommissioned roads - none of which consistently require the removal of all stream-aligned culverts.

We are currently challenging the legality of the revised Forest Plan's abandonment of road "reclamation" and its adoption of the reduced protection of grizzly bear and bull trout afforded by roads simply rendered "impassable." (Rather than repeat those details here, please read Swan View's objection to the revised Forest Plan in Scoping DVD Folder 00, Keith Hammer's Roads to Ruin report and its supplements in Scoping DVD Folder 04, our comments on the NCDE Grizzly Bear Conservation Strategy in Scoping DVD Folder 22, and Plaintiffs' initial Summary Judgment brief, motion and statement of undisputed facts in DEIS DVD Folder 7).

Moreover, the Flathead has left numerous culverts in roads even after NEPA decisions were made to remove all of the culverts, often in "impaired" critical bull trout watersheds like Coal Creek! For example, the Flathead did not remove all 38 culverts from its Raghorn Road in Coal Creek until threatened in 2016 with a lawsuit to enforce the initial NEPA decision made in 2010! (Scoping DVD Folder 12, Subfolder 161130 Raghorn NOI).

The Flathead in 2017 inspected 14 of its closed roads in bull trout habitat and found 46 stream-aligned culverts. It found 59% of those culverts with at least one of the following problems: Culvert inlets were blocked, a rust line >33% of the inlet height indicates the culvert is undersized to handle extreme flows, ponding or overflow indicates the culvert is undersized or incorrectly positioned, or the inlet is crushed. It found 13% of the culverts had floatable debris upstream with the potential to flow downstream and block the culvert inlet. (Scoping DVD Folder 26, Hammer Summary of 2017 BT Culvert Survey.pdf).

In 2017 the Flathead also undertook the first monitoring of culverts in bull trout habitat under the new culvert monitoring plan later included in its revised Forest Plan. It surveyed 170 miles of road in the northern Whitefish Range and found 65 stream-aligned culverts. It determined 36.9% of those are at high risk, 38.5% are at moderate risk and 24.6% are at low risk of failure. Moreover, it found 26 stream-aligned culverts in "historic" roads where they were supposed to be removed when decommissioned. However, as of 7/28/2020, no corrective or remedial actions have been planned as required by FWS's 11/22/17 biological opinion on the revised Forest Plan. (DEIS DVD Folder 6).

In 2018 the Flathead undertook monitoring of its second "panel" of bull trout streams under the new culvert monitoring plan. It surveyed 198 miles of road in the southern Whitefish Range and found 131 stream-aligned culverts. It determined 20% of those are at high risk, 20% are at moderate risk and 60% are at low risk of failure. Moreover, it found 7 stream-aligned culverts in "historic" roads where they were supposed to be removed when decommissioned. However, as of 7/28/2020, no corrective or remedial actions have been planned as required by FWS's 11/22/17 biological opinion on the revised Forest Plan. (DEIS DVD Folder 6).

We include this short history of road and culvert management on the Flathead in order to provide an informed context for review of the Mid-Swan DEIS. We find the Mid-Swan DEIS wholly inadequate in correcting the deficiencies in the Flathead's road and culvert monitoring and remediation program. It does not make it consistently clear that all stream-aligned culverts MUST be removed from decommissioned roads. Instead, it states that road decommissioning and stream crossing removals are dependent on "available restoration funding" (DEIS at 173) that does "not guarantee full deployment of proposed activities . . ." (DEIS at 47 and A-58). It is of little worth to add the words "unless specified as necessary mitigation or design criteria" on DEIS page 47 when the words "necessary mitigation" appear nowhere else in the DEIS or its IGOR.

Moreover, the IGOR design criteria more consistently uses the word "should" rather than "will, must" or some other term that clearly denotes necessary, nondiscretionary requirements and mitigation. The DEIS, at 174, clearly acknowledges "Offsetting the negative effect of building new roads is the aquatic restoration component of road decommissioning and storage . . ." If the Flathead wants the public to believe it is serious about its road decommissioning, stream crossing removals and other aquatic restoration activities, it needs to fully fund those activities independently or insure that the timber sales, new road construction and other development activities cannot move forward without funding of these aquatic restoration "mitigation" activities per 40 CFR 1505.3.

It is of little worth to list 38 stream crossing structures to be "eliminated with the proposed road decommissioning and road storage actions" (DEIS at 187) if funding for those actions and their implementation is not insured. The DEIS also fails to adequately explain how these limited restoration activities and other stream crossing "rehabilitation" (DEIS at xiii) are sufficient, partly because there is no other action alternative to compare to that would implement more or less of these restoration activities.

The efficacy of such restoration activities is further called into question when one looks at the IGOR. When page A-41 states "It is acceptable to remove a culvert on a stored road but prepare the site for temporary bridge in the future," it sounds like road fill near the stream will not be pulled back to reestablish the native stream profile or contours of the land in order to guarantee road fill will not end up eroding into the stream. It sounds instead like that road fill will be left close to the stream to accommodate future bridge abutments and installation.

When page A-43 says "Up to 10% of existing culverts on all proposed ISS roads may be

retained" it calls into question how the retained culverts will be adequately monitored "every 5 years" when the Forest Plan bull trout culvert monitoring program monitors once every 6 years and yet Biological Opinions on the maintenance of Forest Service roads require ANNUAL inspection of culverts in closed roads in bull trout habitat. (See the 2015 Road Maintenance Biological Opinion in DEIS DVD Folder 5, Swan View's objection to the revised Forest Plan in Scoping DVD Folder 00, Keith Hammer's Roads to Ruin report and its supplements in Scoping DVD Folder 04, our comments on the NCDE Grizzly Bear Conservation Strategy in Scoping DVD Folder 22, and Plaintiffs' initial Summary Judgment brief, motion and statement of undisputed facts in DEIS DVD Folder 7). And, how is the public to trust that ISS roads "typically have all stream-aligned culverts removed" (DEIS Glossary) when IGOR instead allows up to 10% of them to remain?

Even more confusing is IGOR's statement that the "Maximum cap for entire project area is 10 culverts may be retained on stored roads." (DEIS at A-56) Is this a typo intended to say 10% of culverts may be retained on each stored road or is this a different cap of 10 stream-aligned culverts total for all stored roads in the project area? The DEIS treatment of roads and culverts is inadequate and clear as mud.

The DEIS is also contradictory in stating how many miles of new permanent roads would be built under Alternative C. Page xiii states it would be 7.5 miles. Page 174 says it would be 4.8 miles that would be gated and 5.7 miles that would be stored after use, which adds up to 10.5 miles, not 7.5 miles. Similarly, DEIS page 66 states Alt. B would build 31.1 miles of new permanent roads, page 333 states it would build 38.7 miles of new permanent road and page xiv states it would build 38.7 + 7.5 = 46.2 miles of new permanent roads.

To add to the confusion, DEIS page 154 states affects to aquatics were evaluated for "three indicators and 15 measures" while page 160 states that "Three baseline condition indicators with 17 measures were established . . ." Similarly, page A-37 of the DEIS states there are 4 "priority connectivity corridors" while page 195 states there are instead 5 corridors.

We pause at this point to say the public deserves a DEIS that has been proofread by the Planning Team and rid of typos and other inconsistencies due to errors. Instead, the Flathead rushed its DEIS and denied public requests to extend the comment period another 45 days in order to "keep this project moving forward." This agency haste to get the DEIS out and move on to the FEIS has left the public to do the proofreading for the agency, spending extra hours trying to make sense out of the resulting mess when those hours should instead be spent investigating the substance of the DEIS. Typos shake the public's confidence in the agency and leave one wondering whether the Planning Team has ever set foot on the Swan Lake Ranger District when it is instead referred to as the Swan Valley Ranger District! (DEIS at 198).

Faith in the DEIS is not restored when, at 174, it intentionally fails to model the sediment it acknowledges will be produced by temporary roads. Simply counting the number of stream crossings and RMZ infractions caused by temporary roads is not an adequate substitute for the estimation of sediment delivery nor the hard look required by NEPA.

Moreover, the DEIS is fatally flawed in relying on the installation of 100-year flood event culverts as though these culverts "stormproof" roads or stored roads and prevent the failure of those culverts over the long term. FWS has nixed this idea in previous biological opinions on the Flathead:

> A culvert that is designed for a 100-year event that would remain in for 10 years would have a 9.6% chance of failure (Furniss et al. 1991). The same culvert designed to stay in for 20-years would have a 19.2% chance of failure. Whatever the design life, any crossing structure would have a 100% chance of failure over its installation life if it is not removed after the road is abandoned.

(DEIS DVD Folder 5, Moose BiOp page 40 Culverts.pdf).

5. Grizzly Bear

In a nutshell, the DEIS goes shopping for research in Canada in order to sidestep the best available science developed by research right here on the Flathead National Forest, which was the basis for Amendment 19 and remains the basis for the 19/19/68 "research benchmarks" used to measure the degree of significant harm/"take" of grizzly bear by roads and trails. It also resorts to anecdotal observations and a Masters Thesis by its own wildlife biologist, Mark Ruby, to downplay the serious impacts of roads on grizzly bears found elsewhere in the scientific literature:

> In the Swan Valley, Ruby (2014) found that grizzly bears did not select against high or low densities of restricted roads in the valley scale. Based on grizzly tracks and remote camera detections, the district biologist has frequently observed grizzly bears using restricted (gated or bermed) roads for travel suggesting that displacement is not occurring as a result of restricted-use roads (project file H-013).

(DEIS at 249). The Flathead attempted this same work-around in its Beaver Creek EA. We've included our comments on the Beaver Creek EA in DEIS DVD Folder 5 and include here the portion pertinent to Ruby's findings - because they apply equally to the Mid-Swan DEIS treatment of this matter:

> The EA underreports grizzly bear mortality in the Swan Valley, downplays the risks restricted and other roads pose to bears, and misrepresents Flathead Forest Plan Amendment 19 (A19). On pages 332 and elsewhere, the EA suggests that "advances in radio-tracking technology" that allow monitoring of nighttime as well as daytime bear locations primarily accounts for the difference in findings between the South Fork Grizzly Bear Study and Mark Ruby's 2014 Master's Thesis (Ruby 2014). In short, the South Fork Study found grizzly bears were displaced significantly from restricted roads, not just open roads, while Ruby (2014) found "grizzly bears did not select against high or low densities of restricted roads at the valley scale." The EA cites anecdotal evidence to

improperly conclude "no displacement is occurring due to the presence of restricted roads" (EA at 332, emphasis added).

What the EA does not disclose is that Ruby (2014) largely documents the high-risk behavior of bears in the Swan Valley that in turn have suffered unsustainably high levels of mortality when they fail to avoid roads and other human developments, in spite of their tendency to visit these areas during the cover of nighttime. Indeed, Ruby (2014, at 48) acknowledges "Our research did not examine mortality risk for grizzly bears within the study area, yet mitigating grizzly bear mortality risk in the presence of humans is a management concern." The EA fails to adequately describe these risks and subsequent bear mortality in the Swan Valley.

In short, Mace and Waller (1998) concluded that, in their South Fork Study area, "Our mortality, movement, and occupancy data suggest that the multiple-use zone is a population source area, and that wilderness and rural zones are sink areas. Mortalities in the wilderness zone were from mistaken identification during the black bear hunting season and human defense of life. In the rural zone, mortalities were from malicious killing and the management removal of habituated or food-conditioned bears." The Ruby (2014) study area did not include, for example, the east slopes of the northern Swan Range, which was included as multiple use zone in the Mace and Waller (1998) study area - meaning the Ruby Swan Valley study area contained a higher proportion of rural zone and hence likely reflects to a greater extent the behavior of bears in a population sink and not just the additional behavior of bears during nighttime.

The implications here are significant and the EA fails utterly to present a full and fair disclosure of grizzly bear mortality in the Swan Valley and project area. In his report "Swan Valley Grizzly Bear Research and Monitoring," Servheen (undated circa 2007) found that, of the 24 marked bears using the Swan Valley, 42% of them have already died, along with 3 unmarked grizzly bears" (page 38). The monitoring also shows grizzly bear survival was best in areas with low road densities and adequate hiding cover; meaning areas not chock full of roads, clearcuts, overly-thinned forests, and other human developments (page 36). Servheen indeed calls this level of mortality "unsustainable." (See the attached December 24, 2007 Missoulian news article).

(The circa 2007 Servheen Monitoring Report is located in DEIS DVD Folder 5, Swan Valley monitoring summary.pdf).

The DEIS in fact ignores most of the research we have referenced and/or included with our comments on various projects in the Swan Valley and elsewhere on the Flathead, some of which deals with grizzly bear in particular and some of which deals with broader issues of whether or not logging effectively replicates the effects of fire, effectively reduces the likelihood and severity of wildfire, or effectively increases forest and ecosystem reliance. So we again ask that the Planning Team read these comments and the research they reference or attach, along with our other references to and inclusion of pertinent scientific literature, as was provided in our Scoping DVD Folders 0-34.

The DEIS is thoroughly misleading about what this project will mean for grizzly bear displacement and security. For example, page 246 states that, while some 390 miles of currently restricted roads will be reopened "to achieve project objectives," the project "will more appropriately dispose of those roads post-project." (Emphasis added). As discussed earlier in these comments, none of the area roads will be disposed of. Only 44 miles of decommissioning are proposed and it appears the road template will remain, if not stream-aligned and other culverts. They will remain on the landscape in various stages of disarray per the convoluted and circular definitions of storm-proofed, impassable, stored, ISS, ITS, and decommissioned roads.

DEIS page 246 also apparently overstates the miles of road that "serve no management purpose," describing them as "many" of the 240 miles where human access is to be restricted. It is rather sobering to then read that only 44 miles of road will be decommissioned and to later learn from the DEIS that most of the 44 miles of road to be decommissioned will be offset or replaced by over 30 miles of new permanent roads and 11 miles of temporary roads in Alt. B.

How is this a net gain for grizzly bear? Only by inappropriately manipulating the definition of Total Motorized Route Density to no longer be inclusive of Total Road Density in order to make it look like a net gain. In other words, the revised Forest Plan no longer includes all roads in the definition of TMRD, so it can build all the roads it wants without increasing TMRD.

Open Motorized Route Density is intended to measure the miles of road open to motorized vehicles, not TMRD, which includes the term motorized in order to capture motorize trails in its calculation, not to imply roads closed to motorized use don't count in TMRD. The process by which the Flathead neutered TMRD as a limit on Total Road Density is thoroughly described in Keith Hammer's Roads to Ruin and its supplements (Scoping DVD Folder 4), Swan View's comments on the NCDE Grizzly Bear Conservation Strategy and Habitat-Based Recovery Criteria (Scoping DVD Folders 21 and 22) and in Swan View's Objection to the revised Forest Plan (Scoping DVD Folder 00).

Moreover, the Flathead is keen on stuffing more new roads into areas where TMRD already exceeds 2 miles per square mile, as though those roads don't have additional impacts to grizzly bears simply because they do not increase the percentage of the Grizzly Bear Management Subunit that exceeds 2 miles per square mile. See Planning Team Leader Joe Krueger's 9/9/20 explanation of how 77% of the Mid-Swan new road construction can be simply "stored" and left on the landscape and in the road system without increasing TMRD and without being rendered "impassable". His explanation also notes how simply closing up the road entrance (to render the road impassable) also omits the road from TMRD (DEIS DVD Folder, Krueger on Stored Road in TMRD 200909.pdf).

DEIS page 251 shows the current and post-project values for Secure Core and TMRD, by subunit, and shows the minimal improvements allegedly made by this project. The DEIS, however, fails to provide its analyses and tables within the context of the 19/19/68 research benchmark values, which would show how substandard the

subunits are and will remain. Nor does the DEIS account for the effects of the new roads being stuffed into already excessively roaded areas, which don't show up in TMRD values, as discussed in the paragraph immediately above.

Nor is the DEIS discussion of compliance with the Forest Plan's "5-3-2" rule regarding limits on exceeding the OMRD-TMRD-Core baseline values during the project adequate (DEIS at 252-257). Firstly, the "5-3-2" rule was not based on peer-reviewed research but instead on a few timber sale projects that didn't cause grizzly bears to go extinct in the NCDE - and is averaged over ten years to mask the more immediate impacts to grizzly bear. Our more complete critique of this rule can be found in Swan View's comments on the NCDE Grizzly Bear Conservation Strategy and Habitat-Based Recovery Criteria (Scoping DVD Folders 21 and 22) and in Swan View's Objection to the revised Forest Plan (Scoping DVD Folder 00).

Secondly, the DEIS Implementation Year Schedule is incredibly speculative and doomed to fail when real-world circumstances roll over the written page. Even without real-world interruptions, the DEIS pushes the limits in its proposed scheduling and admits that "open motorized route densities will require careful management in 7 of the 9 subunits" in the face of reopening 390 miles of closed roads "to facilitate project activities, and the associated human traffic including sale preparation activities, sale administration, and hauling" (DEIS at 253, 257). Ya think?

6. Cumulative Effects

The DEIS contains no adequate assessment of cumulative effects. Let's use grizzly bear as our first example since it's fresh on our minds. As Brian Peck calculated, the 95 miles of closed road to be reopened for logging under the Cold Jim and Mid-Swan projects (DEIS at 257) would displace grizzly bears from 37,772 acres of habitat, using the research-based and Amendment 19 displacement zone of 500 meters on each side of an open road. That's 21.7% of the entire Mid-Swan project area.

The DEIS doesn't specify which portion of the project area/subunits that 95 miles of road reopening will be in, so we confirmed Peck's calculation method and then applied it to the entire 390 miles of road to be reopened in the project area. This would displace bears from 155,064 acres, which is 89% of the project area. NOW A CAUTIONARY NOTE: the displacement areas and acres will overlap where the roads are closer than 1,000 meters to one another, so we can't rely on these miles-to-displacement-acres calculations. But it makes one wonder from how many areas bears will be displaced from over the 15-year life of this project and to what degree the bears will have to keep relocating to meet their feeding, breeding and sheltering needs.

Well, that's what the 19/19/68 research benchmarks for OMRD/TMRD/Core are supposed to tell us as more sophisticated GIS "moving window" calculations based on road and trail locations are conducted. But the Flathead Forest Plan has omitted the 19/19/68 thresholds from its analyses. It has also rendered those parameters useless by redefining TMRD to not include all system roads and by allowing high-use non-motorized trails to proliferate in Core, which were not allowed under Amendment 19. This, in turn, renders the Mid-Swan DEIS useless.

Cold Jim is the only project listed as "reasonably foreseeable" for impacts to grizzly bear. DEIS page 198, however, lists the ongoing Swan Valley Bottom Maintenance Burning Project and DNRC's Lost Napa Timber Sale in addition to Cold Jim. Will those projects not also have cumulative impacts to grizzly bear?

Indeed, let's look at DEIS page 98 for a second example of how the DEIS fails to adequately account for cumulative effects. Whereas the DEIS would have us believe bears can be uprooted every few years and be OK, old growth clearly cannot. On page 198, however, the DEIS attempts to dismiss any cumulative effects from logging affecting "elements such as old growth or mature forest connectivity" because there will likely be an "8-year gap between" the Cold Jim project logging and the Mid-Swan project logging in the same area! Are the trees logged during Cold Jim expected to return to their original condition within 8 years (be they old growth, mature, or whatever) so that there are no cumulative reductions in "elements such as old growth or mature forest connectivity?"

The DEIS and its IGOR are their own testament to their lack of site-specific information on which to base an adequate assessment of cumulative effects. The DEIS is essentially a collection of broad-based GIS and photo-interpreted data with the collection of old growth and other inventory information left until project implementation. This does not satisfy NEPA's requirement of the necessary "hard look" or the requirement that the public be fully involved via NEPA when that hard look at site-specific data and effects finally occurs.

7. Monitoring and Other DEIS Deficiencies

The DEIS and its IGOR fail to provide for monitoring adequate to adjust course mid-stream if necessary. With a compressed 15-year implementation time frame, the project will likely be completed by the time monitoring results show there may be a need for adjustments to prescriptions and expectations.

The DEIS and its IGOR provide no clear plan for insuring that road building and logging are stopped if funding is not available for mitigation and aquatic restoration. This will simply perpetuate the Flathead's habit of sending the logs to the mill and then letting promised road decommissioning, culvert removals and other restoration measures go unfunded and unimplemented for decades. And, while the public is invited to help monitor and guide the individual projects, they are denied the NEPA process though which to do this, even though required by statute, regulations and recent case law.

The DEIS lacks project area-wide maps that display the same map layers shown on the Implementation Unit-scale maps. This requires the public to page back and forth through dozens of maps in order to get a single big-picture of the project area.

The DEIS lacks adequate maps with map layers laid over aerial or satellite images so the public can see what the current vegetation and terrain looks like. This is essential to enable the public to see whether the DEIS determinations of current conditions and

Levels of Change are accurate and reasonable. We spent considerable time trying to accomplish this on the project's online Story Map, using the recommended Firefox and Chrome web browsers. Our efforts were defeated, in spite of our high-speed internet connection, by slow load times as we switched between maps and navigated across individual maps. Importantly, when zooming in on a particular location to see the land image base layer, either the map overlays were too opaque to see through and/or the base layer would switch from land image to an elevation contour map lacking the vegetation image we needed to view.

While we don't agree with the Flathead's March Madness Blowdown Salvage Project or its recent approval with a Decision Memo and utilizing Categorical Exclusion, we do want to point out that that CE process provides more site-specific detail and documentation than does the Mid-Swan DEIS. And, importantly, specialist reports and other key documents are included on the project web page so the public doesn't have to request them under the FOIA (https://www.fs.usda.gov/project/?project=58128), including the FS's Biological Assessment and FWS's responding Biological Opinion.

We've included the March Madness Decision Memo and Biological Opinion in DEIS DVD Folder 8. On pages 5 and 21, the Decision Memo lists four of the major wind events in 2019 and 2020 that caused power outages due to tree being toppled. One of those power outages occurred a quarter-mile from our home office when a small tree arced against the power line and melted the power line in half, scorching the offending tree but fortunately not causing a wildfire.

As we should have learned from California and other fires in the west by now, trees aren't the cause of wildfires but above-ground power lines sure are. This is why we urge that the Mid-Swan project abandon its logging plans and instead invest federal funds in helping power utilities and neighborhoods move their above-ground power lines underground. This will do more to reduce fire than logging will and we don't need a California-style event in Montana to drive that point home.

Additionally, the March Madness Biological Opinion demonstrates that the March Madness project area, like the Mid-Swan project area, triggers a "may affect, likely to adversely affect" determination for grizzly bear and leads to formal consultation between FS and FWS. Why? Because the area exceeds the 19/19/68 research benchmark thresholds and the baseline conditions alone are resulting in a "taking" of grizzly bear, leaving no room for additional impacts to occur without triggering formal consultation.

The 19/19/68 research benchmarks are a primary tool for assessing the effects on grizzly bear, warrant an alternative intended to meet those thresholds in the Mid-Swan DEIS, and must accompany each step of the effects analysis process.

8. Designated Wilderness and Recommended Wilderness

The DEIS wrongfully proposes planting of whitebark pine in designated Wilderness, which according to retired Region One Forest Service staff is "not only in direct conflict with the 1964 Wilderness Act, but also in conflict with Forest Service Wilderness

Policy." These same folks also object to the Forest Supervisor approving prescribed fire in designated Wilderness. (DEIS DVD Folder Retired FS Extension Denial.pdf).

Similarly, the DEIS proposes activities in Recommended Wilderness that do not conform to Wilderness management. This does not comply with the Forest Plan and hence the need to issue a project-specific amendment to the Forest Plan. We object to this in the strongest of terms.

Carbon Sequestration and Climate Change

The DEIS fails to discuss considerable research showing there is a low likelihood that areas where the forest is thinned will be exposed to wildfire during the time the thinning is "effective" at reducing fire spread - and that thinning large areas ensures decreased carbon stock and decreased net carbon balance over the treated area. In other words, thinning is a crapshoot in terms of actually helping slow the spread of wildfire but is a certainty at reducing forest carbon sequestration.

This is partly because most of the carbon consumed/released during wildfire is the forest floor litter and duff, limbs and small trees. Only about 5% of the carbon in large trees is released because it is the limbs and bark that burn and the bole of the tree that most often remains, continuing to store its carbon for decades. Logging, on the other hand, leaves the limbs and smaller trees in the forest as highly flammable logging slash and removes the tree boles/trunks that don't generally burn during wildfire as logs.

Commercial thinning and logging, as proposed in the DEIS, is essentially the theft of carbon from the forest. The DEIS uses a smokescreen to attempt to make wildfire look like the carbon-emission culprit it is not and to hide the carbon emissions of logging. The DEIS treatment of carbon sequestration and climate change is wholly inadequate.

Where, for example, does the DEIS calculate the amount of carbon that would be removed from the forest by the estimated 30,000 to 60,000 trucks loads of logs under the action alternatives? It doesn't. Where does it calculate the carbon emissions from those 60,000 log truck engines, along with the engines on the logging equipment? It doesn't.

We included in DEIS DVD Folder 8 five research papers and presentations by Law, Campbell, Hudiburg, Meigs, and others that take issue with the notion that thinning and logging will help sequester more carbon in the forest by reducing the amount and severity of wildfire.

Conclusion

The impediments to ecosystem resilience in the Swan are too many roads and too much forest habitat fragmentation due to past logging and road building. The risks to private homes and structures built in the forest in the Swan are increased risks of human-caused wildfire ignition due to too many roads providing public access and access for logging that thins and dries out forest stands, too many above-ground power lines

vulnerable to wind events and fire starts, and too little "hardening" of private homes and structures to fire. The problem is not too many trees.

More road building and logging will simply waste a lot of money and exacerbate climate change, resulting in more frequent and severe drought, heat and wind that will make the spread of wildfire worse. We urge the Forest Service to redirect its money and efforts instead to removing a significant portion of its road network, helping private parties and electric utilities move their power lines underground, and helping private parties make their homes and the areas immediately surrounding them "fire-wise." This will actually help save lives and property, whereas logging outside the home-ignition zone will not. At the same time, this refocus will help leave wildlife habitat less fragmented and help restore aquatic habitats.

Sincerely,

Keith J. Hammer
Chair

Also signing for: (continued on next page)

Patty Ames - lunaswan415@gmail.com
Flathead-Lolo-Bitterroot Citizen Task Force
Missoula, MT

Lori Andresen - andres01@charter.net
Save Our Sky Blue Waters
Duluth, MN

Denise Boggs - denise@conservationcongress-ca.org
Conservation Congress
Billings, MT

Larry Campbell - lcampbell@bitterroot.net
Friends of the Bitterroot
Hamilton, MT

Paul Edwards - Hgmnude@bresnan.net
Helena, MT

Michael Garrity - wildrockies@gmail.com
Alliance for the Wild Rockies
Helena, MT

Sara Johnson - sjjohnsonkoa@yahoo.com
Native Ecosystems Council
Willow Creek, MT

George Nickas - gnickas@wildernesswatch.org
Wilderness Watch
Missoula, MT

Jeff Juel, Montana Policy Director - jeffjuel@wildrockies.org
Friends of the Clearwater
Moscow, ID

Paul Sieracki - paul.sieracki@gmail.com
Priest River, ID

Brian Peck - glcrbear@centurytel.net
Independent Wildlife Consultant
Columbia Falls, MT

- page intentionally left blank -

EXHIBIT A

Condon Mountain and Crazy Horse Fire Areas Overlaid on Google Earth Satellite Images

Before and After Comparisons Showing Logging Does Not Deter Wildfire

Keith Hammer
September 28, 2020

A primary goal of the Flathead National Forest's proposed Mid-Swan Landscape Restoration and Wildland Urban Interface Project [1] is to intentionally fragment forests, including mature forests essential to survival of threatened lynx, through logging and other means in order to save these forests from fragmentation due to the spread of wildfire.

I looked at two wildfires that have occurred in the Mid-Swan project area to see if the spread of those fires appeared to be significantly stemmed by previous logging and other human fragmentation of forest habitat. Using before and after Google Earth satellite images and a Flathead National Forest fire history map layer [2], I found that these fires readily burned through previously logged areas and crossed logging roads to continue their spread into unlogged forest areas.

Ridgelines, north-facing slopes and riparian areas appeared to be generally more consistent at deterring the spread of these fires than did logging and road-building. My conclusions are drawn from the attached six images, listed by page number:

1. Google Earth 2011 image of the area that would host the 2012 Condon Mountain Fire.
2. The above with the 2012 Condon Mountain Fire perimeter overlay.
3. Google Earth 2013 post-fire image of the 2012 Condon Mountain Fire area.

4. Google Earth June 2003 image of the area that would host the 2003 Crazy Horse Fire.
5. The above with the 2003 Crazy Horse Fire perimeter overlay.
6. Google Earth 2005 post-fire image of the 2003 Crazy Horse Fire area.

Sources

1. https://www.fs.usda.gov/detailfull/flathead/landmanagement/projects/?cid=fseprd787388&width=full

2. Flathead National Forest's "Fire History" map layer is archived at: www.swanview.org/other-files/Fire_History_1980-2013.kml.zip

EXHIBIT A


Condon Mountain Fire Area
On a 11/20/2011 satellite image.
Google Earth
Image USDA Farm Service Agency
N
2 mi

EXHIBIT A

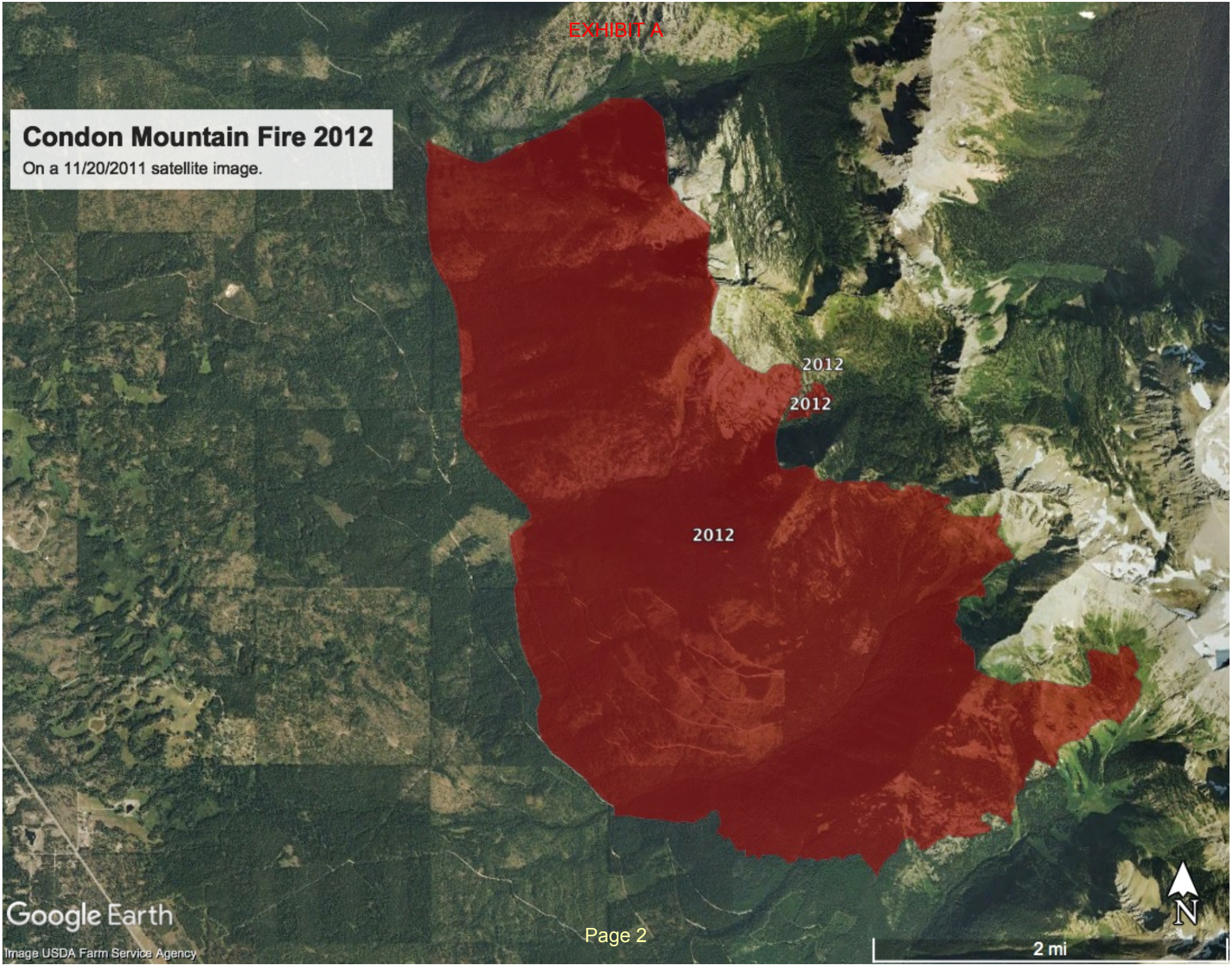

Condon Mountain Fire 2012
On a 11/20/2011 satellite image.
2012
2012
2012
Google Earth
Image USDA Farm Service Agency
N
2 mi

EXHIBIT A


Condon Mountain Fire Area 2013
On a 7/25/2013 satellite image.
Google Earth
N
2 mi

EXHIBIT A


Crazy Horse Fire Area 2003
On a 6/30/2003 satellite image.
Google Earth
N
2 mi

EXHIBIT A

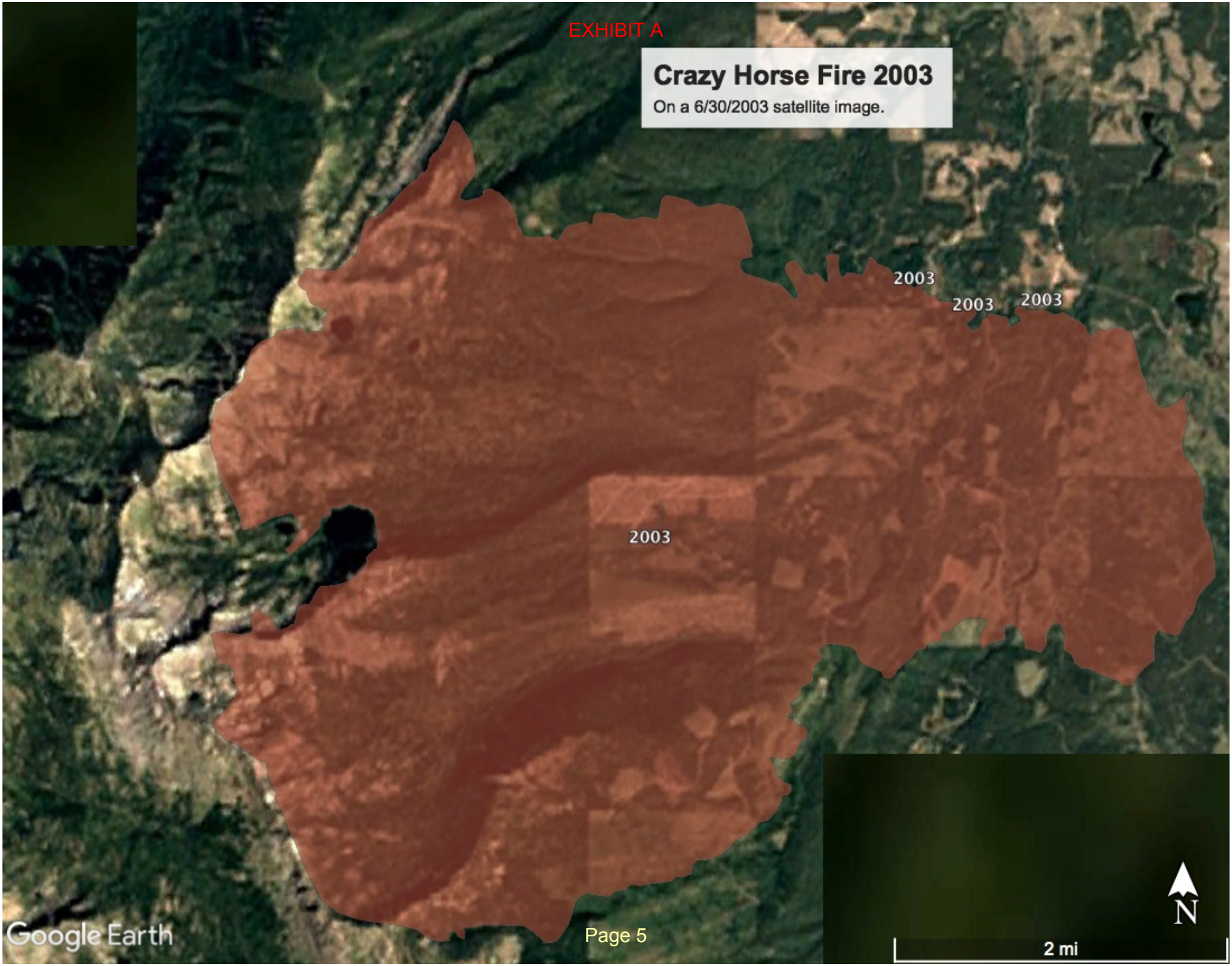
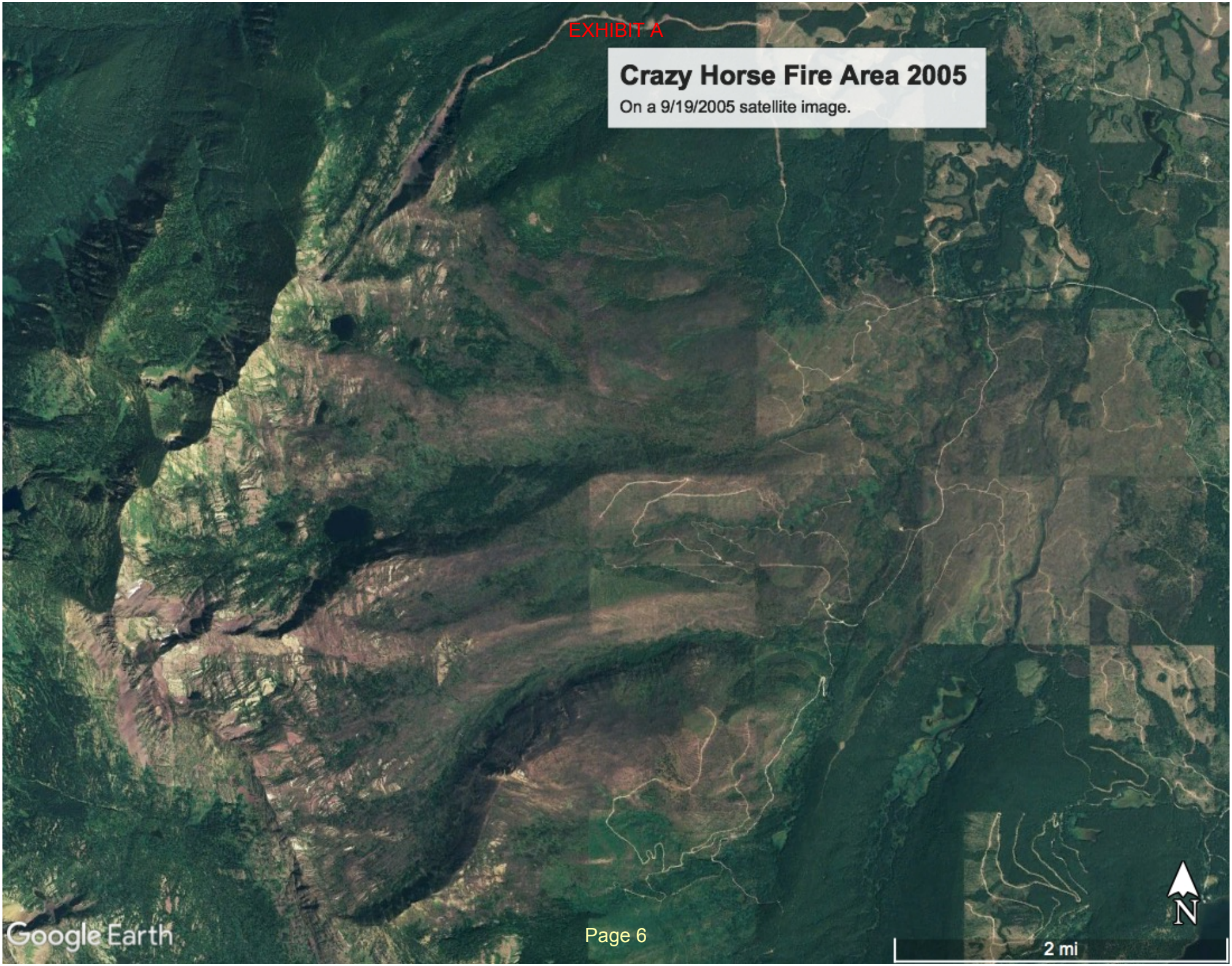

Crazy Horse Fire 2003
On a 6/30/2003 satellite image.
2003
2003
2003
2003
Google Earth
N
2 mi

EXHIBIT A


Crazy Horse Fire Area 2005
On a 9/19/2005 satellite image.
Google Earth
N
2 mi

EXHBIT B

EXHIBIT C

EXHIBIT D


EXHIBIT D