

Appendix E – Wild and Scenic Rivers Act, Section 7 Analysis

Appendix E



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Department of
Agriculture

Forest
Service

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McKenzie River Boat Launches Project Wild and
Scenic River Section 7 Assessment

EXECUTIVE SUMMARY

This document summarizes the effects of the proposed McKenzie River Boat Launches Project on the McKenzie River. The boat launch sites in the project would directly affect the river because the concrete ramps would enter the river channel and affect the river bank and bed. This assessment reviews the effects of two launch sites found in the proposal: Frissell boat launch, and Paradise boat launch. Frissell is located in both the Federal Wild and Scenic River corridor and the Oregon State Scenic Waterway. Paradise is located in the Oregon State Scenic Waterway, but is not located in the Federal Wild and Scenic River corridor. A third boat launch found in the NEPA document, Bruckart boat launch, is not located in either the Federal or State designated corridors and is therefore not evaluated in this document.

Upper McKenzie Wild and Scenic River:

The upper McKenzie River is designated as a Wild and Scenic River (WSR) with a "Recreation" River Class, because it possesses numerous outstandingly remarkable values (ORV) such as: prominent recreational opportunities, spectacular scenery, unique geological and hydrologic attributes, outstanding water quality, and diverse fish populations and habitat. In 1992, the Upper McKenzie River Management Plan and accompanying Environmental Assessment was completed to comply with law established by the 1968 National Wild and Scenic Rivers Act. This comprehensive River Management Plan tiered to the 1990 Willamette Forest Plan.

The McKenzie River was designated from Clear Lake to Scott Creek, a 12.7 mile stretch. The upper terminus is established where the McKenzie River flows out of Clear Lake. The lower terminus is at the confluence of Scott Creek and the McKenzie River. The McKenzie River is divided into three WSR segments (A, B, and C) omitting the existing hydroelectric developments: Segment A is a 1.8 mile segment from Clear Lake to the head of maximum pool at Carmen Reservoir. Segment B is a 4.3 mile segment from a point 100 feet downstream from Carmen Dam to the maximum pool at Trail Bridge Reservoir. Segment C is a 6.6 mile segment from the developments at the base of the Trail Bridge Reservoir Dam to Scott Creek.

Federal management goals for the proposed project can be found in the Upper McKenzie River Management Plan (1992). The following are those that are directly applicable to this project:



- Protect the river's free-flowing character and maintain and enhance its outstandingly remarkable values and special attributes.
- Provide opportunities for a wide range of river-oriented recreation activities.
- Strive for a balance of resource use and protection, and permit other activities to the extent that they protect and enhance the river's outstandingly remarkable values and special attributes.

The Frissell boat launch is located within Segment C of the Upper McKenzie Wild and Scenic River.

Oregon State Scenic Waterway

Segments of the McKenzie River in the project areas are also within portions of the Oregon State Scenic Waterway, administered by the Oregon State Parks and Recreation Department. The Scenic Waterway Act and Commission rules require the evaluation of proposed development within ¼ mile from each side of the river. Concurrence of project effects to Oregon Scenic Waterway values with Oregon State Parks and Recreation Department will be necessary before project implementation can occur.

The termini and boundaries of the State Scenic Waterway designation are different from the Federal Wild and Scenic McKenzie designation. Approximately 16 miles of the upper McKenzie are designated as State Scenic Waterway. The boundaries are ¼ mile on both sides of the river. The upper terminus is established where the McKenzie River flows out of Clear Lake. The State Scenic Waterway omits the stretch from Carmen Reservoir to Tamolitch Falls, and also omits the hydroelectric developments. The lower terminus is Paradise Campground. The State Scenic Waterway has three unnumbered segments. The first is 1.8 miles from Clear Lake downstream to Carmen Reservoir. The second is approximately 2 miles long from Tamolitch Falls to Trail Bridge Reservoir. Finally, the third segment is approximately 12 miles long from Trail Bridge Dam downstream to Paradise Campground. The segments have a dual classification. The west side of the McKenzie River is classified as Scenic River Area, and the east side of the river is classified as Recreation River Area.

Goals of the State Scenic Waterway Program for this project can be found in the Upper McKenzie River Management Plan (1992). The following are those that are directly applicable to this project:

- To protect the free-flowing character of designated rivers for fish, wildlife, and recreation.
- To protect and enhance the scenic, aesthetic, natural, recreation, scientific, and fish and wildlife values along scenic waterways. New development or changes of existing uses proposed within a scenic waterway are reviewed before they may take place.

Frissell and Paradise boat launches both lie within the Oregon State Scenic Waterway. In the proposed action Frissell is relocated from the east side of the river (Recreation River classification) to the west side of the river (Scenic River classification), and the east side launch site would be closed and rehabilitated.

SECTION 7 DETERMINATION

Based on the analysis below, it is my finding that the proposed McKenzie River Boat Launches Project is consistent with Section 7 of the Wild and Scenic Rivers Act, and will have a direct effect on the river, but not an adverse effect on the values for which the river was authorized by Congress. The project is also consistent with the current Forest Land and Resource Management for the Willamette N.F. and the Record of Decision for Amendments of Land Management Planning Documents within the Range of the Northern Spotted Owl. The project is supported by the Upper McKenzie River Management Plan (1992). It is recognized that there will be short-term effects but that they are at an acceptable level. Free-flowing conditions will be maintained, and Outstandingly Remarkable Values will be maintained.

/s/ Mary Allison
MARY ALLISON
District Ranger

2/20/2007
Date

EVALUATION

The process outlined below follows the direction established by the Washington Office in 1994 as a "Procedure to Evaluate Water Resource Projects" (FSM 2354.7). The objective is to establish a uniform and consistent process to determine if projects would affect: 1) the free-flowing characteristics of the river and water quality, or 2) the values for which the river was established which are known as "Outstandingly Remarkable Values" (ORVs). ORVs are resource values that are unique, rare, or exemplary features of the Upper McKenzie River. The Upper McKenzie River is recognized for five ORVs: Scenic, Recreation, Geologic and Hydrologic, and Fish.

Members of the McKenzie River Ranger District evaluation team:

Dave Kretzing, Hydrology
John Harper, Recreation
Ramon Rivera, Fisheries
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1) Define the Proposed Activity

The McKenzie River is a popular boating river and is used by people from the Willamette Valley as well as Central Oregon. Information collected during calendar year 2005 indicated that Paradise served 6,566 clients on commercial trips and 331 non-commercial clients; Frissell served 2,509 commercial clients and 190 non-commercial clients. Commercial use is conducted under a Special Use Permit system, and non-commercial use is determined by a voluntary boater registration card system.

Frissell boat launch is the most upstream of the two locations. It is on river left (looking downstream) just upstream of the Frissell-Carpenter (or Buck) bridge and is adjacent to Oregon State Highway 126 which is a National Scenic Byway in this location. The boat ramp is comprised of loose gravels with buttress logs, and is steep. It enters the river at a perpendicular angle into fast water.

Paradise boat launch is located within the Paradise campground and day use complex. It is located on river left and is comprised of compacted gravels with a paved approach. It enters the river at a perpendicular angle into slow water, and is located at the downstream end of a cobble bar.

The deteriorating conditions at these ramps, concerns about the steepness at the ramps, and concerns about the need to provide improved access were important considerations in developing the proposed action. In 2003, funds were provided by the Secure Rural Schools Community Self-Determination Act of 2000 to conduct an assessment of Frissell and Paradise boat launch sites to determine the effects of reconstructing or relocating these sites.

Legal description of the project: T.16S., R.6E., Sec. 1, Willamette Meridian; Lane County, Oregon (Frissell Launch), and T.16S., R.6E., Sec. 9, Willamette Meridian; Lane County, Oregon (Paradise Launch). See Figures 1 and 2 in the Environmental Assessment for this project.

Purpose and Need for Action

The purpose and need for action is to provide developed recreation opportunities in the upper McKenzie River that are compatible with individual management area objectives and sensitive to public demand and use, as directed by the 1990 Willamette National Forest Land and Resource Management Plan, as amended. Alternative designs should consider current demand for boat launch facilities on the upper McKenzie River from the recreating public, for both private river trips and with permitted, special-use river guides. In addition, the Upper McKenzie River Management Plan (1992) supported the development of a Capital Investment Program proposal for Buck Bridge (Frissell) dispersed recreation area. This would entail re-establishment of restroom facilities, consideration of building a new boat launch on the west side (river right) of the McKenzie, and closing the boat launch on the east side (river left) of the McKenzie.

The boat launch ramps at the sites are constructed with mostly compacted gravel and have slopes in excess of 15%, creating unstable conditions for pedestrians and vehicles attempting to launch boats and inflatable rafts. Each year, fluctuations in river level and flow velocity remove gravel at the ramps and they typically require annual maintenance to replace gravel. This is especially true at Frissell because it is subjected to the main current in the river.

Proposed Action

The District Ranger of the McKenzie River Ranger District proposes to relocate the Frissell boat launch to the west side of the river, decommission the existing Frissell site on the east side of the river, and reconstruct the existing boat launch at Paradise.

The following actions are proposed at Frissell Boat Launch:

- Construct a new launch site by placing a pre-fabricated concrete ramp in a new location across the McKenzie River from the current site, and downstream from the Frissell-Carpenter Bridge. In addition, the existing boat launch site would be decommissioned and rehabilitated (see Figure 3 of Appendix F in the EA for this project).
- The new ramp would be approximately 16 feet wide by 40 feet long (640 square feet) and would extend into the river approximately 10 to 15 feet (up to 240 square feet of concrete pad in river channel). In addition, a paved access road, loop road, staging area, and a concrete toilet pad for a “porta-pottie” would be constructed at the new boat launch location. The total approximate area of disturbance for these actions is 10,936 square feet (see Figure 4 of Appendix F in the EA for this project).
- Approximately 12 to 20 red alder trees would need to be removed from the floodplain where the new ramp will be placed. The cut alders would be spread in the floodplain to serve as down woody material. Approximately 30 Douglas-fir will need to be cut, 18 Western red cedar, 4 Western hemlock, 4 big leaf maple, and Pacific yew trees on the terrace would need to be felled to construct the access and loop road, staging area, and toilet pad. Those trees that are suitable for fish habitat enhancement projects would be

staged in a location separate from the new launch location and used in future projects. Those trees that were not suitable would be spread out in the terrace area to serve as down woody material. All stumps would be flush cut.

- Improve two pull outs along Forest Road 2650 to provide parking for vehicles and trailers. Improvement is defined as blading the existing shoulders to ensure proper drainage and safety, conducting some brushing, and adding aggregate. These pullouts are currently disturbed ground and no new fill will be required to improve them. These existing pull outs are approximately 50 feet in length and 90 feet in length, and they are 10 feet wide (total area of 1,593 square feet – this figure includes “tapers” on the pullouts). Since no new ground would be disturbed to improve these pull outs (i.e. they are already disturbed ground) the square footage of “improvement” is not included in the total area of disturbance (see Table 1).
- Decommission the existing boat launch on river left and restore the river bank and a portion of the terrace. The existing buttress logs and cable would be removed from the site. A portion of the existing pull-out access would remain along State Highway 126 for motor vehicles (see Figure 5 of Appendix F in the EA for this project).
- Rehabilitate the decommissioned boat ramp location and a portion of the highway pullout. This will be accomplished by grass seeding the old ramp site with native grasses and red alder, planting vine maple trees, big leaf maple, and conifers (Douglas-fir or Western red cedar depending on what is available). The vegetation will be monitored thru the seasons (for up to 2 years) and if the site requires additional seeding or tree planting due to mortality or for any other reason, it will take place during the appropriate planting season. The large pull out will be rehabilitated by importing topsoil and shaping it into hummocks. These hummocks will be seeded with native grass and will serve as a barrier between the highway and the river by acting as a soil filter. Vegetated hummocks are desired since this is a Federal Scenic Byway, and they will keep vehicles from driving onto the area (see Figure 5 of Appendix F in the EA for this project).
- The total approximate area of decommissioning for these actions is 2,670 square feet.

The following actions are proposed at Paradise Boat Launch (see Figure 6 of Appendix F in the EA for this project):

- Place a pre-fabricated concrete ramp at the existing site that is wide enough to serve as two ramps and would have a decreased gradient relative to the existing ramp (see Figure 7 of Appendix F in the EA for this project). The ramp would be 40 feet by 32 feet (1,280 square feet). The approach road is currently paved so the only new paving expected at the ramp will be the apron in order to connect the loop road to the concrete ramp (approximately 710 square feet of new pavement). The ramp would extend into the river approximately 10 to 15 feet (up to 480 square feet of concrete pad in river channel). The total area at the ramp site that would be concrete and asphalt is approximately 1,990 square feet.

- No trees would need to be cut to place the new boat ramp however an existing tree stump would need to be removed from the river bank. This stump was a “danger tree” directly adjacent to the existing ramp and was felled in the past.
- Relocate approximately 20 small boulders (16 inches to 24 inches in diameter) that would block use of the extended ramp width during low flow months. This will be accomplished by utilizing an excavator to place these small boulders further into the channel where the river can mobilize and relocate them. The excavator would have to wade approximately 25 feet into the river to accomplish this task. The river is approximately 145 feet wide in this location.
- Provide additional road side parking in the day-use area (see Figure 7 of Appendix F in the EA for this project). These sites are approximately 125 to 150 from the river and currently serve as parking spaces that are not paved. This “additional” road side parking would formalize the areas by paving the bare sites. Some small trees less than 6 inches in diameter (big leaf maple, Western hemlock, and vine maple) would need to be cut. The additional areas would be 50 feet by 10 feet, and 80 feet by 10 feet which will increase the impervious area in the Paradise day use area by 1,449 square feet (this figure includes “tapers” on the pullouts).
- Designate an additional staging area close to the launch area (see Figure 7 of Appendix F in the EA for this project). This will be accomplished by signing an area that is currently not vegetated (it is a former historic camp site established by the CCC). No aggregate would be placed on this staging area, and no real “on the ground” changes will occur except for signing to designate it as a staging area.
- Improve an existing user trail that is within bankfull width by placing spawning size gravels (1 to 3 inch), and trim riparian vegetation. This user trail is approximately 20 feet away from the river during base flow conditions. The rationale for placing spawning size gravel on the trail is due to its location within bankfull width. If/when floods mobilize gravel on the user trail, it will at least be appropriate for spawning in whatever location the river places it. The riparian vegetation that needs to be trimmed is along the user trail and is comprised of alders and vine maple.

Table 1. Summary of Project Area Impacts in Proposed Action^a

Site	Total Impact in Square Feet	Total Decommissioned in Square Feet	Total Concrete Ramp in Bankfull Width in Square Feet ^b	Cubic Yards of Riprap
Frissell	10,936	2,670	240	0
Paradise	3,439	0	480	0

^a These figures are approximate as designs are conceptual, and they represent a “worst case scenario.” That is, the total area impacted will likely be less and the total area restored will likely be greater.

^b This figure is included in the “total impact” column and represents the amount of ramp that would be “in the water” during bankfull flow conditions.

Construction, reconstruction, and decommissioning activities would likely occur during calendar years 2008 through 2011, depending on funding.

At Frissell, construction of a new site could take 1 to 3 months depending on environmental factors (wet conditions or extreme fire danger). Activities on the terrace would take place during the summer (July through September) and instream work would take place during established work periods (July 1 through August 15). Instream activities would likely take only one day of work. Decommissioning and rehabilitation of the existing boat launch site would take one day of work, and vegetative conditions would be monitored for two years to ensure establishment.

At Paradise, terrace work would take place during the summer months (July through September) and instream work during the established period (July 1 through August 15). Work on the parking sites and ramp approach should only take a week since paved roads and a paved approach already exist. Instream work should only take one day.

2) Describe How the Proposed Activity Will Directly Alter Within-Channel Conditions.

The Proposed Action would have direct impacts on the river channel due to the placement of a pre-fabricated concrete ramp. There would be approximately 240 square feet (ft²) of boat ramp in the river channel at Frissell, and 480 ft² at Paradise at the same approximate grade as the existing channel configuration. No riprap would be required to protect ramps in the Proposed Action.

The Proposed Action is not of the scope or magnitude that it could affect channel geometry, channel slope, or channel form. However, since the Proposed Action would rehabilitate the existing launch site at Frissell which is on the erosive side of the river (i.e. on the outside bend) there would be a reduction in amount of sediment entering the channel due to the need for maintenance. The new ramp location would be on the depositional side of the river (on the inside bend) and would not cause an increase in sediment delivery from the uplands or due to maintenance.

At Paradise the existing ramp site is on the downstream end of a gravel bar in slow water. No riprap is currently needed to protect the site, and none would be needed for reconstruction. The river bank where the extension of the boat ramp would occur is in a disturbed condition due to the presence of a sign board, and compaction due to foot traffic associated with the ramp. The activity is not of the scope or magnitude that it could affect channel geometry, channel slope, or channel form.

During placement of the pre-fabricated boat ramps it is likely that a short term turbidity pulse would occur. Based on a past project at the McKenzie Bridge Campground boat ramp, it is expected that this turbidity pulse would be measured in hours (not days), and would extend downstream less than 100 feet hugging the bank where the activity occurs. This would meet the requirements of the Willamette National Forest's Best Management Practices.

Stream temperatures could potentially be affected by the removal of riparian vegetation. However, this was not considered a significant issue that would drive an alternative. This is because canopy removal would be limited spatially if required at all. Specifically, at each boat launch location:

- Frissell Boat Launch – The activities will take place on the southwestern terrace in a river bend. Individual trees removed at this site on the terrace would include Douglas-fir and western red cedar, and red alder would need to be removed from the bank (approximately a 12-16 foot wide area where the ramp will be placed). Some of the upland trees and all the red alder provide shade to the river. However, the removal of these trees is not expected to have a measurable effect on stream temperatures for the following reasons. The majority of crowns on the large conifers would be maintained as the project would be designed to avoid as many big trees as possible. Spring-fed flows from ground water sources overwhelmingly dominate the river flow at this site during the summer and the removal of individual trees (approximately 12 to 20 red alder) would not be of the magnitude that the impacts could be measured at the site scale or the sub-watershed scale. Evidence for this rationale can be found in the temperature monitoring results for the McKenzie River upstream and downstream of the Deer Creek confluence. Deer Creek is about 3 river miles upstream of the Frissell boat launch site and it contributes “warm” water to the McKenzie River that has a temperature of 19.0 degrees Celsius (66.2 degrees Fahrenheit) (7-day average maximum in 2005). Monthly maximum 7-day average in the river above and below the Deer Creek confluence were 9.3° C (48.7° F) and 10.3 (50.5° F) in 2004 (Stillwater Sciences 2006b). In 2005, temperature monitoring above and below recorded 9.3° C (48.7° F) and 10.1 (50.2° F) (Stillwater Sciences 2006b). If a stream system the size of Deer Creek (a 23 mi² watershed) contributes warm 19.0° C water to the river, and can only have a 1° C (1.8° F) impact on temperatures, it seems extremely unlikely that the removal of a dozen or so red alder and individual upland trees in a spring-fed dominated location could be measurable.
- Paradise Boat Launch – The activities at Paradise will take place on the south river bank. The parking lot work in the day use area is far enough away (100 to 150 feet) from the river that trees removed will not impact shade conditions. At the ramp location and staging location no trees need to be removed.

The project activities would not impede navigation of the river. At Paradise it is proposed to relocate approximately 20 small boulders and this would improve the ability of boats to launch or land at the new ramp.

3) Describe How the Proposed Activity Will Directly Alter Riparian and/or Floodplain Conditions.

There would be a direct alteration of the riparian area and floodplain condition due to the placement of a pre-fabricated concrete boat ramp. The Frissell ramp would directly affect about 640 square feet of floodplain, and the Paradise ramp and approach would affect about 2,000 ft². Ramp placement would not cause a disconnection of the river from its floodplain.

At Frissell, the proposed action would require the removal and relocation of approximately 12 to 20 red alder trees from the riparian area and floodplain. These trees would be spread in the floodplain to serve as down woody material. Alders decompose rapidly since they are readily colonized by microbes. Given this condition they would likely only last a few years as down woody material, but during those years they would provide habitat for amphibians.

At Paradise no trees would be cut from the riparian area to place the concrete boat ramp. Trimming riparian vegetation along the existing user trail would maintain the vegetation as trees (vine maple and red alder), and would likely require some level of maintenance due to re-growth.

4) Describe How the Proposed Activity Will Directly Alter Upland Conditions.

Approximately 60 trees on the river terrace would need to be felled to make way for the new launch site at Frissell. Those trees that are suitable for fish habitat enhancement projects would be staged in a location separate from the new launch location and used in future projects. Those trees that were not suitable would be spread out in the terrace area to serve as down woody material. This would improve habitat conditions for small mammals, amphibians, and some bird species. All stumps would be flush cut for visual considerations.

At Frissell the Proposed Action would build a new boat launch facility on a river terrace. This terrace is currently used as a dispersed site by campers and has a web of native surface roads. Approximately 11,000 ft² (Table 1) would be paved to construct the access and loop road, staging site, and toilet pad.

Roads constructed for the project will be paved which will create impervious surfaces. However, based upon field investigations by the District hydrologist and fish biologist it has been determined that this would have effects on peak and base flows that cannot be measured. Roads will drain surface water (rain) off the road and towards existing vegetation. The terrace areas where new roads will be constructed are comprised of glacial/fluvial materials and are very porous and permeable. Any surface water will drain off the roads and into this material where it will readily enter the ground water system before it drains to the river. The concrete ramp itself will likely shed rain water directly toward the river before it has an opportunity to enter the soil. However, the limited area is not sufficient that it would have a measurable affect on peak and base flows.

Decommissioning and rehabilitation activities will improve permeability due to scarification of compacted areas and re-vegetation. However given the limited scope of rehabilitation activities relative to watershed size, it is highly unlikely that there will be a measurable effect to peak or base flows.

5) Evaluate and Describe How Changes in On-Site Conditions Can/Will Alter Existing Hydrologic or Biologic Processes.

Hydrologic Processes:

Since the proposed boat launches will approximate existing channel configurations, they will not impede flood flows from reaching floodplains. Since no riprap is necessary for these launches (i.e. Frissell is on the inside of the river bend, and Paradise is in slow water) there would not be a physical feature that could cause the river to change course.

The Upper McKenzie River 5th field watershed is approximately 230,400 acres in size, and the McKenzie River / Quartz Creek 5th field watershed is approximately 47,360 acres in size. The area potentially affected by project elements relative to watershed size is small (see table below).

Table 35. Summary of Project Area Impacts^a

Site	Total Impact in Square Feet	Total Decommissioned in Square Feet	Total Concrete Ramp in Bankfull Width in Square Feet ^b
Frissell	10,936	2,670	240
Paradise	3,439	0	480

^a These figures are approximate as designs are conceptual, and they represent a “worst case scenario.” That is, the total area impacted will likely be less and the total area restored will likely be greater. All of the area summarized is within the Riparian Reserve.

^b This figure is included in the “total impact” column and represents the amount of ramp that would be “in the water” during normal flows.

Due to the limited spatial extent of the boat launch project, significant changes to the amount or timing of flow, flow patterns, flood storage, aggradation/degradation of the channel are not expected.

Roads constructed for the project will be paved which will create impervious surfaces. However, based upon field investigations by the District hydrologist and fish biologist it has been determined that this would have effects on peak and base flows that cannot be measured. Roads will drain surface water (rain) off the road and towards existing vegetation. The terrace areas where new roads will be constructed are comprised of glacial/fluvial materials and are very porous and permeable. Any surface water will drain off the roads and into this material where it will readily enter the ground water system before it drains to the river. The concrete ramp itself will likely shed rain water directly toward the river before it has an opportunity to enter the soil. However, the limited area is not sufficient that it would have a measurable affect on peak and base flows.

Biologic Processes

Streamside vegetation will be impacted at Frissell in the area where the boat ramp will be placed (i.e. 640 square feet). These alders provide organic material to the river that microbes colonize and aquatic insects utilize as an energy source. They will be permanently lost to the stream bank and river ecosystem. However, vegetation will be established on the existing boat launch when it is decommissioned. These trees will eventually provide organic material to the river ecosystem. At Paradise, no streamside vegetation will be lost due to project activities.

Stillwater Sciences (2006) conducted benthic macroinvertebrate surveys as part of a hydropower licensing project for the Eugene Water & Electric Board. The samples discussed for the boat launch project are the only samples that occurred within a project sub-watershed (Frissell Creek/Boulder Creek 6th field).

To provide an integrated assessment of the combined effects of potential stressors on the aquatic ecosystem, multi-metric scores were calculated based on invertebrate assemblage metrics. Both the ODEQ Level III metric and Karr's Benthic Index of Biotic Integrity (BIBI) were developed with a wider geographic coverage and an emphasis on human-related impacts (e.g., sediment loading, organic enrichment, temperature, DO, etc.). In addition to the ODEQ and BIBI scores the ABA Assessment Score was calculated based on an assessment developed by Aquatic Biology Associates, Inc. The ABA Assessment Score was developed to encompass a larger number of taxa and metrics than the ODEQ or BIBI metrics and includes taxa specific to the mountain streams of western Oregon and Washington (Stillwater Sciences 2006).

The values for the ABA Assessment Score ranged more widely than the ODEQ or BIBI metrics, but also corresponded to moderate to high biotic integrity. Although the multi-metrics are not statistically independent because they are calculated from a single collection of organisms, they provide an integrative approach for measuring ecological conditions and are less susceptible to the variability frequently associated with individual metrics. That is, if multiple metrics from a given sample indicate a similar level of habitat integrity or water quality, the conclusions can be considered more reliable than if the metrics indicate inconsistent results.

The following table shows multi-metric scores calculated for the McKenzie River samples collected in 2004 (Stillwater Sciences 2006). The second table shows multi-metric scores with respect to biotic integrity categories (Stillwater Sciences 2006).

Table 2. Multi-metric scores for samples collected in 2004 (Stillwater Sciences 2006)

Site description	ODEQ Level III Assessment score	Karr's BIBI score	ABA Assessment score
McKenzie River downstream of Trail Bridge Reservoir	48	42	69.4
McKenzie River downstream Olallie Creek	48	42	76.6
McKenzie River upstream of the confluence with Deer Creek	46	42	71.8

Table 3. Multi-metric scores and biotic integrity categories (Stillwater Sciences 2006)

Biotic habitat integrity	ODEQ Level III score	Karr's BIBI score	ABA Assessment score
Very High	> 39	> 40	90-100
High			80-89
Moderate	30-39	25-39	60-79

Biotic habitat integrity	ODEQ Level III score	Karr's BIBI score	ABA Assessment score
Low	20-29	0-24	40-59
Severe habitat and/or water quality limitations	< 20		< 40

Samples collected for this study scored within a relatively narrow and high range that indicates biological conditions are among the highest found within the region. Overall, site scores indicate little or no impairment at sites within the Study Area. Although not truly independent measures, all three multi-metrics were similar and suggest relatively high biological condition for all sites surveyed within Frissell Creek/Boulder Creek 6th field sub-watershed (Stillwater Sciences 2006).

The McKenzie River has high biological productivity. It is highly unlikely that project activities will have an impact on productivity given the small scope of the project relative to watershed size.

Fish spawning does not occur near any of the boat launches. Field investigations documented the closest spawning took place ½ downstream of Frissell launch, and over 1 mile downstream of Paradise launch. Therefore, no effects to spawning habitat are expected due to project activities.

The small spatial extent of the project will not cause significant impacts to rearing habitat for fish. However, the specific area where the concrete boat ramp would occupy what previously was a natural river bed will alter rearing habitat for early emergent salmonid fry. For example, spring Chinook fry use the shallow river margin habitat for early rearing after emergence from the redd. There would be a reduction in complexity at the ramp site and therefore a reduction in fry cover. This is not considered significant since the area is 240 ft² at Frissell and 480 ft² at Paradise, in a river that provides more than 80 miles of rearing habitat.

Trees that must be felled for construction will be either left on site as down woody material or staged for future fish habitat projects. The remaining down wood will be beneficial for amphibian and avian species (i.e. harlequin ducks).

6) Estimate the Magnitude and Spatial Extent of Potential Off-Site Changes.

The Proposed Action is not of the scope or magnitude that it could affect channel geometry, channel slope, or channel form. However, since the Proposed Action would rehabilitate the existing launch site at Frissell which is on the erosive side of the river (i.e. on the outside bend) there would be a reduction in amount of sediment entering the channel due to the need for maintenance. The new ramp location would be on the depositional side of the river (on the inside bend) and would not cause an increase in sediment delivery from the uplands or due to maintenance.

At Paradise the existing ramp site is on the downstream end of a gravel bar in slow water. No riprap is currently needed to protect the site, and none would be needed for reconstruction. The

river bank where the extension of the boat ramp would occur is in a disturbed condition due to the presence of a sign board, and compaction due to foot traffic associated with the ramp. The activity is not of the scope or magnitude that it could affect channel geometry, channel slope, or channel form.

During placement of the pre-fabricated boat ramps it is likely that a short term turbidity pulse would occur. Based on a past project at the McKenzie Bridge Campground boat ramp, it is expected that this turbidity pulse would be measured in hours (not days), and would extend downstream less than 100 feet hugging the bank where the activity occurs. This would meet the requirements of the Willamette National Forest's Best Management Practices.

7) Define the Time Scale Over Which Steps 3 - 7 are Likely to Occur.

Construction, reconstruction, and decommissioning activities would likely occur during calendar years 2008 through 2011, depending on funding.

At Frissell, construction of a new site could take 1 to 3 months depending on environmental factors (wet conditions or extreme fire danger). Activities on the terrace would take place during the summer (July through September) and instream work would take place during established work periods (July 1 through August 15). Instream activities would likely take only one day of work. Decommissioning and rehabilitation of the existing boat launch site would take one day of work, and vegetative conditions would be monitored for two years to ensure establishment.

At Paradise, terrace work would take place during the summer months (July through September) and instream work during the established period (July 1 through August 15). Work on the parking sites and ramp approach should only take a week since paved roads and a paved approach already exist. Instream work should only take one day.

8) Compare Project Analyses to Management Goals and Objectives

This section documents the project effects on achievement, or timing of achievement, of management goals and objectives relative to free-flow, water quality, riparian area and floodplain conditions, and ORV's and river classification.

Federal management goals for this project can be found in the Upper McKenzie River Management Plan (1992). The following are those that are directly applicable to this project:

- Protect the river's free flowing character and maintain and enhance its outstandingly remarkable values and special attributes.
- Provide opportunities for a wide range of river-oriented recreation activities.
- Strive for a balance of resource use and protection, and permit other activities to the extent that they protect and enhance the river's outstandingly remarkable values and special attributes.

Goals of the State Scenic Waterway Program for this project can be found in the Upper McKenzie River Management Plan (1992). The following are those that are directly applicable to this project:

- To protect the freeflowing character of designated rivers for fish, wildlife, and recreation.
- To protect and enhance the scenic, aesthetic, natural, recreation, scientific, and fish and wildlife values along scenic waterways. New development or changes of existing uses proposed within a scenic waterway are reviewed before they may take place.

The Upper McKenzie River Management Plan (1992) supported the Proposed Action at Frissell boat launch. Support for this activity is found under “Management Actions” in the river management plan (RMP). That section in the RMP included distinct actions designed to resolve the major issues and help attain the desired future condition for the upper McKenzie River. The management intent is that these actions be implemented as soon as the necessary funding can be secured through the agency’s budgeting process. A recreation management action specifically found in the RMP is:

- *Develop a Capital Investment Program proposal for Buck Bridge (Frissell) dispersed recreation area. Re-establish restroom facilities and consider developing a boat launch on the west side of the McKenzie. If west side launch site is developed, close the launch site at the east side of Buck Bridge.*

The Proposed Action at Frissell boat launch is consistent with goals of the RMP and the Management Action for the “Buck Bridge dispersed recreation area.”

The RMP did not provide specific Management Actions at Paradise boat launch. However given the high use at the ramp, and due to hazards associated with slope and loose gravels on the ramp, the District Ranger determined there was a need to improve the boat ramp. The new ramp will double the size of the ramp and provide for better footing. No trees will need to be cut for ramp placement, and the river bank where the ramp will be placed is already “disturbed” (i.e. compacted) due to river users. The parking area activities would not be visible from the river due to existing vegetation.

The following is a consistency analysis of the Proposed Action and the applicable Standards and Guidelines (S&G’s) found in the RMP. The S&G’s are intended to help the manager stay within the constraints prescribed by law, as well as provide environmental safeguards for management activities. The S&G’s are one part of the complete management direction for Management Area 6d (MA-6d - Designated Wild and Scenic River). The management goals, desired future condition, management actions, and monitoring plan are also part of the management direction.

Specific terminology used in the S&G’s identifies the type of direction and degree of compliance required. Correct interpretation of the terms is critical to understanding the intent of the direction.

- The first intent is conveyed by the word “**shall.**” With this degree of compliance, the action is mandatory in all cases.
- The second intent is conveyed by the word “**should.**” With this degree of compliance, action is required, unless justifiable reason exists for not taking action. This direction is intended to require a practice unless it entails unacceptable hardship or expense. Exceptions to “should” restrictions are expected to occur infrequently.

RECREATION MANAGEMENT

MA-6d-01: The area shall be made available for maximum use for a range of trail- and river- related activities that are consistent with maintaining the area conditions and providing Recreational river experiences. This management prescription shall provide an ROS physical setting for roaded natural recreation.

The intent of the project is to continue to provide for recreational river experiences and related activities (for example: commercial and non-commercial boating) into the future. The poor access, steepness, and deteriorating/unstable conditions were key factors influencing the proposed relocation and/or reconstruction of the existing boat ramps. Since the river corridor (as viewed from the river and nearby McKenzie River Trail) will remain a mostly natural appearing environment, access points will continue to be provided for conventional motorized vehicles, and vegetation will be retained where possible for screening the ROS physical setting will be maintained within the roaded natural class.

SCENIC RESOURCES

MA-6d-06: All design and implementation practices should be modified as necessary to meet the VQO’s of Retention and Partial Retention as prescribed on the viewshed map for the river corridor.

The goal of management within the Wild and Scenic River corridor is to create and maintain desired visual characteristics of the forest landscape through time and space. The Wild and Scenic River Corridor will be managed for a high level of scenic quality. Vegetation will be retained where possible and is desirable for maintaining visual screening. On site modifications are currently present and visible within the river corridor (as viewed from the river and nearby McKenzie River Trail). Since relocation of Frissell Boat Launch includes decommissioning and planting the existing location and reconstruction at Paradise includes reorientation of the launch, the modifications will remain subtle and visually subordinate to the casual observer.

SOIL AND WATER QUALITY

MA-6d-07: Soil compaction should not exceed established limits, except as necessary for the development of campsites, administrative facilities, trail treads, trailheads and boat launch sites.

While compaction in excess of established limits is permitted “as necessary for the development of...boat launch sites”, actual compacted area within the riparian areas at the two sites that results from construction of the two boat launches is approximately 12%, which is well within the established limit of 20%.

RIPARIAN MANAGEMENT

MA-6d-14: The following process shall be used when projects or management activities have the potential to create long-term, short-term, or cumulative adverse effects to the values of rivers, streams, wetlands, lakes, or adjacent riparian areas:

1. Locate the riparian management area using the following criteria:

- **Within the 100 year floodplain;**
- **Occupied by water-tolerant vegetation;**
- **Having vegetation potentially capable of contributing organic small matter to the water body;**
- **Incorporate natural irregularities of topography and consider recreation and wildlife use patterns;**
- **Required to provide large woody material to the water body.**

2. Identify the beneficial uses, values, and objectives for the area. Wetland and riparian area values and objectives should be established on a subdrainage area or larger, and should address connectivity of riparian habitat and the influence on downstream effects.

3. Identify the effects of proposed actions on the following:

- **Objectives and ORV's for the W7s River.**
- **Public health, safety, and welfare, including water supply, quality, recharge, discharge; pollution; flood and storm hazards; and sediment and erosion;**
- **Maintenance of natural systems, including conservation of long-term productivity of existing flora and fauna, species and habitat diversity and stability, hydrologic utility, fish, wildlife, timber;**
- **Other uses of wetlands in the public interest, including recreational, scientific, and cultural uses.**

4. Assess necessary actions to preserve the beneficial values, and to reduce or mitigate loss of wetlands by giving preferential consideration to riparian dependent resources when conflicts occur among land uses.

5. Develop a riparian prescription that documents the objectives and actions to be implemented (including contract clauses and language as appropriate) in the riparian management area.

6. Monitor location and effects, and track results through appropriate databases.

Management practices shall be designed to prevent detrimental changes in water temperature or chemical composition, blockage of water courses, or sedimentation within the stream channel which could adversely affect water conditions for fish habitat.

The specific step-by-step process for evaluating projects described above was incorporated into the NEPA document and ESA Biological Assessment. Those documents fully described the known and potential effects to biological, physical, and social resources.

MA-6d-15: 100% of existing streamside shade should be maintained.

As described in this document, the NEPA document, and the ESA Biological Assessment some shade trees will need to be cut to place the ramp at Frissell. However, this S&G is a “should degree compliance.” In addition, given the spring-fed nature of the river near Frissell there would not be a measurable effect to temperatures at the site scale, or sub-watershed scale.

Decommissioning and rehabilitation of the existing Frissell boat ramp will include tree planting. However, the existing boat ramp is on the northeast side of the river so those trees will not provide shade to the river.

No shade trees will be cut for proposed activities at Paradise.

TIMBER MANAGEMENT

MA-6d-20: Stumps should be flush cut.

All stumps will be flush cut and this will be required by contract specifications.

FACILITIES

MA-6d-40: Development of additional roads and road bridges within the river corridor should be discouraged. Existing roads should be used whenever possible. If roads are constructed, or reconstructed, they should be located and designed to remain visually inconspicuous from the river surface and banks. Road construction/reconstruction, including side-casting and waste disposal, should not encroach upon the 100-year river floodplain.

This S&G is a “should degree compliance.” Proposed activities at Frissell would require the construction of new road within the river corridor. Within the Buck dispersed camping area where the new ramp would be located, there is currently a web of native surface roads. Designs will utilize as much of these roads as possible in order to minimize disturbance and the number of trees that need to be cut. The new access and loop road, toilet pad, and staging area would be visually inconspicuous from the river surface due to the elevated nature of the river terrace, and the remaining vegetation along the river bank.

A boat launch project by its very nature must encroach upon the 100-year floodplain. The new boat ramp at Frissell would be 16 feet wide and 40 feet long (640 ft²), and would be visible from the river surface. This S&G is a “should degree of compliance” and the proposed activity is supported by the river management plan.

The approach road and loop road already exist at Paradise launch. Within the floodplain there will be some additional paving to connect loop road to the new concrete boat ramp. Paving would be limited to the “apron.” The new boat ramp and paving of the apron is estimated to impact 1,990 ft². This activity will have a limited visual impact from the river surface. This is due to the current condition of the site which is compacted, has a limited amount of vegetation, a sign board, and a gravel boat ramp.

MA-6d-41: Structures, improvements, and signs shall be provided to enhance user experiences, facilitate use and administration of the area, and protect resources. Larger scale public use facilities, such as moderately sized campgrounds, public information centers, and administrative headquarters shall be allowed if such structures have been designed to take advantage topography and vegetative screening, and are out of view from the river. New structures that would have a direct and adverse effect on the rivers “Outstandingly Remarkable Values” should not be allowed.

Relocation and/or reconstruction of the existing boat ramps is intended to enhance the user’s experiences, facilitate use and administration of the area, and protect resources. Access and safety concerns will be minimized, ramps will be constructed for long term use and minimal maintenance, and erosion will be mitigated by providing more suitable location and/or orientation to the river. The direct effect on the rivers “Outstanding Remarkable Values” are expected to be beneficial; a mix of resource protection, facility enhancement, and facilitation of safe use into the future.

MANAGEMENT PLANNING

MA-6d-43: State and County agencies shall be notified of project level planning activities on national forest lands within the river corridor to assure coordination of management actions with Sate Scenic Waterway requirements.

The NEPA document and this W&SR Section 7 Assessment will be shared with appropriate agencies and project implementation would not occur until concurrence is received.

Finding of effect on ORV’s in the Upper McKenzie River:

1. Scenic values.

Proposed activities at Frissell would require the construction of new road within the river corridor. Within the Buck dispersed camping area where the new ramp would be located, there is currently a web of native surface roads. Designs will utilize as much of these roads as possible in order to minimize disturbance and the number of trees that need to be cut. The new access and loop road, toilet pad, and staging area would be visually inconspicuous from the river surface due to the elevated nature of the river terrace, and the remaining vegetation along the river bank.

A boat launch project by its very nature must encroach upon the 100-year floodplain. The new boat ramp at Frissell would be 16 feet wide and 40 feet long (640 ft²), and would be visible from the river surface. This S&G is a “should degree of compliance” and the proposed activity is supported by the river management plan.

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The scenic ORV for the Upper McKenzie Wild and Scenic River results from spectacular scenery. As stated in the management plan, “The McKenzie River and river corridor have received national and regional recognition for their scenic beauty.” In fact, “Some of the individual attractions that combine to create the McKenzie’s scenic beauty are water clarity and color, waterfalls and whitewater, lava flows, old growth forest, wildflowers, and fall colors.” (Upper McKenzie River Management Plan, 1992)

The aesthetic value of the Wild and Scenic River corridor will be retained. The character and appearance is, essentially, expected to be the same after implementation. Although the proposed relocation of Frissell boat launch would place the boat ramp on the west side of the river (State Scenic Waterway “scenic” classification) and some disturbance would be visible from reconstruction (alternative action for Frissell and proposed action for Paradise) in the existing locations, disturbed or decommissioned areas would be vegetated and expected to recover (become visually subordinate) over the next 4-5 years. Visual disruptions (for example: ground work and equipment in the corridor) are expected, however these disruptions are temporary (during project implementation) in nature. Upon completion, the project will not unreasonably diminish the Scenic ORV.

2. Recreation.

The recreation ORV for the Upper McKenzie Wild and Scenic River results from prominent recreational opportunities such as whitewater boating, hiking, and fishing. As written in the management plan, “Whitewater boating includes drift-boating, rafting, and kayaking, and is recognized as outstanding on the river stretch from Olallie Campground to Paradise Campground.” The plan also notes that “Camping, sightseeing, and photography are also popular on the upper McKenzie.” (Upper McKenzie River Management Plan, 1992)

The proposed relocation or reconstruction actions will mitigate the poor access, steepness, and deteriorating/unstable conditions of the existing boat launches. All action alternatives of this project are intended to safely facilitate public use, consistent with the roaded natural ROS class, and will also enhance recreational experiences along the river corridor. Some temporary interference (which may include closures) with road use, dispersed use, and access within the project areas should be expected to occur for the protection of public safety during project

implementation. The recreation ORV of the Wild and Scenic River corridor will be maintained and considered enhanced.

3. Geologic and Hydrologic.

The geologic and hydrologic ORV for the Upper McKenzie Wild and Scenic River results from the complex interplay of recent volcanic activity with the pre-existing McKenzie River. Sections of the river were buried by lava flows, creating “lost” sections and large springs where river flows re-emerge. Other lava flows filled the valley and created a series of majestic waterfalls where the river flowed over them. Residual heat from the lava flows has also resulted in the presence of hot springs along the river.

Neither the nature of the project or the scope of the proposed construction activities has resulted in conditions that can affect the relationship between river and lava that has created this ORV.

4. Water Quality.

The water quality ORV for Upper McKenzie Wild and Scenic River stems from the river’s water clarity, cold temperature, and its translucent blue coloration. As was previously discussed in the section “Describe How the Proposed Activity Will Directly Alter Within-Channel Conditions”, effects were disclosed regarding turbidity and stream temperature increases. These are the two most likely effects that could result in an effect on this ORV.

In the analysis, all disclosed effects on turbidity and water temperature are either small or un-measurable, extremely limited in the spatial extent of their occurrence, limited to a very short time frame, or some combination of these limits to their ability to impact the water quality ORV.

5. Fish.

The upper McKenzie River has excellent fish habitat and species diversity, and produces fish of good health, vigor, and size. The upper McKenzie is a regionally important producer of several fish species. The McKenzie River as a whole produces the major population of wild spring Chinook salmon for the Willamette River system; some of those Chinook are produced in the upper McKenzie. The upper McKenzie is noted for its populations of three native, wild trout species, the redds rainbow trout, bull trout, and cutthroat trout. The Forest Service finding agrees with the Congressional Record that fish in the upper McKenzie River are an outstandingly remarkable value.

The boat launches project could have short term negative effects on fish due to turbidity spikes during ramp placement. These are expected to last hours (not days) and since the plume would not occupy the entire river channel fish could move to a portion of the river where no turbidity is occurring. There would be a permanent change to the river bed and bank where the ramp would be located (see Table 1), but this is an impact that is limited spatially and is a minimal impact in relation to the amount of rearing habitat available in the 80 miles of the McKenzie River. For more specific information on impacts to fish and fish habitat see Section 5 (Biological Processes) of this document.

Given the limited scope of the boat launch project in relation to the river length and watershed size, this project would not diminish the fish ORV.

9) Section 7 Determination.

The proposed McKenzie River Boat Launches Project is consistent with Section 7 of the Wild and Scenic Rivers Act, and will have a direct effect on the river, but not an adverse effect on the values for which the river was authorized by Congress. The project is also consistent with the current Forest Land and Resource Management for the Willamette N.F. and the Record of Decision for Amendments of Land Management Planning Documents within the Range of the Northern Spotted Owl. The project is supported by the Upper McKenzie River Management Plan (1992). It is recognized that there will be short-term effects but that they are at an acceptable level. Free-flowing conditions will be maintained, and Outstandingly Remarkable Values will be maintained.

References:

Stillwater Sciences. 2006h. Water quality at the Carmen-Smith Hydroelectric Project, upper McKenzie River basin, Oregon. Final Report. Prepared by Stillwater Sciences, Arcata, California for Eugene Water & Electric Board, Eugene, Oregon.

USDA Forest Service, and Oregon State Parks & Recreation Department. 1992. Upper McKenzie River management plan.

USDA Forest Service. 1990, 1994. 2001, 2004 . Environmental Impact Statement, Land and Resource Management Plan, Willamette National Forest. Eugene, OR.

USDA Forest Service. 1994. Record of Decision and Standards and Guidelines for Management of Habitat for Late-Successional and Old-Growth Related Species Within the Range of the Northern Spotted Owl. Portland, OR.