



OREGON DEPARTMENT OF FISH AND WILDLIFE

Fish Passage WAIVER Application

- Use this form if providing fish passage at the artificial obstruction for which a Waiver is being requested would benefit native migratory fish.
• Use the "Fish Passage EXEMPTION Application" if a waiver has already been granted for the artificial obstruction, fish passage mitigation has already been provided for the artificial obstruction, or if there would be no appreciable benefit for native migratory fish if passage were provided at the artificial obstruction.
• If you unlock and re-lock this Form, information already entered may be lost in certain versions of MS Word.

APPLICANT INFORMATION

The Applicant must be the owner or operator of the artificial obstruction for which a Waiver is sought.

ORGANIZATION/APPLICANT: Oregon Department of Transportation
CONTACT: Julie Worsley TITLE: Biologist
ADDRESS: 3500 NW Stewart Parkway
CITY: Roseburg STATE: OR ZIP: 97470
PHONE: (541) 957-3592
FAX: (541) 957-3604
E-MAIL ADDRESS: julie.a.haire@odot.state.or.us

SIGNATURE: Julie Worsley DATE: 10/1/08

OWNER (if different than Applicant):

CONTACT: TITLE:
ADDRESS:
CITY: STATE: ZIP:
PHONE:
FAX:
E-MAIL ADDRESS:
SIGNATURE: DATE:

Signature indicates that you understand and do not dispute this request.

APPLICATION COMPLETED BY (if different than Applicant):

TITLE:
ORGANIZATION:
ADDRESS:
CITY: STATE: ZIP:
PHONE:
FAX:
E-MAIL ADDRESS:
SIGNATURE: DATE:

To Be Completed by ODFW Fish Passage Coordinator

APPLICATION #: DATE RECEIVED:
FILE NAME:
APPROVED [] SIGNATURE: DATE:
DENIED [] TITLE:

ARTIFICIAL OBSTRUCTION (for which a Waiver is being requested)

1. TYPE OF ARTIFICIAL OBSTRUCTION:
- | | | | |
|-------------------------------------|-------------------|----------|--------------------------|
| <input type="checkbox"/> | Dam | New | <input type="checkbox"/> |
| <input checked="" type="checkbox"/> | Culvert/Bridge | Existing | <input type="checkbox"/> |
| <input type="checkbox"/> | Tidegate | | |
| <input type="checkbox"/> | Other (describe): | | |

2. PLEASE PROVIDE A BACKGROUND AND DESCRIPTION OF THE PROPOSED ACTION TRIGGERING THE NEED TO ADDRESS FISH PASSAGE: The current U.S. 101 Tuttle Creek culvert is a 48" CMP culvert that has been in place nearly 40 years. The culvert is a barrier to migratory fish, including coho salmon, cutthroat trout, and winter steelhead. The culvert is nearly 400' long and sits under approximately 50' of fill under a 4-lane section of U.S. 101 in the city of Brookings-Harbor. Several years ago, the pipe was discovered to be breached in the middle resulting in water flowing around and under the pipe. This has caused significant scour at the outlet and is threatening the operational roadway. In 2005, ODOT began exploring options to repair the pipe.

The headwaters of Tuttle Creek are located just east of the town of Harbor, and the creek flows through forested and residential areas prior to flowing under U.S. 101. Downstream of U.S. 101, Tuttle Creek passes more residences, businesses, and an R.V. park before flowing through a series of pipes under the paved downtown waterfront area and into the the Chetco River marina.

The undersized 4' pipe currently backs up water behind U.S. 101 at high flows. Widening the Tuttle Creek culvert under U.S. 101 would allow higher flows to pass freely, inevitably causing flooding to occur to downstream landowners, particularly the R.V. Park. The owner of the R.V. Park has channelized Tuttle Creek to the southernmost portion of the property, and in doing so, constrained the stream to a smaller active channel with no effective floodplain. Increasing flow to this landowner may cause considerable property damage. ODOT considered buying the R.V. park property and returning the section of stream to its natural condition, but the option was dismissed for political and financial reasons.

Also, because of the depth of fill and the fact that this portion of U.S. 101 runs directly through the city of Brookings-Harbor, open trenching to remove and replace the existing culvert was not a feasible option. Trenchless technology such as pipe ramming, boring, or jacking were considered as alternatives. A 12' foot pipe (which would meet ODFW fish passage guidelines) is at the upper limit of trenchless capabilities at this time, and the feasibility of using this technology on such a long pipe is uncertain. The process would also be extremely noisy to perform inside Brookings-Harbor city limits.

Other options considered, such as replacing the current culvert with a bridge, were found to be both cost prohibitive and a detriment to mobility through Brookings-Harbor.

Due to the concern for flooding of downstream landowners as well as other concerns associated with increasing the pipe size under U.S. 101 at Tuttle Creek, the project team has opted to repair the existing Tuttle Creek culvert with a slipline. Fish passage mitigation will be accomplished with the replacement of a nonfunctional and undersized box culvert under North Bank Chetco Road on Joe Hall Creek with a bridge. See mitigation section below for more information on the Joe Hall Fish Passage mitigation portion of the project.

3. PASSAGE WILL NOT BE PROVIDED FOR THE FOLLOWING REASON(S): ODOT considered two alternatives for fish passage at Tuttle Creek: 1) "ramming" a large pipe in the fill to restore fish passage to Tuttle Creek, and 2) Spanning Tuttle Creek with a Bridge. ODOT determined both options to be

economically unfeasible. Also the constraints of the downstream landowners added to the complexity of the project.

4. DATE THE TRIGGER ACTION IS SCHEDULED TO BEGIN (a minimum of two months should be planned for the waiver process after ODFW receives your application; requests that must go before the Commission will take longer): Approx. July 15, 2011 (start in IWW window, 2011)

5. LOCATION

COUNTY: Curry
ROAD CROSSING (if applicable): U.S. Highway 101
RIVER/STREAM: Tuttle Creek
TRIBUTARY OF: Chetco River
BASIN: Southern Oregon coastal
COORDINATES^a: Longitude: 124.2517°W Latitude: 42.0444°N

^a Geographic projection using NAD_83 and formatted as decimal degrees to at least 4 places.

6. STREAM DESCRIPTION

6A. BARRIER TABLE (please provide the following information for barriers, which will help determine the benefit of providing passage at the Artificial Obstruction; indicate measurement units if applicable):

Locations	DOWNSTREAM				AO	UPSTREAM			example
	3	C/N	2	1		1	2	E	
Type		///	C	C	C	C	D	///	C
Length		///	900'	40'	393'	75'	6'X15'	///	80 ft
Distance		3900'	3000'	1600'	///	400'	1000'	1.73 miles	1,200 ft
Level		///	4	3	5	1	5	///	5

Type = C (culvert/bridge), D (dam), T (tide gate), N (natural; describe below), O (other; describe below)
 Length = length of the barrier in the stream (e.g., culvert's length, dam's width/footprint)
 Distance = distance from the Artificial Obstruction (to closest point of other barriers)
 Level = amount of passage at the barrier using the following codes:
 5 - barrier to all native migratory fish
 4 - barrier to some native migratory fish adults and/or species
 3 - barrier to some native migratory fish adults and/or species for only part of migration period
 2 - barrier to all native migratory fish juveniles
 1 - barrier to some native migratory fish juveniles and/or for only part of migration period

LOCATIONS:

AO = the existing or proposed Artificial Obstruction
 1,2 = other barriers in the same stream as the Artificial Obstruction
 3 = downstream barrier outside the immediate stream in which the Artificial Obstruction is located (only needed if C/N is a confluence rather than a complete natural barrier)
 E = end of historic native migratory fish use, including all tributaries (i.e., potential range without any artificial barriers in place)
 C/N = first downstream confluence or complete natural barrier, whichever comes first

NOTE: The example indicates that there is culvert which is 80 feet long, is located 1,200 feet from the Artificial Obstruction in question, and is a complete fish passage barrier.

PLEASE PROVIDE ADDITIONAL DESCRIPTIONS FOR THOSE BARRIERS INCLUDED IN THE BARRIER TABLE OR FOR OTHER BARRIERS AFFECTING NATIVE MIGRATORY FISH MOVEMENT TO OR FROM THE ARTIFICIAL OBSTRUCTION: Downstream barrier 2 in the above table refers to the area from the mouth of Tuttle Creek up to the culvert just below the RV park where the stream is underground in a series of pipes for about

900'. Correspondence with various ODFW staff has indicated that the worst part of this series of barriers is a culvert on the upper end just downstream of the R.V. park where Tuttle Creek passes under Lower Harbor Rd. Upstream from that culvert Tuttle Creek daylight but is channelized through the RV park. Another undersized culvert is at the upper end of the R.V. park that is a moderate fish passage barrier (downstream barrier 1 in the table). Upstream of the U.S. 101 culvert, Tuttle Creek forks, and both forks pass under a county road (Tuttle Lane). The culvert on the south tributary of Tuttle Creek was replaced recently and appears to provide fish passage for resident cutthroat or steelhead. The culvert on the north tributary of Tuttle Creek is a partial barrier to salmonids. Both culverts are listed as upstream barrier 1 in the above table, but they are two separate culverts. Approximately 1000' above the U.S. 101 culvert, there is a dam across North Fork Tuttle Creek. The dam is about 6' tall and blocks the entire channel width. The dam is a complete barrier to migratory fish. There is approximately 1.73 miles, including both forks, of habitat in Tuttle Creek above the U.S. 101 culvert.

6B. SUMMARY TABLE (please provide the following information relative to the Artificial Obstruction, which will help determine the benefit of providing passage at it):

	DOWNSTREAM	UPSTREAM
NMF Species Present Currently	Coho, steelhead, cutthroat, lamprey	cutthroat
NMF Species Present Historically	coho, steelhead, cutthroat, lamprey	coho, steelhead, cutthroat, lamprey
Habitat Quality	poor-moderate	moderate-good
Flows	unchanged by project	unchanged by project
Water Quality	unchanged by project	unchanged by project
Water Right Availability	unknown	unknown
Land Use/Zoning	residential/commercial	private forest, residential
NMF = native migratory fish		

PLEASE PROVIDE ADDITIONAL DETAILS REGARDING THE INFORMATION PROVIDED IN THE SUMMARY TABLE (such as species listed under the state or federal ESA and descriptions of the stream channel and riparian habitat): Southern Oregon Northern California Coast (SONC) coho salmon are currently listed as Threatened by the NMFS.

6C. PROVIDE THE SOURCE FOR INFORMATION CONTAINED IN THE BARRIER AND SUMMARY TABLES: Barrier information obtained from various site visits by ODOT and ODFW staff from 2004 through 2008, including rapid habitat assessment on July 24th and 25th, 2008. Present and historical fish presence data was obtained from Jim Muck, ODOT/ODFW liaison, who obtained information from south coast ODFW staff.

MITIGATION (attach additional copies of this section if multiple mitigation sites are proposed)

1. DESCRIBE THE MITIGATION TO BE PROVIDED: ODOT proposes to use a bridge replacement at the Joe Hall culvert on North Bank Chetco River Rd. as mitigation for Tuttle Creek. The Joe Hall Creek culvert is a 10' reinforced concrete box culvert (RCBC) with fish passage baffles and a 2'-3' perch on the outlet depending on flow conditions. It is a direct tributary of the Chetco River at approximately river mile 2. The culvert was recently replaced by the county, but is not providing adequate fish passage. Because the culvert is new and has a life span of 50+ years, it is unlikely the county will replace it with a fish passable structure any time in the near future. ODOT proposes to replace this culvert with a fully spanning bridge. This bridge would allow for fish passage at all life stages over a wide range of flows, as well as allow for natural sediment and large wood transport. Replacement of the culvert with a bridge

would open up approximately 2.32 miles of habitat for coho, Chinook, steelhead, cutthroat, and lamprey. Joe Hall Creek is considerably larger than Tuttle Creek with an average ACW of 25.3' versus an average ACW in Tuttle Creek of 6.2' .

2. DISTANCE BETWEEN MITIGATION SITE(S) AND ARTIFICIAL OBSTRUCTION: 2 miles

3. OWNER (if different than Applicant): Curry County

CONTACT:	Dan Crumley	TITLE:	Curry County Roadmaster
ADDRESS:	PO Box 746		
CITY:	Gold Beach	STATE:	OR ZIP: 97444-0746
PHONE:	(541) 247-7097		
FAX:			
E-MAIL ADDRESS:	crumleydan@co.curry.or.us		

4. DATE THE MITIGATION IS SCHEDULED TO BE COMPLETED: Summer of 2011.

5. LOCATION

COUNTY:	Curry		
ROAD CROSSING (if applicable):	North Bank Chetco River Road over Joe Hall Creek		
RIVER/STREAM:	Joe Hall Creek		
TRIBUTARY OF:	Chetco River		
BASIN:	Southern Oregon Coastal		
COORDINATES^a:	Longitude: 124.2633°W	Latitude:	42.0728°N

^a Geographic projection using NAD_83 and formatted as decimal degrees to at least 4 places.

6. STREAM DESCRIPTION

6A. BARRIER TABLE (please provide the following information for barriers, which will help determine the benefit of the Mitigation site; indicate measurement units if applicable):

Locations	DOWNSTREAM				M	UPSTREAM			example
	3	C/N	2	1		1	2	E	
Type					C				D
Length					75'				8 ft
Distance		100'						2.3 miles	1,700 ft
Level					4				1

LOCATIONS: M = the Mitigation site

NOTE: The *example* indicates that there is a dam which is 8 feet wide in the stream, is located 1,700 feet from the Mitigation in question, and is a seasonal or partial fish passage barrier for juveniles only.

See **ARTIFICIAL OBSTRUCTION: 6A. BARRIER TABLE** for further details regarding this table.

PLEASE PROVIDE ADDITIONAL DESCRIPTIONS FOR THOSE BARRIERS INCLUDED IN THE BARRIER TABLE OR FOR OTHER BARRIERS AFFECTING NATIVE MIGRATORY FISH MOVEMENT TO OR FROM THE MITIGATION: No additional barriers exist on Joe Hall Creek. Opening up the North Bank Chetco River Rd. culvert will resolve the only fish passage obstacle on the entire stream and provide access to 1.75 miles of mainstem habitat. Total fish distribution Joe Hall Creek with tributaries is 2.32 miles.

6B. SUMMARY TABLE (please provide the following information relative to the Mitigation, which will help determine its benefit):

	DOWNSTREAM	UPSTREAM
NMF Species Present Currently	Chinook, coho, steelhead, cutthroat, lamprey	Winter Steelhead, Cuthroat Trout
NMF Species Present Historically	Chinook, coho, steelhead, cutthroat, lamprey	Chinook, coho, steelhead, cutthroat, lamprey
Habitat Quality	good	Excellent
Flows	High winter/spring; low summer/fall	High winter/spring; low summer/fall
Water Quality	unchanged by project	unchanged by project
Water Right Availability	unknown	unknown
Land Use/Zoning	State Owned	Timber and Mining
NMF = native migratory fish		

PLEASE PROVIDE ADDITIONAL DETAILS REGARDING THE INFORMATION PROVIDED IN THE SUMMARY TABLE (such as species listed under the state or federal ESA and descriptions of the stream channel and riparian habitat): Due to the obstacle caused by the constricted channel and the jump at the outlet of the culvert, species above the culvert may vary from year to year. Timing, extent, and duration of high flow events are factors in whether or not all or none of the above listed species are present above the culvert, although steelhead are likely to be able to negotiate the culvert most years in high flows.

6C. PROVIDE THE SOURCE FOR INFORMATION CONTAINED IN THE BARRIER AND SUMMARY TABLES: Information on Joe Hall Creek was obtained from Streamnet and conversations with south coast ODFW staff.

7. DESCRIBE HOW THE MITIGATION RELATES TO ANY EXISTING FISH MANAGEMENT PLANS, INCLUDING THE OREGON PLAN: The mitigation action carries out the Oregon Plan's goals for state and federal agencies to pursue salmon recovery and watershed enhancement.

8. DESCRIBE ANY KNOWN RESTORATION OR LAND USE PLANS WHICH MIGHT HAVE AN IMPACT ON THE MITIGATION (e.g., is the watershed included within an expanded Urban Growth Boundary or does a Local Comprehensive Plan limit future development in the watershed): None known

9. IF THE MITIGATION ENTAILS PROVIDING PASSAGE AT AN EXISTING ARTIFICIAL BARRIER, WHAT IS THE EXPECTED DATE OF REPLACEMENT OR MAJOR REPAIR FOR THE STRUCTURE IF IT WERE NOT USED AS MITIGATION: 2050 or later (depending on the life of the culvert, which was replaced within the last 10 years and is in good condition).

10. DOES THE MITIGATION INCLUDE ANY ACTIVITY THAT IS A REQUIREMENT OR CONDITION OF ANY OTHER AGREEMENT, LAW, PERMIT, OR AUTHORIZATION (if "Yes", describe): No

11. DESCRIBE HOW THE MITIGATION WILL BE FUNDED (include a cost estimate, funding sources, and whether funds are currently secured): Funding of the mitigation site will come from the Tuttle Creek culvert budget (ODOT).

12. DESCRIBE HOW THE MITIGATION WILL BE EVALUATED, MONITORED, AND MAINTAINED: The project will be monitored for success, including site restoration and hydraulic conditions, for a minimum of five years after completion of the project, with results provided to ODFW. If site visits by ODOT or ODFW reveal that fish passage is not being adequately provided, ODOT will coordinate with ODFW to correct the problem.

MAP(S)

- *Please attach one or more maps indicating the Artificial Obstruction, Mitigation, the streams on which they are located, and other barriers in those streams. A 7.5 minute USGS quad map is sufficient.*

-- Map(s) included

PHOTOS

- *Please include photographs of the following (.JPG files are preferred):*

-- Artificial Obstruction

-- Mitigation Site(s)

-- up- and downstream habitat at the Artificial Obstruction and Mitigation Site(s)

-- other barriers up- and downstream of the Artificial Obstruction and Mitigation Site(s)

Please submit this application electronically to the ODFW Fish Passage Coordinator at Thomas.Stahl@state.or.us and send one signed original paper copy of the application to the ODFW Fish Passage Coordinator at 3406 Cherry Avenue NE, Salem, OR 97303.

Tuttle and Joe Hall Creeks: Maps and Photos

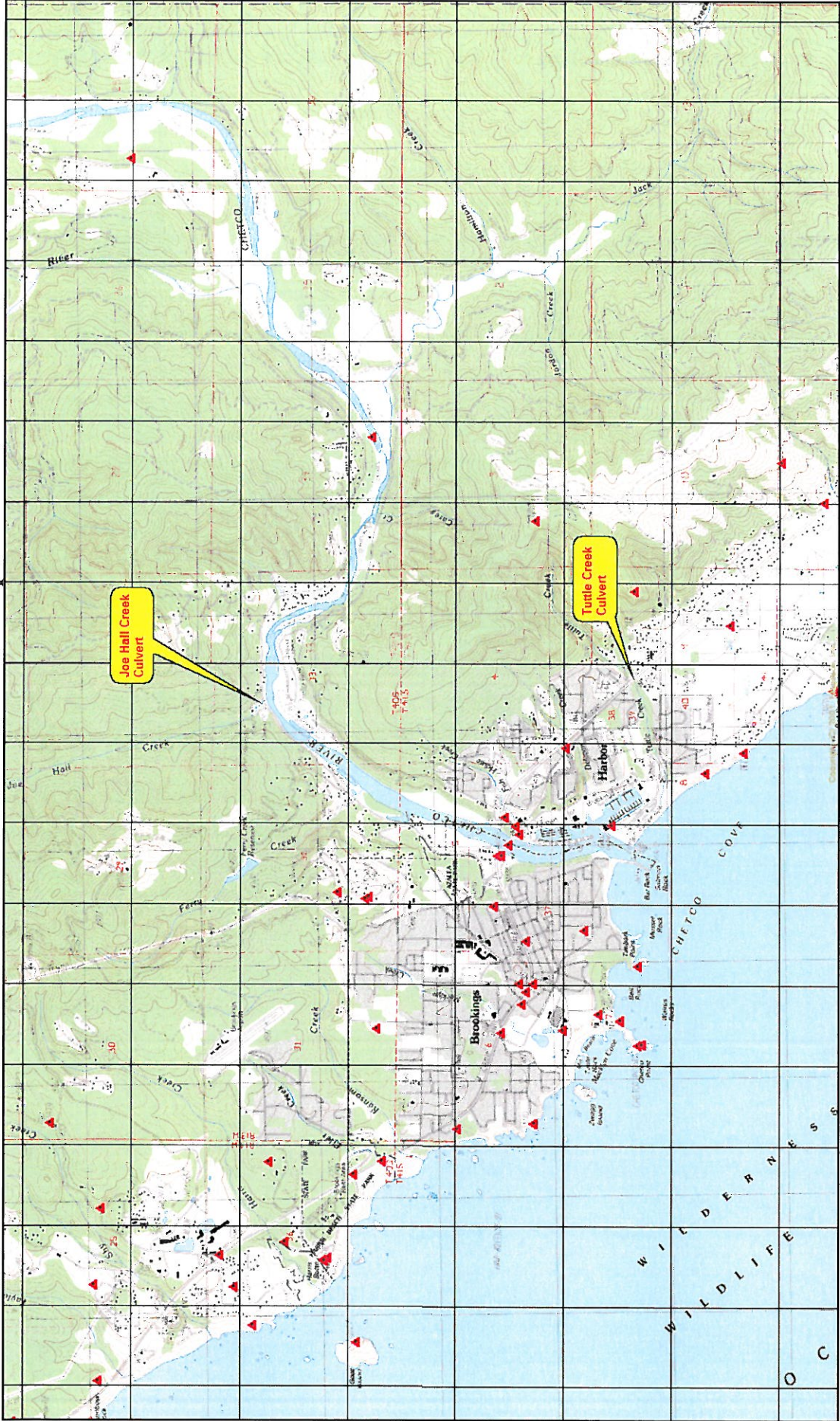


Figure 1: Vicinity Map; Tuttle and Joe Hall Creeks

1. Tuttle Creek



Figure 2: Aerial view of Tuttle Creek drainage



Figure 3: U.S. 101 Culvert Inlet

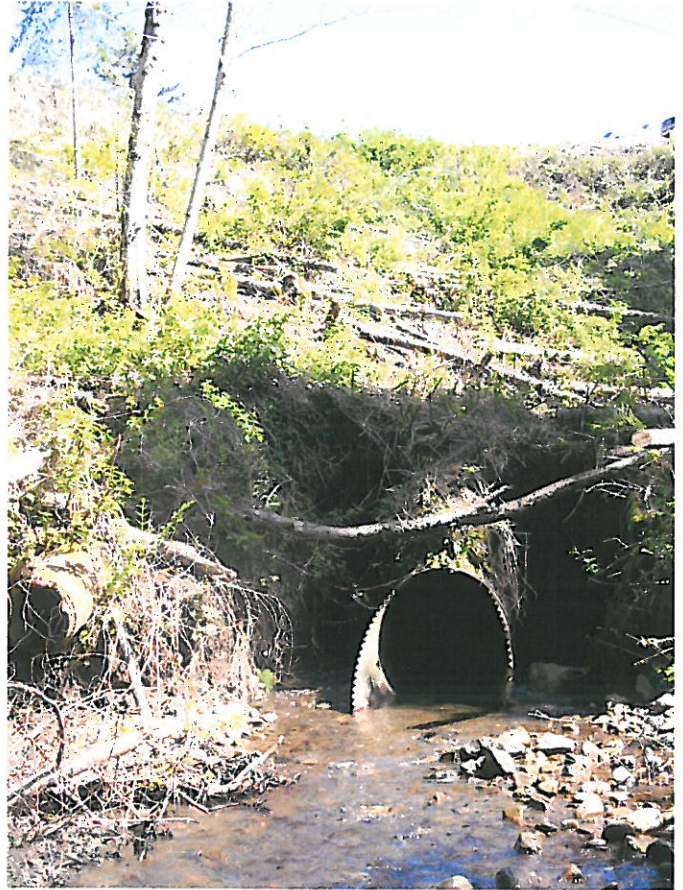


Figure 5: U.S. 101 Culvert Outlet



Figure 4: General habitat downstream of U.S. 101 (between R.V. park and U.S. 101).

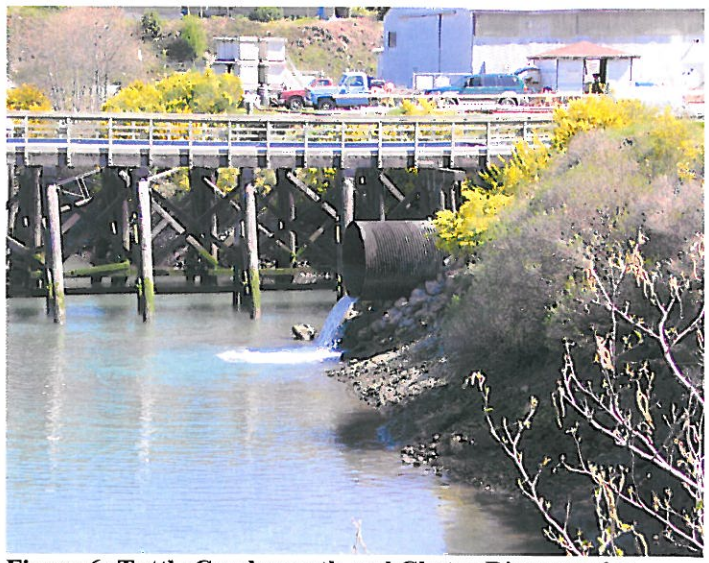


Figure 6: Tuttle Creek mouth and Chetco River marina (low tide)



Figure 7: Tuttle Creek mouth (high tide)



Figure 9: Channelized stream through R.V. Park



Figure 8: Inlet of lower R.V. Park culvert



Figure 10: Upper R.V. park culvert



Figure 11: Inlet of one of the county culverts (on both forks) upstream of U.S. 101.



Figure 13: General habitat directly upstream of U.S. 101.



Figure 12: Diversion dam on North Fork Tuttle Creek.

1. Joe Hall Creek

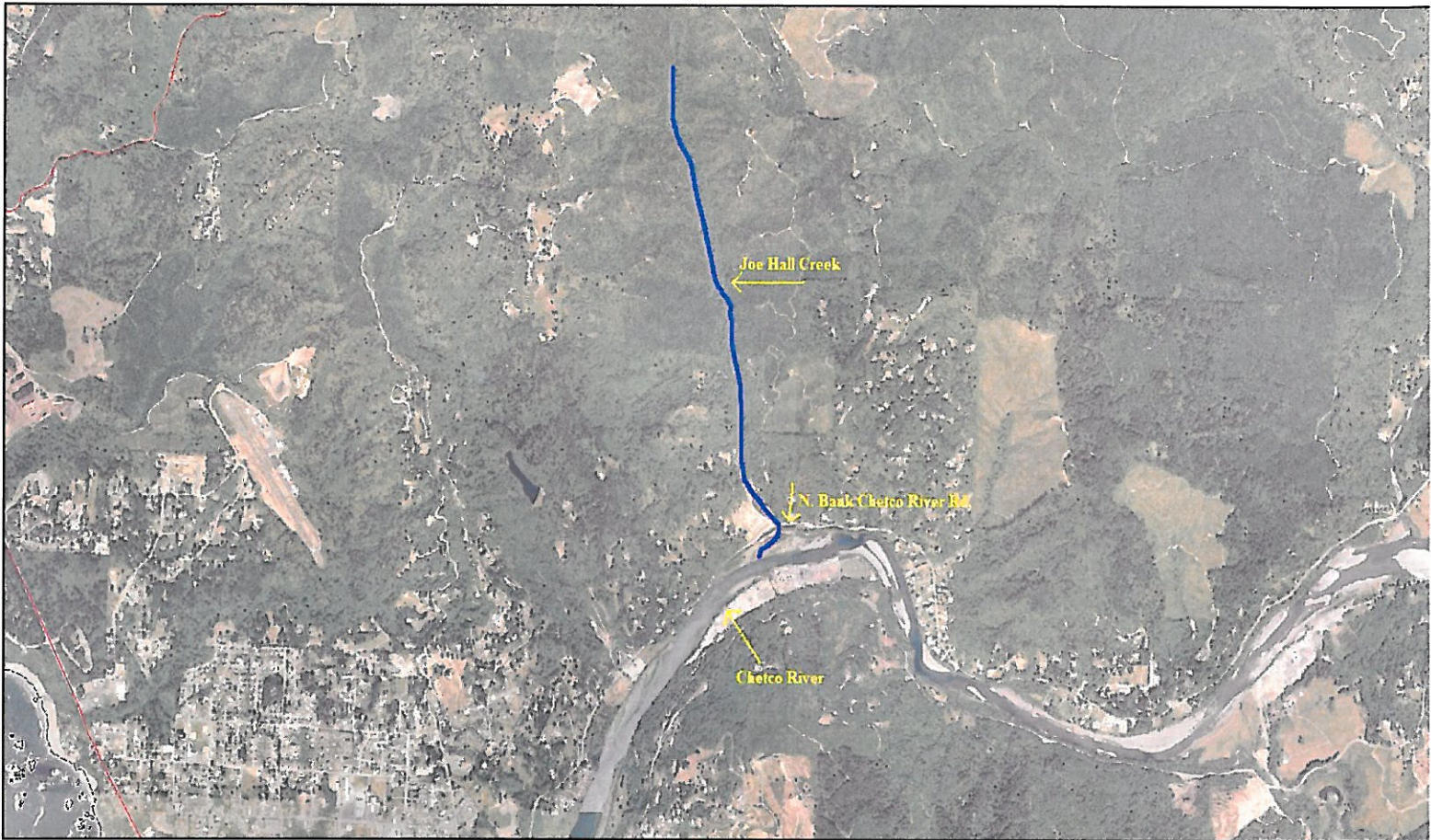


Figure 14: Aerial view of Joe Hall Creek Drainage



Figure 15: Joe Hall Creek Outlet: Summer Flow



Figure 17: Joe Hall Creek Outlet: Winter Flow



Figure 16: Joe Hall Creek Culvert Inlet

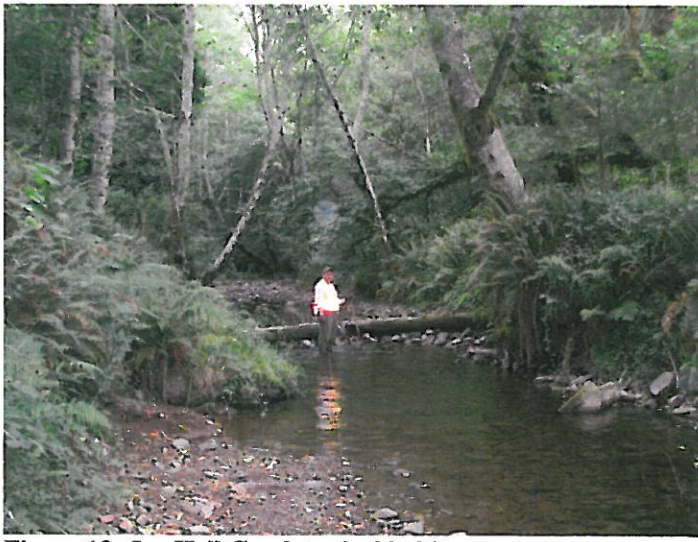


Figure 18: Joe Hall Creek typical habitat