Restoring Fish Passage at WSDOT Stream Crossings
AWRA Seattle, October 2014

US 97 Butler Creek east of Goldendale
Partnership with WDFW starting early 1990’s

Fish barrier inventory and prioritization

Statewide: 7,033 culverts evaluated,
  1,982 barriers identified
  1,537 with significant habitat

Correction of barriers:
- stand alone prioritized projects
- part of planned highway projects

282 corrections to date, improving access for 976 miles of stream habitat.

(as of 10/2014)
US v WA Background

- 1850’s Stevens Treaties: Tribes ceded lands but reserved fishing rights

- 1974 Boldt Decision: Treaties entitle Tribes to a fair share of fish and a related decision raised the question of the State’s responsibilities to prevent habitat degradation

- In 2001, United States and twenty-one Western WA Tribes filed suit against the State claiming culverts were blocking substantial amounts of salmon habitat and reducing the salmon available for harvest

- In 2007, Federal District Court Judge Martinez agreed to the claim and said the State was in breach of the Tribes’ treaty rights

- On March 29, 2013, Judge Martinez issued a permanent injunction for the State to fix barrier culverts in the case area SR 112 Trib to Pysht River west of Port Angeles
US v. WA Culvert Injunction

Who? State of Washington
  WSDOT, WDNR, WDFW, Parks

Where? Case area
  Western Washington WRIA’s 1-23

How many WSDOT barrier culverts?
  About 1015 total including
  About 847 with Significant Habitat (>200 m upstream)
Culvert Injunction: Key Points

• By March 2030: (2029 CN season) WSDOT to fix barriers with significant habitat (> 200 meters upstream)

• Order of preference for barrier correction
  1. avoid crossing;
  2. use “full span” bridge, or;
  3. use stream simulation

• WSDOT can defer corrections up to 10% of the total potential upstream habitat until end of culvert’s useful life, but must correct eventually

• WSDOT to correct culverts with <200 meters upstream habitat at end of useful life or through other transportation projects

• Notify Tribes of State’s activities with time for comments

SR 21 Curlew Creek
WDFW Stream Simulation

WDFW Design Guidelines

Width of Culvert Bed = 1.2*Bankfull + 2ft

Culvert bed gradient < 1.25 * Upstream Channel Gradient
SR 532 Church Creek
SR 532 Church Creek – City Culvert Upstream
SR 532 Church Creek
SR 532 Church Creek

Plan View Option 1 Culvert Replacement with Bridge

- Plan View Option 1 Culvert Replacement with Bridge

- Note:
  1. Biotechnical slope protection recommended
  2. Bridge Elements to be Placed Outside of Flood Plain Width (FPW)
  3. Abutments and Pile caps to be Set Below Predicted Scour Depth
  4. Establish new stream channel at appropriate slope, including appropriate streambed materials, pools, riffles, and habitat features expected in natural conditions

- Flow

- Reconstruct channel transition into upstream rock grade control structures

- Existing log control weirs to be removed, excavate reconstructed channel downstream to current location of existing rock weir

- WDFW TBM

- Elev. = 100.00 Assumed

- Subject: SR 532 Church Creek Trestle to StBL Corridor Plan

- Date: 6-8-07

- Scale: 1" = 30'

- Subject: A-2

- Sheet: 1 of 8
I-5 Fisher Creek

FISHER CREEK CULVERT

FISHER CREEK CULVERT OUTLET

FISHER CREEK CHANNEL

REPLACE EXISTING CULVERT WITH 2 MULTI-LANE BRIDGES OR ARCH CULVERTS, 500 FT OF CHANNEL WORK.
I-5 Fisher Creek

Upstream of culvert
SR 104 Lyon Creek

Replace existing box culvert with 20 ft box culvert. Upstream channel work and possible downstream channel work.
SR 104 Lyon Creek
WSDOT Barrier Culverts in Injunction Area
(847 as of January 1, 2014)
Current Barrier Correction Effort

- Fish Passage Program funding in 13-15 – $36 Million.
- $20 Million of that directed toward ramping up
- 4 Specialty Design Teams – 2 NWR, 1 NCR, 1 OR
- Improved team process with WDFW
- Design 34 projects to be ad ready 13-15
- Scope 75 additional for design in 15-17 (if funded)
Complying with the Culvert Injunction

Program costs:
- $2.4 B estimated to fix all barriers within case area

Planning for accelerated correction target rate:
- 30 to 40 projects per biennium

- Plan for fish passage corrections in Safety & Mobility projects
- Planning is subject to Tribal coordination
- Continue barrier correction effort outside case area
- New law – 2SHB 2251, 2014 Legislative session Creates Fish Passage Board and coordination requirements
Fish Passage

State highways cross hundreds of streams and rivers in Washington. At many of those locations, culverts are too small or otherwise inadequate to allow fish to migrate upstream and downstream as necessary for growth and reproduction. WSDOT has been working for more than two decades to correct these inadequate culverts to improve fish habitat.

Find Fish Passage Projects

Before Photo

US 97 culvert that blocked fish passage at Butler Creek, a tributary to the Little Klickitat River near Goldendale.

After Photo

US 97 at Butler Creek after the $3.5 million barrier removal project was completed in April 2013.

Why is WSDOT fixing fish barriers?

- Environmental Stewardship Related to Fish Passage
- Fish Passage Responsibilities
- Federal Court Injunction Related to Fish Passage

What makes a fish barrier?

- How Culverts Can be a Barrier to Fish
- Number of Fish Barriers on State Highways
- Poster of fish barriers

What does it take to fix barriers?

- Determining Culvert Repair Priorities
- Fish Barrier Correction Construction Process

Fish Passage Partners

- Working with Fish Passage Partners
- Coordinating Fish Passage Projects with Others
- Washington Department of Fish and Wildlife
- Department of Natural Resources
- Washington State Parks and Recreation Commission
- Northwest Indian Fishing Commission
Questions?

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See our website:
wsdot.wa.gov/Projects/FishPassage/default.htm