

**FINAL Meeting Notes  
Lewis River License Implementation  
Aquatic Coordination Committee (ACC) Meeting  
Sub-Committee on Habitat Prioritization Synthesis  
February 16, 2007  
Ariel, WA**

**ACC Sub-Committee Participants Present (8)**

Jim Byrne, WDFW  
 Jeremiah Doyle, CH2M Hill  
 Adam Haspiel, USDA Forest Service  
 Kevin Malone, Mobrاند Jones & Stokes (via teleconference)  
 Kimberly McCune, PacifiCorp Energy  
 Jason Shappart, Meridian Environmental  
 Frank Shrier, PacifiCorp Energy  
 Karen Thompson, USDA Forest Service

**Calendar:**

March 9, 2007	Sub-Committee on Habitat Prioritization Synthesis	Merwin Hydro
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<b>Assignments from February 16th Meeting:</b>	<b>Status:</b>
Byrne: Check to make sure the EDT information in the map of the Lower Lewis is current and obtain the upper EDT values as well.	
Shrier: Email a Pine Creek map labeling the tributaries to the Subgroup for their review.	<b>Complete – 2/20/07</b>
McCune: Email the EDT website to the Subgroup for their review and comment.	<b>Complete – 2/20/07</b>
Haspiel: Try to secure a map of the Lewis River which illustrates the 6 <sup>th</sup> field HUC.	

<b>Assignments from January 5th Meeting:</b>	<b>Status:</b>
Haspiel: Email High Intrinsic (Draft) Potential Fish Habitat Analysis – Kenneth E. Meyer (HIP) to Kimberly McCune (PacifiCorp Energy).	<b>Complete – 1/17/07</b>
Shrier – PacifiCorp will provide a map illustrating location of stream reaches to the Sub-committee.	Pending
<i>McCune: Email copy of the Draft Bull Trout Surveys and Stream Temperature Monitoring Conducted within Selected Watersheds on the Gifford Pinchot National Forest - Summer 2001, which was created by Clearwater BioStudies, Inc. in January 2002.</i>	<b>Complete – 1/18/07</b> <a href="http://www.pacificorp.com/Article/Article61767.html">http://www.pacificorp.com/Article/Article61767.html</a>

## **Opening, Review of Agenda and Meeting Purpose**

Frank Shrier (PacifiCorp Energy) called the meeting to order at 9:10am. He conducted a review of the agenda for the day and asked if the attendees had any changes to the Agenda; no changes were requested.

Shrier requested comments and/or changes to the Habitat Prioritization Synthesis Subgroup (Subgroup) Draft 1/5/07 meeting notes. No additional changes were requested and the notes were approved at 9:20am.

## **Information Gathering by PacifiCorp**

The Subgroup reviewed a map of the lower Lewis, as provided by Jim Byrne (WDFW). Shrier expressed that he thought that this map was a great tool and asked if the EDT information is up-to-date. Byrne will check to make sure the EDT information is current and obtain the upper EDT values as well.

Shrier informed the Subgroup that the aquatic fund is to be allocated as follows:

First priority – North Fork Lewis River  
Second priority – East Fork Lewis River

Upon review of the *Draft Potential Restoration Projects for the Lewis River Basin Matrix (Attachment B)*, Adam Haspiel (USDA FS) provided a handout (*Attachment A*) which is intended as a suggestion of edits to the existing Matrix.

## **Discussion**

General discussion took place regarding combining some of the reaches in the same stretch of stream with the same habitat needs, adding a column that indicates the Subgroups opinion, adding a version number and date as the matrix will be a living document, and if there are any changes an addition field to include why it changed.

Jason Shappart (Meridian Environmental) expressed that the Matrix should probably be set up in Access so it can be used as a relational database. However, all information should be identified first and how each relates.

Shrier informed the Subgroup that he would email a Pine Creek map labeling the tributaries for their review.

Byrne suggested organizing the Matrix sequentially by stream location. Karen Thompson (USDA FS) suggested adding a column to include the 6<sup>th</sup> field HUC. In addition, Thompson suggested including links, where appropriate, as the document is created.

Haspiel expressed that he will try to secure a map of the Lewis River which illustrates the 6<sup>th</sup> field HUC.

Shrier suggested providing the appropriate training to Jeremiah Doyle (CH2M Hill) to use EDT to create a higher level of an Access database specific to the Subgroup's needs. Kevin Malone (Mobrand Jones & Stokes) indicated that approximately 2-3 days of training would be required. Malone and Shrier will talk further about the next steps to utilizing an existing database and inputting needed updates.

Malone communicated that he will provide the EDT website to view the 47 attributes and Kimberly McCune (PacifiCorp Energy) will email the link to the Subgroup for their review and comments.

The Subgroup agreed that it would be appropriate to coordinate with Rick at Mobrand Jones & Stokes regarding setting up the EDT and training.

### **Next Meeting**

March 9, 2007
Merwin Hydro Facility
Ariel, WA
9:00am – 3:00pm

**Meeting Adjourned at 10:50am**

### **Handouts**

- Final Agenda
- Suggested edits to Matrix, as provided by Adam Haspiel, USDA FS (**Attachment A**)
- Draft Potential Restoration Projects for the Lewis River Basin Matrix (**Attachment B**)

Attachment A

Reach name	Location	Habitat Issues	Length of Spawning Habitat (miles)	EDT	HIP	Watershed Analysis	Overall Score Numeric Value	Response to restoration Numeric Value	Restoration Needs
Pine Creek 1	Reach 1	TEXT	1.75	High	High	Medium	5	5	TEXT

one sheet for  
Each species

Column: Land Ownership

Agreed to NPS  
values + 1 owner

Figure 1. Lower North Fork Lewis River habitat improvement recommendations for **Winter Steelhead** (derived from EDT model output and other sources. The reach with the greatest potential benefit is listed at the top.)

<b>Reach Name</b>	<b>Location</b>	<b>Length of spawning habitat (miles)</b>	<b>Key Habitat Rating (EDT)</b>	<b>Habitat Issues</b>
Cedar Creek 2	John Creek to Brush Creek	1.6		High flow, habitat diversity needs, temperature regime, and sediment issues. Moderate channel stability, predation, food, and pathogen issues.
Chelatchie Creek 2	mouth to RM 0.6	0.4		Moderate channel stability, habitat diversity needs, temperature, predation, and flow, food, and pathogen issues.
Cedar Creek 4	Bitter Creek to Chelatchie Creek	0.6		High sediment issues. Moderate habitat diversity, temperature, and flow issues.
Cedar Creek 3	Brush Creek to Bitter Creek	1.2		High sediment issues. Moderate habitat diversity, temperature, flow, and food issues.
Cedar Creek 5	mouth to NF Chelatchie Creek	0.4		Moderate habitat diversity needs, temperature regime, flow, and sediment issues.
Ross Creek	Trib to top end of Lewis 3		moderate	Moderate need for channel stability and habitat diversity as well as flow, sediment, and food issues.
Houghton Creek	Trib to top end of Lewis 4		moderate	Moderate habitat diversity, flow, and sediment issues.
Cedar Creek 6	Chelatchie Creek to Fork at the end of Elliot Road	6.8		High habitat diversity, flow, and sediment problems. Moderate channel stability, temperature, predation, and food problems.
John Creek	Trib to bottom end of Cedar Creek 2			High sediment problems. Moderate habitat diversity and flow issues.
Lewis 2 tidal	EF Lewis to Robinson Creek; 5.5 miles		moderate	Moderate habitat diversity needs.
Brush Creek	Trib to top end of Cedar Creek 2			High sediment issues. Moderate habitat diversity and flow problems.
Chelatchie Creek 1	NF Chelatchie Creek to RM 4.8 the extent of distribution	4.4		Moderate habitat diversity and sediment problems.
NF Chelatchie Cr	Mouth to RM 1.29	1.29		High sediment problems. Moderate need for habitat diversity and as well as flow issues.
Bitter Creek	Trib to top end of Cedar Creek 3			High sediment issues. Moderate habitat diversity, flow, and food issues.

Figure 2. Lower North Fork Lewis River habitat improvement recommendations fo**Fall Chinook** (derived from EDT model output and other sources. The reach with the greatest potential benefit is listed at the top.)

<b>Reach Name</b>	<b>Location</b>		<b>Key Habitat Rating (EDT)</b>	<b>Habitat Issues</b>
Lewis 6	Johnson Creek to Cedar Creek; 0.4 miles		low	Moderate channel stability, habitat diversity, temperature, and pathogen issues.
Lewis 2 tidal	EF Lewis to Robinson Creek; 5.5 miles		low	Moderate habitat diversity issues.
Lewis 3	Robinson Creek to Ross Creek; 1 mile		moderate	High sediment issues. Moderate habitat diversity needs and temperature issues.
Lewis 1 tidal	Mouth to East Fork Lewis; 3.6 miles		moderate	Moderate habitat diversity issues.
Lewis 4	Ross Creek to Houghton Creek; 4.5 miles		moderate	High habitat diversity needs and sediment issues. Moderate need for channel stability as well as temperature regime, predation, and flow problems.

Figure 3. Lower North Fork Lewis River habitat improvement recommendations fo**Chum** (derived from EDT model output. The reach with the greatest potential benefit is listed at the top.)

<b>Reach Name</b>	<b>Location</b>		<b>Key Habitat Rating (EDT)</b>	<b>Habitat Issues</b>
Lewis 2 tidal	EF Lewis to Robinson Creek; 5.5 miles		low	Moderate habitat diversity needs and sediment issues.
Lewis 1 tidal	Mouth to East Fork Lewis; 3.6 miles		moderate	Moderate habitat diversity needs and sediment issues.
Lewis 3	Robinson Creek to Ross Creek; 1 mile		moderate	Moderate sediment issues.

Figure 4. Upper North Fork Lewis River habitat improvement recommendations fo**Winter Steelhead** (derived from EDT model output and other sources. The reach with the greatest potential benefit is listed at the top.)

<b>Reach Name</b>	<b>Location</b>	<b>Length of spawning habitat (miles)</b>	<b>Key Habitat Rating (EDT)</b>	<b>Habitat Issues</b>
Lewis 27	Chickoom Creek to Lower Falls	0.2	High	High concerns for habitat diversity, predation, and sediment. Moderate hatchery fish competition, flow, and food worries (EDT). HIP model rates this reach as medium intrinsic potential.
Lewis 25	Cussed Hollow Creek to Crab Creek	0.3	Moderate	High concerns for lack of habitat diversity, and sediment. Moderate predation, competition from hatchery fish, and lack of food worries (EDT). HIP model rates this reach as high intrinsic potential.

Lewis 18	Head of Swift Reservoir to Pine Creek	0.7	Low	High concerns for habitat diversity, predation, hatchery fish competition, sediment, and food. Moderate concerns for channel stability, water flow, and pathogens (EDT). HIP model rates this reach as medium intrinsic potential.
Lewis 24	Spencer Creek to Cussed Hollow Creek	0.4	Moderate	High need for greater habitat diversity and sediment concerns. Moderate need for greater channel stability as well as predation, hatchery fish competition, flow, and food problems (EDT). HIP model rates this reach as high intrinsic potential.
Lewis 23	Big Creek to Spencer Creek	3.5	Moderate	High habitat diversity and sediment concerns. Moderate predation, hatchery fish competition, flow, and food problems (EDT). HIP model rates this reach as high intrinsic potential.
Lewis 26	Crab creek to Chickoom creek	0.9	Moderate	High sediment concerns. Moderate habitat diversity needs, as well as predation, and hatchery fish competition issues (EDT). HIP model rates this reach as high intrinsic potential.
Lewis 21	Rush Creek to Little Creek	1	low	High sediment concerns. Moderate habitat diversity needs as well as predation and hatchery fish competition problems (EDT). HIP model rates this reach as medium intrinsic potential.
Lewis 19	Pine Creek to Muddy River Fork	0.5		High need for greater habitat diversity and sediment concerns. Moderate predation, hatchery fish competition, and food issues (EDT). HIP model rates this reach as medium intrinsic potential.
Big Creek Mid	Trib to Lewis 21. Mouth to RM 0.3	0.3	High	High need for greater habitat diversity and sediment issues. Moderate flow problems (EDT).
Pine Creek 2	RM 1.75 to RM 2.25	0.5		Moderate need for greater channel stability and habitat diversity, also flow and sediment problems (EDT). HIP model rates this reach as high intrinsic potential.
Crab Creek	Mouth to RM 0.5	0.5	Moderate	High sediment concerns. Moderate habitat diversity, temperature, and flow worries (EDT).
Cussed Hollow Creek	Mouth to RM 0.7	0.7	Moderate	Moderate habitat diversity and flow concerns (EDT). HIP model rates this reach as low intrinsic potential.
Pine Creek 5	RM 4.25 to RM 5.25	1		Moderate habitat diversity and sediment concerns (EDT). HIP model rates this reach as high intrinsic potential.
Lewis 22	Little Creek to Big Creek	1.1	Low	High sediment issues. Moderate need for greater habitat diversity as well as predation and hatchery fish competition concerns (EDT). HIP model rates this reach as high intrinsic potential.
Pine Creek 4	RM 3.25 to RM 4.25	1		Moderate need for greater habitat diversity as well as sediment issues (EDT). HIP model rates this reach as high intrinsic potential.
Pine Creek 1	Mouth to RM 1.75 (to trib P1)	1.75		Moderate need for greater habitat diversity as well as sediment issues (EDT).HIP model rates this reach as medium intrinsic potential.
Pine Creek 6	RM 5.25 to RM 8.0; 2.75 miles	2.75		Moderate need for greater habitat diversity as well as sediment issues (EDT). HIP model rates this reach as high intrinsic potential.

Muddy R2	Clearwater Creek to Smith Creek	1.5		High habitat diversity, flow, and sediment problems. Moderate channel stability, temperature, predation, and hatchery fish competition, food, and pathogen issues (EDT). High need for bank stabilization as well as concern for high water temperature and need for instream LWD (Muddy River Watershed Analysis, GPNF 1997). HIP model rates this reach as medium intrinsic potential.
Lewis 20	Muddy River Fork to Rush Creek	5.5	Low	High sediment issues. Moderate habitat diversity, predation, hatchery fish competition, and food problems (EDT). HIP model gives this reach a medium and high intrinsic potential.
Chickoom Creek	Trib to Lewis 26. Mouth to RM 0.5	0.5	Moderate	High sediment concerns. Moderate need for greater habitat diversity as well as flow problems (EDT). HIP model gives this reach a low intrinsic potential.
Muddy R. 1A	Clear Creek to Clearwater Creek; 4.4 miles	4.4		High sediment problems. Moderate channel stability and habitat diversity needs as well as temperature regime, predation, hatchery fish competition, flow, food, and pathogen issues (EDT). High need for bank stabilization as well as concern for high water temperature. High sediment issues and need for instream LWD. Moderate need for greater riparian buffer (Muddy River Watershed Analysis, GPNF 1997). HIP model gives this reach a medium intrinsic potential rating.
Bean Creek	Trib to Clearwater Creek. Mouth to RM 0.7	0.7	Moderate	High sediment concerns. Moderate water flow worries (EDT). HIP model gives this reach a low intrinsic potential.
Clearwater Creek	Mouth to Rm 3.5	5.2	Moderate	High sediment issues. Moderate habitat diversity, temperature, flow, food, and pathogen problems (EDT). High sediment issues (Muddy River Watershed Analysis, GPNF 1997). HIP model gives this
Muddy R. 1	Mouth to Clear Creek	4.4		High habitat diversity needs and sediment issues. Moderate need for channel stability as well as temperature, predation, hatchery fish competition, flow, food, and pathogen problems (EDT). High need for bank stabilization as well as concern for high water temperature. High sediment issues and need for instream LWD. High need for greater riparian buffer (Muddy River Watershed Analysis, GPNF 1997). HIP model gives this reach a high intrinsic potential rating.
Clear Creek	RM 4.13 to RM 8.7	4.57	Moderate	High sediment concerns. Moderate habitat diversity, flow, and food needs (EDT). Lack of channel stability and instream structures (Licensee's 2001 Technical Study Status Report for the LR hydro projects vl. 5.). HIP model gives this reach a high intrinsic potential rating.
Pine Creek 3	RM 2.25 to RM 3.25	1		Moderate habitat diversity and sediment issues (EDT). HIP model gives this reach a medium intrinsic potential rating.
Clear Creek Lower	Mouth to RM 4.13	4.13	Low	High sediment concerns. Moderate habitat diversity, flow, and food needs (EDT). Lack of channel stability and instream structures (Licensee's 2001 Technical Study Status Report for the LR hydro projects vl. 5.). HIP model gives this reach a medium intrinsic potential rating.



NF Siouxon	Mouth to RM 2.1	2.1	Moderate	High habitat diversity and sediment problems. Moderate channel stability, temperature and flow needs (EDT).
Upper Smith Creek	Smith Creek above Ape Canyon Creek, extends into blast zone.	13.5		High habitat diversity and sediment problems. Moderate channel stability, temperature, flow, and food needs (EDT).
Smith Creek	Mouth to RM 5.7	5.7		Moderate need for greater channel stability and habitat diversity as well as temperature, water flow, sediment, food, and pathogen problems (EDT).
Little Creek	Mouth to RM 0.7	0.7	Low	High sediment concerns. Moderate need for greater habitat diversity (EDT). HIP model gives this reach a medium intrinsic potential rating.
Ape Canyon Creek	Trib to Smith Creek. Mouth to RM 1	1	Moderate	Moderate habitat diversity and sediment concerns (EDT). HIP model rates this reach as high intrinsic potential.
Jim Creek	Trib to Merwin. Mouth to RM 0.6	0.6	Moderate	Moderate sediment concerns (EDT).
Muddy R 3	Smith Creek to RM 13.8	3.5		High sediment problems. Moderate need for habitat diversity and flow (EDT). High need for bank stabilization as well as concern for high water temperature. High sediment issues and need of instream LWD. High need for greater riparian buffer (Muddy River Watershed Analysis, GPNF 1997).
Clearwater Tribs.		0.8	Low	High sediment issues. Moderate flow concerns (EDT). HIP model gives these reaches low intrinsic potential.
Curly Creek	Mouth to RM 0.5	0.5	Low	High sediment concerns (EDT). HIP model gives this reach a high intrinsic potential.
Smith Creek small tribs.		0.93	Low	Moderate sediment concerns (EDT).
Ole Creek	Trib to Lewis 12. Mouth to RM 0.8	0.8		Moderate sediment concerns (EDT).
Swift Creek	Mouth to RM 1.7	1.7	High	High habitat diversity and sediment problems. Moderate channel stability, predation, flow, and food problems (EDT). High need for LWD and spawning gravel as well as larger riparian buffer (GPNF stream survey 1995).
Lewis 2 tidal	EF Lewis to Robinson Creek; 5.5 miles		Moderate	Moderate need for habitat diversity, sediment, and harassment/poaching concerns (EDT).
Lewis 4	Ross Creek to Houghton Creek; 4.5 miles		low	Moderate sediment and harassment/poaching issues (EDT).
Lewis 1 tidal	Mouth to East Fork Lewis; 3.6 miles		Moderate	Moderate habitat diversity concerns and sediment and harassment/poaching issues (EDT).

Figure 5. Upper North Fork Lewis River habitat improvement recommendations for **Spring Chinook** (derived from EDT model output and other sources. The reach with the greatest potential benefit is listed at the top.)

<b>Reach Name</b>	<b>Location</b>	<b>Length of spawning habitat (miles)</b>	<b>Key Habitat Rating (EDT)</b>	<b>Habitat Issues</b>
Lewis 27	Chickoom Creek to Lower Falls	0.2	High	High concerns for channel stability, habitat diversity, and sediment. Moderate temperature, predation, hatchery fish competition, flow, and food worries (EDT).
Lewis 18	Head of Swift Reservoir to Pine Creek	0.7	High	High concerns for habitat diversity, predation, hatchery fish competition, sediment, and food. Moderate concerns for channel stability, high temperature, water flow, and harassment and or poaching (EDT).
Lewis 25	Cussed Hollow Creek to Crab Creek	0.3	High	High concerns for channel stability, lack of habitat diversity, and sediment problems. Moderate high temperature, high predation, competition from hatchery fish, and lack of food worries (EDT).
Lewis 20	Muddy River Fork to Rush Creek	5.5	Moderate	High sediment concerns. Moderate channel stability and habitat diversity needs, as well as predation, high temperature, hatchery fish competition, and food issues (EDT).
Lewis 22	Little Creek to Big Creek	1.1	Moderate	High sediment problems. Moderate need for channel stability, habitat diversity, reprieve from predation and hatchery fish competition (EDT).
Lewis 19	Pine Creek to Muddy River Fork	0.5	low	High sediment concerns. Moderate channel stability and habitat diversity needs, as well as predation, hatchery fish competition, and food issues (EDT).
Lewis 24	Spencer Creek to Cussed Hollow Creek	0.4	Moderate	High sediment concerns. Moderate need for channel stability and habitat diversity (EDT).
Lewis 26	Crab creek to Chickoom creek	0.9	High	High sediment concerns. Moderate channel stability and habitat diversity needs, as well as predation, high temperature, hatchery fish competition, and food issues (EDT).
Clearwater Creek	Mouth to Rm 3.5	5.2	High	High temperature and sediment concerns. Moderate need for greater habitat diversity (EDT). High sediment issues and high loss of riparian buffer (Muddy River Watershed Analysis, GPNF 1997). High need for greater and more diverse riparian area (Licensee's 2001 Technical Study Status Report for the LR hydro projects vl. 5.).
Pine Creek 2	RM 1.75 to RM 2.25	0.5		Moderate need for greater habitat diversity (EDT). Limited LWD and limited riparian, high need for greater channel stability (Licensee's 2001 Technical Study Status Report for the LR hydro projects vl. 5.).
Siouxon 1	Mouth to NF Siouxon	1.2	Moderate	Moderate need for greater channel stability as well as habitat diversity, also has moderate sediment problems (EDT).
Swift Creek	Mouth to RM 1.7	1.7	Low	Moderate need for greater habitat diversity (EDT). Large, stable LWD and spawning gravel is extremely limited (Licensee's 2001 Technical Study Status Report for the LR hydro projects vl. 5.).
Clear Creek	Mouth to RM 8.7	6.15	Moderate	High sediment concerns. Moderate habitat diversity, flow and food worries (EDT). High need for greater channel stability as well as LWD and suitable spawning gravel (Licensee's 2001 Technical Study Status Report for the LR hydro projects vl. 5.).
Lewis 23	Big Creek to Spencer Creek	3.5	low	High sediment concerns. Moderate need for habitat diversity as well as channel stability (EDT).

Clear Creek lower	Mouth to RM 4.3	4.3	Moderate	High sediment concerns. Moderate habitat diversity needs as well as flow and food (EDT). High need for greater channel stability as well as LWD and suitable spawning gravel (Licensee's 2001 Technical Study Status Report for the LR hydro projects vl. 5.).
Pine Creek 1	Mouth to RM 1.75	1.75		Moderate need for greater habitat diversity (EDT). Limited LWD and limited riparian, high need for greater channel stability (Licensee's 2001 Technical Study Status Report for the LR hydro projects vl. 5.).
Muddy R 1	Mouth to Clear Creek	4.4		High sediment concerns. Moderate concerns for low habitat diversity, as well as temperature worries (EDT). High need for bank stabilization as well as concern for high water temperature. High sediment issues and need of instream LWD. High need for greater riparian buffer (Muddy River Watershed Analysis, GPNF 1997). High sediment levels, need for greater riparian, lack of spawning gravel (Licensee's 2001 Technical Study Status Report for the LR hydro projects vl. 5.).
Cussed Hollow Creek	Mouth to RM 0.7	0.7	Moderate	Moderate water temperature concerns (EDT). Marginal adult and fair juvenile habitat (Licensee's 2001 Technical Study Status Report for the LR hydro projects vl. 5.).
Drift Creek	Above reservoir inundation to RM 1.6	1.6	High	Moderate concerns for channel stability and habitat diversity as well as sediment concerns (EDT). Extremely limited LWD, high need for greater riparian and stream shading (Licensee's 2001 Technical Study Status Report for the LR hydro projects vl. 5.).
Lewis 21	Rush Creek to Little Creek	1	low	High sediment concerns. Moderate habitat diversity needs (EDT).
Pine Creek 3	RM 2.25 to RM 3.25	1		Moderate habitat diversity needs (EDT). Limited LWD and limited riparian, high need for greater channel stability (Licensee's 2001 Technical Study Status Report for the LR hydro projects vl. 5.).
Range Creek	Mouth to RM 0.66	0.66		Moderate habitat diversity and sediment issues (EDT). High need for LWD (GPNF stream survey 1995). Stream shading is poor due to lack of adequate buffers (Licensee's 2001 Technical Study Status Report for the LR hydro projects vl. 5.).
Lewis 12	Yale Lake- Rain Creek to Swift Dam; 2.7 miles (LR bypass reach)	2.7	low	High sediment concerns. Moderate concerns for channel stability, low habitat diversity, predation, competition from hatchery fish, and low food (EDT).
Muddy R 1A	Clear Creek to Clearwater Creek; 4.4 miles	4.4		Moderate habitat diversity, temperature and sediment concerns (EDT). High need for bank stabilization as well as concern for high water temperature. High sediment issues and need of instream LWD. Moderate need for greater riparian buffer (Muddy River Watershed Analysis, GPNF 1997). High sediment levels, need for greater riparian, lack of spawning gravel (Licensee's 2001 Technical Study Status Report for the LR hydro projects vl. 5.)
Smith Creek	Mouth to RM 5.7	5.7		Moderate temperature concerns (EDT). High stream sediment, great need for channel stability and riparian buffer (Licensee's 2001 Technical Study Status Report for the LR hydro projects vl. 5.)

Pine Creek 6	RM 5.25 to RM 8	2.75		Moderate need for greater habitat diversity (EDT). Limited LWD and limited riparian, high need for greater channel stability (Licensee's 2001 Technical Study Status Report for the LR hydro projects vl. 5.).
Lewis 7	Cedar Creek to Merwin Dam	3.7		High habitat diversity needs. Moderate predation concerns (EDT).
Pine Creek 4	RM 3.25 to RM 4.25	1		Moderate need for greater habitat diversity (EDT). Limited LWD and limited riparian, high need for greater channel stability (Licensee's 2001 Technical Study Status Report for the LR hydro projects vl. 5.).
Pine Creek 5	RM 4.25 to RM 5.25	1		Moderate need for greater habitat diversity (EDT). Limited LWD and limited riparian, high need for greater channel stability (Licensee's 2001 Technical Study Status Report for the LR hydro projects vl. 5.).
Muddy R2	Clearwater Creek to Smith Creek	1.5		Moderate sediment concerns (EDT). High sediment levels, need for greater riparian, lack of spawning gravel (Licensee's 2001 Technical Study Status Report for the LR hydro projects vl. 5.)

Figure 6. Upper North Fork Lewis River habitat improvement recommendations for **Coho** (derived from EDT model output and other sources. The reach with the greatest potential benefit is listed at the top.)

<b>Reach Name</b>	<b>Location</b>	<b>Length of spawning habitat (miles)</b>	<b>Key Habitat Rating (EDT)</b>	<b>Habitat Issues</b>
Diamond Creek	Mouth to RM 0.1	0.1	Low	High need for habitat diversity as well as sediment issues. Moderate need for channel stability (EDT).
Lewis 18	Head of Swift Reservoir to Pine Creek	0.7	High	High concern for lack of habitat diversity, and stream sediment load plus predation and hatchery fish competition as well as food availability. Moderate flow and pathogen worries (EDT).
Clearwater Creek	Mouth to Rm 3.5	5.2	High	High concerns from lack of habitat diversity, and thermal regimes as well as sediment load and lack of food. Moderate concerns for channel stability, hatchery fish competition, and water flow (EDT). High sediment issues and need of instream LWD (Muddy River Watershed Analysis, GPNF 1997).
Muddy R1	Mouth to Clear Creek	4.4		High concerns for lack of habitat diversity and current temperature regimes as well as competition from hatchery fish, sediment load, and low abundance of food. Moderate concerns for channel stability, predation, and water flow (EDT). High need for bank stabilization as well as concern for high water temperature. High sediment issues and need of instream LWD. High need for greater riparian buffer (Muddy River Watershed Analysis, GPNF 1997).

Muddy R1A	Clear Creek to Clearwater Creek; 4.4 miles	4.4		High habitat diversity and sediment concerns. Moderate concerns for channel stability, temperature regimes, predation, competition from hatchery fish, water flow and lack of food (EDT). High need for bank stabilization as well as concern for high water temperature. High sediment issues and need of instream LWD. Moderate need for greater riparian buffer (Muddy River Watershed Analysis, GPNF 1997).
Clear Creek Lower	Mouth to RM 4.3	6.15	High	High concern for lack of habitat diversity, sediment load and low availability of food. Moderate concern for stream flow (EDT).
Y8	Mouth to RM 0.2	0.2	Low	Moderate need for channel stability and habitat diversity as well as sediment concerns (EDT).
Lewis 19	Pine Creek to Muddy River Fork	0.5	low	High sediment and habitat diversity concerns. Moderate channel stability, predation, hatchery fish competition, and food issues (EDT).
Lewis 27	Chickoom Creek to Lower Falls	0.2	High	High concerns for habitat diversity and sediment. Moderate need for channel stability (EDT).
Clearwater Tribs.		0.8	High	High need for habitat diversity as well as sediment issues. Moderate flow and food concerns (EDT).
Lewis 21	Rush Creek to Little Creek	1	Moderate	High need for habitat diversity as well as sediment issues. Moderate need for channel stability as well as predation and hatchery fish competition concerns, moderate food problems (EDT).
Clear Creek	Mouth to RM 8.7	6.15	High	High habitat diversity and sediment worries. Moderate concerns for stream flow and lack of food (EDT).
Curly Creek	Mouth to RM 0.5	0.5	High	High habitat diversity and sediment concerns. Moderate need for channel stability as well as food (EDT).
Pepper Creek	Mouth to RM 0.4	0.4	High	High sediment concerns. Moderate need for channel stability and habitat diversity (EDT).
Clear Creek small tribs.		1.97	High	High sediment concerns. Moderate habitat diversity, flow, and food worries (EDT).
Smith Creek small tribs.		0.93	High	High sediment concerns. Moderate habitat diversity, flow, and food worries (EDT).
Little Creek	Mouth to RM 0.7	0.7	Moderate	High sediment concerns. Moderate need for greater habitat diversity as well as flow issues (EDT).
Lewis 20	Muddy River Fork to Rush Creek	5.5	low	High habitat diversity concerns. Moderate hatchery fish competition, food availability, and sediment worries (EDT).
Crab Creek	Mouth to RM 0.5	0.5	Moderate	High sediment concerns. Moderate habitat diversity worries
Lewis 22	Little Creek to Big Creek	1.1	Low	Moderate need for habitat diversity as well as sediment concerns (EDT).
Cape Horn Creek	Mouth to RM 0.3	0.3	Moderate	Moderate need for greater habitat diversity (EDT).
S10	Mouth to RM 0.4	0.4	Low	Moderate need for channel stability and habitat diversity as well as sediment concerns (EDT).
Bean Creek	Trib to Clearwater Creek. Mouth to RM 0.7	0.7	Moderate	Moderate need for greater habitat diversity (EDT).
Big Creek Mid	Trib to Lewis 21. Mouth to RM 0.3	0.3	Moderate	Moderate need for greater habitat diversity and channel stability as well as sediment issues (EDT).

Rain Creek	Trib to Lewis 11. Head of Yale lake to RM 0.89	0.89	High	High stream sediment load concerns. Moderate concerns for channel stability and habitat diversity as well as flow and food worries (EDT).
Smith Creek	Mouth to RM 5.7	5.7		High habitat diversity concerns (EDT). High sediment issues (Muddy River Watershed Analysis, GPNF 1997).
Jim Creek	Trib to Merwin. Mouth to RM 0.6	0.6	Moderate	High sediment concerns. Moderate need for greater habitat diversity and food (EDT).
Lewis 25	Cussed Hollow Creek to Crab Creek	0.3	Moderate	Moderate need for channel stability and habitat diversity as well as sediment concerns (EDT).
Lewis 24	Spencer Creek to Cussed Hollow Creek	0.4	Moderate	Moderate need for greater habitat diversity as well as sediment issues (EDT).
Chickoom Creek	Trib to Lewis 26. Mouth to RM 0.5	0.5	Moderate	Moderate need for channel stability and habitat diversity as well as sediment concerns (EDT).
Lewis 26	Crab creek to Chickoom creek	0.9	Moderate	High sediment concerns. Moderate habitat diversity needs (EDT).
Drift Creek	Above reservoir inundation to RM 1.6	1.6	Moderate	Moderate sediment concerns as well as need for greater channel stability and habitat diversity (EDT). High need for larger riparian zone and LWD (1995 GPNF stream survey)
Ole Creek	Trib to Lewis 12. Mouth to RM 0.8	0.8	Moderate	Moderate sediment and lack of food concerns (EDT).
S15	Unnamed trib to Swift Res. Mouth to RM 1.3	1.3	Low	Moderate sediment concerns as well as need for channel stability and greater habitat diversity.
M14	Unnamed trib to Merwin Res. Mouth to RM 1.2	1.2	Moderate	High sediment concerns. Moderate need for greater habitat diversity and food (EDT).
Range Creek	Mouth to RM 0.66	0.66	Low	High need for LWD (GPNF stream survey 1995).
Upper Smith Creek	Smith Creek above Ape Canyon Creek, extends into blast zone	13.5		Moderate need for greater habitat diversity (EDT).

Figure 7. North Fork Lewis River habitat improvement recommendations for Bull Trout bearing streams (derived from EDT model output and other sources. The reach with the greatest potential benefit is listed at the top.)

<b>Reach Name</b>	<b>Location</b>	<b>Length of spawning habitat (miles)</b>	<b>Key Habitat Rating (Not EDT)</b>	<b>Habitat Issues</b>
Rush Creek	Mouth to RM 1.7	1.7	High	High sediment concerns. Moderate need for habitat diversity (EDT). Limited spawning habitat (Licensee's 2001 Technical Study Status Report for the LR hydro projects vl. 5.).
Pine Creek 1	Mouth to RM 1.75 (to trib P1)	1.75	High	Moderate habitat diversity needs and sediment issues (EDT). Limited LWD and limited riparian, high need for greater channel stability (Licensee's 2001 Technical Study Status Report for the LR hydro projects vl. 5.).

Pine Creek 2	RM 1.75 to RM 2.25	0.5	High	Moderate need for greater habitat diversity (EDT). Limited LWD and limited riparian, high need for greater channel stability (Licensee's 2001 Technical Study Status Report for the LR hydro projects vl. 5.).
Pine Creek 3	RM 2.25 to RM 3.25	1	High	Moderate habitat diversity needs (EDT). Limited LWD and limited riparian, high need for greater channel stability (Licensee's 2001 Technical Study Status Report for the LR hydro projects vl. 5.).
Pine Creek 4	RM 3.25 to RM 4.25	1	High	Moderate need for greater habitat diversity (EDT). Limited LWD and limited riparian, high need for greater channel stability (Licensee's 2001 Technical Study Status Report for the LR hydro projects vl. 5.).
Pine Creek 5	RM 4.25 to RM 5.25	1	High	Moderate need for greater habitat diversity (EDT). Limited LWD and limited riparian, high need for greater channel stability (Licensee's 2001 Technical Study Status Report for the LR hydro projects vl. 5.).
Pine Creek 6	RM 5.25 to RM 8	2.75	High	Moderate need for greater habitat diversity (EDT). Limited LWD and limited riparian, high need for greater channel stability (Licensee's 2001 Technical Study Status Report for the LR hydro projects vl. 5.).
Cougar Creek	Mouth to RM 1.7	1.7	High	Moderate sediment issues (EDT).
P1	First trib to Pine creek when starting at mouth of Pine creek and looking upstream. Trib comes in on west bank.	0.9	High	High gradient, low summer flows. Has sediment issues (Licensee's 2001 Technical Study Status Report for the LR hydro projects vl. 5.)
P3	Third trib to Pine creek when starting at mouth of Pine creek and looking upstream. Trib comes in on east bank.	1	High	High gradient, low summer flows (Licensee's 2001 Technical Study Status Report for the LR hydro projects vl. 5.).
P7	Seventh trib to Pine creek when starting at mouth of Pine creek and looking upstream. Trib comes in on west bank.	1.1	High	
P8	Eighth trib to Pine creek when starting at mouth of Pine creek and looking upstream. Trib comes in on east bank.	4.4	High	High concern for channel stability and sediment recruitment. Upstream is limited by high gradient and low flow(Licensee's 2001 Technical Study Status Report for the LR hydro projects vl. 5.).
P10	Tenth trib to Pine creek when starting at mouth of Pine creek and looking upstream. Trib comes in on west bank.	0.3	High	Moderate need for channel stability (Licensee's 2001 Technical Study Status Report for the LR hydro projects vl. 5.).
Lewis 12	Yale Lake- Rain Creek to Swift Dam; 2.7 miles (LR bypass reach)	2.7	Moderate	High sediment concerns. Moderate concerns for channel stability, low habitat diversity, predation, competition from hatchery fish, and low food (EDT).

Swift Creek	Mouth to RM 1.7	1.7	Moderate	High habitat diversity and sediment problems. Moderate channel stability, predation, flow, and food problems (EDT). High need for LWD and spawning gravel as well as larger riparian buffer (GPNF stream survey 1995). Large, stable LWD and spawning gravel is extremely limited (Licensee's 2001 Technical Study Status Report for the LR hydro projects vl. 5.).
Drift Creek	Above reservoir inundation to RM 1.6	1.6	Low	Moderate sediment concerns as well as need for greater channel stability and habitat diversity (EDT). High need for larger riparian zone and LWD (1995 GPNF stream survey). Extremely limited LWD, high need for greater riparian and stream shading (Licensee's 2001 Technical Study Status Report for the LR hydro projects vl. 5.).
S10	Mouth to RM 0.4	0.4	Low	Moderate need for channel stability and habitat diversity as well as sediment concerns (EDT). Numerous low flow migration obstacles were observed throughout the surveyed reach (Licensee's 2001 Technical Study Status Report for the LR hydro projects vl. 5.).
S15	Unnamed trib to Swift Res. Mouth to RM 1.3	1.3	Low	Moderate sediment concerns as well as need for channel stability and greater habitat diversity (EDT). Limited gravel as well as heavily impacted riparian area (Licensee's 2001 Technical Study Status Report for the LR hydro projects vl. 5.).
Range Creek	Mouth to RM 0.66	0.66	Low	Moderate habitat diversity and sediment issues (EDT). High need for LWD (GPNF stream survey 1995). Stream shading is poor due to lack of adequate buffers (Licensee's 2001 Technical Study Status Report for the LR hydro projects vl. 5.).

Figure 8. East Fork Lewis River habitat improvement recommendations for **Winter Steelhead** (derived from EDT model output and other sources. The reach with the greatest potential benefit is listed at the top.)

<b>Reach Name</b>	<b>Location</b>		<b>Key Habitat Rating (EDT)</b>	<b>Habitat Issues</b>
Lockwood Creek	Trib to bottom end of EF Lewis 3		Moderate	High habitat diversity needs and sediment issues. Moderate need for channel stability as well as flow and food problems.
EF Lewis 8	mouth upstream to Highway 503 Bridge	2.2	High	High habitat diversity needs as well as high predation, flow and sediment issues. Moderate need for channel stability, temperature stability, reprieve from hatchery fish competition, lack of food and high amount of pathogens(EDT) . High need for in-stream structures (GPNF 2002 water quality restoration report)
EF Lewis 9	unnamed trib to Lucia Falls	1.89	low	High habitat diversity needs and sediment issues. Moderate need for channel stability, stable temperature, reprieve from predation, as well as flow and food issues.



EF Lewis 7	mouth to RM 2.5	2.5	Moderate	High sediment issues. Moderate need for channel stability, habitat diversity, temperature stability, and predation reprieve as well as food and flow issues(EDT) . High need for in-stream structures (GPNF 2002 water quality restoration report).
Breeze Creek	Trib to top end of EF Lewis 1		Moderate	Moderate need for channel stability as well as flow and sediment issues.
EF Lewis 11	Moulton Falls	0.1	Moderate	High need for habitat diversity as well as flow and sediment issues. Moderate need for channel stability, temperature stability, and predation reprieve as well as food problems.
EF Lewis 5	mouth to RM 2.3	2.29	Moderate	Moderate need for channel stability and habitat diversity as well as moderate temperature, predation, flow, and sediment problems(EDT) . High need for in-stream structures (GPNF 2002 water quality restoration report)
EF Lewis 10	Lucia Falls	0.1	low	High habitat diversity and sediment worries. Moderate need for channel stability as well as predation, temperature, flow, and food concerns.
EF Lewis 13	mouth to RM 1.2- exact location unknown flows into mainstem	1.2	low	High need for habitat diversity. Moderate flow and sediment concerns(EDT) . High need for in-stream structures (GPNF water quality restoration report)
EF Lewis 4	mouth to RM 9.0	9	High	Moderate need for channel stability and habitat diversity as well as moderate temperature, predation, flow, and sediment problems(EDT) . High need for in-stream structures (GPNF water quality restoration report)
Mason Creek	Trib to EF Lewis		Moderate	Moderate need for habitat diversity as well as flow and sediment problems.
Cedar Creek	Trib to top end of Rock Creek 3		Moderate	High habitat diversity and sediment issues. Moderate flow concerns.
EF Lewis 3	Lockwood Creek to Mason Creek	1.2	Moderate	Moderate habitat diversity worries as well as flow and sediment concerns.
McCormick Creek	Trib to bottom end of EF Lewis 1		low	Moderate habitat diversity worries as well as flow and sediment concerns.
EF Lewis 14	King Creek to Horseshoe Falls	0.5	Moderate	Moderate habitat diversity worries as well as flow and sediment concerns. (GPNF water quality restoration report) high temperature problems and high need for in-stream structures. Moderate need for problem road decommissioning.
Rock Creek 4	mouth to RM 1.1	1.1	low	Moderate habitat diversity worries as well as flow and sediment concerns.
Rock Creek 1	mouth to RM 0.5	0.5	low	Moderate habitat diversity worries as well as flow and sediment concerns.
Rock Creek lower	?		low	Moderate habitat diversity needs and sediment concerns.
Rock Creek 5	?		Moderate	High sediment concerns. Moderate need for habitat diversity and flow problems.
Rock Creek 2	mouth to RM 0.4	0.4		Moderate habitat diversity worries as well as flow and sediment concerns.
Mill Creek	Trib to top end of EF Lewis 6		low	Moderate sediment concerns.
Lewis 1 tidal	Mouth to East Fork Lewis; 3.6 miles		low	Moderate habitat diversity needs as well as sediment concerns.
EF Lewis 15	mouth to RM 0.4	0.4	low	Moderate habitat diversity needs(EDT) . High need for in-stream structures (GPNF 2002 water quality restoration report)

Figure 9. East Fork Lewis River habitat improvement recommendations for **Summer Steelhead** (derived from EDT model output, GPNF Upper East Fork Lewis River water quality restoration plan and other sources). The reach with the greatest potential benefit is EF Lewis 19.

<b>Reach Name</b>	<b>Location</b>	<b>EDT</b>	<b>Key Habitat Rating (EDT)</b>	<b>Habitat Issues</b>
EF Lewis 14	King Creek to Horseshoe Falls	0.5	High	High habitat diversity needs and flow concerns. Moderate need for channel stability as well as sediment and food problems. (GPNF 2002 water quality restoration report) high temperature problems and high need for in-stream structures. Moderate need for problem road decommissioning.
EF Lewis 17	mouth to RM 1.5	1.5		High habitat diversity needs. Moderate need for channel stability as well as sediment and food problems. (EDT). High need for in-stream structures (GPNF 2002 water quality restoration report)
EF Lewis 19	Green Fork to RM 40.5	2.79		High habitat diversity needs and flow and sediment concerns. Moderate channel stability needs and food problems(EDT). (GPNF 2002 water quality restoration report) high temperature problems and high need for in-stream structures. Moderate need for problem road decommissioning.
EF Lewis 18	Slide Creek to Green Fork	3.4		High habitat diversity needs and flow and sediment concerns. Moderate channel stability needs. (GPNF 2002 water quality restoration report) high temperature problems and high need for in-stream structures. Moderate need for problem road decommissioning.
EF Lewis 16	Copper Creek to Sunset Falls	0.89		High habitat diversity needs and flow and sediment concerns. Moderate channel stability needs. (GPNF 2002 water quality restoration report) high temperature problems and high need for in-stream structures. Moderate need for problem road decommissioning.
EF Lewis 11	Moulton Falls	0.1		High habitat diversity needs. Moderate need for channel stability as well as food and flow concerns.
EF Lewis 13	mouth to RM 1.2- exact location unknown flows into mainstem EFL	1.2	Moderate	High habitat diversity needs. Moderate flow concerns.
EF Lewis 8	mouth upstream to Highway 503 Bridge	2.2	High	High need for habitat diversity and sediment concerns. Moderate need for channel stability as well as temperature, predation, and hatchery fish competition concerns and food flow and pathogen worries.
EF Lewis 9	unnamed trib to Lucia Falls	1.89	low	Moderate need for habitat diversity and flow concerns.
EF Lewis 10	Lucia Falls	0.1	low	Moderate need for habitat diversity and flow and food concerns.
Green Fork	mouth to RM 1.6	1.89	High	High sediment concerns. Moderate need for habitat diversity and flow concerns(EDT). (GPNF water quality restoration report) high temperature problems and high need for in-stream structures. Moderate need for problem road decommissioning.
Slide Creek	Trib to EF Lewis		Moderate	High sediment concerns. Moderate need for habitat diversity and flow concerns (EDT).(GPNF 2002 water quality restoration report) high temperature problems and high need for in-stream structures. Moderate need for problem road decommissioning.
EF Lewis 15	mouth to RM 0.4	0.4	low	Moderate need for habitat diversity and flow concerns(EDT). High need for in-stream structures (GPNF 2002 water quality restoration report).

EF Lewis 5	mouth to RM 2.3	2.29	low	Moderate sediment concerns.
EF Lewis 20	Headwaters		low	High need for habitat diversity. Moderate flow concerns (EDT). (GPNF 2002 water quality restoration report) high temperature problems and high need for in-stream structures. Moderate need for problem road decommissioning.
Copper Creek	Trib to bottom end of EF Lewis 16		low	High sediment concerns. Moderate need for habitat diversity.

Figure 10. East Fork Lewis River habitat improvement recommendations for **Fall Chinook** (derived from EDT model output and other sources. The reach with the greatest potential benefit is listed at the top.)

<b>Reach Name</b>	<b>Location</b>		<b>Key Habitat Rating (EDT)</b>	<b>Habitat Issues</b>
EF Lewis 8	mouth upstream to Highway 503 Bridge	2.2	High	High need for channel stability and habitat diversity, high sediment concerns. Moderate temperature, flow and food problems(EDT) . High need for in-stream structures (GPNF 2002 water quality restoration report).
EF Lewis 7	mouth to RM 2.5	2.5	Moderate	High sediment concerns. Moderate need for channel stability and habitat diversity as well as temperature and flow concerns(EDT) . High need for in-stream structures (GPNF 2002 water quality restoration report).
EF Lewis 5	mouth to RM 2.3	2.29	Moderate	High sediment concerns. Moderate need for channel stability and habitat diversity as well as temperature concerns(EDT) . High need for in-stream structures (GPNF 2002 water quality restoration report).
EF Lewis 9	unnamed trib to Lucia Falls	1.89	Moderate	High sediment concerns. Moderate need for channel stability and habitat diversity as well as flow concerns.
EF Lewis 1	McCormick Creek to Brezee Creek	1.2	low	Moderate need for habitat diversity(EDT) . High need for in-stream structures (GPNF 2002 water quality restoration report).
EF Lewis 4	mouth to RM 9.0	9	low	Moderate need for habitat diversity(EDT) . High need for in-stream structures (GPNF 2002 water quality restoration report).
EF Lewis 10	Lucia Falls	0.1	Moderate	High sediment concerns. Moderate need for channel stability and habitat diversity(EDT) . High need for in-stream structures (GPNF 2002 water quality restoration report).
EF Lewis 6	Manley Creek to Mill Creek	1.7	Moderate	Moderate need for channel stability and sediment concerns(EDT) . High need for in-stream structures (GPNF 2002 water quality restoration report).
EF Lewis 3	Lockwood Creek to Mason Creek	1.2	low	Moderate need for greater habitat diversity(EDT) . High need for in-stream structures (GPNF 2002 water quality restoration report).
Lewis 1 tidal	Mouth to East Fork Lewis; 3.6 miles		low	Moderate need for greater habitat diversity(EDT) . High need for in-stream structures (GPNF 2002 water quality restoration report).

Figure 11. East Fork Lewis River habitat improvement recommendations for **Chum** (derived from EDT model output and other sources. The reach with the greatest potential benefit is listed at the top.)

<b>Reach Name</b>	<b>Location</b>		<b>Key Habitat Rating (EDT)</b>	<b>Habitat Issues</b>
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Lockwood Creek	Trib to bottom end of EF Lewis 3		High	High need for greater habitat diversity as well as high sediment concerns. Moderate need for channel stability.
Mason Creek	Trib to top end of EF Lewis 3		High	High need for greater habitat diversity as well as high sediment concerns. Moderate need for channel stability.
Brezee Creek	Trib to top end of EF Lewis 1		High	High need for greater habitat diversity as well as high sediment concerns.
EF Lewis 8	mouth upstream to Highway 503 Bridge	2.2	High	High need for greater habitat diversity as well as high sediment concerns. Moderate need for channel stability(EDT) . High need for in-stream structures (GPNF 2002 water quality restoration report).
McCormick Creek	Trib to bottom end of EF Lewis 1		High	High need for greater habitat diversity as well as high sediment concerns.
EF Lewis 5	mouth to RM 2.3	2.29	Moderate	High need for greater habitat diversity as well as high sediment concerns. Moderate need for channel stability(EDT) . High need for in-stream structures (GPNF 2002 water quality restoration report).
EF Lewis 7	mouth to RM 2.5	2.5	Moderate	High sediment concerns. Moderate need for channel stability and habitat diversity(EDT) . High need for in-stream structures (GPNF 2002 water quality restoration report).
EF Lewis 4	mouth to RM 9.0	9	Moderate	Moderate need for greater habitat diversity and moderate sediment concerns(EDT) . High need for in-stream structures (GPNF 2002 water quality restoration report).
Mill Creek	Trib to top end of EF Lewis 6		High	High need for greater habitat diversity as well as high sediment concerns.
Dean Creek	Trib to EF Lewis 5		High	Moderate need for greater habitat diversity and moderate sediment concerns.
Manley Creek	Trib to bottom end of EF Lewis 6		Moderate	Moderate need for greater habitat diversity and moderate sediment concerns.
EF Lewis 6	Manley Creek to Mill Creek	1.7	Moderate	Moderate need for greater habitat diversity and moderate sediment concerns(EDT) . High need for in-stream structures (GPNF 2002 water quality restoration report).