

Family Forest Fish Passage Program: Barrier Evaluation Form

Location Information

Old FPA#:		New FPA#: 3009768		HPA#:	
GPS Location: In decimal degrees using 9 decimal places. State Plane South, WGS84			Latitude: 48.44638		Longitude: 118.25138
¼ Section: SW	Section: 15	Township: 34		Range: 36	<input checked="" type="checkbox"/> East <input type="checkbox"/> West
County: Ferry		Parcel: 6340931000100			
Stream Name: Barnaby Creek		WRIA#: 58			
Tributary To: Columbia River		Stream #: 58.0387			
<p>Driving Directions: From Kettle Falls, drive west on Hwy 20 about 8 miles. Turn south on the Inchelium Rd and go about 12 miles to the Barnaby Creek Rd. Turn west and go about 1.5 miles up the road. Here you will see 2 left turns off the county rd. Take the upper left turn and go about .25 miles to the crossing. The barrier is the next crossing upstream of the bridge.</p>					

Landowner Information

Landowner Name: Larry Abell			Landowner Agent: none		
Mailing Address: 208 Barnaby Creek Rd			Mailing Address:		
City: Inchelium	State: WA	Zip: 99138	City:	State:	Zip:
Phone: 509-738-6245	Fax:		Phone:	Fax:	
Cell:	Email:		Cell:	Email:	

Investigator

Investigator Name: Randy Nelson, Steve DeCook, Terry Orton			Affiliation: DNR		
Mailing Address: PO Box 190					
City: Colville			State: WA	Zip: 99114	
Phone: 509-684-7474	Fax: 509-684-7484	Cell:		Email:	

Barrier Measurements (in meters)

Is the stream fish bearing? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown Species, if known Rainow, eastern, redband rainbow trout Is this culvert a fish passage barrier? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown <input type="checkbox"/> Level B needed					
Level A analysis completed: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, attach. If no, complete below:					
Shape: round	Material: CMP	Span/Diam: 90"	Rise: na	Water depth in culvert: 6"	Length: 28'
Streambed material throughout culvert: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown			Toe width (outside of culvert influence): 20' upstream, 8.75' downstream		
Outfall drop: 2.05'			Culvert slope(%): 0.64		
How did you calculate culvert slope? <input type="checkbox"/> Handheld laser level <input type="checkbox"/> Transit <input checked="" type="checkbox"/> Other (describe) laser level					
Road width: 11'			Road fill height over top of culvert (D.S. end): 1.11'		
Velocity:			Apron: <input checked="" type="checkbox"/> None <input type="checkbox"/> Upstream <input type="checkbox"/> Downstream <input type="checkbox"/> Both		
Problem with culvert: Outfall drop/Slope/Velocity/Depth: outfall drop Percent Passability: <input type="checkbox"/> 0% <input type="checkbox"/> 33% <input type="checkbox"/> 67% <input type="checkbox"/> 100%					
Comments: Pool depth: 3.7'					

Attachments

☒ Photos
 ☐ Level A Assessment
 ☐ Site Map
 ☐ Other
 ☐ Additional Comments

Send Form To: Fish Passage Team at OIAC, PO Box 40917, Olympia, WA 98504-0917

Purpose of Form: Family Forest Fish Passage Program: Barrier Evaluation Form

The purpose of this form is to provide the DNR/WDFW/IAC Fish Passage Team with basic information for use in identifying high priority barriers for the Family Forest Fish Passage Program. It is the intent of the program to provide state dollars to replace those barriers causing the greatest harm to public resources and at the same time provide a systematic method for landowners to meet their obligations under the Forests and Fish Rules. For more information on the program, contact the Fish Passage Team at the address listed on the front of this form.

How to fill out this form

Following are definitions, descriptions, and standards for information to be included in the Barrier Evaluation Form. This form has five sections, which describe location, landowner, investigator, barrier measurements, and attachments.

General Location Information

This section describes the barrier location including GPS coordinates in decimal degrees using state plane coordinates, Washington South NAD27, stream name, and detailed driving directions to the site. Please provide the Forest Practice Application (FPA) number and the Hydraulic Project Approval (HPA) tracking number for the existing culvert if available. These documents assist in determining the level of cost-share required from the landowner. If a new FPA has been applied for, please include this number also.

Landowner Information

This section provides landowner contact information. If the landowner is working through a private consultant or other representative, please provide this contact information.

Investigator Information

Include the contact information of the person preparing the evaluation and making the initial barrier determination.

Barrier Measurements

Level A Analysis – This refers to the Washington State Department of Fish & Wildlife protocol described in ***Fish Passage Barrier and Surface Water Diversion Screening and Assessment and Prioritization Manual***, WDFW, August 2000.

Culvert Shape – Describe culvert shape (circular, rectangular, arch, elliptical, bottomless, or other).

Culvert Material – Describe culvert material (corrugated metal, concrete, smooth plastic or metal).

Culvert Size -

- Diameter: indicate diameter for circular culverts.
- Rise: indicate the dimension from culvert invert to crown of non-circular culverts.
- Span: indicate the maximum width of culvert for non-circular culverts.

Culvert Length - Indicate culvert length including aprons, if present.

Outfall Drop – Measured water surface to water surface.

Culvert Slope - Use standard survey methods to determine the horizontal length of the culvert including aprons, and the difference between its invert elevations expressed in a percent slope. If slope varies within culvert, provide the maximum reading. Describe the slope from the surveyed profile. Attach profile if available. Indicate which tool was used in determining culvert slope (Laser level, transit, other). To calculate % slope of the culvert use the following formula: $(\text{Upstream Invert Elevation} - \text{Downstream Invert Elevation} / \text{Culvert Length}) * 100$.

Stream Bed Material Within Culvert - Indicate whether streambed material is present inside the culvert.

Toe Width – The average width of the streambed (toe width). Measured outside the influence of the culvert. Used in conjunction with the culvert span to calculate Culvert Span to Streambed Width Ratio.

Road Width – Measurement should include shoulders.

Road Fill - Measure height of material from top of culvert to top of fill at downstream end.

Velocity – Field estimate of water velocity through the culvert in meters per second. Use flow meter or three-chip method. Informational. Optional.

Percent Passability – Based on professional judgment. Please discuss details in comments if a partial barrier.

Attachments. To aid in the evaluation and understanding of the barrier, please attach labeled photographs of the culvert site, including the culvert outfall and any other representative locations, with scale provided. Also attach a 1:12,000 topographic map of the project site, and the Level A assessment, and culvert survey profile, if available.

Comments: Provide any additional information that should be considered such as: culvert condition, fish use/observation, and site conditions.