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John Huston  
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BLM Northwest Oregon District  
Wild and Scenic River Planning Comments  
1717 Fabry Road SE  
Salem, Oregon 97306

Re: Draft CRMP and EA for Nine Wild and Scenic Rivers

Dear Jennie and other team members:

Thank you for the opportunity to comment on the CRMP and EA for inclusion of nine river segments in the Wild and Scenic River legal category. I frequently comment on BLM projects in the Cascade District, which is why I was put on the mailing list towards the end of the public participation process. I have an education in fisheries biology and have worked on salmon restoration projects. I spent nine seasons working at a large state park (Silver Falls). I also have a law degree with an emphasis on Environmental Law. Unfortunately, I have only seen one of the nine river segments, Fifteenmile Creek, on a hike that displayed the incredible diversity of trees in this area.

The following are my comments on the two documents, to be entered into the public record.

1. Cover Letter. The second paragraph summarizes the purposes served by these two largely duplicative documents, the EA required by NEPA and the CRMP required by the Wild and Scenic River Act, Section 3(d)(1).

With respect to the Riverside Fire, I hope and pray that the fire did not destroy or impair the ORV's that distinguish the Fish Creek, South Fork Clackamas River and Collawash River segments. As a preliminary matter, I would ask that snags and downed wood be left in the river corridors as habitat enhancement, including snags cut for safety reasons. I would also suggest that the agencies seriously reconsider replacing campgrounds that have been damaged if similar facilities can be found in the area. Campgrounds are expensive to both build and maintain, and are not an essential component of achieving the ORV'S.

I appreciate print out of these documents for my benefit. I chose to comment on the EA first in hopes of receiving the appendices for the CRMP in the interim, which did not happen. They were not necessary for making an adequate comment on the CRMP.

2. EA for CRMP for Nine Wild and Scenic Rivers.

(a) Introduction. The photographs on the cover sheet and elsewhere in the document really help to imagine what these river segments look like. The Table of Contents page numbers and titles are all consistent with the text. The Introduction and Background give a good summary of why an EA is required and an historical background for the 1968 Wild and Scenic Rivers Act, a relatively early environmental statute intended to proactively address excessive dam building and limit water pollution (Section 7).

For Figure 1, the Vicinity Map, I would have liked a better showing of the South Fork of the Clackamas River, which is on BLM land in Wilderness, I believe. Table 1 is an excellent summary of the location and classifications, defined above, of the nine river segments. Table 2 likewise summarizes the ORV's for each river segment. Here, the Fifteenmile Creek and Collawash River segments should have been numbered for easier reference to the text and Table 1.

The "Management Direction" describes the Desired Condition for these river corridors under the Forest Service or BLM Resource Management Plans. Under the Forest Plan, the desired conditions vary according to the river classification (Wild, Scenic, or Recreational). The land use allocation also varies accordingly (A1-Wild, B1-Scenic or Recreational). Will timber harvest be allowed in the B1 segments? How does the 1994 NWFP amendment modify the Mt. Hood Forest Plan with respect to Wild and Scenic Rivers?

For the BLM RMP (2016), I like the proactive nature of the management objectives, in that water quality, free-flowing condition, and ORV's are protected on all eligible (not yet studied) segments as well as those deemed suitable or already designated. It's nice that the South Fork Clackamas segment is part of an ERMA, to manage adjacent lands accordingly.

The "Purpose and Need" for action is simply to develop a Management Plan, as required by the Wild and Scenic Rivers Act, to protect and enhance the values for which these river segments were designated (water quality, free flowing, and ORV's specific to each river segment). Since these segments have already been proactively managed as such, few actions will be required.

(b) Location of the Proposed Project Area. These descriptions are all quite good, giving elevation, watershed, adjacent land use, as well as details on classification. It would have been helpful to label the subsegments for the Collawash and Fifteenmile River corridors in addition to the color coding. I like the fact that the river categories are compatible with the adjacent land classification, sometimes as a result of related action in the same Omnibus Bill.

On the map for the South Fork Clackamas River, it was unclear if the dark green Wilderness portion was on BLM or Forest Service land. Please clarify.

(c) Public Involvement and Government Consultation. The public involvement has been excellent, beginning as stated here with an overview of ORV's, summary of the Rivers Values Report and maps being sent to 340 individuals, organizations, and government agencies. The two questions asked for input on ORV's and concerns about current conditions. The fifteen responses were from a good mix of user groups, agencies, and three individuals. I like the responsiveness of the agencies in terms of altering ORV's. A scoping packet sent out in July 2019 asked for comments on the proposed action, boundaries and user capacity. Again, the agencies responded to concerns expressed on recreational opportunities especially. The "Tribal Consultation" section is quite good in recognizing historical connection of local Tribes to these river segments, as well as treaty rights and trust responsibilities. The pro-active involvement with private landowners and the range permittee will avoid any problems down the road.

(d) Alternatives, Including the Proposed Action. As stated here, a reasonable range of alternatives has been considered during the two previous public comment periods, so they need not be presented here. The Proposed Action is simply to develop a Management Plan (CRMP), presented as a separate document. The EA discusses only changes to present management practices.

(1) User Capacity. Carrying capacity is defined by the Act as the quantity of recreation use which the river segment can sustain without adverse impacts on the ORV's, water quality, free-flowing character of the river, quality of the recreational experience, and health and safety concerns. The user capacity for each river segment is presented in Table 3. The greatest user capacity is for East Fork Hood River, at 1,828 people per day. This is a 14 mile segment classified as "Recreational", and Recreation is in fact one of the ORV's, so the high carrying capacity is reasonable.

I do like the fact that the agencies spent more time estimating User Capacity on river segments where use was already moderate. I cannot overemphasize the importance of continually monitoring current use to see if it exceeds User Capacity. As a hiker and park worker I have seen the damage that high numbers of visitors can cause to resource values.

(2) Final Boundaries. Section 3(b) of the Wild and Scenic Rivers Act specifies an average boundary of 1/4 mile width on each side of the river segments as measured from the ordinary high water mark; the Omnibus Act modified this to 1/2 mile boundaries for Fifteenmile Creek, which is great considering the unique tree landscape along the 11.1 mile river segment. The river segments have been managed in the interim to protect ORV's, free flow and water quality within these boundaries.

Apparently the agencies are allowed to modify these boundaries in order to protect ORV's, so long as the overall average of 1/4 or 1/2 mile width is maintained. These boundary modifications have been done quite cleverly here, taking advantage of other protective land designations to narrow the boundaries so that they can be widened elsewhere.

(aa) Collawash River - Widened near the headwaters and extended to the watershed boundaries to better protect fisheries and botany ORV's; narrowed in Wilderness areas.

(bb) East Fork Hood River - Widened to include two wetlands and meadows used by wildlife (especially elk); narrowed where ORV's do not exist.

(cc) Fish Creek - Widened to watershed boundary to better protect fisheries ORV's; narrowed where there is limited access.

(dd) Fifteenmile Creek - Adjusted to better reflect the historical and recreation ORV's where they occur along the river.

(ee) Middle Fork Hood River - Widened as much as possible to encompass the lava beds, which are an ORV; narrowed where none of the ORV's exist.

(ff) South Fork Clackamas River - Widened to better protect the waterworks historical ORV; narrowed where the Clackamas River Wild and Scenic designation overlaps to provide the same protection.

(gg) Zigzag River - Widened to the watershed boundary to better protect the macroinvertebrate ORV; narrowed where the river segment is in designated Wilderness, so Wild and Scenic River protection will be given.

All of these boundary adjustments meet the purpose of the Act and should be incorporated into the final management plan.

(3) Proposed Management Actions. These are shown in Table 4, and they are both excellent. To protect water quality in the Collawash River, toilet installation is proposed where there is evidence of dispersed camping or concentrated recreation use. I would also concentrate dispersed camping in designated areas where restroom facilities are available. To protect the Historic ORV in the South Fork Clackamas River (if it is still there after the fires), interpretive signs are proposed to enhance the recreational experience and possibly keep people out of the tunnels, which may be used by Townsend bats for hibernacula.

Highway 35 runs in close proximity to the East Fork Hood River segment, so proposed management includes good coordination with ODOT on any road maintenance projects. I will assume this also applies to ODOT contractors, where lack of oversight is sometimes a problem. The process described here is excellent.

(4) Forest Plan Amendments. The first of these change the land classification under the Mt. Hood Forest Plan to A1, for those segments designated as "Wild" (Table 5). This designation

precludes timber harvest. These consist of the South Fork Clackamas River (which hopefully still has old growth trees in the corridor) and two of the Fifteenmile segments, with their unique tree landscape. (The other two segments have already been classified as A1 in the "Scenic" segments). I endorse these changes.

While most of these river segments are also in Riparian Reserves, it should be pointed out that the narrower reserve widths of 344' (Forest Service) or 172' (BLM land) in the Reserves do not give nearly the protection of a 1/4 or 1/2 mile wide buffer in an A1 LUA, or, to a lesser degree, the B1 LUA. That's why the Wild and Scenic River designation is so important for these river segments.

The proposed amendment to B1-076 to allow snowmobile use in the "Wild" sections of Fifteenmile Creek is acceptable so long as use is allowed only as designated on a map, I would hope only on Forest Service roads. (I did not understand what "cross country" meant). The amendment should read "is the only motorized use permitted, and must be outside of wilderness areas..." Otherwise the implication is that other motorized use is allowed inside wilderness areas.

The next section evaluates the two amendments in terms of Planning Rule requirements (federal regulations). The amendments are necessary to make the Mt. Hood Forest Plan consistent with the Omnibus Act, which designated the Mt. Hood river segments as Wild and Scenic. The amendment is "modest in scope" since the land use allocations were already changed in 2016, but they will now apply to the new boundaries. The new boundaries will definitely help meet the Substantive Requirements.

(e) Environmental Impacts of the Proposed Action. The Effects analysis addresses the components of the Management Plan listed here, as well as consistency with relevant law, regulations and policy.

(1) Hydrology. Both the Forest Plan and BLM RMP have standards and guidelines for managing designated Wild, Scenic and Recreational river classifications, as well as the LUA's in which they occur. These will now simply apply to the nine river segments as they are now "designated" by law, and any future water resource projects will have to be reviewed under Section 8 of the Wild and Scenic Rivers Act.

With respect to water quality, several of these segments are listed in part as 303(d) impaired, primarily due to past logging or road building. With respect to free flow, existing infrastructure is grandfathered in at the time of Wild and Scenic River designation. Road infrastructure, such as concrete walls or bridges, can impact stream channels and free flow, thereby modifying stream morphology, riparian areas, and water quality.

The following figures in the text show where infrastructure is located ~~in the~~ on the named river segments. On Fish Creek (Recreational, 13.6 miles), there is a small section of concrete wall, and the highway passes quite close to perhaps half of the river segment. On the

Collawash River there is quite a bit of concrete wall along the 6.9 mile Recreational section, and an arterial road passes close to the river in the 12.9 mile Scenic portion (there is also a bridge and some concrete wall). On Fifteenmile Creek, there appear to be a bridge and short section of concrete wall in short "Scenic" segments. On the East Fork Hood River segment (14.1 miles, Recreational), Highway 35 parallels almost the entire section of the River, quite close. It is quite clear that the cooperation and Best Management Practices by ODOT are essential to these segments meeting Wild and Scenic River requirements for water quality (especially), free flow, and particular ORV's.

Nothing can be done about most of the infrastructure now in place, but at least Section 7 of the Act will preclude any future actions that impair the free flowing qualities of these designated river segments (p. 30, EA). The Act and related portions of the Forest Plan and BLM RMP will also be triggered by the designation to protect water quality.

The User Capacity for each segment, along with a system of triggers and subsequent management actions, are particularly important for preventing sediments and E.coli from impairing water quality.

The revised boundaries that extend to watershed boundaries are an excellent means of further protecting water quality in the river corridors. I also like the Act requirement that areas outside the boundaries be managed such that they do not impair free flow or water quality in the river corridors. Although the Forest Amendment had no effect on water quality or free flow, the earlier change (in 2016) in land classification (A1 for "Wild" rivers) probably protected water quality by prohibiting logging in these segments.

Toilet installation along the Collawash River is an excellent proactive means of reducing fecal contamination. These two river segments (20 miles total) have a fairly high combined Use Capacity (355 overnight, 450 day use); one segment is designated as Recreational and the other has Recreation as an ORV. Toilets should be placed in particular where there is dispersed camping and camping limited to those areas. Day use toilets should be placed at trailheads or where there is some particular river feature that attracts people. I would also suggest the installation of mutt mitts at similar locations where dogs are allowed, and trash cans for their disposal.

The next section describes consistency with relevant federal laws and policies, and is quite good. Obviously, a wider riparian buffer than is granted in the NWFP or BLM RMP will better meet ACS's, so long as road maintenance and recreational use are carefully regulated.

(2) Fisheries and Wildlife. I must say that the fisheries resources in some of these river segments are incredible, a veritable "wild fish sanctuary" as stated elsewhere in the text.

Moreover, there is the reality or promise of reintroducing native species that are increasingly rare elsewhere, and improving habitat. Of special note is the large scale road decommissioning on Fish Creek following the 1996 flood events. The Fisheries ORV warrants the highest level of protection.

Wildlife ORV's consist of the Harlequin duck, deer and elk (migration corridors), and an endemic caddisfly.

In terms of effects, obviously protecting water quality and free flow of the rivers will improve habitat for fish and wildlife. (p. 36). Widening boundaries to include entire headwater watershed areas (Fish Creek, Collawash River) will protect downstream fish populations and habitat. On the Zigzag River, a similar strategy will protect downstream caddisfly habitat. Boundary changes on the East Fork Hood River will include inclusion of two large wetlands and meadows used by elk and other wildlife. Overall, boundary changes will have a positive effect on these resources.

Toilet installation will have a positive effect on these ORV's because this will improve water quality. So will mutt mitt installation. I really like the idea of interpretive signs along the South Fork Clackamas River to reduce recreational disturbance to Townsend's big-eared bats, a regional sensitive species in Oregon. I have found such signage somewhat effective, but if need be these tunnels can just be closed off to public access.

Again, I cannot overestimate the importance of monitoring visitor use to protect fish and wildlife. Access to sensitive areas needs to be limited or even closed out.

The next section again describes consistency of planned actions with relevant laws; here, the Forest Plan (sections on fish, wildlife and TES species) and Endangered Species Act. It's exciting to me that the Spotted Owl, Spotted Frog, Streaked Horned Owl, and even Gray Wolf could occur in the vicinity. Policy to protect ORV's in the river corridors should be cognizant of the effects on these ESA listed species.

(3) Geology. Geology is an ORV in the Collawash River (earthflows) and Middle Fork Hood River (Parkdale Lava Flow) segments. Geological features are not easy to describe to the average reader, but the descriptions here are beautifully written. Extending the boundaries to include more of the Parkdale Lava Beds would have a positive effect on this ORV. Apparently, snowmobile use will have no effect on this ORV because it does not occur in areas of geological significance. Monitoring is also not required, I would assume, because these areas are largely inaccessible.

(4) Recreation. As stated here, five of these river segments have Recreation as an ORV: (a) Collawash (kayaking); (b) Eagle Creek (equestrian use); (c) East Fork Hood River (kayaking) (d) Fifteenmile Creek (hiking, etc.); and Zigzag River (long distance hiking). Of these, I have only experienced hiking on the Fifteenmile Creek to observe the unique variety of tree species.

Although Recreation is an ORV, it also poses a threat to other ORV's and the water quality/free flow of these rivers. Thus, a positive effect of the CRMP is that it will balance maintaining appropriate recreational opportunities with protecting other ORV's that can be degraded by excessive and poorly located recreational use. The first step in this process was determining a User Capacity, which identifies types and levels of visitor use that will not negatively affect other ORV's. Use will be monitored, and as User Capacity is approached, various potential management actions will be triggered. This may negatively affect the Recreation ORV, but because use at this time is much lower than capacity, such actions are unlikely.

I like the fact that the Fifteenmile Creek boundary was extended specifically for recreation values. This is such a special place; if I lived closer I would visit this area more often. Along the Collawash River, toilet installation will enhance recreational use, while protecting water quality and other ORV's. Not mentioned here is the issue of horse poop as a result of equestrian use of the Eagle Creek trail. Is the trail close to the river? Is the hydrology such that horse droppings are likely to get into the river? What about conflicts between hikers and equestrians? Do they hike different trails? At Silver Falls and Willamette Mission state parks, there are separate trails for these users, which improves the recreational experience for both groups.

The interpretive signs to protect Townsend bats in the South Fork Clackamas River will actually enhance the recreational experience by educating the public about this species. The Visitor Use Monitoring Surveys will also be helpful in guiding the agencies as to where additional trails or facilities might be created.

Snowmobile use is already a recreational use of the Fifteenmile Creek corridor, and the Omnibus Act requires that it be maintained. However, it needs to be monitored to protect other ORV's and Wilderness areas, where it is prohibited.

(5) Scenic. The first paragraph beautifully describes the unique setting of these nine Wild and Scenic River segments, which contributes to their overall high visual quality. However, Scenery is an ORV for only three river segments, and the third paragraph here explains why. To be an ORV, scenery must be memorable, diverse, rare, unique or exemplary, which limits its application here.

The Scenic ORV for the Middle Fork Hood River is derived from the Parkdale Lava Beds, which provide "substantial scenic variety and very rare and unique rock forms" and are a "textbook" example of successional stages in terms of vegetative recovery. The Scenic ORV of South Fork Clackamas River is derived from a combination of waterfalls and old growth trees of three different species in a narrow canyon. In addition, there are historic remnants of an abandoned waterworks facility. I truly hope these scenic attributes, especially the old growth trees, have not been negatively affected by the Riverside Fire. The Scenic ORV for Zigzag River

is a combination of summer wildflower displays, waterfalls, and spectacular views of Mt. Hood from the PCT and Timberline Trail.

The CRMP will have a positive effect on the Scenic ORV's in general by protecting water quality and free flow, which contribute to the "scenic" quality of these river corridors. The Zigzag river segment is "Wild", which gives it an A1 land classification under the Forest Plan (as amended), precluding logging. Middle Fork Hood River has a Scenic classification, putting it into a B1 LUA (logging allowed), but since the ORV is the lava beds this is acceptable. The South Fork Clackamas River is managed by BLM, and is in VRM Class 1, which allows for natural ecological changes only; management activities must blend in with the natural features of the landscape.

The final boundaries for these river segments will also better secure their Scenic ORV's, encompassing more of the lava beds and waterfalls as the case may be, as well as headwaters and the historic waterworks on the South Fork Clackamas River.

The subsequent effects analysis appears to apply to all "Scenic" aspects of these river segments, not just the three with Scenic ORV's. The toilet installations on the Collawash River will have an obvious positive effect on scenery by eliminating, hopefully, the sight and smell of fecal material and T.P. in Recreation/camping areas and along trails. However, the restrooms themselves must adhere to visual standards based on river segment classification: (1) Retention (not evident to the casual Forest visitor) in the scenic classification segment (12.9 miles), and (2) Partial Retention (visually subordinate to the characteristic landscape) in the 6.9 recreation classification segment. As a park worker, I am extremely familiar with restrooms, and these standards can easily be met by proper location and design. The tradeoff is well worth it, not only in terms of scenery but also public health and safety.

The interpretive signs for Historic Features (and bat protection) on the South Fork Clackamas River can likewise be located and designed to blend in with natural features of the landscape, as well as the waterworks themselves. The snowmobile use within Fifteenmile Creek would make the winter scenery more accessible, but must be limited so as not to interfere with that same scenery being enjoyed by cross-country skiers and snowshoers.

The Cumulative Effects section mentions the positive effects that restoration projects can have on scenery by improving the visual condition, as well as creating more resilient landscapes. As stated here (and I agree), "Vegetation management projects should be designed to meet visual quality objectives assigned to the river corridors using view positions consistent with those outlined in this analysis". To the degree possible, this should occur also with restoration projects from the Riverside Fire.

The section on consistency of the CRMP with relevant laws, regulations and policies is quite lengthy but necessary. Table 8 and the text that follows describe the visual quality objectives for the BI LUA in the Mt. Hood Forest Plan, meant to apply to A1 lands also in the context of a visual quality analysis. The objectives vary based on the river classification and distance zone from the viewer within the river corridor. Obviously, the scenery closest to the river is most protected from visual change, and also in the river segments designated as "Wild".

Table 9 applies these standards to the nine river segments here, based on their classification. One interesting point is that the VQO is not based on a Scenic ORV but rather river categorization as a whole. These standards determine where the restrooms will be allowed along the Collawash River, as well as other infrastructure in these river corridors.

The South Fork of the Clackamas River is managed by BLM, which has specific management directions for "eligible, suitable, and designated Wild and Scenic River corridors". Management actions such as fuels treatments, invasive species removal, and trail construction are only allowed if consistent with the classification (Wild) and would not detract from ORV's (here, Scenery). As a "Wild" river, this river segment is already in Visual Resource Management Class 1, where the level of change to the characteristic landscape must be very low and not attract attention. Since the waterworks area is already altered by many artifacts, the interpretive signs would blend in with the characteristic landscape.

(6) Historic and Prehistoric Resources. It is appropriate to recognize that most of these river corridors were originally occupied by Oregon's native Tribes, and that the treaties by which they ceded these lands to the United States reserved their rights to hunt, fish, graze livestock and gather roots and berries as before. It is also appropriate to acknowledge the existence of traditional use areas or archeological sites without describing their location, which might lead to vandalism or public intrusion.

The history of the creation of waterworks on the South Fork Clackamas River after a typhoid outbreak from drawing water from the polluted Willamette River was interesting and a good cautionary tale. After the system was abandoned in 1985, the waterworks infrastructure was left in place (unless the Riverside fire destroyed it). The history surrounding the Fifteenmile Creek area is also very interesting; this section was very well written and detailed (pp. 57-58). I'm glad that land managers had the foresight to protect the upper extent of the Creek as part of the Cascade Range Reserve in 1893. The history of the Dufur to Lookout Mountain Trail was of particular interest, and I can see why it is considered eligible for inclusion in the National Register of Historic Places.

Adoption of the CRMP would enhance and protect these historical resources. The boundary of the South Fork Clackamas River was adjusted to encompass the "linear features", thereby giving them

a higher label of protection. Apparently snowmobiling in the Fifteenmile Creek area is consistent with protecting the historic values there; I am concerned about the proximity of Forest Road 4420, where snowmobiling is allowed, to the Dufur to Lookout Mountain trail. Please comment as to how the trail will be protected, especially since "cross country travel will be permitted" (p. 20).

I like the Proposed Management Actions, beginning with the archeological surveys to precede any groundbreaking activities. I envision a series of interpretive signs for Fifteenmile Creek as well as the waterworks area in the South Fork Clackamas River. Knowledge of the history of public lands creates a three-dimensional experience for the visitor. As an example, see the interpretive signs along the north Minto Brown trail in Salem.

The governing law for cultural/historical resources on public lands is Section 106 of the National Historic Preservation Act. It should be followed here in all respects, especially the protection and documenting of such resources.

(7) Botany. Botanical resources on public lands often go unnoticed, and are particularly susceptible to trampling and outright theft by the public. Here, as elsewhere, they warrant proactive surveys and frequent monitoring.

A very beautiful rare listed wildflower, cold water corydalis, is a Botany ORV on three of these river corridors--Eagle Creek, South Fork Roaring River, and Collawash River. The designation is due to the presence of high quality habitat, rather than the actual plant. The habitat, described here in detail, consists of cold water, favorable stream gradients, and older forests with dense canopies.

Another wildflower, Violet suksdorfia, is a Sensitive species in Region 6 of the Forest Service with a very limited distribution. The actual flower is found in the East Fork Hood River, where it is a Botany ORV. The one known site is on a steep basalt formation called Pete's Pile, a popular rock-climbing area.

The CRMP will help both of these species by protecting habitat from management activities which may negatively impact it (timber harvest and road construction). It will also protect the violet species by regulating the number of climbers and climbing practices at Pete's Pile. In addition, the upper boundary of the Collawash River was extended to include likely high quality habitat for cold water corydalis.

The main threat to both of these species, as well as other riparian plant communities, is recreational use, specifically foot traffic. The main threats to cold water corydalis are ground disturbance and invasive species. The text here states that habitat sites will be monitored, and if a "degradation threshold" is reached, the various strategies of rehabilitation, education or reducing

the number of visitors would be employed. I would add continuing surveys to determine where the species are actually found, and restricting access to those areas.

Under the CRMP, monitoring will be conducted to assess the impact of climbing at Pete's Pile on the violet species and other vegetation in the area. Climbers will be educated about their possible negative impact on this species, and a climbing management plan would also address erosion control and human waste management. In that plan, I would make areas where the violet grows off limits to climbers.

Toilet installation is of obvious benefit to cold water corydalis by improving water quality. The toilets can be located in areas which are not potential habitat for this species.

With respect to botanical resources in general, the text states that the interpretive signs (waterworks) will be placed some distance from riparian areas, thereby not disturbing riparian plant communities. Snowmobile use should not introduce invasive species, probably because it occurs during the winter. I would think that changing "Wild" segments to an Al LUA in the Mt. Hood Forest Plan (i.e., no logging) would protect botanical resources by reducing the risk of native species introduction as well as ground disturbance. Logging might also change the conditions required by some species.

The CRMP is consistent with relevant laws, regulations and policies. I'm glad that the Forest Service Region 6 special status species list is periodically updated to include the two botanical species listed here as well as others, particularly those that were formerly Survey and Manage species. Again, I hope that botanical species will be surveyed for and known sites continue to be managed.

(f) Agencies and Persons Consulted. This list appears to be comprehensive. I'm glad that I was included for the final comment period. I do believe that greater public participation, including the three Tribes here, results in a better final product.

(g) References. Fine; comprehensive.

(h) Appendix A: Proposed Monitoring Plan. Implementation of this monitoring plan is absolutely necessary for the CRMP to succeed. There is always a conflict between recreational use and other resource protection, and monitoring/regulation helps to maintain the balance between the two.

(l) Water quality, Fish, Botany (p. 70), effect of recreation sites on adding sedimentation. I like the Indicator, Trigger and Threshold (0 sites). The management actions are good: (a) designating and directing visitors to sustainable facilities; (b) closing facilities in need of rehabilitation; and (c) adding additional sustainable facilities, routes and river access points.

(2) Water Quality (p. 71-303(d) listed segments). Monitoring is required (i.e., water testing) to determine if a trigger has been reached.

(3) Water Quality (p. 71 - Collawash Segment 2). The only solution here is restroom installation.

(4) Water Quality, Fish (p. 72, Fifteenmile Creek, segments 3 and 4) This portion of the river corridor allows live-stock grazing. It is really important to keep cattle away from the riparian areas of these river corridors, especially because of fish spawning here. The monitoring question is proactive, emphasizing features that would draw livestock away from over-utilizing stream sections. The Indicator, Trigger and Threshold are all good. Fortunately the period of use is limited to August 16 to September 30; management tools to keep cattle out of the stream are listed in the annual operating instructions. Nonetheless, I would retire this allotment when the present permittee no longer wants it.

(5) Botany (Collawash River, Eagle Creek, South Fork Roaring River-p. 72). The concern here is invasive species, caused by human disturbance. The monitoring period should be every year, rather than every 3-5 years. This will allow a manageable population to be found so that it is still small enough to be removed.

(6) Botany (East Fork Hood River, p. 73). All aspects of this monitoring plan are good, to protect the violet species from climber impact. I like the pro-active, positive interpretive signs as well as fostering partnerships with the local climbing community.

(7) Fish (Collawash River segments 1 and 2, Fifteenmile Creek segments 3 and 4, Fish Creek, p. 74). The "Applicable River" column should include Fish Creek. The monitoring question here is the impact of people in the streams disrupting redds during fish spawning periods. Posted information is fine, but I have often seen such information disregarded. Key spawning areas should be identified and access blocked to direct use from these reaches.

(8) Fish (segments containing salmonid habitat). The concern here is maintaining habitat complexity and water quality. The Middle Fork Irrigation District is involved as it can impact these habitat components.

(9) Historic (two segments with Historic ORV's) Annual site condition assessment to evaluate site integrity; impacts from management activities but I would assume also natural events such as the recent Riverside Fire.

(10) Macroinvertebrates (Zigzag, p. 76). This monitoring scheme involves protecting the caddisfly population from

human intrusion in the form of social trails or collecting spring water. The management actions are good, consisting of closing and rehabilitating areas affected, as well as posting informational signs.

(11) Recreation (p. 77, various stream sections). These monitoring questions deal with visitor satisfaction and visitor encounters per day in areas where there is a reasonable expectation of solitude. The management actions are good, i.e., more trail development, campgrounds, or simply restricting the number of people allowed at one time.

(12) Scenery (p. 78) This monitoring scheme is to determine the impact of human use on river segments that have Scenic ORVs. The threshold, 1 site that does not meet visual resource management standards, is determined by annual routine site inspections. The management actions are good: designating and directing visitors to sustainable facilities, points of entry, etc., building such facilities, and closing and rehabilitating unsustainable facilities.

(13) Wildlife (East Fork Hood River). The monitoring question here pertains to habitat maintenance for elk and deer (early seral) and the Harlequin duck (habitat disturbance). The concern is unauthorized dispersed campsites, trails or roads. The tolerance level is 0, which is good, as is the Management Action (close, restore site in same year discovered).

(14) Wildlife (Fifteenmile Creek). The concerns and management actions are the same as (13) above, but pertain to all wildlife.

This concludes my comments on the EA, which is quite good. Again, the Monitoring Plan is essential to keep the effects within the range described here.

### 3. Draft Management Plan (CRMP) for Nine Wild and Scenic Rivers.

The photos on the cover are lovely. The page numbers for text, tables and figures are consistent with the text. I do not have the appendices except for the maps so will not be commenting on them.

(a) Introduction. These nine river segments were designated in 2009 by the Omnibus Public Land Management Act, which also protected some of the adjoining land. All of the river segments are managed under the Mt. Hood "Forest Plan" with the exception of the South Fork Clackamas River, which is managed by BLM under the 2016 Resource Management Plan (RMP0. A total of 84.4 miles were designated, as listed in Table 1. For each river segment, this table gives location, classification, mileage, and ORV's. Two of the rivers are further divided into subsegments because of their varied classification (Collawash River and Fifteenmile Creek). This table is better than the ones in the EA because it gives segment numbers, and classification and ORV's in the same table.

The CRMP is required by the Wild and Scenic Rivers Act. The purpose of the Plan is to protect and enhance the values for which these rivers were designated (free flowing, high water quality, and ORV's). This is done by establishing river corridor boundaries, management direction, user capacities, and a monitoring plan. Under the Act, rivers are designated as Wild, Scenic or Recreational based on their level of development at the time of designation. To some degree, management varies accordingly.

The final map should give an overlay to show areas affected by the Riverside Fire (Figure 1).

The CRMP has taken over a decade to develop, with extensive public involvement. The river segments in the interim have been managed according to their classification as Wild and Scenic rivers (Table 1) I think the resulting management plan is excellent.

The river corridor boundaries were in many instances modified as part of the management plan to better protect ORV's and for consistency in management with adjacent lands. The boundary changes are quite clever and I commented on them for the EA. The Omnibus Act created a 1/2 mile, rather than 1/4 mile wide corridor on each side for Fifteenmile Creek, which is terrific given the land based features for this river segment.

(b) Regional Setting and River Values. The purpose of the 1968 Wild and Scenic Rivers Act was to protect the free flowing and high water quality of select river segments with Outstandingly Remarkable Values, to balance out the frenzied dam building and industrial discharges that had compromised so many of America's rivers by that time. The next section here summarizes current law which protects water quality on these segments, as well as the watershed condition for each segment (Table 2). The eight Forest Plan segments still fall under the Northwest Forest Plan, with its Aquatic Conservation Strategy and standards and guidelines for Riparian Reserves. The BLM RMP varies riparian management with the importance of the subwatershed, so I would assume the South Fork Clackamas River is well protected.

Table 2 summarizes the watershed conditions for each of the nine river segments, by the twelve subwatersheds in which they occur. It is important to note that not all of the watersheds are in good condition; the Wild and Scenic River designations were not based on high water quality. Two of the subwatersheds are functioning at risk; two have poor (i.e., inadequate) water quantity; and five have only fair water quality. It is hoped that this CRMP, with its emphasis on protecting and enhancing ORV's (especially fish), will result also in improved watershed conditions.

(c) ORV's, Water Quality and Free Flow. The next section summarizes the ORV's for each river segment or subsegment. The descriptions are all excellent and more detailed than in the EA.

(1) Collawash River - Segment 1 (Scenic) and 2 (Recreational). Both of these segments have been altered by past timber harvest and roads, and Segment 2 has several developed and undeveloped riverside campsites. One subwatershed has only fair water quality. Nonetheless, fisheries, botany and geology are ORV's in addition to Recreation.

The Geology ORV (again, very well described) is based on several very large, active earthflows, "textbook" examples easily interpreted in the field. Figure 3 is a photograph of an earthflow which is quite close to the road, and helps to visualize the geologic formation.

The Fisheries ORV is based on the presence of a unique diversity of wild fish stocks and suitable habitat in excellent condition. All of these species, including anadromous salmonids (late-run coho, winter steelhead, spring chinook), are listed as threatened or sensitive due to declining populations range wide. Bull trout has recently been re-introduced, and suitable habitat is available for the Pacific lamprey. The Collawash River has been managed as a wild fish sanctuary since 1999, with hatchery origin fish prevented from migrating this far upstream. Fishing is not allowed, and downstream/upstream passage has been improved at mainstream Clackamas River facilities. Fish habitat is generally excellent, due to few roads built near the streams, except where degraded by timber harvest and recreational use. Given the uniqueness of this ORV, and the enormous efforts to protect and enhance it, it is vitally important that recreation not be allowed to diminish it.

In segment 1, the Recreation ORV is based on the river geology, ever changing, which presents a challenge to expert kayakers (illustrated quite well in Figure 4). The Botany ORV in Segment 1 is based on the presence of habitat for cold water corydalis, a rare species listed as sensitive in the region. Figure 6 is a nice photo of this pretty wildflower. Surveys should be done to detect the actual presence of this species so it can be better protected. Fortunately its habitat occurs in the segment less accessible to the public, and less used for camping.

Both river segments are considered to be free-flowing, with no human-made impoundments or diversions, and no flow regulation. Two road crossings and the single road slightly impinge upon the banks and channel. The water quality issue is apparently elevated temperatures above the standards for cold water fish in late summer months. Hopefully this parameter will improve as the young tree populations grow. I applaud efforts to decommission roads, which not only improves hydrology but also deters unauthorized motor vehicle entry and use.

(2) Eagle Creek. This river segment is designated "Wild", and is entirely within the Salmon-Huckleberry Wilderness. The creek is heavily forested with older aged Douglas fir and hemlock and has numerous downed logs and pools, as shown in ~~the figure~~ Fig. 5

photograph. Views are from the river itself or the the trail alongside it and include "classic western Cascade forested landscapes", with little variation.

Recreation is an ORV primarily because of equestrian use of the trail along the river. The trail has an easy grade and is otherwise easily used by horses. The relative solitude and old growth stands make this a unique equestrian experience that draws people from far away. The other ORV is botany, based on the presence of high quality habitat for Cold Water Corydalis, a rare wildflower species which is critically imperiled in Oregon. The species has been found in tributaries to the creek (Figure 6), and should be surveyed for here to protect it from recreational uses.

Eagle Creek has a natural hydrology cycle due to the lack of management activity in the headwaters. It is free-flowing due to the lack of impoundments, diversions or regulation. The water quality is very good, probably because the entire segment is located in a Wilderness area. I have elsewhere expressed concern about horse manure entering the creek as equestrian use of the adjacent trail increases. Please respond.

(3) East Fork Hood River. This river segment, classified as Recreational, flows out of a glacier on the south face of Mt. Hood. The excellent river description is nicely complimented by the Figure 7 photograph. Oregon State Highway 35 runs along most of this river segment as it travels north. Other man-made features include rip rap, guard rails and developed recreation sites adjacent to the highway.

Wildlife is an ORV here because the river corridor contains high quality riparian habitat for harlequin duck (sensitive species) nesting, brooding and rearing. The river corridor, on the easternmost edge of this species' range, also provides a migration corridor for travel to ocean wintering areas. The upper corridor also provides critical elk calving and deer fawning habitat, and the stream segment as a whole a travel corridor from wintering grounds. The Spotted Owl, a federally threatened species, is also found in the corridor, as well as suitable nesting habitat and critical habitat.

Recreation is an ORV in this 13.5 mile river segment because low impact recreational opportunities provide unique experiences and vary immensely across the corridor. Along with year round activities such as camping, hiking and biking, hunting and fishing are popular seasonally. Snowshoeing and Nordic skiing occur in the winter, and kayaking when river conditions are right (Figure 8). The corridor contains one of the few rock climbing areas on Mt. Hood. A positive feature of recreational use here is that it is accessible, and supported by two developed campgrounds.

The Botany ORV is based in particular on high quality habitat, consisting of moist basalt rock outcrops, for the violet suksdorffia, (Figure 9), an extremely rare species threatened with extirpation in Oregon, where there are few known sites. It is extremely important to continue surveys for this species so that sites can be

protected from recreational use. Botany is also an ORV because of the high quality of riparian habitat in the upper corridor, as well as the opportunity to observe early successional stages in riparian areas after debris flows.

The East Fork Hood River segment is free flowing, with sections of rip-rap, a footbridge, and LWD installations impinging on higher level flows. The hydrology is determined by topography and glacial origins; there is a good discussion of the possible impact of climate change on seasonal flows.

Water quality here is only fair, due to 303(d) listings for iron, copper, thallium and biological criteria (E. coli?). There is also a TMDL (2018) for temperature. Surprisingly, sediment is not an issue, probably because the river is fast flowing. If E. coli levels are high, dispersed camping should be examined as a source and remedied, if necessary.

(4) Fifteenmile Creek consists of four segments due to their different classifications (Wild, Scenic, Wild, Scenic). The corridor is also 1/2 mile on each side, rather than 1/4 mile. The landscape character is what makes this river corridor unique, transitioning between the High Cascades and the Columbia Plateau with a diversity of ~~Vegetative~~ types and trees--alpine fir forest to ponderosa pine, Oregon White Oak, and Larch. I took a hike led by ONRC (now Oregon Wild) to observe this diversity.

Wildlife is an ORV because of the wide range of habitat as the river spans 11 miles east to west. Species include the American Marten (a forest management indicator species) at high elevations to the grey squirrel (also an indicator species) in the pine/oak habitat. Beaver colonies create even more habitat diversity. Portions of the corridor contain deer/elk calving/fawning habitat and migration corridors. A number of listed sensitive species occur, and portions of seven northern spotted owl territories are found within the corridor.

Recreation is an ORV because the Fifteenmile National Recreation Area overlaps with segments 2 and 3 of the corridor. This area provides an opportunity to enjoy a quieter recreation experience, and opportunities are quite varied--Nordic skiing/snowmobiling in the winter, mushrooming/berry picking in the fall, paddling/climbing in the summer. Ordinary recreational pursuits like hiking and horseback riding are made special by the wide variety of habitat types observed within a short distance.

History is an ORV here because of the very interesting history, summarized quite well, that occurred in the latter half of the 19th century and first half of the 20th. The Dufur to Lookout Mountain Trail has been used for more than 2000 years and allowed the first permanent settlers to reach this area in 1852. It was essential, along with the waterway, to the areas growth. Sheep were grazed here, timber was cut, and a fire lookout built on Lookout Mountain. Fortunately, the upper extent of the Creek became part of the Cascade

Range Reserve in 1893. Recreational use increased with road and trail development, spearheaded by J. B. Senecal, the first Ranger. The creek and trail are an integral part of every activity in the area, from grazing and timber harvest to recreation and Forest Service administration, hence to History ORV designation.

Fisheries is an ORV because segments 3 and 4 sustain multiple fish species listed at the ~~state~~ and/or federal level, including steelhead, redband trout, and possibly Pacific lamprey. As of 2017, all known human created barriers to fish passage have now been removed. The steelhead population is the easternmost run of wild winter steelhead in the Columbia Basin. Because hatchery fish have never been introduced, this is a "core" or genetic legacy population. Steelhead fishing was closed here in 1979 to protect this unique stock. Redband trout may be found in these segments, and they are within the historic range of Pacific lamprey, whose redds and larvae have been found above the Dufur City intake.

Segments 1 and 2 do not contain any fish due to natural barriers (i.e., waterfalls), but they do provide the cold, clean water for downstream fish habitat, illustrated in Figure 11. Various agencies are dedicated to improving this habitat, with the goal of recovering the "threatened" steelhead population.

The "Wild" segments of this river corridor (1 and 3) are completely free flowing, whereas the Scenic segments (2 and 4) are impacted by road crossings, a foot bridge, and several diversion structures, which not only remove a substantial amount of water from the stream, but can also act as fish barriers.

Water quality in these segments is fair, and the watershed functioning at risk, with issues pertaining to sedimentation and water temperature. Water quantity conditions are poor, probably due to the numerous diversions. Considering the high value of fisheries resources here, the agencies should work to improve both water quality and quantity by reducing road connectivity and roads, allowing upstream vegetation to recover, and minimizing downstream diversions.

(5) Fish Creek. This 13.6 mile river corridor, classified as ~~Recreational~~, is designated from its headwaters to its mouth, where it empties into the Clackamas River. The lowest four miles are suitable for whitewater paddling by experienced boaters. There are some dispersed campsites and a boat ramp in the lower 1.5 miles; otherwise the creek is largely out of sight and inaccessible by roads or trails.

The upper portions of the creek have been altered, and there has been "vegetation management" along the corridor. Only the three lowest miles have been protected for scenic viewing and streamside protection. I hope that the recent Riverside Fire did not have an adverse effect on this river corridor or its fisheries resources.

As the name would imply, the ORV for this river segment is Fisheries. The creek supports diverse fish populations, including wild and

native species, some listed as threatened or sensitive. Among these are anadromous salmonids (late-run coho, winter steelhead, spring Chinook) and coastal cutthroat trout, rainbow trout, mountain whitefish, longnose dace and sculpins. The late-run coho is considered the last viable wild coho stock in the Columbia river. The spring chinook runs here are also a "natural population stronghold" and the winter-run steelhead have shown recent rises in abundance while maintaining low levels of hatchery-origin fish.

Suitable habitat is available here also for the Pacific lamprey, a state listed sensitive species. Bull trout were historically present here and have been detected nearby, so may once again use Fish Creek for foraging and rearing habitat.

Numerous actions have been taken to protect this "wild fish sanctuary". To reduce sedimentation, large scale road decommissioning occurred after the 1996 flood events, eliminating access to 90 percent of the watershed. Decommissioning also involved removing many impassable culverts. All anadromous salmonids identified as of hatchery origin are captured and removed at a downstream fish trap. The area has been closed to salmon and steelhead fishing since 1998. The 2010 federal license for hydroelectric facilities required improved upstream/downstream fish passage, and millions of dollars have been spent on habitat restoration. In the 1980's, logs and boulders (500 plus) were placed instream to improve aquatic fish habitat.

As a result of all these actions, Fish Creek provides high quality habitat for indigenous fish species, especially for wild stocks considered unique. It also has served as a laboratory to evaluate the response to the large aquatic habitat restoration project of the 1980's involving the placement of over 500 logs and boulder structures, many of which were washed out by the 1996 floods. Road removal and riparian habitat protection has allowed slow recovery after the 1996 floods, showing the resilience of nature and the value of adaptive management.

Recreational activity should be curtailed to the degree that it disturbs aquatic and riparian habitat (i.e., dispersed campsites) and logged over areas allowed to recover.

Fish Creek is generally free flowing; abutments from five remnant bridges may impinge on the flood plain. They should be evaluated for safety reasons and removed or replaced (the fire may have taken them out). The water quality here is deemed "fair", with high temperatures being the issue in the late summer months. This is probably due to past timber harvest; all areas within the river corridor should be off limits to logging of any sort.

(6) Middle Fork Hood River. This 3.7 mile segment is classified as Scenic, and has as its origins several glaciers on the north slope of Mount Hood. This river flows north and, after joining two other tributaries, flows into the Columbia River

near Hood River, Oregon. The landscape is very scenic, with lava flows, the river, vegetation patterns, and long distance views of Mt. Hood.

Geology is an ORV due to the proximity of Mt. Hood itself, a large stratovolcano cone formed of recent lava flows and flow deposits, on top of an eroded platform of older volcano rocks. The glaciers, remnants of what they once were, add to the scenic beauty. The Parkdale lava flow, a "young" lava flow, is the other reason for the Geology ORV designation. It is a "textbook" example that can easily be studied and interpreted, and is juxtapositioned against large debris flows, not found anywhere else in the region.

The Scenery ORV is derived from the proximity of the Parkdale lava beds (Figure 15 photograph) to the river, as well as other unique rock forms. Vegetation patterns and stream characteristics are also relatively unique (Figure 14). Contributing to both the Geology and Scenery ORV is the opportunity to observe the successional stages taking place as vegetative cover reestablishes itself on the lava flow. The long distance views of Mt. Hood also add to the Scenery ORV.

The photographs here add greatly to the understanding of the text, as well as illustrating the "Scenery" ORV.

The Fisheries ORV is based on the presence of three ESA listed species--bull trout, coho salmon, and steelhead--and their critical habitat. Critical habitat for Chinook salmon is also present. This river segment is considered the stronghold for the bull trout population in the Hood River basin as it reproduces here. The population is the only natural population in Northwest Oregon, and is quite small (less than 300 adults).

Another species of importance here is western pearlshell, a freshwater mussel that could potentially occur on the Mt. Hood National Forest and in this river segment, although none have been observed.

Fish habitat ranges from good to poor. There are very few human visitors due to lack of access and streamside areas composed of vertical cliffs and rough lava rock flows. However, there is an upstream dam (Clear Branch) and three irrigation diversions on tributaries to the Middle Fork that utilize upstream flow to the Middle Fork for irrigation and hydropower development. This has impaired flow regimes and sediment routing, increased water temperatures, limited channel function, and blocked fish migration. The dam operators plan to install upstream/downstream fish passage facilities in the future, which would expand fish habitat (especially for bull trout) to upstream of the dam.

Stream flow here depends on snow melt at the beginning of summer and glacial melt during August and September. There is again a very good summary of how climate change could impact this regime, with increases in flow during the fall and winter and decreases due to less glacial melt in August and September, when it is needed for irrigation currently.

Water quality (as well as quantity) is also negatively affected by the Clear Branch Dam, primarily water temperatures. If the Forest Service truly considers Fisheries an ORV for the Middle Fork, it must act now, with other agencies such as ODFW, to alter the dam and its operations to better accommodate these fish populations and ensure their survival. Minimum flows must also be guaranteed below the irrigation diversions. This must be done before climate change reduces glacial flow even further, and thereby the natural flow in the river upstream of the dam.

The location of the Clear Branch dam and the three irrigation diversions needs to be shown on the Middle Fork Hood River map.

(7) South Fork Clackamas River. This 4.3 mile tributary to the Clackamas River is classified as Wild, and is located primarily in the Clackamas Wilderness, which was also designated by the Omnibus Act. It is also part of the Clackamas River State Scenic Waterway, so designated because of the "primitive" character of the adjacent shoreline (few roads) and scenic attributes of the river itself. The landscape character reminds me of Silver Falls State Park, with narrow, clefted canyons, a 100' waterfall, and, here, old growth Pacific Fir in addition to Douglas Fir and Hemlock. As with Silver Falls, historic resources are also an ORV, here in the form of an old waterworks system. This river corridor is managed by BLM.

The Scenery ORV is illustrated by the beautiful photograph of the waterfall in Figure 17. As with Silver Falls, the waterfalls attract many visitors because of their unique scenic attributes. The "Wild" character of the scenery is shown in Figure 16, with a kayaker negotiating a river stretch strewn with large downed wood and boulders. The waterworks, even though man made, contribute to the scenic ORV, perhaps because of their uniqueness and historic character.

The History ORV is based on the remnants of the waterworks system, which was created in 1915 to draw water from the Clackamas River after a typhoid outbreak from using the polluted Willamette River as the sole water source. The system was used and improved until 1985. The remaining roads, tunnels, plant walkways, log bridges and old pipeline are fading into the forest but still visible as artifacts of a very interesting chapter in the area's history.

This river is free flowing, without impoundments, and since water is no longer diverted from the river segment, it is also unregulated. The water quality is generally good, which was maintained as the river was a source of drinking water for many decades. However, timber activity and road building in the contributing watershed has impaired water quality at times in the form of elevated temperatures and sediment inputs. Road closing and decommissioning, which began in the mid-1990's, should reduce sedimentation. The Wilderness dedication in 2009 will preclude activities which degrade water quality, which I very much support in this beautiful waterway.

My one concern with preserving the waterworks is their potential hazard to visitors and hikers, since they are partly concealed. The planned interpretive exhibit should mark clearly their location and keep people off/out of unsafe structures.

(8) South Fork Roaring River. This 4.6 mile (Table 1 says 4.7 mile) river segment is classified as Wild and is in the Cascade Mountain Range. Here, the river flows through a narrow canyon with large rock outcroppings and cliffs. There are large log jams, as illustrated by Fig. 19, small waterfalls alternating with large pools, and old growth trees along the river. The river corridor is prime habitat for the Northern Spotted Owl, which is known to nest here.

In spite of, or perhaps in addition to, these river attributes, the ORV is for Botany, based on the presence of high quality habitat for cold water corydalis. Since this habitat is in the Roaring River Wilderness, it is unlikely to be disturbed. This rare and imperiled species has not actually been found here, and, as elsewhere, I have suggested field surveys to detect and better protect known sites.

The hydrology here is affected by winter rain on snow events, since the river segment is in the transient snow zone. The river is free flowing and should remain so as it is in designated Wilderness. Water quality is also excellent, based on limited sampling.

(9) Zigzag River. This 4.7 mile Wild river segment arises from the base of Zigzag Glacier, and is entirely within the Mt. Hood Wilderness. The volcanic origin of the riverbed is evident, with two waterfalls created by the rock formations. The canyon rim is well forested. The river area is known for its views of Mt. Hood and summer wildlife displays.

Based on this description, it is not surprising that both Recreation and Scenery are ORV's. The Recreation ORV is based not on river use, but rather the use of two trails (Timberline Trail and Pacific Crest Trail) which cross the river. The Timberline Trail is entirely within the Mt. Hood Wilderness, and used primarily during the snow-free season, July to October. The Pacific Crest Trail, a 2,650 mile National Scenic Trail, is enjoyed by thousands of hikers and equestrians each year. The Zigzag segment for both trails adds stunning mountain vistas, wildflowers, waterfalls and unique geology to the recreational experience.

The Scenery ORV is likewise based on the Paradise Park wildflower displays during the summer, mountain vista views, waterfalls, and geologic features, all of which contribute to the scenic diversity and beauty of the area. Photographers are also drawn to this area, as well as wildflower viewers.

As with the rest of this document, the photographs (here, figures 20 and 21) add greatly to understanding river characteristics and the Scenic and Recreational ORV's.

The final ORV for this river segment is Macroinvertebrates, based on the probable presence of Scott's apatanian caddisfly, a glacial relict species endemic to Mt. Hood National Forest. It has patchy distribution, only recorded around Mt. Hood. The species is found one mile from this river segment in the Little Zigzag River, so most likely occurs here. As stated here, surveys should be done to investigate perennial seeps and springs in this river segment to discover and protect known sites.

The Zigzag River is glacial in origin so it has a relatively even flow throughout the year. It is completely free flowing, not impeded by the hiking/equestrian trails. The water quality is excellent. As with other river segments of glacial origin, climate change could drastically change hydrology and river flows.

(d) Land Ownership, Infrastructure, and Current Management

(1) Land Ownership. Most of these river corridors consist entirely of federal land. However, the Fifteenmile Creek corridor (1/2 mile on each side) includes lands owned by the City of Dufur along the river (Figure 23). Fuels reduction may occur here in the future as part of a county Wildfire Protection plan. There are also private, undeveloped lands at the east end of the segment, not on the river. It also appears to me that land owned by the Dufur Water Commission owns land adjacent to the river at the very southeast end of the river corridor. On the South Fork Clackamas River, Portland General Electric owns a parcel of land located at the confluence of the South Fork and main body of the Clackamas River, both river segments designated "Wild" at this point. This land is undeveloped and no management activities are planned (given the "Wild" designation, none should occur in the future.

(2) Existing Infrastructure and Activities. Wild and Scenic River classification (Wild, Scenic and Recreational) depends upon the type and intensity of shoreline development and impoundments at the time of designation. This is why some of these river corridors are divided into subsegments based on different classifications.

The Collawash River is one such river, divided into a 12.9 mile Scenic segment and 6.9 mile Recreational segment. There is quite a contrast between the two segments (see Figure 32). The Recreational segment is bordered by a Forest Service Road with numerous bridges and concrete walls for protection from the river. There are two developed campgrounds, one large and one small. A powerline crosses the river maintained by BPA. The scenic segment, however, has no development and overlaps with the Bull of the Woods Wilderness.

Eagle Creek is designated "Wild", reflecting the fact that the entire 8.4 mile segment is within the Salmon Huckleberry Wilderness. There are only 1.82 miles of road in the entire corridor, which provide access to the trails.

The 14.1 mile East Fork Hood River is classified as Recreational. There is a total of 24.8 miles of roads within the river corridor, including heavily fortified (by concrete walls) Oregon State Highway 35 along the northern nine miles. There are both hiking and snowmobile trails, as well as snoparks and developed campgrounds along the highway. Not surprisingly, Recreation is an ORV here.

Fifteenmile Creek is comprised of four subsegments, alternating between Wild (10 miles total) and Scenic (1.1 miles total). There are 6.2 miles of road here, and they appear to be entirely outside of the Wild segments (which makes for a very nice hiking experience). There is only one campground and one developed trailhead, but numerous hiking and snowmobile trails. For this reason (and the unique scenery) Recreation is an ORV in two of the segments.

On Fish Creek, there are, according to the text, only two miles of road in this 13.6 mile corridor, designated Recreational. On the maps, Highway 54 appears to occupy a longer length of the corridor. Is the northern portion of the road in the Clackamas River Wild and Scenic River corridor? Please explain. As I have said previously, I'm glad 19 miles of roads were decommissioned after the 1996 floods. The only existing infrastructure here consisted of a trailhead, campground and boatramp, all damaged by the Riverside fire. I would rebuild the trailhead but not the campground or boat ramp/fishing pier, in order to better protect the valuable fisheries here (fishing is not allowed here anyway).

The Middle Fork of the Hood River, a Scenic 3.7 mile river segment that contains the Parkdale Lava Beds, has very limited access and only .78 miles of road. There are no trails or constructed features. This benefits the Fisheries ORV in particular. The South Fork of the Clackamas River, a 4.3 mile Wild segment, contains 1.8 miles of road, mostly up towards the confluence with the Clackamas River, where the Wild and Scenic River designation is Recreational. There is a powerline crossing at the confluence of the two rivers (PGE) and a buried fiber optic line. On BLM land, the river corridor overlaps with the South Fork Clackamas Waterfalls ERMA, giving adjacent lands outside of the corridor compatible protection.

The South Fork Roaring River 4.7 mile "Wild" segment has no roads or improvements since it is entirely within the Riparian River Wilderness. There is only one trail (.98 miles) within the corridor. Zigzag River, a 4.7 mile Wild river segment, likewise has no infrastructure because it is entirely within the Mt. Hood Wilderness. However, there are several trailheads just outside the Wilderness boundary and 4.1 miles of trail in the river corridor, including the PCT which crosses the river at the north end. Timberline Lodge is nearby and the main access point into the area.

As can be seen, several of these Wild and Scenic River corridors are in fact heavily roaded, as shown on the infrastructure maps. In particular, 9 miles of State Highway 35 runs parallel and quite close to the river in the East Fork Hood River segment (Figure 30, showing concrete wall). The Wild and Scenic Rivers Act requires

the Forest Service to eliminate or diminish water pollution on these river segments, and maintain a free-flowing condition to the degree that it existed at the time of designation. Both of these mandates require close cooperation with ODOT, the state agency charged with maintaining this road and others that may impact Wild and Scenic River corridors. The requirements for review and coordination vary according to the nature of the roadwork--maintenance, emergency repair, or construction/improvement projects. Maintenance is covered by a Memorandum of Understanding; construction projects may require a Section 7 review if they may adversely affect river values. All of these are necessary and important; Figure 31, a bridge crossing the East Fork Hood River with a large truck on it, illustrates the intimate connection between the river and road.

As stated previously, instream infrastructure is allowed if it was there at the time of designation, and it is described here and shown on maps for the four river segments that have it (Collawash, East Fork Hood River, Fish Creek and Fifteenmile Creek. (That leaves five, not six, without it--p. 67, top). Most of this "rip-rap" consists of concrete walls to protect the road prism, but also includes bridges, whose abutments may alter flow. Figure 33, p. 69, did not show the extensive instream infrastructure for the East Fork Hood River, as did the larger map in Appendix B.

The text on p. 72 describes the application of the Wild and Scenic Rivers Act to valid existing mineral rights, which I found quite interesting. For segments designated "Wild", minerals in the streambed or quarter/half mile corridor are withdrawn from appropriation in all forms. For Recreational and Scenic segments, surface resources may be appropriated if proper rights exist to do so, and there will be no degradation of the river. Fortunately, mineral rights do not exist on any of these river segments.

A range allotment, however, does exist that overlaps with segments 3 and 4 of Fifteenmile Creek (Figure 36). The allotment is quite large (20,340 acres), extending right up to the river on the south side, but most of it is outside the 1/2 mile corridor. The management plan describes modest use, consisting of 80 cow/calf pairs on a rotation grazing system from May 15 to September 30th of each year. This use is monitored, with efforts made to provide alternate watering facilities for the cattle away from the river. Although livestock grazing is a historic use of this area, this allotment should be phased out where it overlaps with the Wild and Scenic River corridor.

(3) Current Management Activities. Table 3 summarizes ongoing management activities, most of which were discussed in the previous sections. NEPA analysis has been completed for invasive plant treatments (to protect Botany ORV's) and aquatic restoration in all the river corridors. Invasive plant removal should be done without the use of herbicides. I am a big fan of culvert replacement in all forestry projects, as well as large woody debris placement. I do hope that some of the larger trees killed by the Riverside Fire will be used for this purpose. I like

the measures to protect violet suksdorfia in the rockclimbing area--interpretative signs and partnership with the climbing community.

(4) Existing Water Rights. As stated in Section 13(c) of the Wild and Scenic Rivers Act, designation of the river segment does not reserve all of streamflow for the purposes for which the designation was made. However, competing water uses sometimes interfere with the complete realization of an ORV, especially fisheries. If climate change reduces flows or changes their seasonality, these other uses may have to be re-examined, although it is better to do so now, proactively.

(a) East Fork Hood River. There are several small water rights to tributaries of this river segment that should not interfere with water quality, free flow, or the attainment of ORV's.

(b) Middle Fork Hood River. This segment has valuable fisheries resources, and I am concerned about upstream diversions for agriculture and hydroelectric power interfering with water quality, free flow, and the attainment of the Fisheries ORV to the degree otherwise possible. The agricultural diversion is greatest in the summer, when stream flow input is lowest and temperatures are higher. A Section 7(a) review should be completed that stipulates minimum flows after other uses on all tributaries as well as the main stem of this river.

(c) Beneficial Instream Use. Instream water rights are a pro-active means of protecting instream water resources such as fisheries. The Collawash River has four such water rights on various tributaries as well as for the Collawash River itself. What's impressive to me is that these water rights were established in 1966, and although the largest (75-250 cfs, varies seasonally) is on the main stem, the smaller rights recognize that tributary flow must be protected as well.

Two instream water rights of considerable size are being considered for the downstream portions of the East Fork Hood River, to vary seasonally. Although this is being done to support listed fish species, it should also benefit harlequin duck migration. Since the river is fed by glacial flow, instream water rights are also a pro-active means of responding to altered or reduced flows due to climate change. Fifteenmile Creek has one small instream water right, issued in 1990, and another small right (1--26 cfs) under consideration, which should be implemented to protect the Fisheries ORV and other river values.

The text states that Fish Creek has four instream water rights, but only describes three, all issued in 1966 and on a tributary as well as the main stem. If there is a fourth instream water, please describe it. These are fairly small but nonetheless important, especially during low flow periods.

(d) Planning Context. This section of the CRMP summarizes the various federal laws that regulate management in these nine river corridors. The Wild and Scenic Rivers Act requires that manage

a management plan "protect and enhance" the values for which the river was designated, with varying degrees of intensity based on the special attributes of the area. The 2009 Omnibus Public Land Management Act, in addition to designating these nine river segments (81 miles total), added over 124,000 acres of wilderness and created special management areas that in many cases complement the river protections.

The 1990 Mt. Hood Forest Plan proactively manages candidate (eligible) Wild and Scenic Rivers as if they were already designated. They are Congressionally Reserved Areas under the Northwest Forest Plan, and also managed as Riparian Reserves. Amendment 23 to the Mt. Hood Forest Plan was added to make it consistent with the Omnibus Act (Table 4). The amendment changes the LUA in "Wild" river segments to A1, where timber harvest is not allowed. Another amendment required by the Omnibus Act is Standard and Guideline B1-076, which allows snowmobile use in the Fifteenmile Creek corridor outside of Wilderness areas. As I have stated previously, the amendment should read "permitted, and must be outside of wilderness areas."

The BLM 2016 RMP is even more proactive, with a provision to "protect and enhance" free-flowing conditions, water quality, and ORV's in suitable, as well as eligible and designated, Wild and Scenic River corridors.

The Management Direction for both agencies in the CRMP is contained in Appendix F, which I do not have. Two important points made here are that (a) the Management Plan does not give the federal government control over private property; and (b) all proposed projects will be checked for consistency with the CRMP during site specific analysis.

The "Desired Conditions" on NFS river corridors correspond with goals of the river segment's particular classification, given on p. 81. One of the goals for "Wild" segments is to maintain "an essentially unmodified environment", which is why they were moved to the A1 LUA, where timber harvest is not allowed. Desired future conditions are also consistent with the river segment's classification, and given on p. 82. Although I agree with the descriptions, taken from the Forest Plan, I would add that any development or existing use should not be at the expense of ORV's.

The BLM eligible, suitable, and designated Wild and Scenic River corridors are Congressionally Reserved Lands and thereby protected from management activities, regardless of their classification. Figure 38 is a nice photograph of the "Wild" segment on the South Fork Clackamas River, which BLM is charged with administering.

(e) Implementation and Monitoring. The monitoring questions are contained in Appendix E, which I do not have. I did comment on the Monitoring Plan, Appendix A to the EA. The most important question is whether existing use is within the User Capacity for the particular segment, such that recreational use is still within the visitor's expectations and enjoyable. The

expectation will vary by river classification. User Capacity, which refers to the type as well as amount of use, also triggers concern about the impact of recreational use on water quality, water flow, and ORV's.

Table 7 shows the estimated user capacity for each segment, by type of use/day. It corresponds with the same table in the EA. User capacity is the highest in East Fork Hood River (1,828/day), where Recreation is an ORV and the river segment is classified as Recreational. I would think that much of the day use consists of visitors driving along Highway 35. The capacity is probably higher than for other areas because of the year-round opportunities. My main concern would be the effect on water quality by dispersed camping. 180 campers/day is too high a number to be allowed before management action is "triggered".

Future Management Actions address the other river segment with a fairly high user capacity, the Collawash River. Recreational use of the ordinary type (hiking, picnicking, camping) is highest in Segment 2 (635/day, half of it camping). Total User Capacity in Segment 1 is 170/day, about a third of it camping. It is particularly important to maintain water quality in Segment 2, with the higher potential use, because of the Fisheries ORV. The proposal (Table 8) is to install toilets in areas of dispersed camping or concentrated recreational use, where they are now lacking. This is an excellent idea, so long as they are sited to blend in with the environment and properly maintained. The other proposed management action is the installation of interpretive signs on the South Fork Clackamas River to highlight the area's history and protect the Townsend bat population (which resides in the tunnels) from recreationists. This is also an excellent proposal. I have also suggested warning the public about the hazards associated with the abandoned waterworks.

Table 9 lists potential future management actions. These are all excellent. The bridges on the Collawash River and Fish Creek, which do not provide access to anything, should be removed before they fail, impairing river flow or harming a person on the bridge. The expanded parking lot on Eagle Creek for horse trailers is a great idea--check out the parking lot at Howard Creek Horse Camp at Silver Falls for an example of a circular lot. To protect the Botany ORV (a violet) at East Fork Hood River, a climbing management plan to address erosion control, resource protection, and human waste management should be done soon, after surveying for the violet. A management plan to protect the Townsend bats in the South Fork Clackamas River segment should also be a priority, closing any tunnels (with a posted explanation) used by the bats as hibernacula. I like the idea of an interpretive site for the lava flows and access from Laurence Lake, so long as the trail is safe.

(f) Tribal and Agency Coordination. This section lists the tribal, federal, state and local agencies that are involved

in managing these nine river segments. I like the text under Tribal Governments, especially references to the federal government's trust responsibilities to protect treaty resources and rights. With respect to the Forest Service and BLM, there is mixed land ownership for two of these segments (Fifteenmile Creek and South Fork Clackamas River), and it is my conclusion that management was given to the agency with the majority of land (USFS for Fifteenmile Creek and BLM for South Fork Clackamas River. Please comment.

The list of other federal agencies and their role in managing these river segments jointly with USFS and BLM is quite good; I had wondered which entity is responsible for the management of the Clear Branch Dam (the Natural Resource Conservation Service). Coordination is essential, as is cooperation with the state agencies listed. All of these entities should work together to fulfill the intent of the Wild and Scenic Rivers Act, and this management plan, to protect and enhance the ORV's which were the basis for designation, and other values as well.

(g) References. These are quite comprehensive. At the top of page 93, the second reference to the NWFP duplicates the first.

This concludes my comments on the Draft Comprehensive River Management Plan for Nine Wild and Scenic Rivers, and the Environmental Assessment for the Plan. Thank you for the opportunity to comment on these documents, which are excellent. On the following page, I have listed technical editing notes for both documents which do not relate to content.

Sincerely,

*Karen Sjogren*

Karen Sjogren



Editing Notes

Cover Letter: The first full paragraph on p. 3, second sentence is incomplete.

Environmental Assessment

- p. 7, line 26 should start "Accordingly..."
- p. 22, l. 15 sentence does not make sense, starting with "Standards and guidelines..."
- p. 39, l. 17 should read "These standards and guidelines..."
- p. 46, bottom line should read "found to be visually unique".
- p. 74, top category, "Applicable Rivers" should include Fish Creek.

Draft Comprehensive Management Plan

- p. 2, l. 4 should read "or" scenic rather than "and".
- p. 23, l. 7 should read "have" lowered, not "has".
- p. 23, l. 18 should read "that it is threatened".
- p. 25, l. 9 should read "Badger" Creek Wilderness boundary.
- p. 38, text below photo: been found to be visually unique...places with long distance views...
- p. 40, 6th line from bottom "has impaired".
- p. 42, l. 21 semicolon after "2007".
- p. 46, last line should read "were" extensive
- p. 52, last paragraph: "scenery is an outstandingly..." Delete "views of" in 3rd line of this paragraph.
- p. 61, l. 23 should read "According to the BLM
- p. 63, l. 8 should read "crosses the South Fork
- p. 64, last line should read "when combined..."
- p. 74, l. 2 should read "are in addition to the Forest Service
- p. 81, l. 17 should read "used for rivers
- p. 85, l. 8 should read "was greater;<sub>i</sub>
- p. 90, l. 2 should read "as part of their..."