

Appendix C

Data Summary for EPA’s Review of Ecology’s Non-Core Use Designations & Application of 13°C to Protect Salmon and Steelhead Spawning/Incubation

Description of Information in Each Column

NOTE: References to river miles and locations in this appendix are approximate, for the exact locations regarding EPA’s disapproval action see EPA’s GIS maps titled *EPA Findings on Washington’s Designated Uses and Application of 13°C to Protect Spawning & Incubation*, and *Application of 13°C and 9°C to Protect Spawning and Incubation*.

DOE Non-Core Designation & EPA’s Findings

This column denotes the waterbodies designated as “Non-Core” in Washington’s WQS. This Column includes the waterbodies specified as “Non-core” in Table 602 of Washington’s WQS, plus waterbodies that are designated as “Non-Core” due to application of WAC 173-201A-600 (and not specified in Table 602). This column also includes EPA’s findings as to what portion of the “Non-Core” segment it has determined should be a “Core” use and where and when 13°C should be applied to protect salmon spawning/incubation. Note: EPA is not taking action on the use designation/criteria on the Columbia (below RM 596.6), Snake, Yakima (below RM 185.6), Skagit (between RM 94.2 and RM 96.6) and Pend Oreille Rivers because there is no change to the site-specific temperature criteria or other criteria in these river segments.

Summer Juvenile Salmon and Steelhead Rearing

This column depicts *where* Washington Dept. of Fish and Wildlife (WDFW) fish distribution maps indicate juvenile rearing for each species occurs within the non-core segment. For some segments the river miles are denoted, for other segments, the species are just listed, which means juvenile rearing generally occurs throughout the segment. It is important to note that there is no timing data associated with this distribution information, so it is uncertain if it occurs during the summer. For some segments, other data sources are available that document July/August juvenile use and density. These specific field studies are summarized and cited.

Summer Salmon/Steelhead Spawning-Emergence

This column depicts *where* within the non-core segment the WDFW fish distribution maps show salmon spawning for stocks that *start spawning* in Mid September or earlier according to information contained in WDFW’s Salmonid Stock Inventory (SaSI). Also depicted is where and when steelhead finish spawning in Early June or later based on WDFW dist. maps and SaSI timing information. For some segments, other data documenting salmon/steelhead spawning-emergence during this time period are succinctly summarized and cited (e.g., WDFW Spawner Database). For some segments, information from the WDFW Spawner Database depicts spawning that is documented prior to “mid-September,” which means documented spawning on or prior to September 15.

July-August Adult/Sub-Adult Bull Trout Use

This column denotes where the WDFW distribution maps indicate either bull trout juvenile rearing or presence/migration in the non-core segment. It is important to note that there are no timing data associated with the WDFW distribution maps. Further, the WDFW maps refer to juvenile rearing, which includes migratory juveniles. EPA refers to these migratory juveniles herein as sub-adults to avoid confusion with young juveniles in their natal streams that are protected through the Char use designation. This column also succinctly summarizes and cites specific studies documenting adult and sub-adult use in the July/August timeframe.

Existing Temperatures

This column includes temperature data from monitoring stations in the non-core segment. The monitoring data are from continuous monitors (over the summer) unless otherwise noted. The maximum 7 day average of the daily maximum (7DADM) value is denoted for the year.

Habitat Conditions, Population Significance, Other Fish Uses, & Other Considerations

This column summarizes and cites information describing the habitat conditions (i.e., the degree of current habitat degradation) and the relative importance and significance of the salmonid stocks for the recovery of ESA listed species. Also included in this column are other fish use information that may warrant consideration, such as field studies documenting July/August adult holding (in areas other than the WDFW spawning distribution for the species) and steelhead smolt emigration timing. Any other information that may warrant considerations is also included in this column (e.g., summer turbidity conditions that prevent documenting use). EPA did not attempt to include all available information on habitat conditions or population status and significance in this column (this information is available elsewhere). Rather, this column was used to capture this type information provided to EPA during this assessment.

DOE Non-Core Designation & EPA's Findings	Summer Juvenile Salmon/Steelhead rearing (¹ WDFW Dist. unless noted)	Summer Salmon/Steelhead Spawning-Emergence (¹ WDFW Dist./ ² SASI Timing unless noted)	July-August Adult/Sub-Adult Bull Trout Use	³ Existing Temperatures (max 7DADM)	Habitat Conditions, Population Significance, Other Fish Uses, & Other Considerations
WRIA 1 – Nooksack					
<p>Nooksack River and North Fork Nooksack from mouth to Maple Creek (RM 49.7)</p> <p>EPA's Finding:</p> <p>RM0 - RM 49.7 = Core</p> <p>Note: for tributaries to Nooksack River below Anderson Creek, Core only for tributaries with fall Chinook or winter steelhead spawning dist. (Bertrand, Pepin, Fishtrap, Stickney, Deer)</p> <p>13°C from RM36 up (spring Chinook, pinks, sockeye, and steelhead dist.) from Aug 1 - July 15</p> <p>13°C RM24-36 (w. steelhead spawning dist., including fall Chinook spawn) from Sept 15 - July 1</p>	<p>Chinook, spring RM 28 - RM 49.7</p> <p>Chinook, fall RM 0 - RM 49.7</p> <p>Coho RM 3 - RM 49.7</p> <p>Pinks RM 34 - RM 49.7</p> <p>Sockeye RM 5 -RM 49.7</p> <p>Steelhead, winter RM 10 - RM 49.7</p> <p>Chinook rearing in appreciable #s in lower mainstem throughout summer (seine data) [Coe 2004]</p> <p>Chinook out-migrate in mainstem throughout summer (trap data) [Pfundt, Unpub. Draft 2004]</p> <p>steelhead out-migrate in mainstem into August (trap data) [Nooksack Tribe, Unpub. Data 2003]</p>	<p>Chinook, spring - RM 36 (0 RM N. Fork) up - Spawning late July - late Sept</p> <p>Chinook, fall - RM 5 up - Spawning early Sept - mid Nov - One record of pre-mid Sept Chinook redds below RM36 (9/11/02 @ RM15-24); Redds typically documented throughout lower reach (RM1-36) late Sept and early Oct. [WDFW SDB]</p> <p>Pinks - RM 36 up - Spawning late Aug - late Sept</p> <p>Sockeye, riverine - RM 40 up - Spawning not specified in SASI</p> <p>Steelhead - RM 24 up - Spawning early March - early July</p>	<p>sub-adult out-migration in mainstem until July 18 (9 years of smolt trap @RM 4, <25 fish total) [Nooksack Tribe, Unpub. Data 2003 (seine)]</p> <p>adult and sub-adult migration in mainstem in Aug. and Sept. (seine data) [Nooksack Tribe, Unpub. Data 2004]</p> <p>sub-adult and older juvenile bull trout caught 7/24/02 (RM 30.4) and 9/16/03 (RM 10.9) in seine nets. [Nooksack Tribe, Unpub. Data 2004].</p> <p>adult and sub-adult presence/migration & juvenile rearing -timing not provided [WDFW Dist.]</p>	<p>RM 3.4 @ Brennon 17.4°C (2001) 16.7°C (2002) 18.0°C (2003)</p> <p>RM 30.8 @ No Cedarville 17.6°C (2001) 17.3°C (2002) 18.4°C (2003)</p> <p>RM 40.8 above MF 15.5°C (2002)</p>	<p>Lower mainstem is largely unsurveyable in summer, due to turbidity.</p> <p>Anthropogenic impacts on South Fork likely elevate temperatures, which affect the lower mainstem temperatures. Extensive levy system in the mainstem from RM 24 downstream limits habitat complexity and availability.</p> <p>Nooksack River supports all 8 anadromous salmonids indigenous to the Pacific Northwest.</p> <p>North/middle and South Fork early Chinook are independent populations and are essential for the recovery of the ESU [FR 14308, 1999]. Both are considered unique stocks and are 2 of the only 5 genetic diversity units (GDUs) for the Puget Sound Chinook [Marshall et al. 1995].</p> <p>Nooksack River is 1 of 5 of NOAA's Chinook geographic areas in the ESU, in which a minimum of two populations are needed for recovery [NOAA 2000].</p> <p>Nooksack bull trout are 1 of 8 populations in DPS [USFWS 2004]. Pinks are a separate GDU for North Puget Sound due to genetic uniqueness, (July entry) [Shaklee et al. 1995]</p>
<p>Nooksack River, South Fork, from mouth to Skookum Creek (river mile 14.3)</p> <p>EPA's Finding:</p>	<p>Chinook, fall Chum, fall Coho Pink Steelhead, winter Sockeye</p>	<p>Chinook, spring - RM 0 up - Spawning late Aug - late Sept</p> <p>Pinks - RM 0 up</p>	<p>adult and sub-adult migration in SF Nooksack in Aug. and Sept. (snorkel data) [Maudlin et al. 2002, Dewberry 2003]</p>	<p>RM 19 @ Potter Rd 20°C (2002)</p>	

DOE Non-Core Designation & EPA's Findings	Summer Juvenile Salmon/Steelhead rearing (¹ WDFW Dist. unless noted)	Summer Salmon/Steelhead Spawning-Emergence (¹ WDFW Dist./ ² SASI Timing unless noted)	July-August Adult/Sub-Adult Bull Trout Use	³ Existing Temperatures (max 7DADM)	Habitat Conditions, Population Significance, Other Fish Uses, & Other Considerations
<p>RM0 - RM14.3 = Core</p> <p>13°C From RM0 up (spring Chinook, pink, sockeye, and steelhead spawning dist.) from Sept 1 - July 1</p>		<p>- Spawning late Aug - late Sept</p> <p><i>Sockeye, riverine</i></p> <p>- RM 0 up</p> <p>- Spawning not specified in SASI</p> <p><i>Steelhead</i></p> <p>- RM 0 up</p> <p>- Spawning mid Feb - mid June</p>	<p><i>Juvenile rearing</i></p> <p>- Aug-Sept (snorkel/seining data) [Nooksack Tribe, Unpub. Data, 2004 (seine), Dewberry 2003 (snorkel)]</p> <p><i>adult and sub-adult</i> presence/migration & juvenile rearing -timing not provided [WDFW Dist.]</p>		
<p>Sumas River from Canadian border (river mile 12) to headwaters (river mile 23)</p> <p>EPA's Finding:</p> <p>RM 12 - RM23 = Non-Core, except Core for Breckenridge, Saar, Dale, N.F. Johnson and Squaw Creeks</p> <p>Core based on coho spawning dist. & known coho summer rearing areas</p>	<p>WDFW maps indicate presence/migration for:</p> <p><i>Chinook, fall</i> <i>Chum</i> <i>Coho</i> <i>Steelhead, winter</i> <i>Sockeye</i></p> <p>High density of coho production verified in tributaries to the Sumas by WDFW (Goodwin, Breckenridge, N.F. Johnson, Dale, Saar, Squaw) (Doug Huddle, WDFW Pers. Comm. 4/20/05).</p>	<p>No species spawning in segment in this time frame.</p> <p>WDFW and redd surveys show coho spawning in Sumas River and tributaries including Saar, Johnson, NF Johnson, Breckenridge, Squaw, Westergreen, and Goodwin creeks in Nov.-Jan.</p>	<p>Potential rearing in Johnson and Sumas creeks. [Sumas Energy 2 final EIS vol 1].</p>		<p>Sumas system is very productive for coho and other species (Breckenridge Cr. is particularly productive). The Sumas drains to the Fraser River so these are Canadian fish and have not received a lot of research attention from Tribes. WDFW has spawning surveys in this system (main tributaries are Dale, Swift, Breckenridge, Saar, Johnson, and Squaw creeks).</p>
<p>Non-core waters not specified in Table 602 (Dakota, California, Squalicum, Chuckanut, Whatcom, Oyster, Whitehall, Colony and others)</p> <p>EPA's Finding: Core for waters w/fall Chinook and/or steelhead spawning dist.</p> <p>13 for w. Steelhead spawning dist. from Feb 15 - June 15</p>	<p><i>Chinook, fall</i> <i>Chum</i> <i>Coho</i> <i>Steelhead, winter</i></p>	<p><i>Chinook, fall</i></p> <p>- Portions of some of these rivers</p> <p>- Spawning mid Sept - mid Nov</p> <p><i>Steelhead</i></p> <p>- Portions of some of these rivers</p> <p>- Spawning mid Feb - mid June</p> <p>Spawner database queried for Chinook, steelhead, and pink data in Silver, Wiser, Pepin, Dakota, California, Chuckanut,</p>			<p>California Creek has steelhead spawning [Ned Currence, Pers. Comm. Nooksack Tribe 4/14/05].</p>

DOE Non-Core Designation & EPA's Findings	Summer Juvenile Salmon/Steelhead rearing (¹ WDFW Dist. unless noted)	Summer Salmon/Steelhead Spawning-Emergence (¹ WDFW Dist./ ² SASI Timing unless noted)	July-August Adult/Sub-Adult Bull Trout Use	³ Existing Temperatures (max 7DADM)	Habitat Conditions, Population Significance, Other Fish Uses, & Other Considerations
		Oyster and Whatcom creeks. No data found. Pepin and Whitetail stream names not found in database [WDFW SDB].			
WRIA 2 - San Juan					
No non-core segments identified in WRIA.		No spawning identified			
WRIA 3 - Lower Skagit-Samish					
<p>Skagit River from mouth to Skiyou Slough-lower end (river mile 25.6)</p> <p>EPA's Finding:</p> <p>RM0 - RM25.6 = Core</p> <p>Note: tributaries to this segment non-core, except those with winter steelhead spawning dist.</p> <p>13°C from RM22 up (fall Chinook and pink spawning dist.) from Sept 1 - May 15</p> <p>13°C for w. Steelhead spawning dist. from Feb 15 - June 15</p>	<p><i>Chinook, fall</i> RM 3 - RM 25.6</p> <p><i>Coho</i> RM 3 - RM 25.6</p> <p><i>Sockeye</i> RM 3 - RM 25.6</p> <p><i>Steelhead, winter</i> RM 10 - RM 25.6</p>	<p><i>Chinook, fall</i> - RM 22 up - Spawning early Sept - late Oct - Multiple records of Chinook redds in multiple years counted between August and Mid September (RM 22.4-93). Earliest date recorded was August 5th over the years 1952-1996 [WDFW SDB]. - Spawning in lower and middle Skagit River starts spawning in mid-September [Puget Sound Energy 2003].</p> <p><i>Pinks</i> - RM 22 up - Spawning late Aug - late Oct</p> <p><i>Steelhead, winter</i> - Hansen Creek – trib. to this segment - Spawning early March - early June</p>	<p><i>adult and sub-adult</i> presence/migration & juvenile rearing -timing not provided [WDFW Dist.]</p> <p><i>adult and sub-adult</i> -Smolt trap data @ RM 17 emigration statistics: - 98% April - July - peak (85%) May/June - 5% in July - 1% in Aug/Sept [WDFW Unpub. Data 1995-1998]</p> <p>Adult/sub-Adult bull trout are present in the Skagit River estuary through August and presumably migrate upstream through lower river over the summer [Goetz et. al., 2004 draft]</p>	<p>Near Mt. Vernon 17.6C (2004)</p>	<p>Largest chum and pink populations in lower 48 River supports all native salmonid stocks and has most abundant wild Chinook population in Puget Sound</p> <p>Largest population of bull trout in WA</p>
WRIA 4 - Upper Skagit					

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<p>No non-core segments identified in Table 602</p> <p>EPA's Finding:</p> <p>13°C applies to spring, summer, and fall Chinook, pink, and winter steelhead dist. from Sept 1 - June 15, except until July 1 (lower Cascade river) and until July 15 (lower Sauk River)</p> <p>13°C applies from Aug 1 – July 15 in the upper Suak, Cascade, and Suiattle rivers</p>		<p>Chinook</p> <ul style="list-style-type: none"> - Upper Sauk, Cascade, Suiattle rivers; late July - early Sept - Lower Sauk, late Aug - early Oct - Upper Skagit, early Sept - late Oct <p>Steelhead, winter</p> <ul style="list-style-type: none"> - Sauk, mid March - mid July - Cascade, early March - late June - Skagit, early March - early June 			
WRIA 5 - Stillaguamish					
<p>Stillaguamish River from mouth to north and south forks (river mile 17.8)</p> <p>EPA's Finding:</p> <p>RM0 - RM 17.8 = Non-Core</p> <p>Pilchuck Creek = Core for w. steelhead dist.</p> <p>Church Creek and Fish Creek (tributaries to this reach) Coho spawning dist. = Core. Core based on coho spawning dist. & known summer rearing areas</p> <p>13°C from Feb 15 - July 1 for w. steelhead dist. on Pilchuck Creek</p> <p>13°C from Oct 1 – May 15 for fall Chinook spawning distribution (RM6</p>	<p>Chinook, fall RM6 - RM17.8</p> <p>Coho RM9 - RM 17.8</p> <p>Pinks RM6 - RM 17.8</p> <p>Sockeye RM3 - RM 17.8</p> <p>Steelhead, winter RM3 - RM 17.8</p> <p>Juvenile Chinook, coho, chum, pink, sockeye, steelhead, and cutthroat are seen @ RM 6 throughout the smolt trapping season (Feb- end of June) [Griffith et al. 2001, and 2003; Stillaguamish, 2004]. Juvenile coho, Chinook, chum, and cutthroat seined in Stillaguamish Old Channel in July and August, RM 6.2-8.5 [Stillaguamish Tribe,</p>	<p>Chinook, fall</p> <ul style="list-style-type: none"> - RM6-RM17.8 - Spawning early Sept - late Oct - One record of pre-mid September Chinook redds in mainstem RM 11-17.8, 9/15/79. Most years show late September as earliest spawning [WDFW SDB] Note: based on 2 annual helicopter surveys one each in Sept and Oct. <p>Pinks</p> <ul style="list-style-type: none"> - Possible spawning in segment - Timing is unclear - Total of 12 records of pre-mid September pink redd presence in WRIA 5 with earliest record in mainstem RM 5-17.8, 9/5/02; Most years show late September as earliest spawning in these locations [WDFW SDB]. <p>Steelhead, winter</p> <ul style="list-style-type: none"> - Pilchuck – trib. to this segment 	<p>adult and sub-adult presence/migration & juvenile rearing -timing not provided [WDFW Dist.]</p> <p>May 2002, 1 char (280mm) in Stillaguamish Old Channel, RM 6.2 (seine data) [Stillaguamish Tribe Unpub. Data 2004]</p> <p>Sampled 6 char juvenile/sub-adults (50-345mm) over the smolt trap study deployment period (Feb-mid June, 2001-2003). [Griffith et al. 2001 and 2003; Stillaguamish</p>	<p>RM 11.1 near Salvana 20.9°C (2002) 23.4°C (2003)</p>	<p>Migrating adult Chinook have been observed in the N.F. Stillaguamish R.M. 21 as early as mid May and early June. Adult migration in the Stillaguamish Mainstem continues through August. [Pat Stevenson, Stillaguamish Tribe, Pers. Comm. 2004]</p> <p>Summer coho smolt production is estimated to be reduced by 61% from historical production due to habitat loss in the form of beaver ponds and of sloughs [Pollock et al. 2004].</p> <p>All five species of Pacific salmon, steelhead, coastal cutthroat trout and bull trout are found in the Stillaguamish watershed [Washington State Conservation Commission 1999].</p>

DOE Non-Core Designation & EPA's Findings	Summer Juvenile Salmon/Steelhead rearing (¹ WDFW Dist. unless noted)	Summer Salmon/Steelhead Spawning-Emergence (¹ WDFW Dist./ ² SASI Timing unless noted)	July-August Adult/Sub-Adult Bull Trout Use	³ Existing Temperatures (max 7DADM)	Habitat Conditions, Population Significance, Other Fish Uses, & Other Considerations
- 17.8 & lower Pilchuck Creek)	Unpublished Seine Data 2004] Church Creek and Fish Creek (tributaries to this reach) known high density coho juvenile rearing - smolt production 1836 to 4039 in Church Creek [Jody Brown, Stillaguamish Tribe, Pers. Comm. 5/10/05]	- Spawning mid March - mid June	Tribe 2004].		
Stillaguamish River, North Fork, from mouth to Boulder River (note: to RM 26.1) EPA's Finding: RM 0 – RM 26 = Core 13°C From RM 0 up (summer Chinook, pink, and winter steelhead spawning dist.) from Sept 1 - July 1	<i>Chinook, summer</i> <i>Coho</i> <i>Pinks</i> <i>Sockeye</i> <i>Steelhead, winter</i>	<i>Chinook, summer</i> - RM 0 up - Spawning mid Aug - late Oct <i>Pinks</i> - RM0 up - Spawning early Sept - late Oct <i>Steelhead, winter</i> - RM 0 up - Spawning mid March - mid June	<i>adult migration</i> in N.F. -RM 21 - 25.1 -May-August snorkel data from 1996 - 2003 (one survey per year conducted in August or September) [NOAA, Unpub. Data 2003] <i>adult and sub-adult</i> presence/migration & juvenile rearing -timing not provided [WDFW Dist.]	RM 9.5 @ Cicero 20.7°C (2001) 19.9°C (2002) 22.3°C (2003)	
Stillaguamish River, South Fork, from mouth to Canyon Creek (river mile 33.7) EPA's Finding: RM 0 - RM 33.7 = Core 13°C From RM0 up (fall Chinook and winter Steelhead spawning dist.) from Sept 15 - July 1	<i>Chinook, fall</i> <i>coho</i> <i>Steelhead, winter</i>	<i>Chinook, fall</i> - RM 0 up - Spawning early Sept - late Oct - Total 19 records (RM 17.8-64.6) showing pre-mid Sept Chinook redd presence in reaches within RM 17.8-64.6. Earliest Sept 9 th (1956) [WDFW SDB]. <i>Pinks</i> - One record showing pre-mid Sept pink redd presence 9/6/83 (RM 33-34)[WDFW SDB] <i>Steelhead, winter</i> -RM 0 up - Spawning mid March - mid June	<i>adult and sub-adult</i> presence/migration & juvenile rearing -timing not provided [WDFW Dist.]	RM 18.2 @ Arlington 22.6°C (2001) 20.9°C (2002) 24.9°C (2003)	

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WRIA 6 - Island					
<p>Several streams into bay between Camino Island and Whidbey Island (not specified in Table 602)</p> <p>EPA's Finding:</p> <p>All Non-Core streams = Non-Core</p>	<p>No salmon/steelhead distribution in these streams</p>				
WRIA 7 - Snohomish					
<p>Snohomish River from mouth and east of longitude 122° 13' 40"W upstream to latitude 47° 56' 30"N (southern tip of Ebey Island at river mile 8.1)</p> <p>Snohomish River upstream from latitude 47° 56' 30"N (southern tip of Ebey Island river mile 8.1) to confluence with Skykomish and Snoqualmie River (river mile 20.5)</p> <p>EPA's Finding:</p> <p>RM 0 – RM 10 = Non-Core RM 10 - RM 20.5 = Core</p> <p>13°C From RM10 – RM 20.5 from Sept 15 – June 15</p>	<p>Chinook, summer RM10 - RM20 Chum, fall RM0 - RM15 Coho RM0 - RM 20 Sockeye RM0 - RM20 Steelhead, winter RM 7 – RM 20</p>	<p>Chinook, summer/fall</p> <ul style="list-style-type: none"> - Spawning early Sept – late Oct - Total of 9 records in Snohomish River (RM 13.4-20.5) showing pre-mid Sept Chinook redd presence. Earliest Sept 8th (1974-1999) [WDFW SDB] <p>Pinks</p> <ul style="list-style-type: none"> - Possible spawning in segment - Timing unclear (even year?) - Total of 2 records in Snohomish (RM 14.3-20.5) showing pre-mid Sept pink redd presence. Earliest Sept 6th 2002 (1974-1999) [WDFW SDB] <p>Steelhead, winter</p> <ul style="list-style-type: none"> - Portions of reach between RM10 and RM20.5 - Spawning mid March - mid June 	<p>adult and sub-adult presence/migration & juvenile rearing -timing not provided [WDFW Dist.]</p>		<p>This WRIA is highest producer of coho in Washington State.</p>
<p>Skykomish River from mouth to May Creek (above Gold Bar at river mile 41.2)</p> <p>EPA's Finding:</p> <p>RM 20.5 (mouth) - RM 41.2 = Core</p>	<p>Chum, fall Coho (upper part only) Steelhead, winter</p>	<p>Chinook, fall</p> <ul style="list-style-type: none"> - RM 20.5 up - Spawning early Sept - late Oct - Multiple records in multiple years in Skykomish R. (RM 20.5-43.6) showing pre-mid Sept Chinook redd presence. Earliest Aug 29th in 1956 (1956-1989) [WDFW SDB] 	<p>adult migration</p> <p>Bull trout found in Snohomish, Skykomish and Snoqualmie rivers and tributaries [USFWS 2004]</p> <p>adult and sub-adult</p>	<p>RM25.6 @ Monroe 20.0°C (2001) 18.3°C (2002) 21.2°C (2003)</p>	

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13°C From RM 20.5 up (fall Chinook, pink and w. steelhead spawning dist.) from Sept 15 - July 1		<p><i>Pinks</i></p> <ul style="list-style-type: none"> - RM 20.5 up - Spawning early Sept - late Sept - One record in Skykomish (RM 20.5-25) showing pre-mid Sept pink redd presence. 9/4/02 [WDFW SDB] <p><i>Steelhead, winter</i></p> <ul style="list-style-type: none"> - RM0 up - Spawning mid March - mid June 	presence/migration & juvenile rearing -timing not provided [WDFW Dist.]		
<p>Pilchuck River -mouth to RM 26.8 (not specified in Table 602)</p> <p>EPA's Finding:</p> <p>RM 0 – RM 26.8 = Core</p> <p>13°C from Feb 15 - June 15</p>	<p><i>Chinook, fall</i></p> <p><i>Coho</i></p> <p><i>Steelhead, winter</i></p>	<p><i>Pinks</i></p> <ul style="list-style-type: none"> - Possible spawning in segment - Timing is unclear - No record of pre-mid September pink redd presence in Pilchuck River [WDFW SDB] <p><i>Chinook, fall (Snoqualmie Stock)</i></p> <ul style="list-style-type: none"> - RM 0 up - Spawning mid Sept - early Nov - One record of pre-mid September Chinook redd presence 9/6/01 (RM 1-15.3) [WDFW SDB] <p><i>Steelhead, winter</i></p> <ul style="list-style-type: none"> - RM0 up - Spawning mid March – early June - Late May and early - mid June redds are common (RM 0-25.3) latest record 6/11 in 1998 [WDFW SDB] 	<p><i>sub-adults</i> documented in summer [snorkel surveys]</p> <p><i>adult and sub-adult</i> presence/migration & juvenile rearing -timing not provided [WDFW Dist.]</p>		
<p>Sultan River from mouth to Chaplain Creek (river mile 5.9)</p> <p>EPA's Finding:</p> <p>RM 0 - RM 5.9 = Core</p> <p>No application of 13°C (post early-Sept)</p>	<p><i>Coho</i></p> <p><i>Steelhead, winter</i></p>	<p><i>Chinook, fall</i></p> <ul style="list-style-type: none"> - RM0 upstream - Spawning early Sept - late Oct - Two records (RM 4.5-9.7) showing pre-mid Sept Chinook redd presence. Earliest 9/15 (1994-1997)[WDFW SDB] <p><i>Pinks</i></p> <ul style="list-style-type: none"> - RM 0 upstream - Spawning early Sept - late Sept 	<p><i>adult and sub-adult</i> presence/migration & juvenile rearing -timing not provided [WDFW Dist.]</p>		

DOE Non-Core Designation & EPA's Findings	Summer Juvenile Salmon/Steelhead rearing (¹ WDFW Dist. unless noted)	Summer Salmon/Steelhead Spawning-Emergence (¹ WDFW Dist./ ² SASI Timing unless noted)	July-August Adult/Sub-Adult Bull Trout Use	³ Existing Temperatures (max 7DADM)	Habitat Conditions, Population Significance, Other Fish Uses, & Other Considerations
		- No record of pre-mid September pink redd presence in Sultan River [WDFW SDB]			
<p>Snoqualmie River and tributaries from mouth to west boundary of Twin Falls State Park on south fork (river mile 9.1)(note: Snoqualmie South Fork RM 45 from mouth)</p> <p>EPA's Finding:</p> <p>RM 0 - RM (20) Harris Creek = Non-Core (Cherry Creek = Core) RM 20 upstream and including Harris Creek = Core</p> <p>13°C for Chinook and w. steelhead spawning dist. from Sept 15 - June 15</p> <p>13°C for w. steelhead spawning dist. only from Feb 15 - June 15</p>	<p><i>Chinook, fall</i> <i>Coho</i> <i>Steelhead, winter</i></p>	<p>No spawning surveys data found in the mainstem Snoqualmie reach below RM 21 [WDFW SDB]</p> <p><i>Chinook, fall</i> - Harris Creek upstream - Spawning mid Sept - early Nov - Many records (mainstem RM 20.5-40.3) showing pre-mid Sept Chinook redd presence. Earliest 9/6 (1974-2002)[WDFW SDB]</p> <p><i>Pinks</i> - One record showing pre-mid Sept pink redd presence 9/14/83 (RM 20.5-24.9) [WDFW SDB]</p> <p><i>Steelhead, winter</i> - Cherry Creek, Tolt River, Snoqualmie River above and incl. Patterson Creek - Spawning mid March - early June - Late May - early June redds recorded in Griffin, Tokul, Patterson and Cherry creeks [WDFW SDB]</p>	<p><i>adult and sub-adult</i> presence/migration & juvenile rearing -timing not provided [WDFW Dist.]</p>	<p>RM2.7 near Monroe 19.7°C (2002) 22.2°C (2003)</p> <p>RM42.3 @ Snoqualmie 19.3°C (2001) 18.4°C (2002) 20.5°C (2003)</p>	
WRIA 8 – Cedar-Sammamish					
<p>Cedar River from Lake Washington to the Maplewood Bridge (river mile 4.1)</p> <p>EPA's Finding:</p> <p>RM 0 – RM 4.1= Core</p> <p>13°C (Chinook, sockeye and w. steelhead spawning dist) starting Sept 15 - June 15</p>	<p><i>Chinook, fall</i> <i>Coho</i> <i>Steelhead, winter</i></p> <p>Chinook outmigrants are captured at the screw trap (RM 0.3) on the Cedar at least until July 27th when the trap is removed for the season [Seiler et al. 2003].</p>	<p><i>Chinook, fall</i> - Approx. RM 1 up - Spawning mid Sept - early Nov - One record of pre-mid September Chinook redd presence 9/8/98 (RM 9.3-13.7) [WDFW SDB] - Spawning surveys from 1999-2003 indicate a few Chinook redds in late Aug, multiple redds prior to mid-Sept, and significant redds by Sept 25 in Cedar River below RM 21 [Burton, et al. 2003] - Chinook, coho, and steelhead now have</p>	<p><i>adult migration</i> presence/migration -timing not provided [WDFW Dist.]</p>	<p>RM1.6 @ Renton 19.1°C (2001) 18.3°C (2002) 20.5°C (2003)</p> <p>RM 20 near Lansburg 12.6 (2001) 13.4 (2002) 14.2 (2003)</p>	<p>The Cedar River is a flow regulated river and is lined with levees on at least one side for approximately 18.4 out of the total 20 river miles below the diversion point at Landsburg Dam. [King County 1998].</p> <p>Lower 1.5 miles of this reach are periodically dredged by the Army COE, with the last event in 1998. [N. Rapin Pers. Comm. 2/15/05].</p> <p>This lower segment (RM0-4) is not an index reach for WDFW, thus surveys are somewhat</p>

DOE Non-Core Designation & EPA's Findings	Summer Juvenile Salmon/Steelhead rearing (¹ WDFW Dist. unless noted)	Summer Salmon/Steelhead Spawning-Emergence (¹ WDFW Dist./ ² SASI Timing unless noted)	July-August Adult/Sub-Adult Bull Trout Use	³ Existing Temperatures (max 7DADM)	Habitat Conditions, Population Significance, Other Fish Uses, & Other Considerations
		<p>access to the portion of the Cedar River above the Landsburg Water Supply Diversion Dam since installation of a passage facility in 2003 [Bruce Bachen, Pers. Comm. 6/22/05]</p> <p>Sockeye</p> <ul style="list-style-type: none"> - Approx. RM1 up - Spawning early Sept - late Jan - One record of sockeye spawning (based on dead counts) in early September (9-14-99) [WDFW SDB] - Redds counted at various locations during 2000 indicate sockeye spawning in the lower 1.5 miles. Earliest spawning recorded during this study was 9/11 [Golder and Associates 2001]. - On average, for years 1969-94, 10% of the adults have reached index spawning grounds (RM 4.2 -21.3) by Sept 15 [Cascade Environmental Services] - Sockeye redd surveys are not conducted in the Cedar due to mass spawning, rather, live/dead counts are used in production estimates [Eric Warner, Muckleshoot Tribe, Pers. Comm. 2/15/05]. <p>Steelhead, winter</p> <ul style="list-style-type: none"> - RM 2 upstream - Spawning mid Dec - early June - Steelhead redds counted as late as June 3rd (RM 5.2). None recorded lower in River [WDFW SDB]. - Based on model suggesting need for 1100 thermal units for full swim-up, Cedar River steelhead eggs and alevins are in the gravel during summer months [Muckleshoot Indian Tribe, Unpub. Data]. 			<p>sporadic.</p> <p>According to the Muckleshoot Tribe, adult Chinook and sockeye likely use the lower Cedar (RM 0-4) in August. These fish are likely ripe and are staging for moving upstream to more abundant spawning habitat [Eric Warner, Pers. Comm. 2/15/05].</p> <p>Significant numbers of sockeye and few Chinook have been observed in the lower mile of the Cedar in Aug. and Early Sept, prior to moving upstream to spawn [Eric Warner, Pers. Comm. 2/15/05].</p>
<p>Issaquah Creek</p> <p>EPA's Finding:</p>	<p><i>Chinook, fall</i></p> <p><i>Coho</i></p> <p><i>Steelhead, winter</i></p>	<p><i>Chinook, fall</i></p> <ul style="list-style-type: none"> - RM0 upstream - Spawning late Sept - early Nov 	<p><i>adult migration</i></p> <p>presence/migration</p> <p>-timing not provided</p>		

DOE Non-Core Designation & EPA's Findings	Summer Juvenile Salmon/Steelhead rearing (¹ WDFW Dist. unless noted)	Summer Salmon/Steelhead Spawning-Emergence (¹ WDFW Dist./ ² SASI Timing unless noted)	July-August Adult/Sub-Adult Bull Trout Use	³ Existing Temperatures (max 7DADM)	Habitat Conditions, Population Significance, Other Fish Uses, & Other Considerations
<p>Issaquah Creek = Core</p> <p>13°C From RM 0 up (Sockeye and w. Steelhead spawning dist) starting Sept 15 - June 15</p>	<p>Juvenile Chinook and coho are present in the reach at least until July 3rd when trap is pulled for season [Seiler et al. 2003]</p>	<p>- One record of pre-mid September Chinook redd presence 9-12-94 (RM 0-5.2) [WDFW SDB].</p> <p>- Chinook in Issaquah Creek are on the spawning grounds as early as August 4th [King County DNR 2000].</p> <p>Sockeye</p> <p>- RM0 upstream</p> <p>- Spawning early Sept - late Dec.</p> <p>- No data in the database indicating pre-mid-September sockeye spawning in Issaquah Creek [WDFW SDB].</p> <p>- Sockeye in Issaquah Creek are on the spawning grounds as early as August 4th [King County DNR 2000].</p> <p>Kokanee</p> <p>-Observed on spawning grounds as early as 8-14 [Berge and Higgins 2003].</p> <p>Steelhead, winter</p> <p>- RM0 up</p> <p>- Spawning mid Dec - early June</p> <p>- Redd surveys in Issaquah Cr. are infrequent. Redds documented RM 1.3-3.5 5-1-98. [WDFW SDB]</p>	<p>[WDFW Dist.]</p>		
<p>Tributaries to Sammamish river & lake Washington (Bear Creek, Cottage Creek, North Creek, Swamp Creeks) - <i>Already designated as Core in WAC</i></p> <p>EPA's Finding:</p> <p>13°C applies to all tributaries with sockeye spawning distribution Sept 15- May 15.</p>		<p>Sockeye</p> <p>- RM0 up</p> <p>- Bear Creek, Cottage Creek, North Creek, Swamp Creek and others</p> <p>- Spawning early Sept - late Dec.</p> <p>- Pre-mid September Chinook redd presence verified for Bear and Cottage Lake creeks [WDFW SDB].</p>			
<p>WRIA 9 - Duwamish-Green</p>					
<p>Duwamish River from mouth south of a</p>	<p><i>Chinook, fall</i></p>	<p><i>Chinook, fall</i></p>	<p><i>adult migration</i></p>	<p>RM12.4 @ Tukwila</p>	<p>Between RM 30 and RM 50 is the most</p>

DOE Non-Core Designation & EPA's Findings	Summer Juvenile Salmon/Steelhead rearing (¹ WDFW Dist. unless noted)	Summer Salmon/Steelhead Spawning-Emergence (¹ WDFW Dist./ ² SASI Timing unless noted)	July-August Adult/Sub-Adult Bull Trout Use	³ Existing Temperatures (max 7DADM)	Habitat Conditions, Population Significance, Other Fish Uses, & Other Considerations
<p>line bearing 254° true from the NW corner of berth 3, terminal No. 37 to the Black River (river mile 11.0)(Duwamish River continues as the Green River above the Black River). (Rearing/Migration Only)</p> <p>Green River from Black River (river mile 11.0 and point where Duwamish River continues as the Green River) to west boundary of Sec. 27-T21N-R6E (west boundary of Flaming Geyser State Park at river mile 42.3)</p> <p>EPA's Finding:</p> <p>RM 0 – RM 11 = Rearing/Migration Only RM 11 – RM 24 = Non-Core RM 24 – RM 42 (including Big Soos Creek) = Core</p> <p>13°C From RM 24 up for Fall Chinook and w. Steelhead spawning dist. from Sept 15 - July 1</p>	<p>RM20 - RM42 Chum, fall RM23 - RM42 Coho RM5 - RM42 Steelhead, summer RM13 - RM42 Steelhead, winter RM23 - RM42</p> <p>Juvenile Chinook use the estuary throughout the summer in both upper freshwater and lower marine areas. Both chum and coho salmon use reach until at least mid July. Chum use lower estuary and coho are found throughout the estuary [Warner and Fritz 1995].</p> <p>Seining data throughout the summer season suggests either fish grow within the reach over the summer or fish are putting on growth higher in the system and moving down into the estuary. [Warner and Fritz 1995].</p> <p>Presence of juvenile Chinook also documented by other sources [Parametrix 1982 and USFWS 1981].</p>	<p>- Up river from Mill Creek - Spawning mid Sept - early Nov - 19 records in multiple years (mainstem RM 25.4-41.5) showing pre-mid Sept Chinook redd presence in Green R. Earliest 9/2 in 1999 (1979-2000). 15 records of pre-mid Sept Chinook redd presence in (RM 41.4-61). Earliest 9/8 in 1999 [WDFW SDB]. - Redd surveys in RM 24-30 document presence of spawning Chinook (10 redds counted, 9/15/99 [WDFW, Unpub. Data 1999].</p> <p>Sockeye - One record of mid September sockeye redd presence 9-16-91 (RM 38-40.1) in Green River [WDFW SDB]</p> <p>Steelhead, winter - Up river from Mill Creek - Spawning early March - mid June - No steelhead data found in spawner database [WDFW SDB]</p> <p>Pinks - Extirpated in the early 20th century with only occasional strays until 1999 when approximately 1,000 pinks returned. Early redds observed during surveys 9/16-9/18 in the lower river (RM 33.8) to Flaming Geyser Park (RM 42.3) [Tom Cropp, Pers. Comm. November 2004]</p>	<p>presence/migration -timing not provided [WDFW Dist.]</p>	<p>20.7°C (2002)</p>	<p>significant fall spawning reach on the Green River [King County and WA Conservation Commission 2000].</p> <p>Duwamish estuary historically had extensive rearing habitat for juvenile salmon prior to human development.</p> <p>Not all of Green River Chinook spawning habitat is surveyed during redd surveys. RM 24-61 has been sampled by air. Not all of the late year helicopter surveys have been incorporated into the WDFW SDB. Approximately 2/3 of all redds are counted below the landslide at RM 42.6.</p>
WRIA 10 Puyallup-White					
<p>Puyallup River from mouth to river mile 1.0 (Rearing /Migration only)</p> <p>Puyallup River from river mile 1.0 to Kings Creek (river mile 31.6)</p>	<p>Chinook, fall RM0 - RM31 Coho RM0 - RM31 Pinks</p>	<p>Pinks - RM 10(White River) - RM28 - Spawning early Sept - late Oct - No data in the database indicating pre-mid September pink redd presence in Puyallup</p>	<p>sub-adults -seine capture at RM 4.4</p> <p>adult migration presence/migration</p>	<p>RM 5.7 @ Puyallup 17.5°C (2002) 18.4°C (2003)</p>	<p>Last wild Chinook run in south Sound Puget Sound.</p> <p>From RM 10.7- 23 the Puyallup River is confined by levees resulting in lack of</p>

DOE Non-Core Designation & EPA's Findings	Summer Juvenile Salmon/Steelhead rearing (¹ WDFW Dist. unless noted)	Summer Salmon/Steelhead Spawning-Emergence (¹ WDFW Dist./ ² SASI Timing unless noted)	July-August Adult/Sub-Adult Bull Trout Use	³ Existing Temperatures (max 7DADM)	Habitat Conditions, Population Significance, Other Fish Uses, & Other Considerations
<p>(NOTE: RM 1 to RM 7.3 is Puyallup Tribal jurisdiction)</p> <p>EPA's Finding:</p> <p>RM 0-RM 1 = Rearing/Migration Only RM 7.3 – RM 31 = Core</p> <p>13°C From RM 10 upstream (pink and steelhead spawning dist) from Sept 15 - July 1; Clarke, Fennel, and Canyon Fall Creeks (fall Chinook and steelhead spawning dist.) from Sept 15 - July 1</p>	<p>RM10 - RM31 <i>Steelhead, winter</i> RM12 - RM20</p>	<p>River [WDFW SDB]</p> <p>Chinook, fall - Carbon River; Clarks, Fennel, and Canyon falls creeks (all tribs to this segment) - Spawning mid Sept - late Oct - No data in the database indicating pre-mid September Chinook redd presence in Puyallup River [WDFW SDB]</p> <p>Steelhead, winter - Puyallup and Carbon above confluence - Squally, Clarks, Fennel, and Canyon falls creeks (all tribs to this segment) - Spawning early March - mid June - Spawning data for RM 29.8-41.8 1999-2000. Latest 5/17 [WDFW SDB]</p>	<p>-timing not provided [WDFW Dist.]</p>		<p>complexity and spawning habitat. Only sporadic spawning occurs in this reach. Higher quality habitat RM 25.5 to 30.8 due to levee pull back restoration. High quality spawning habitat located above Electron Dam power house (RM 30.8) [Marks et al. 2004].</p> <p>Early September Chinook spawning data is difficult to collect due to turbid conditions in mainstem reaches of this glacial system [R. Ladley Pers. Comm. 12/13/04].</p>
<p>Carbon River - mouth to National Forest Boundary (RM 18) (not specified in Table 602)</p> <p>EPA's Finding:</p> <p>RM0 - RM18 = Core</p> <p>13°C From RM 0 up (fall Chinook, pink, w. steelhead spawning dist) from Sept 15 - July 1</p>	<p><i>Chinook, fall</i> <i>Coho</i> <i>Chum, fall</i> <i>Steelhead, winter</i></p>	<p>Chinook, fall - RM 0 up RM 8 on Carbon & up South Prairie Creek - Spawning mid Sept - late Oct - Earliest redd record 9/20 [WDFW SDB]</p> <p>Pinks - South Prairie Creek (tributary to Carbon River) (RM 0 - 10) - Spawning early Sept - late Oct - Earliest redd record 9/20 [WDFW SDB]</p> <p>Steelhead, winter - RM0 up - Spawning early March - mid June - 4 redd survey records (latest 5/23 in 2001)</p>	<p>adult migration presence/migration -timing not provided [WDFW Dist.]</p>		<p>Early September Chinook spawning data is difficult to collect due to turbid conditions in mainstem Carbon River [R. Ladley Pers. Comm. 12/13/04]</p>
<p>White River - mouth to RM 27.1 (not specified in Table 602)</p> <p>EPA's Finding:</p> <p>RM 0- RM 4 = Non-Core RM 4 – RM 27 = Core</p>	<p><i>Coho</i> <i>Chinook, spring</i> <i>Chum, fall</i> <i>Steelhead, winter</i></p> <p>Sampling of lower 4 miles captured one juvenile chin in</p>	<p>Chinook, spring - Lower part of Boise Creek (RM 0– RM 23) (trib to lower White R); spawning late Aug - late Sept - Spawning not shown in White river in WDFW dist., but is shown in Salmonscape - 17 records of Chinook redd presence in</p>	<p>sub-adults and adults are captured regularly at Buckley USACE trap (RM 24)</p> <p>adult migration presence/migration</p>	<p>RM8 @ R Street 20.9°C (2002) 20.5°C (2003)</p> <p>PSE hydropower project stopped operation winter</p>	<p>Spring Chinook have bimodal run timing in the White River with early spring run peak in mid-June and fall (native) run peak in mid-Sept. [Ladley et al. 2000]</p> <p>White River Spring Chinook are the only south Puget Sound Chinook stock remaining with</p>

DOE Non-Core Designation & EPA's Findings	Summer Juvenile Salmon/Steelhead rearing (¹ WDFW Dist. unless noted)	Summer Salmon/Steelhead Spawning-Emergence (¹ WDFW Dist./ ² SASI Timing unless noted)	July-August Adult/Sub-Adult Bull Trout Use	³ Existing Temperatures (max 7DADM)	Habitat Conditions, Population Significance, Other Fish Uses, & Other Considerations
<p>13°C (spring Chinook and w. steelhead spawning dist.) Sept 1-July1</p> <p>13°C for Chinook and w. steelhead spawning dist. from Sept 15 - July 1</p>	<p>summer 1993 and several each month in 1994 (Jan- July) and in 1996 (March - Mid April) [Beak Consultants 1998].</p>	<p>White River but all are post mid Sept [WDFW SDB]</p> <ul style="list-style-type: none"> - Chinook spawning begins before mid-Sept but turbidity hinders surveys [R. Ladley, Pers. Comm. 12/13/04] - Earliest time of redd construction (diversion dam and "R" street bridge, Auburn) is typically Sept. 10th, peaking last week in Sept [R. Ladley, Pers. Comm., 12/13/04]. - First redds and dead fish observed 9/22 (1st day of sampling) in the 2003 sample season (RM 7.5-24.3) [Marks et al. 2004]. - Use of the lower 4 miles of the White River provides useable spawning habitat (substrate quantity and size, water depth and velocity, and cover). Turbid water precludes observation of spawning activity. Reach has not been flown in annual aerial surveys by WDFW. Lowest documented spawning is at RM 7.5. Likely that ripe adults are holding for at least some period of time in the lower reach prior to spawning (earliest Sept 10th).[Russ Ladley, Pers. Comm. 3/05] <p><i>Steelhead, winter</i></p> <ul style="list-style-type: none"> - RM 4 up - Spawning early March - mid June - Redds counted on 1st day of sampling 5/12 in 2003 (RM 7.5-24.3) [Marks et al. 2004] - Protracted steelhead run timing indicated by capture of gravid adults migrating upstream through the Buckley Trap in June [Muckleshoot Indian Tribe, Unpub. Data]. 	<p>-timing not provided [WDFW Dist.]</p> <ul style="list-style-type: none"> - Approximately 53% of the bull trout captured at the Buckley trap are captured in July and August [USACE, Unpub. Data] 	<p>2004. Due to reduced bypass return flows (200-250cfs in summer 2004) the proportion of White River water in the lower 4 mile reach is higher. These higher flows have resulted in colder water temperatures in the lower river compared to passed years. Based on upstream data compared to the Lake Tapps return flow temperature data peak water temperatures in the lower White of ~18°C area expected [temperature data and Puyallup Tribe, Pers. Comm. 3/24/05]</p>	<p>this adult run timing. This native stock was considered critically depressed long before the ESA listing [Johnson et al. 2003]. Low population numbers contributes to the difficulty in obtaining spawning data.</p> <p>Early September Chinook spawning data is difficult to collect due to turbid conditions in mainstem reaches of these glacial systems [R. Ladley, Pers. Comm. 12/13/04]</p> <p>From Buckley Trap (RM 24.3) to RM 11 has frequent and concentrated use by Chinook and steelhead spawners. Also high chum use in some sections. Below RM 11 levees and other habitat alteration limits spawning habitat for salmon and steelhead [Marks et al. 2004].</p> <p>2003 unprecedented return of pink salmon to the White R. system due to removal of TPU Pipeline barrier (RM 23.4), Pink spawning observed in many tributaries including: Greenwater, Clearwater, Pinochle, Cripple, Huckleberry, and Wrong creeks. New range extension noted in silver Springs Creek [R. Ladley, Pers. Comm. 12/8/04].</p> <p>Buckley Trap (RM 24.2) traps and transports Chinook, coho, and steelhead throughout the summer months. Earliest Chinook arrive in early May and earliest coho arrive August 1st. Steelhead are trapped every week of the year.</p> <p>From 2000 screw trap data, Chinook juveniles outmigrate in large numbers (33,000) through the lower White R. late March- Sept. with peak in late June [WDFW Unpubl. Data 2000]. These data also show that there is a broad range in both exit timing and exit size (42-200mm) within this population.</p>

DOE Non-Core Designation & EPA's Findings	Summer Juvenile Salmon/Steelhead rearing (¹ WDFW Dist. unless noted)	Summer Salmon/Steelhead Spawning-Emergence (¹ WDFW Dist./ ² SASI Timing unless noted)	July-August Adult/Sub-Adult Bull Trout Use	³ Existing Temperatures (max 7DADM)	Habitat Conditions, Population Significance, Other Fish Uses, & Other Considerations
					<p>Analysis of the beach seine data and smolt trap data indicate that outmigrating Chinook juveniles may spend up to 6 months in the lower White R. and the lower Puyallup R. rearing prior to entering the Puget Sound. The portion of the population that exhibits this protracted freshwater residence time is unknown. On average Chinook migrants stayed in the lower Puyallup for 7.4 days (Puyallup Tribe of Indians 2004).</p> <p>The White River spring Chinook population exhibits a variety of life history strategies that influence the presence and duration of juveniles in the lower part of the River. This variety is an important survival mechanism commonly demonstrated in large watersheds. Maintaining habitat quality of reaches used during critical life history periods is important for protection of the overall population.</p> <p>Pre-spawning staging of adult Chinook in summer occurs in the lower White R: [Ladley et al. 2000]</p>
WRIA 11-Nisqually					
<p>Nisqually River from mouth to Alder Dam (river mile 44.2)</p> <p>EPA's Finding:</p> <p>RM 0 – RM 44.2 = Core All tribs to this segment Core, except Murrey, Horn, and Tanwax creeks.</p> <p>Core for Yuck, Yelm, Toboton based on existing cold temperatures</p>	<p><i>Chinook, fall</i> <i>Coho</i> <i>Pinks</i> <i>Steelhead, winter</i></p> <p>Age 0 Chinook, coho, and steelhead captured in the mainstem by electrofishing and seining at locations at RM 12 and RM 33 indicating juvenile summer rearing habitat [Tyler 1980].</p>	<p><i>Chinook, fall</i> - RM0 up - Spawning mid Sept - early Nov - 5 records in Nisqually (3.3-26.2) of pre-mid Sept Chinook redd presence. Earliest 9/6 (1983-1989) [WDFW SDB]</p> <p><i>Pinks, odd year</i> - RM4 up - Spawning early Sept to Late Oct - 2 records in Nisqually (RM 2.4-7.8 and 25.8-26.2) showing pre-mid Sept pink redd</p>		<p>RM 3.4 @ Nisqually 16.5°C (2001) 15.4°C (2002) 17.5°C (2003)</p> <p>Thermograph data from 1984 at RM 13.1 and 19.4 record highest daily mean summer temperatures of 15°C and 16.5°C [Nisqually Tribe,</p>	<p>Construction of Alder Dam in the 1950s played significant role in the extirpation of the only spring Chinook stock. Stray spring Chinook are observed in the basin which may result in recolonization in the future [Kerwin 1999].</p> <p>Alder/LaGrande Reservoirs (RM 44.1-42.5) have major influence on downstream summer water temperature. Alterations from the historic condition include: reduced daily temperature variation, reduced peak summer temperatures, and increased temperature of the lower River in</p>

DOE Non-Core Designation & EPA's Findings	Summer Juvenile Salmon/Steelhead rearing (¹ WDFW Dist. unless noted)	Summer Salmon/Steelhead Spawning-Emergence (¹ WDFW Dist./ ² SASI Timing unless noted)	July-August Adult/Sub-Adult Bull Trout Use	³ Existing Temperatures (max 7DADM)	Habitat Conditions, Population Significance, Other Fish Uses, & Other Considerations
<p>13°C From RM 4 up (pink and w. steelhead spawning dist.) from Sept 15 - July 1</p> <p>13°C for w. steelhead spawning dist. only from Feb 15 - July 1</p>	<p>Fingerling fall Chinook rear in the Nisqually late February through early June [Kerwin 1999].</p>	<p>presence. Both 9/11/83 [WDFW SDB]</p> <p><i>Steelhead, winter</i></p> <ul style="list-style-type: none"> - RM4 up - Spawning mid March - mid June - Peak emergence of steelhead fry is July 10th through 23rd [Kerwin 1982]. - Steelhead spawning distribution includes Lower Mashel RM 0-6.6 with May/June spawning latest 6/9 based on surveys 1996-98. 		<p>Unpub. Data 1984].</p>	<p>late summer/early fall period [Whiley and Walter 2000]. The exception to this are in RM 26.2-12.5 where the Centralia Water Diversion has the primary influence on water temperature due to water withdraw during the summer months.</p> <p>Stock status for bull trout in the basin is unknown. Only limited data (report of one captured juvenile in the 1980's) are available [Kerwin 1999].</p> <p>The following 1998 monitoring of daily maximum temperature summer trends were observed for WRIA 11 streams: Muck, Yelm, and Toboton Creek below 15°C throughout summer. Murray Creek does not exceed 17°C. Mineral, Mashel, Tanwax and Ohop all regularly exceeded 18°C [Whiley and Walter, 2000].</p>
WRIA 12 - Chambers-Clover					
<p>Clover Creek from outlet of Lake Spanaway to inlet of Lake Steilacoom</p> <p>EPA's Finding: Non - Core</p>	<p>No species mapped as rearing</p>	<p>No species spawning in segment in this timeframe. Coho salmon use this segment for spawning in winter/spring.</p>			
WRIA 13 - Deschutes					
<p>Deschutes River from mouth to boundary of Snoqualmie National Forest (river mile 48.2)</p> <p>EPA's Finding:</p>	<p><i>Chinook, fall</i> <i>Coho</i> <i>Steelhead, winter</i></p> <p>Screw-trap operated near mouth</p>	<p><i>Chinook, fall</i></p> <ul style="list-style-type: none"> - RM 3 up - Spawning late Sept - early Oct - No mid-September data found [WDFW SDB] 	<p>None</p>	<p>RM 0.6 @ E ST Bridge 19.4°C (2001) 19.1°C(2002) 19.9°C (2003)</p>	<p>Estimated wild coho smolt production of 60,000 (368/sq mile) in 2002 and 892 in 2001 based on smolt trap data from below Tumwater Falls [Seiler et al. 2002].</p>

DOE Non-Core Designation & EPA's Findings	Summer Juvenile Salmon/Steelhead rearing (¹ WDFW Dist. unless noted)	Summer Salmon/Steelhead Spawning-Emergence (¹ WDFW Dist./ ² SASI Timing unless noted)	July-August Adult/Sub-Adult Bull Trout Use	³ Existing Temperatures (max 7DADM)	Habitat Conditions, Population Significance, Other Fish Uses, & Other Considerations
<p>RM0 - RM12 (Offut lake outlet) = Non -Core RM 12 –RM 48.2 = Core</p>	<p>Feb-July captured abundance age-0 Chinook and steelhead smolts 2001-2002 [Seiler et al. 2002]</p>	<p><i>Steelhead, winter</i> - RM 3 up - No timing info in SASI - No steelhead spawning data found [WDFW SDB] - Spawning early Jan/Feb through early April [Haring and Konovsky 1999]</p>		<p>Upper Deschutes tributaries have 7DADM <16.5°C (Johnson, Huckleberry, Fall, and Spring creeks) [Roberts 2003]</p>	<p>High density coho rearing in July and August. The middle and upper reaches and all perennial tributaries below the upper falls are juvenile coho summer rearing habitat. During low summer flow coho use pool habitat [Sullivan et al. 1987].</p> <p>Steelhead spawning areas incl. mainstem Deschutes, Offut Lake Outlet, Silver Springs, Reichel, Fall, Mitchell, and Johnson creeks [Haring and Konovsky 1999]. Upper most distribution in the Deschutes is RM 41.</p> <p>Coho may rear as far downstream as Sprigon Creek as it has juvenile habitat in the form of a wetland complex and springs. Sampling to verify use has not been conducted [J. Konovsky, Nisqually Tribe, Pers. Comm. 7/20/05.</p>
<p>McLane & Percival Creeks (not specified in Table 602)</p> <p>EPA Finding: Core</p>	<p><i>Chinook, fall</i> (rearing in Percival) <i>Chinook, summer</i> (presence) <i>Coho</i> (presence)</p> <p>McLane Creek and its tributaries have significant numbers of spawning coho, resulting in high concentration of juveniles using this system for summer rearing [Leischerer]</p>	<p>2 records showing fall and spring Chinook redds (Percival Creek). Both after mid-Sept [WDFW SDB]</p>		<p>McLane Creek – 7day ave. max 2002 is 17.5C [unpublished data from Squaxin Tribe]</p>	<p>For the Eld Inlet wild stock, the primary spawning tributary is W13 is McLane Creek (also spawn in Green Cove and Perkins)</p>
<p>WRIA 14 – Kennedy-Goldsborough</p>					
<p>No non-core segments identified in Table 602. Non-core waters not specified in Table 602 (Johns, Deer, Cranberry, Malaney, Goldsborough, Shelton, Campbell, Uncle Johns, Mill-Gosnell, Perry, and others)</p>	<p><i>Chinook</i> (presence) <i>Coho</i> (presence) <i>Chum, fall</i> (presence) <i>Steelhead, winter</i> (presence) Coho juveniles rear in accessible</p>	<p><i>Chinook, fall</i> - Skookum, Johns, Goldborough, Sherwood, Deer had chin redds but only 2 record before mid-Sept. One in Sherwood 9/11/01 (.1-1.1) and one in Goldsborough 9/10/01 (.5-2.3) [WDFW SDB]</p>	<p>Bull trout not known to be present in WRIA 14. These rainfall dominated streams do not provide habitat typically favored by bull trout [Kuttel</p>	<p>Gosnell Cr. <16°C above Lake Isabella [Ahmed and Sullivan 2004] <17°C for</p>	<p>Chinook were not historically present in these streams of WRIA 14. Presence of Chinook is likely from past hatchery plants or straying from other hatchery of naturally produced stocks [Kuttel, 2002]</p>

DOE Non-Core Designation & EPA's Findings	Summer Juvenile Salmon/Steelhead rearing (¹ WDFW Dist. unless noted)	Summer Salmon/Steelhead Spawning-Emergence (¹ WDFW Dist./ ² SASI Timing unless noted)	July-August Adult/Sub-Adult Bull Trout Use	³ Existing Temperatures (max 7DADM)	Habitat Conditions, Population Significance, Other Fish Uses, & Other Considerations
<p>EPA's Finding:</p> <p>Deer, Cranberry, Johns, Malaney, Uncle Johns, Campbell, Shelton, Goldsborough, Mill, and Perry Creeks = Core</p> <p>Core for above streams w/out summer Chum based on summer salmon/steelhead juvenile rearing and temperature data indicating that streams in the Kitsap peninsula region are near or below 16°C</p> <p>13°C applies to summer chum distribution in lower 3 miles of Johns Creek Sept 1- May 15 and in Deer, Cranberry, and Sherwood creeks Sept 15 - May 15</p>	<p>stream reaches with significant runs produced in Kennedy, Skookum, Mill, Goldsborough, Johns, Deer, Cranberry and Sherwood creeks [Kuttel 2002, Squaxin Island Tribe, Unpub. Data 2004].</p> <p>Winter steelhead rear in Mill, Goldsborough, Johns, Cranberry, Deer, Spring, Malaney, Uncle John, and Campbell creeks [Kuttel, 2002].</p>	<p>Chum, summer</p> <ul style="list-style-type: none"> - Johns, Cranberry, and Deer creeks - Spawning early Sept-October - In Johns Creek, earliest chum arrival 9/3 and earliest observed dead fish 9/5, in Cranberry Creek, earliest chum arrival 9/5 in Deer Creek, earliest arrival 9/8 and in Sherwood Creek, earliest arrival 9/11 [WDFW SDB]. - Of streams sampled in the WDFW SDB (including Johns, Goldsborough, Sherwood, Cranberry creeks) only Sherwood Creek had chum redds recorded before mid-Sept.(9/14 in 1984)[WDFW SDB] - Redd data in WDFW SDB not systematically collected, live adult data better indicator of early spawning -summer chum spawn quickly after entering river, earliest spawning in John's Creek is in the lower 3 miles [J. Konovsky, Pers. Comm. 2/1/05] <p>Steelhead, winter</p> <ul style="list-style-type: none"> - Goldsborough, Shelton, Mill - Timing info not in SASI - Spawn early Feb-early April <p>Several distinct stocks of fall chum spawn early Oct-early Jan [Kuttel 2002].</p>	<p>2002]</p>	<p>Goldsborough, <16°C for Skookum Creeks [Squaxin Tribe, Unpub. Data, 2003]</p>	<p>The Simpson TMDL set a target of 16°C for Goldsborough and Mill-Gosnell [Washington Department of Ecology 2000].</p> <p>Longitudinal temperature profiles of Mill, Johns, Cranberry creeks show increasing temperatures farther from the mouth [Squaxin Island Tribe 2004]. Cold water springs cool rivers near mouth. This pattern is also present in Sherwood Creek. Related to this temperature profile is the occurrence of salmon spawning earlier in the lower reaches [J. Konovsky, Pers. Comm. 2/1/05].</p> <p>Stream temperature data from WRIAs 14 and 15 shows that current stream temperatures are generally at or below 16°C</p>
WRIA 15 – Kitsap					
<p>No non-core segments identified in Table 602. Non-core waters not specified in Table 602 (Blackjack, Ross, Anderson, Gorst, Chico, Strawberry, Clear, Barker, Gamble, Martha John and others)</p> <p>EPA's Finding:</p>	<p>Coho Steelhead, winter (Blackjack, Ross, Anderson, Gorst, Chico, Clear, Barker)</p> <p>Coho utilize all accessible lowland streams of the Kitsap Peninsula [Haring 2002]</p>	<p>Chum, summer</p> <ul style="list-style-type: none"> - SaSI indicates spawning early Sept to mid Oct in Union River and mid Sept to mid Oct in Big Beef, Anderson, Dewatto, and Tahuya - Case Inlet summer chum stock spawns Sept- late October [Haring 2002] - Early Sept spawning recorded in Anderson Cr., Dewatto R. Tahuya R. and Union R. [WDFW and Point No Point Treaty Tribes 	<p>No char presence in these low elevation streams [Haring 2000, Kuttel 2003].</p>	<p><16°C for Coulter Creek [Squaxin Island Tribe, Unpub. Data 2004]</p> <p>Blackjack Creek 15.5 - 2003 16.0 - 2004 Ross Creek</p>	<p>Overall escapement has declined to critically low levels for Hood Canal summer chum. This stock spawns in late Aug –Oct. The Union River stock spawns 1-2 wks earlier [Kuttel 2003]</p> <p>Similar to tributaries in WRIA 14, longitudinal temperature profiles of Coulter and Rocky creeks show increasing temperatures farther</p>

DOE Non-Core Designation & EPA's Findings	Summer Juvenile Salmon/Steelhead rearing (¹ WDFW Dist. unless noted)	Summer Salmon/Steelhead Spawning-Emergence (¹ WDFW Dist./ ² SASI Timing unless noted)	July-August Adult/Sub-Adult Bull Trout Use	³ Existing Temperatures (max 7DADM)	Habitat Conditions, Population Significance, Other Fish Uses, & Other Considerations
<p>Lower Chico below Kitsap Creek = Non-Core</p> <p>Blackjack, Ross, Anderson, Gorst, Chico, Wildcat, Dickerson, Lost, Strawberry, Clear, Barker Creeks = Core</p> <p>Creeks into Port Gamble Bay (e.g., Gamble and Martha John Creeks) = Core</p> <p>Core for above streams w/out summer salmon spawning/incubation based on summer salmon/steelhead juvenile rearing and temperature data indicating that streams in the Kitsap peninsula region are near or below 16°C</p> <p>13°C applies to summer chum and/or w. steelhead spawning dist. in Union River from Sept 1 - June 15, in Dewatto and Tahuya Rivers from Sept 15 - June 15, in Anderson, Big Beef, Coulter, and Rocky Creek from Sept 15 - May 15</p>		<p>2001; WDFW SDB]</p> <p>- Chum spawn earlier than SASI reports (September not October) in Coulter and Rocky creeks [Pers. Comm. J. Konovsky 11/16/04]. Earliest arrival of spawners 9/1 in Coulter and 9/8 in Rocky [WDFW SDB].</p> <p>Chinook</p> <p>- Pre-mid Sept redds recorded in Burley, Blackjack, Grost, Dogfish creeks and Dewatte and Union rivers [WDFW SDB].</p> <p>- Chinook redds recorded in late Aug and early Sept in Coulter Creek [WDFW, Unpub. Data 2004a]</p> <p>Steelhead, winter</p> <p>- SaSI indicates spawning until early June in Dewatto, Union, and Tahuya rivers</p> <p>- Winter SASI stocks generally spawn early Feb-early April [Haring 2000]. Main producers are Dewatto, Union, and Tahuya rivers. [Kuttel 2003]. Dewatto, Union and Tahuya rivers have May redd records [WDFW SDB]</p>		<p>12.5 - 2003 11.2 - 2004 Anderson Creek 12.3 - 2003 12.3 - 2004 Gorst Creek 13.6 - 2004 Chico Creek 18.9 - 2004 Wildcat Creek 17.4 - 2003 17.6 - 2004 Dickerson Creek 15.8 - 2004 Lost Creek 15.3 - 2003 15.7 - 2004 Strawberry 16.3 - 2003 16.3 - 2004 WF Clear Creek 15.4 - 2003 15.1 - 2004 Barker Creek 16.0 - 2003 15.9 - 2004 [Max 7DADM data from Suquamish Tribe, unpublished data]</p>	<p>from the mouth [Squaxin Island Tribe 2004]. Related to this temperature profile is the occurrence of salmon spawning earlier in the lower reaches [J. Konovsky, Pers. Comm. 2/1/05].</p> <p>Temperature data indicates many Kitsap peninsula rivers are generally cold, near or below 16°C 7DADM due to cool groundwater.</p> <p>Summer chum spawn quickly upon entering rivers. These fish are mass spawners, thus redds are not counted.</p>
<p>WRIA 16 – Skokomish-Dosewallips</p>					
<p>No non-core segments identified in Table 602</p> <p>EPA's Finding:</p> <p>13°C applies to summer chum, pink, and w. steelhead spawning dist. in</p>		<p>Chum, summer</p> <p>- Spawning mid Sept - mid Oct</p> <p>- Mass spawning on start date</p> <p>Pink</p> <p>- Spawning early Sept - early Oct</p>			

DOE Non-Core Designation & EPA's Findings	Summer Juvenile Salmon/Steelhead rearing (¹ WDFW Dist. unless noted)	Summer Salmon/Steelhead Spawning-Emergence (¹ WDFW Dist./ ² SASI Timing unless noted)	July-August Adult/Sub-Adult Bull Trout Use	³ Existing Temperatures (max 7DADM)	Habitat Conditions, Population Significance, Other Fish Uses, & Other Considerations
WRIA from Sept 15 - July 1, except until May 15 if no w. steelhead spawning		<i>Steelhead, winter</i> - Spawning mid Feb - mid June			
WRIA 17 – Quilcene - Snow					
No non-core segments identified in Table 602 EPA's Finding: 13°C applies to summer chum and w. steelhead spawning dist Sept 1 - July 1 (Snow/Salmon and Jimmycomelately creeks) and Sept 15 – July 1 (Big/Little Quilcene and Chimacum creeks)		<i>Chum, summer</i> - Spawning early Sept - mid Oct in Snow/Salmon and Jimmycomelately creeks - Spawning mid Sept – mid Oct in Big/Little Quilcene and Chimacum creeks - Mass spawning on start date <i>Steelhead, winter</i> - Spawning mid Feb - mid June in WRIA			
WRIA 18 – Elwha-Dungeness					
Dungeness River from mouth to Canyon Creek (river mile 10.8) EPA's Finding: RM0 - RM10.8 = Core Note: Small tribs (except Mattrioti) and irrigation canals to/from this reach = Non-core 13°C applies to spring Chinook, pink, and w. steelhead spawning dist. from Sept 1- June 15 in Dungeness River below confluence w/Canyon Cr (also McDonald Cr., Siebert Cr., and Ennis Cr.) and Aug 15 – June 15 above Canyon Cr. 13°C applies to pink and w. steelhead	<i>Chinook, spring</i> <i>Coho</i> <i>Pink</i> <i>Steelhead, winter</i>	<i>Chinook, spring</i> - RM0 up - Spawning mid Aug to mid Oct - Consistent start time of mid to late August thorough RM 10.8 and above, sample years 1986-2002. [Jamestown S'Klallam Tribe, Unpub. Data 2004] <i>Pinks, odd year</i> - RM 0 upstream - Spawning mid Sept to late Oct (lower) - Spawning early Aug to mid Sept (upper) - Verified in SDB. - Morse Creek – Pinks spawn late July – late Sept [L. Elwha S'Klallam Tribe, Unpub. Data 2003] <i>Steelhead, winter</i> - RM 0 upstream - Spawning mid Feb- early June - Spawners use Morse, Siebert, and	<i>adult migration</i> presence/migration -timing not provided [WDFW Dist.]	RM 1 near Mouth 17.2°C (2002) 17.5°C (2003)	Essential Population for Recovery of Chinook Dungeness Water User Association is working to restore instream flows and lower temperatures for listed fish.

DOE Non-Core Designation & EPA's Findings	Summer Juvenile Salmon/Steelhead rearing (¹ WDFW Dist. unless noted)	Summer Salmon/Steelhead Spawning-Emergence (¹ WDFW Dist./ ² SASI Timing unless noted)	July-August Adult/Sub-Adult Bull Trout Use	³ Existing Temperatures (max 7DADM)	Habitat Conditions, Population Significance, Other Fish Uses, & Other Considerations
spawning dist. in Morse Creek from Aug 1 – June 15		McDonald creeks. - Steelhead spawning concludes in early to mid June in WRIA 18 streams [R. Cooper, WDFW, Pers. Comm. 11/22/04] - May-Jun steelhead spawning data found only for Morse Creek and Elwha River [WDFW SDB]. Dungeness R., Greywolf R., Siebert Cr., and McDonald Cr. also have May-June timing [WDFW Unpub. Data 2004].			
Non-core waters not specified in Table 602 (Tumwater, Valley, Peabody, White, and Ennis Creeks) EPA's Finding: Ennis Creek = Core Others above = Non-Core	<i>Steelhead, winter</i> (Ennis Creek)	<i>Steelhead, winter</i> - RM0 up (Ennis Creek) - Spawning mid Feb- early June - Only data found were a few records of coho in Ennis Creek and one record for White Creek also [WDFW SDB]. No other data for these streams found.			
Elwha River - <i>Already designated as Core in WAC.</i> EPA's Finding: 13°C applies to pink, Chinook, and w. steelhead spawning dist on the Elwha river from Sept 1 - July 1		<i>Chinook</i> - RM 0 up - Spawning late Aug - mid Oct - Both spring and summer Chinook have pre mid-September spawning in the Elwha [WDFW SDB] <i>Pinks</i> - RM0 up - Spawning early Sept - late Oct - Earliest pink spawning in mid August, earliest redds 8/16 in 2001 (RM 0-1.1) [WDFW SDB] <i>Steelhead</i> - RM0 up - Spawning mid Feb - mid June - Mid May spawning occurs in Elwha River (latest 5/19 in 2003). [WDFW SDB]			
WRIA 19 - Lyre/Hoko					

DOE Non-Core Designation & EPA's Findings	Summer Juvenile Salmon/Steelhead rearing (¹ WDFW Dist. unless noted)	Summer Salmon/Steelhead Spawning-Emergence (¹ WDFW Dist./ ² SASI Timing unless noted)	July-August Adult/Sub-Adult Bull Trout Use	³ Existing Temperatures (max 7DADM)	Habitat Conditions, Population Significance, Other Fish Uses, & Other Considerations
<p>No Non-Core segments identified in Table 602 – All streams in WRIA 19 are Core.</p> <p>EPA's Finding:</p> <p>13°C for w. steelhead spawning dist. from Feb 15 - July 1</p>		<p>Chinook, fall - Earliest Chinook spawning in WRIA 19 is in mid-late Sept. in Hoko, Little Hoko, Clallam, Pysht, and Sekiu [WDFW SDB].</p> <p>Steelhead, winter - Numerous rivers in WRIA 19 - Spawning mid Feb - mid June - Winter hatchery steelhead runs and spring native steelhead runs spawn in March/April No other species spawn in the summer period that would warrant the 13°C temperature criteria [C. Peterschmidt, Pers. Comm. 11/17/04]. - Steelhead spawning concludes in early to mid June in WRIA 18 and 19 streams [R. Cooper, WDFW, Pers. Comm. 11/22/04] - May-June spawning recorded in the following WRIA 19 streams: Salt, Nordstrom, Bear, Deep, Green, N.F. Green creeks and East Twin, West Twin, Pysht, S.F. Pysht, Callam, Hoko, Little Hoko., and Sekiu rivers [WDFW Unpub. Data 1998-2004, supplied by R. Cooper 2004]</p>	No known bull trout use in WRIA 19		Watershed has reduced riparian shading due to land use practices.
WRIA 20 - Soleduc					
<p>Dickey River</p> <p>EPA's Finding:</p> <p>Core</p> <p>13°C applies to w. steelhead spawning dist. from Feb 15 - July 1</p>	<p>Chinook, fall Coho Steelhead, winter Chum</p>	<p>Steelhead, winter - RM1 up - Spawning mid March - mid June - May-June steelhead spawning recorded in WRIA 20 in Goodman, Minter, and Mosquito creeks [WDFW Unpub. Data, 2004b]</p> <p>Chinook and coho salmon spawn in segment at other times.</p>		summer daily max temperatures exceed 18°C.	<p>Dickey River is a highly productive coho system based on estimates of 818 smolts/sq.mi. 4th most productive system of those measured in western Washington [Smith 2000]. Considered the most productive system in the entire WRIA.</p> <p>Dickey River coho and steelhead use all of the accessible tributaries and off-channel habitat for summer rearing [K. Kruger, Quileute Tribe, Pers. Comm. 2/22/05].</p>
Hoh River - <i>Already designated as Core in WAC</i>		<p>Chinook - Spawning mid August - late Sept (Hoh R.)</p>	None		

DOE Non-Core Designation & EPA's Findings	Summer Juvenile Salmon/Steelhead rearing (¹ WDFW Dist. unless noted)	Summer Salmon/Steelhead Spawning-Emergence (¹ WDFW Dist./ ² SASI Timing unless noted)	July-August Adult/Sub-Adult Bull Trout Use	³ Existing Temperatures (max 7DADM)	Habitat Conditions, Population Significance, Other Fish Uses, & Other Considerations
<p>EPA's Finding:</p> <p>13°C applies to spring/summer Chinook and w. steelhead spawning dist. in WRIA from Sept 1 - July 1, except for w. steelhead only spawning dist. from Feb 15 - July 1</p>		<p>- Late August spawning based on observations of new redds observed in Hoh R. mainstem in multiple years [Hoh Tribe Unpub. Data 1980-1995].</p> <p><i>Steelhead</i></p> <p>- Spawning mid March - mid June in WRIA</p> <p>- New redds observed in mainstem Hoh River after June 1st [Hoh Tribe Unpub. Data 1980-1995].</p> <p>- Late May through early June redds observed in Hoh tributaries (South Fork Big Flate, Lower South Fork Hoh River, Mount Tom Creek, Owl Creek and Winfield Creek [Hoh Tribe Unpub. Data 1980-1995].</p>			
WRIA 21 - Queets/Quinault					
<p>No non-core segments identified in Table 602</p> <p>EPA's Finding:</p> <p>13°C applies to spring/summer Chinook spawning dist. in WRIA River from Sept 15 – May 15, except from Sept 15 – July 1 on the Queets River above the Salmon R where this is w. steelhead spawning dist. .</p>		<p><i>Chinook</i></p> <p>- Spawning early Sept - late Oct</p> <p>- Queets River above and incl. Clearwater River</p> <p>- Quinault River above Chow Chow Creek</p> <p><i>Steelhead</i></p> <p>- Spawning mid March - late June</p> <p>- Queets River above Salmon R</p> <p>- Unknown in Quinault</p>	<p>The Queets and Quinault river systems support subpopulations of bull trout [HDR Inc. 2001]</p>		
WRIA 22 - Lower Chehalis					
<p>Chehalis River from upper boundary of Grays Harbor at Cosmopolis (RM 3.1, longitude 123° 45' 45"W) to Scammon Creek (river mile 65.8)</p> <p>Note: Upper WRIA boundary (RM33 - Porter Creek)</p>	<p><i>Chinook, fall</i></p> <p><i>Chinook, summer</i></p> <p><i>Coho</i></p> <p><i>Steelhead, winter</i> (upper part of WRIA)</p>	<p>No species spawning in segment in this timeframe</p>	<p><i>adult migration</i></p> <p>presence/migration -timing not provided [WDFW Dist.]</p> <p>Literature suggests that a subpopulation of char exists in the area but</p>		<p>The Chehalis and nearby drainages produce more coho smolts (575,000 in 1999) than any other system along the Washington Coast [Smith and Wenger 2001]</p>

DOE Non-Core Designation & EPA's Findings	Summer Juvenile Salmon/Steelhead rearing (¹ WDFW Dist. unless noted)	Summer Salmon/Steelhead Spawning-Emergence (¹ WDFW Dist./ ² SASI Timing unless noted)	July-August Adult/Sub-Adult Bull Trout Use	³ Existing Temperatures (max 7DADM)	Habitat Conditions, Population Significance, Other Fish Uses, & Other Considerations
<p>EPA's Finding: Non - Core</p>			<p>confirming data are limited [HDR Inc. 2001]</p>		
<p>Hoquiam River (continues as west fork above east fork) from mouth to river mile 9.3 (Dekay Road Bridge)(upper limit of tidal influence) (Rearing/Migration only)</p> <p>Hoquiam River basin (not specified in Table 602)</p> <p>EPA's Finding: RM 0 – RM 9.3 = Rearing/Migration Only Steelhead spawning dist = Core Lower East Fork (10 miles) = Non-Core</p>	<p><i>Chinook, fall</i> <i>Coho</i> <i>Steelhead, winter</i></p>	<p><i>Steelhead, winter</i> - Spawning mid Feb - mid June</p>			
<p>Humptulips River and tributaries from mouth to Olympic National Forest boundary on east fork (river mile 12.8)and west fork (RM 40.4) (main stem continues as West Fork)</p> <p>EPA's Finding: Steelhead spawning dist = Core Lower 4 miles = Non -Core</p>	<p><i>Chinook, fall</i> <i>Chum, fall</i> <i>Coho</i> <i>Steelhead, summer</i> <i>Steelhead, winter</i></p>	<p><i>Steelhead, winter</i> - Spawning mid Feb - late June</p>	<p><i>adult migration</i> presence/migration -timing not provided [WDFW Dist.]</p> <p>Native char have not been documented in the East or West forks of the Humptulips [HDR Inc. 2001]</p>		
<p>Satsop River from mouth to west fork (river mile 6.4)</p> <p>EPA's Finding: RM 0 – RM 6.4 = Core</p> <p>13°C applies to summer Chinook and w. steelhead spawning dist. in WRIA from Sept 15 - July 1,</p>	<p><i>Chinook, fall</i> <i>Chinook, summer</i> <i>Chum, fall</i> <i>Coho</i> <i>Steelhead, winter</i></p>	<p><i>Chinook, summer</i> - RMO up - Spawning early Sept - mid Oct</p> <p><i>Steelhead, winter</i> - Spawning mid Feb - late June</p>	<p><i>adult migration</i> presence/migration -timing not provided [WDFW Dist.]</p> <p>Unlikely to support native char population based on lack of captures during 7 years of seining sampling [HDR Inc. 2001]</p>		

DOE Non-Core Designation & EPA's Findings	Summer Juvenile Salmon/Steelhead rearing (¹ WDFW Dist. unless noted)	Summer Salmon/Steelhead Spawning-Emergence (¹ WDFW Dist./ ² SASI Timing unless noted)	July-August Adult/Sub-Adult Bull Trout Use	³ Existing Temperatures (max 7DADM)	Habitat Conditions, Population Significance, Other Fish Uses, & Other Considerations
<p>Wishkah River from mouth to river mile 6 (SW ¼ SW ¼ NE ¼ Sec.21-T18N-R9W) (Rearing/Migration only)</p> <p>Wishkah River from RM 6 (SW 1/4SW ¼ NE ¼ Sec.21-T18N-R9W) to west fork (RM 17.7)</p> <p>EPA's Finding: RM 0 – RM 6 = Rearing/Migration Only Steelhead spawning dist = Core RM 6 - about RM 15 = Non-Core</p>	<p><i>Chinook, fall</i> <i>Coho</i> <i>Steelhead, winter</i></p>	<p><i>Steelhead, winter</i> - Spawning mid Feb - late June</p>	<p><i>adult migration</i> presence/migration -timing not provided [WDFW Dist.]</p>		
<p>Wynoochee River from mouth to Olympic National Forest boundary (RM 45.9)</p> <p>EPA's Finding: Steelhead spawning dist = Core Lower 2 miles = Non -Core</p>	<p><i>Chinook, fall</i> <i>Chum, fall</i> <i>Coho</i> <i>Steelhead, winter</i></p>	<p><i>Steelhead, winter</i> - Spawning mid Feb - late June</p>	<p>No presence shown in Wynoochee [WDFW Dist.]</p>		
<p>Wildcat Creek (not specified in Table 602)(unless mistakenly noted in WRIA 23)</p> <p>EPA's Finding: Steelhead spawning dist = Core</p>	<p><i>Chinook, fall</i> <i>Chum, fall</i> <i>Coho</i> <i>Steelhead, winter</i></p>	<p><i>Steelhead, winter</i></p>	<p>No presence shown in Wildcat [WDFW Dist.]</p>		
<p>WRIA 22 - General</p> <p>EPA's Finding:</p> <p>Core for all other streams with w. steelhead spawning dist. in WRIA.</p> <p>13°C for w. steelhead spawning dist. for WRIA from Feb 15 - July 1</p>					

DOE Non-Core Designation & EPA's Findings	Summer Juvenile Salmon/Steelhead rearing (¹ WDFW Dist. unless noted)	Summer Salmon/Steelhead Spawning-Emergence (¹ WDFW Dist./ ² SASI Timing unless noted)	July-August Adult/Sub-Adult Bull Trout Use	³ Existing Temperatures (max 7DADM)	Habitat Conditions, Population Significance, Other Fish Uses, & Other Considerations
WRIA 23 – Upper Chehalis					
<p>Lower WRIA boundary (RM33 - Porter Creek) to RM 65.8</p> <p>Chehalis River from Scammon Creek (river mile 65.8) to Newaukum River (river mile 75.2)</p> <p>Chehalis River from Newukum River to Rock Creek (river mile 106.7)</p> <p>EPA's Finding:</p> <p>RM33 - Just above confl. w/South Fork = Non-Core</p> <p>Just upstream from South Fork Confluence = Core</p> <p>Tributaries to this segment with Steelhead spawning dist = Core</p> <p>13°C for spring Chinook spawning dist. on Chehalis mainstem from Oct 1 – May 15 (RM 33 to confl. w/Skookumchuck River; confl. w/Newaukum to confluence w/S.F. Chehalis)</p>	<p><i>Chinook, spring</i> <i>Chinook, fall</i> <i>Coho (tribs only)</i> <i>Steelhead, winter</i></p>	<p><i>Chinook, spring</i> - RM33 up - Spawning early Sept to Mid Oct - Spawning in the Chehalis mainstem downstream of the S.F. Chehalis starts in late September [D. O'Connor, WDFW, Pers. Comm. 11/05]</p> <p><i>Steelhead, winter</i> - Just above confluence with South Fork - Portions of tributaries to this segment - Spawning mid Feb - mid June</p>		<p>RM33 @ Porter 22.3°C (2001) 23.2°C (2002) 24.1°C (2003)</p> <p>RM101.7 @ Dryad 21.7°C (2001) 23.5°C (2003)</p>	
<p>Skookumchuck River up to RM 21.4</p> <p>EPA's Finding:</p> <p>RM0 -RM21.4 =Core</p>	<p><i>Chinook, spring</i> <i>Chinook, fall</i> <i>Coho</i> <i>Steelhead, winter</i></p>	<p><i>Chinook, spring</i> -RM 0 upstream -Spawning early Sept to Mid Oct</p> <p><i>Steelhead, winter</i> -RM 0 upstream - Spawning mid Feb - mid June</p>			
<p>Hanaford Creek from mouth to east boundary of Sec. 25-T15N-R2W (river mile 4.1)</p>	<p><i>Coho</i> (presence) <i>Steelhead, winter</i> (presence)</p>	<p>No summer spawning in this segment</p>			

DOE Non-Core Designation & EPA's Findings	Summer Juvenile Salmon/Steelhead rearing (¹ WDFW Dist. unless noted)	Summer Salmon/Steelhead Spawning-Emergence (¹ WDFW Dist./ ² SASI Timing unless noted)	July-August Adult/Sub-Adult Bull Trout Use	³ Existing Temperatures (max 7DADM)	Habitat Conditions, Population Significance, Other Fish Uses, & Other Considerations
EPA's Finding: Non-Core					
Newaukum River EPA's Finding: Core	<i>Chinook, spring</i> <i>Chinook, fall</i> <i>Coho</i> <i>Steelhead, winter</i>	<i>Chinook, spring</i> -RM 0 upstream -Spawning early Sept to Mid Oct <i>Steelhead, winter</i> -RM0 up - Spawning mid Feb - mid June			
Chehalis River, South Fork, from mouth to the unnamed tributary at longitude -□ 123.4127 and latitude 49.179 EPA's Finding: Core	<i>Chinook, spring</i> <i>Chinook, fall</i> <i>Coho</i> <i>Steelhead, winter</i>	<i>Chinook, spring</i> -RM 0 upstream -Spawning early Sept to Mid Oct <i>Steelhead, winter</i> -RM0 upstream - Spawning mid Feb - mid June			
WRIA 23 - General EPA's Finding: 13°C applies to spring Chinook and w. steelhead spawning dist. in WRIA from Sept 15 - July 1 (Skookumchuck, Newaukum, and Chehalis River above and including South Fork) and w. steelhead only spawning dist. from Feb 15-July 1		See above for specific rivers in WRIA			
WRIA 24 – Willapa					
Entire WRIA is non-core except Naselle above RM 18.6 EPA's Finding: Steelhead spawning dist = Core Waters downstream of Steelhead spawning dist = Non-Core	<i>Chinook, fall</i> <i>Coho</i> <i>Chum, fall</i> <i>Steelhead, winter</i> Juvenile rearing to the mouth in the North, Willapa, and Naselle and other rivers in WRIA	<i>Steelhead, winter</i> - North, Naselle, Willapa and other creeks in WRIA 24 - Spawning mid Feb - early June (Naselle) - Spawning mid Feb - mid June (Willapa)			

DOE Non-Core Designation & EPA's Findings	Summer Juvenile Salmon/Steelhead rearing (¹ WDFW Dist. unless noted)	Summer Salmon/Steelhead Spawning-Emergence (¹ WDFW Dist./ ² SASI Timing unless noted)	July-August Adult/Sub-Adult Bull Trout Use	³ Existing Temperatures (max 7DADM)	Habitat Conditions, Population Significance, Other Fish Uses, & Other Considerations
13°C applies to w. steelhead spawning dist. from Feb. 15 - June 15 (Naselle) or July 1 (Willapa)					
WRIA 25 Grays-Elochoman					
<p>Entire WRIA is non-core except Grays River above RM 15.8</p> <p>EPA's Finding:</p> <p>Steelhead spawning dist = Core Waters downstream of Steelhead spawning dist = Non-Core</p> <p>13°C applies to w. steelhead spawning dist. in WRIA from Feb. 15 - June 15</p>	<p><i>Chinook, fall</i> <i>Coho</i> <i>Steelhead, winter</i></p> <p>Juvenile rearing in the Abernathy, Elochoman, Skamokawa, and Grays and other rivers in WRIA</p>	<p><i>Chinook, fall Chinook</i> Skamokawa - RM2 up Germany Creek - RM0 up Spawning late Sept to Mid Nov</p> <p><i>Steelhead, winter</i> - Abernathy, Elochoman, Skamokawa, Germany, and Grays and other creeks in WRIA 25 - Spawning early March - early June</p>			
WRIA 26 - Cowlitz					
<p>Coweeman River from mouth to Mulholland Creek (river mile 18.4)</p> <p>EPA's Finding:</p> <p>RM 0 – RM 5 = Non-Core RM 5 & upstream = Core</p> <p>13°C applies to w. steelhead spawning dist. from Feb. 15 - June 15</p>	<p><i>Chinook, fall</i> <i>Steelhead, winter</i></p>	<p><i>Steelhead, winter</i> - RM5 up - Spawning early March - early June</p>			
<p>Cowlitz River from mouth to base of Riffe Lake Dam (river mile 52.0)</p> <p>EPA's Finding:</p> <p>RM0 - RM16 = Non-Core RM16 & upstream = Core</p> <p>13°C applies to s. Chinook & w. steelhead spawning dist. in from Sept. 1 - June 15; to w. steelhead spawning</p>	<p><i>Chinook, spring (RM20-40)</i> <i>Chinook, fall (portions)</i> <i>Steelhead, winter</i></p>	<p><i>Chinook, spring</i> - RM20 - RM40 Spawning late Aug to early Oct</p> <p><i>Steelhead, winter</i> - RM16 up - Spawning early March - early June</p>			

DOE Non-Core Designation & EPA's Findings	Summer Juvenile Salmon/Steelhead rearing (¹ WDFW Dist. unless noted)	Summer Salmon/Steelhead Spawning-Emergence (¹ WDFW Dist./ ² SASI Timing unless noted)	July-August Adult/Sub-Adult Bull Trout Use	³ Existing Temperatures (max 7DADM)	Habitat Conditions, Population Significance, Other Fish Uses, & Other Considerations
dist. only from Feb. 15 - June 15; to s. Chinook spawning only from Sept 1 – May 15					
<p>Toutle River - up to Green River on North Fork (about RM 10 on NF)</p> <p>EPA's Finding:</p> <p>Toutle River & Tribs = Core</p> <p>13°C applies to w. steelhead spawning dist. from Feb. 15 - June 15</p>	<p><i>Coho</i> <i>Steelhead, winter</i></p>	<p><i>Steelhead, winter</i> - RM0 up - Spawning early March - early June</p>			
WRIA 27 - Lewis					
<p>Kalama River below RM10.4 Lewis River below Lake Merwin East Fork Lewis River below RM24.6 [Not specified in Table 602]</p> <p>EPA's Finding:</p> <p>Kalama River RM 0-2 = Non-Core RM 2 upstream = Core Lewis River RM 0- RM 10 = Non-Core RM 10 upstream = Core East Fork Lewis River RM 0-6 = Non-Core RM 6 upstream = Core</p> <p>13°C applies to s. Chinook & w. steelhead spawning dist. in from Sept. 1 - June 15; to w. steelhead spawning dist. only from Feb. 15 - June 15</p>	<p><i>Chinook, fall</i> <i>Chinook, spring (except E Lewis)</i> <i>Coho (Lewis, E Lewis, & tribs)</i> <i>Steelhead, summer (Kalama, E Lewis)</i> <i>Steelhead, winter</i></p>	<p><i>Chinook, spring</i> - Lower Kalama River, Lower Lewis River Spawning late Aug to early Oct</p> <p><i>Steelhead, winter</i> - Lower Kalama, Lower Lewis River, East Fork Lewis - Spawning early January - early June (Kalama), early March - early (Lewis)</p>			
WRIA 28 Salmon-Washougal					
Entire WRIA is Non -Core except	<i>Chinook, fall (Washougal)</i>	<i>Steelhead, summer</i>			

DOE Non-Core Designation & EPA's Findings	Summer Juvenile Salmon/Steelhead rearing (¹ WDFW Dist. unless noted)	Summer Salmon/Steelhead Spawning-Emergence (¹ WDFW Dist./ ² SASI Timing unless noted)	July-August Adult/Sub-Adult Bull Trout Use	³ Existing Temperatures (max 7DADM)	Habitat Conditions, Population Significance, Other Fish Uses, & Other Considerations
<p>Lacamas Creek above lake.</p> <p>EPA's Finding:</p> <p>Steelhead spawning dist = Core Waters downstream of Steelhead spawning dist = Non-Core</p> <p>13°C applies to w. steelhead spawning dist. in WRIA from Feb. 15 - June 15</p>	<p><i>Steelhead, summer (Washougal)</i> <i>Steelhead, winter</i></p>	<p>- Washougal - Spawning early March - early June</p> <p><i>Steelhead, winter</i> - Salmon Creek and Washougal Rivers and other Creeks in WRIA - Spawning early March - early June</p>			
WRIA 29 Wind-White Salmon					
<p>Entire WRIA is Non-Core except Char designations in WRIA and Little White Salmon River, which drains into a lake [Note: portions of Wind River appear to have previously been AA water, but not designated core in Table 602]</p> <p>EPA's Finding:</p> <p>Wind River and White Salmon = Core</p> <p>Other Rivers draining directly into Columbia River = Non - Core</p> <p>13°C applies to s. Chinook & w. steelhead spawning dist. from Aug. 15 - June 15; to f. Chinook & w. steelhead spawning dist. from Sept. 15 - June 15; and to w. steelhead spawning dist. only from Feb. 15 - June 15</p>	<p><i>Chinook, Fall</i> <i>Chinook, Spring</i> <i>Steelhead, summer</i> <i>Steelhead, winter</i></p>	<p><i>Chinook, Fall</i> - Lower part of Wind & White Salmon - Spawning early Sept - late Sept (Wind), early - late Oct (White Salmon)</p> <p><i>Chinook, Spring</i> - Wind River - Spawning early Aug- mid Sept</p> <p><i>Steelhead, summer</i> - Wind River & lower White Salmon - Spawning early March - early June</p> <p><i>Steelhead, winter</i> - Wind River & lower White Salmon - Spawning early March - early June</p> <p>Note: some steelhead spawning in lower part of several small creeks draining into the Columbia River</p>			
WRIA 30 Klickitat					
<p>Klickitat River below RM19.8, including the Little Klickitat River plus several small streams draining into Columbia River</p>	<p><i>Chinook, Fall</i> <i>Chinook, Spring</i> <i>Steelhead, summer</i> <i>Steelhead, winter</i></p>	<p><i>Chinook, Fall (Tule)</i> - RM0 up - Spawning early Sept - late Sept</p> <p><i>Chinook, Spring</i></p>			

DOE Non-Core Designation & EPA's Findings	Summer Juvenile Salmon/Steelhead rearing (¹ WDFW Dist. unless noted)	Summer Salmon/Steelhead Spawning-Emergence (¹ WDFW Dist./ ² SASI Timing unless noted)	July-August Adult/Sub-Adult Bull Trout Use	³ Existing Temperatures (max 7DADM)	Habitat Conditions, Population Significance, Other Fish Uses, & Other Considerations
<p>EPA's Finding:</p> <p>Klickitat River RM 0-19.8 = Core All tributaries to this segment = Non-Core Little Klickitat = Non-Core, except Core above and including Jenkins Creek Small stream draining into Columbia River = Non - Core</p> <p>13°C applies to s. Chinook & w. steelhead spawning dist. from Aug. 15 - June 15; to f. Chinook & w. steelhead spawning dist. from Sept. 15 - June 15; and to w. steelhead spawning dist. only from Feb. 15 - June 1 (except Feb. 15 - June 15 on little Klickitat above Jenkins Creek)</p>		<p>- RM16 up - Spawning early Aug - early Sept</p> <p><i>Steelhead, summer</i> - RM0 up - Spawning early March - early June</p> <p><i>Steelhead, winter</i> - RM0 up - Spawning early March - early June</p>			
WRIA 31 Rock-Glade					
<p>Entire WRIA is Non-Core</p> <p>EPA's Finding:</p> <p>All Non-Core, except Core for upper Rock Creek (above and including Quartz Creek), upper Squaw, and upper Harrison Creeks</p> <p>13°C applies to w. steelhead spawning dist. from Feb. 15 - June 1</p>	<i>Steelhead, summer</i>	<p><i>Steelhead, summer</i> - Spawning throughout Rock Creek drainage and several streams entering the Columbia River - Spawning early March - early June - LFA report indicates Feb - April spawning, fry are believed to emerge April through mid June [Lautz 2000]</p>			
WRIA 32 Walla Walla					
<p>Mill Creek from mouth to 13th Street Bridge in Walla Walla (river mile 6.4)</p> <p>Walla Wall River from mouth to Lowden (Dry Creek at river mile 27.2)</p>	<i>Steelhead, summer</i> (Mill Creek)	No spawning in these segments, except summer Steelhead in Mill Creek (early Feb - late May)			

DOE Non-Core Designation & EPA's Findings	Summer Juvenile Salmon/Steelhead rearing (¹ WDFW Dist. unless noted)	Summer Salmon/Steelhead Spawning-Emergence (¹ WDFW Dist./ ² SASI Timing unless noted)	July-August Adult/Sub-Adult Bull Trout Use	³ Existing Temperatures (max 7DADM)	Habitat Conditions, Population Significance, Other Fish Uses, & Other Considerations
<p>(Migration/Rearing Only)</p> <p>EPA's Finding:</p> <p>Mill Creek = Non-Core Walla Walla = Migration/Rearing Only</p>					
<p>All other river segments Non-Core, except for Char designations.</p> <p>EPA's Finding:</p> <p>Spring Chinook dist. on Touchet & Mill Creek (also includes s. steelhead spawning dist.), plus upper s. steelhead spawning dist. in Whiskey, Coppei, and Dry Creeks = Core</p> <p>Rest of WAC Non-Core = Non-Core</p> <p>13°C applies to Spring Chinook & s. steelhead spawning dist. from Sept. 15 - June 15</p> <p>13°C applies to s. steelhead spawning dist. from Feb. 15 - June 15 in Core waters and from Feb. 15 - June 1 in Non-Core waters</p>	<p><i>Chinook, Spring</i> (Touchet) <i>Steelhead, summer</i> (Touchet)</p>	<p><i>Chinook, Spring</i> - Upper Touchet, Timing not specified in SASI, Spawning begins in early Sept – [Mendel et al. 2002] - Mill Creek: Chinook spawn late August-Sept. Earliest redd 8/29 in 2005 [Confederate Tribes of the Umatilla Indian Reservation, Unpub. Data, Brian Mahoney]</p> <p><i>Steelhead, summer</i> - Spawning early February – late May - Touchet, Coppei, Whisky Cr, Dry Creek, Walla Walla, Mill - WDFW notes substantial numbers of newly emerged fry are present in early July [G. Mendel, WDFW, Pers. Comm. 9/13/05] indicating that alevins are still in the gravels at this time.</p>			
WRIA 33 - Lower Snake					
<p>Entire WRIA Non-Core</p> <p>EPA's Finding: All WRIA Non-Core</p>	<p>No anadromous fish, except for the Snake River - migration for Chinook, Steelhead, Sockeye</p>				
WRIA 34 - Palouse					
<p>Palouse River from mouth to south fork (Colfax, RM 89.6) (Migration/Rearing</p>		<p><i>Chinook, Fall</i> - Below falls/timing not specified in SASI</p>			

DOE Non-Core Designation & EPA's Findings	Summer Juvenile Salmon/Steelhead rearing (¹ WDFW Dist. unless noted)	Summer Salmon/Steelhead Spawning-Emergence (¹ WDFW Dist./ ² SASI Timing unless noted)	July-August Adult/Sub-Adult Bull Trout Use	³ Existing Temperatures (max 7DADM)	Habitat Conditions, Population Significance, Other Fish Uses, & Other Considerations
<p>Only)</p> <p>EPA's Finding: Migration/Rearing Only, except Palouse River below falls = Non-Core</p>		<p>- Spawning begins in Oct [D. O'Connor, WDFW, Pers. Comm. 11/05]</p> <p><i>Chinook, Summer</i> - Below falls/timing not specified</p> <p><i>Steelhead, Summer</i> -Below falls/ timing not specified</p>			
<p>Rest of WRIA Non-Core, except tributaries to Rock Lake & South Cow Creek, which are Core</p> <p>EPA's Finding: WAC Non-Core = Non-Core</p>	<p>No anadromous fish in these WAC non-core waters</p>				
WRIA 35 – Middle Snake					
<p>Entire WRIA Non-Core, including Snake River from mouth to Washington-Idaho-Oregon border (river mile 176.1), except Char designations in WRIA and streams in Umatilla National Forest (including Tucannon River above RM38.1)</p> <p>EPA's Finding: Non-Core for all WAC Non-Core waters, except Core for Tucannon from RM20 - 38.1 (spring Chinook spawning dist.) and upper s. steelhead spawning dist. in Asotin, George, Tenmile, Cottenwood, and Grouse Creeks</p> <p>13°C applies to s. Chinook & s. steelhead spawning dist. from Sept. 1 - June 15 (Tucannon R. & Butte Creek); to s. steelhead spawning dist. in upper Asotin, George, Tenmile, and Cottenwood Creeks, and Grouse and Crooked Creeks from Feb. 15 - June 15; to lower elevation s.</p>	<p><i>Chinook, Spring</i> (Tucannon) <i>Steelhead, Summer</i> (Tucannon)</p> <p>Snake River - migration for Chinook, Steelhead, Sockeye</p>	<p><i>Chinook, Spring</i> - RM 20 upstream - Spawning from late Aug - late Sept</p> <p><i>Steelhead, summer</i> - Grande Ronde tribs - Spawning early March - early June - Tucannon - Spawning early Feb – late May</p>			

DOE Non-Core Designation & EPA's Findings	Summer Juvenile Salmon/Steelhead rearing (¹ WDFW Dist. unless noted)	Summer Salmon/Steelhead Spawning-Emergence (¹ WDFW Dist./ ² SASI Timing unless noted)	July-August Adult/Sub-Adult Bull Trout Use	³ Existing Temperatures (max 7DADM)	Habitat Conditions, Population Significance, Other Fish Uses, & Other Considerations
steelhead spawning dist. in WRIA from Feb 15 – June 1					
WRIA 36 – Esquatzel Coulee					
Entire WRIA is Non-Core, except several stream into lakes, which are Core EPA's Finding: No change to WAC designations	No anadromous fish, except for Columbia River				
WRIA 37 - Lower Yakima					
Entire WRIA is Non-Core, except for Char designations. Note: EPA is not taking action on the use designation/criteria on the Yakima River mainstem below RM 185.6 because there is no change to the site-specific temperature criterion. EPA's Finding: Non-Core for WAC Non-Core, except Core for Ahtanum above conf. with S.F. Ahtanum 13°C applies to s. steelhead spawning dist. in Ahtanum from Feb 15 - June 15	<i>Chinook, fall (Yakima R)</i> <i>Chinook, spring (Yakima R)</i> <i>Coho (Ahtanum and Spring Creeks)</i>	<i>Steelhead, summer</i> - Multiple tributaries - Spawning early March - early June - Spawning likely to end in mid-May in lower Ahtanum [Haring 2001]			
WRIA 38 - Naches					
Non-Core for all waters outside of National Forest including Naches from mouth to RM 35.7 (except all Tieton is Core) EPA's Finding: Core for Naches just above conf. w/Tieton River up to RM 35.7, rest of the above waters in	<i>Chinook, spring</i> <i>Steelhead, summer</i>	<i>Chinook, spring</i> - Naches River just above conf. w/Tieton River and upstream - Spawning early Sept - late Sept - American river (spawning late July- late Aug) <i>Steelhead, summer</i>			

DOE Non-Core Designation & EPA's Findings	Summer Juvenile Salmon/Steelhead rearing (¹ WDFW Dist. unless noted)	Summer Salmon/Steelhead Spawning-Emergence (¹ WDFW Dist./ ² SASI Timing unless noted)	July-August Adult/Sub-Adult Bull Trout Use	³ Existing Temperatures (max 7DADM)	Habitat Conditions, Population Significance, Other Fish Uses, & Other Considerations
<p>WRIA = Non-Core</p> <p>13°C applies to s. Chinook & s. steelhead spawning dist. from Sept 15 - June 15 (except from Aug 1 - June 15 in American River); to s. steelhead spawning dist. only from Feb 15 - June 15</p>		<p>- Naches River (all), including Cowiche and lower Spring Creeks - Spawning early March - early June - Spawning ends in mid-May below Tieton River [Haring 2001]</p>			
WRIA 39 - Upper Yakima					
<p>Non-Core for all waters outside of National Forest, including Yakima River from mouth to Cle Elum River (river mile 185.6).</p> <p>Note: EPA is not taking action on the use designation/criteria on the Yakima River mainstem below RM 185.6 because there is no change to the site-specific temperature criterion.</p> <p>EPA's Finding: Core for s. Chinook spawning dist (includes s. steelhead spawning dist.) and Swauk Creek (s. steelhead spawning dist)</p> <p>Non-Core for rest of WAC Non-Core designations (including tribs to lower portion of Teanaway, Swauk, Teneum, and Manastach Creeks)</p> <p>13°C applies to s. Chinook spawning dist. and s. steelhead spawning dist. from Sept. 15 - June 15 (upper Yakima, Taneum, and Manastach)</p> <p>13°C applies to s. steelhead spawning dist. from Feb. 15 - June 15 (Swauk)</p>	<p><i>Chinook, spring</i> <i>Steelhead, summer</i></p>	<p><i>Chinook, spring</i> - Yakima, Teanaway, lower Taneum, and lower Manastach Rivers - Spawning mid Sept - late Sept - Onset of spawning in early Sept and peak spawning from Sept 15- Oct 1 [Northwest Power Planning Council 2001]</p> <p><i>Steelhead, summer</i> - Yakima, Swauk, upper Teanaway, lower Taneum, and lower Manastach, and lower Umtanum Rivers - Spawning early March - early June</p>			<p>In 3 years we've had 200 actively moving fish with radiotags (85 in 2002/03, 98 in 2003/04, 107 in 2004/05). Of these, 1 female was in the 0.5 mile reach below Easton Dam, another female was found about 15 miles below Easton, and 12 fish have used the lower Cle Elum and Cle Elum-Yak confluence (including the above 2 fish). The most upstream fish in Cle Elum was found 3.5 miles upriver. (Cathy Karp, Pers. Comm. 2/8/06).</p>

DOE Non-Core Designation & EPA's Findings	Summer Juvenile Salmon/Steelhead rearing (¹ WDFW Dist. unless noted)	Summer Salmon/Steelhead Spawning-Emergence (¹ WDFW Dist./ ² SASI Timing unless noted)	July-August Adult/Sub-Adult Bull Trout Use	³ Existing Temperatures (max 7DADM)	Habitat Conditions, Population Significance, Other Fish Uses, & Other Considerations
13°C applies to s. Chinook spawning dist. from Sept. 15 - May 15 (lower Teanaway)					
WRIA 40 -Alkaki/Squilchuck					
EPA's Finding: No Change to WAC designations	No anadromous fish, except for Columbia River				
WRIA 41 - Lower Crab					
EPA's Finding: No Change to WAC designations.	No anadromous fish in WRIA, except lower Crab Creek and Sand Hollow, except for Columbia				
WRIA 42 - Grand Coulee					
EPA's Finding: No Change to WAC designations.	No anadromous fish				
WRIA 43 – Upper Crab-Wilson					
EPA's Finding: No Change to WAC designations.	No anadromous fish				
WRIA 44 -Moses Coulee					
EPA's Finding: No Change to WAC designations.	No anadromous fish				
WRIA 45 -Wenatchee					
Non-Core for all waters outside of National Forest, including Wenatchee River from RM 27.1 to mouth EPA's Finding: Core for Wenatchee River from RM27.1 to confl. with Peshastin Creek, including Chumstick and Icicle Creeks and part of Peshastin Creek, Non-Core for rest of	<i>Chinook, Spring Chinook, Summer Sockeye Steelhead, summer</i>	<i>Chinook, Spring</i> - Upper Wenatchee, Chiwawa, Icicle, Peshastin - Spawning early Aug - mid Sept - Spawning in Wenatchee river from RM 35 to 52 starts in early Sept [unpublished redd survey data, Chelan PUD] - Spawning upper Chiwawa starts in early Aug and in late Aug in lower Chiwawa [unpublished redd survey data, Chelan PUD]	<i>adult and sub-adult</i> presence/migration & juvenile rearing -timing not provided [WDFW Dist.] in some rivers in these WRIA's		

DOE Non-Core Designation & EPA's Findings	Summer Juvenile Salmon/Steelhead rearing (¹ WDFW Dist. unless noted)	Summer Salmon/Steelhead Spawning-Emergence (¹ WDFW Dist./ ² SASI Timing unless noted)	July-August Adult/Sub-Adult Bull Trout Use	³ Existing Temperatures (max 7DADM)	Habitat Conditions, Population Significance, Other Fish Uses, & Other Considerations
<p>WAC Non-Core designations</p> <p>13°C applies Aug 15 - July 15 for spring Chinook and s. steelhead spawning dist. in upper Chiwawa (above Chimakin), White, Little Wenatchee, Nason (<i>note: Char use designated for these waters so applicable criterion is 12C</i>), and Icicle Creek</p> <p>13°C applies: upper Wenatchee River above confl. w/Chiwawa and lower Chiwawa River from Sept 1 - July 1; Wenatchee river between RM 35 and confl. w/Chiwawa from Sept 15 - July 1; s. Chinook spawning dist. & s. steelhead spawning dist. on Peshastin Creek from Aug 15 - June 15</p> <p>13°C applies: Wenatchee River from confl. w/Peshastin Creek to RM 35 from Oct 1 – June 15; Wenatchee River below conf. w/Peshastin Creek Oct 1 – May 15; and for s. steelhead only dist. in WRIA from Feb 15 - June 15</p>		<p>- Spawning in lower Icicle and Peshastin starts in early Aug [unpublished redd survey data, Chelan PUD]</p> <p><i>Chinook, Summer</i></p> <p>- Wenatchee R. below Leavenworth</p> <p>- Spawning late Sept - late Oct</p> <p><i>Sockeye</i></p> <p>- Icicle Creek</p> <p>- Spawning mid Sept - late Oct</p> <p><i>Steelhead, summer</i></p> <p>- Wenatchee R. a few miles below Leavenworth & Chumstick Creek & Peshastin Creek</p> <p>- Spawning early March - mid July</p> <p>- Generally, mid July spawning for upper Columbia basin summer steelhead restricted to cold headwater tributaries [Northwest Power Planning Council 2002]</p>			
WRIA 46 -Eniat					
<p>Non-Core for all waters outside of National Forest, including Eniat River from RM20.5 to mouth</p> <p>EPA's Finding: Core Eniat River from RM20.5 to confl. with Mad river (including Mad river), Non-Core for rest of WAC Non-Core designations</p>	<p><i>Chinook, Spring</i></p> <p><i>Steelhead, summer</i></p>	<p><i>Chinook, Spring</i></p> <p>- Eniat & Mad rivers</p> <p>- Spawning early Aug - mid Sept</p> <p><i>Steelhead, summer</i></p> <p>- RM 20.5 down to about RM 10 & near RM 1</p> <p>- Spawning early March - early June</p>	<p><i>adult and sub-adult</i> presence/migration -timing not provided [WDFW Dist.]</p>		

DOE Non-Core Designation & EPA's Findings	Summer Juvenile Salmon/Steelhead rearing (¹ WDFW Dist. unless noted)	Summer Salmon/Steelhead Spawning-Emergence (¹ WDFW Dist./ ² SASI Timing unless noted)	July-August Adult/Sub-Adult Bull Trout Use	³ Existing Temperatures (max 7DADM)	Habitat Conditions, Population Significance, Other Fish Uses, & Other Considerations
13°C applies to s. Chinook & s. steelhead spawning dist. from Aug. 15 - June 15; to s. steelhead spawning dist. only from Feb 15 - June 15					
WRIA 47 - Chelan					
Several streams draining directly into Columbia River and outlet of lake Chelan EPA's Finding: No Change to WAC designations.	<i>Chinook, Spring Chinook, Summer Sockeye (all in lower part of Lake Chelan outlet)</i>	<i>Steelhead, summer</i> - In lower part of Lake Chelan outlet - No timing info			
WRIA 48 -Methow					
Methow River from mouth to Chewuch River (river mile 50.1) EPA's Finding: Core for Methow River from RM50.1 to confl. with Twisp River, Non-Core for rest of WAC Non-Core designations 13°C applies to s. Chinook & s. steelhead spawning dist. from Aug 15 - July 1 (except Sept 1 - June 15 for Methow river below conf. with Chuwuch River); Methow River from mouth to a few miles above confl. w/Twisp River from Oct 1 – June 15; for steelhead spawning dist. only in WRIA from Feb 15 – July 1	<i>Chinook, Spring Chinook, Summer Steelhead, summer</i>	<i>Chinook, Spring</i> - Upper Methow, Chewuch, and Twisp R. - Spawning early Aug - mid Sept - Spawning on Methow River between Chewuch and Twisp Rivers typically occurs in early Sept [C. Snow, Pers. Comm. 4/13/05] <i>Chinook, Summer</i> - Methow River down to mouth - Spawning late Sept - early Nov <i>Sockeye</i> - Above and below Twisp River confl. - Timing unknown <i>Steelhead, summer</i> - Methow River down to mouth - Spawning early March - mid July - Generally, mid July spawning for upper Columbia basin summer steelhead restricted to cold headwater tributaries [Northwest Power Planning Council 2002]. - Spawning in Methow basin peaks in mid April and most is probably done by end of May, some in June. Probably little June	<i>adult and sub-adult</i> presence/migration -timing not provided [WDFW Dist.]		

DOE Non-Core Designation & EPA's Findings	Summer Juvenile Salmon/Steelhead rearing (¹ WDFW Dist. unless noted)	Summer Salmon/Steelhead Spawning-Emergence (¹ WDFW Dist./ ² SASI Timing unless noted)	July-August Adult/Sub-Adult Bull Trout Use	³ Existing Temperatures (max 7DADM)	Habitat Conditions, Population Significance, Other Fish Uses, & Other Considerations
		spawning in Methow River below Chuwuch River [C. Snow, Pers. Comm. 4/13/05]			
WRIA 49 - Okanogan					
<p>All WRIA is Non-Core, including the Okanogan River, except for streams draining into lakes</p> <p>EPA's Finding: No Change to WAC designations.</p> <p>13°C applies to s. steelhead spawning dist. from Feb. 15 – June 15</p>	<i>Chinook, Summer</i>	<p><i>Chinook, Summer</i></p> <ul style="list-style-type: none"> - Okanogan River - Spawning early Oct - mid Nov <p><i>Sockeye</i></p> <ul style="list-style-type: none"> - Just below Lake Okanogan - Spawning early Oct - late Oct <p><i>Steelhead, summer</i></p> <ul style="list-style-type: none"> - Portions of Okanogan & Similkamean Rivers - Spawning March - mid May [Colville Tribe 2005] 			<p>New, significant summer steelhead spawning has been identified by the Colville Tribe in the Silmilkameen and Okanogan Rivers. Specific spawning sites and spawn timing information have been requested from WDFW sources. Besides mainstems, steelhead redds were counted in tributaries: Tunk Cr. Bonaparte Cr. Ninemile Cr. The spawning period for this system is March 28th through May 15th with peak spawning activity the 2nd week of April and progressing up stream (Colville Tribes 2005).</p>
WRIA 50 Foster					
<p>All WRIA is Non-Core</p> <p>EPA's Finding: No Change to WAC designations.</p>		<p><i>Chinook, Summer</i></p> <ul style="list-style-type: none"> - Columbia River and Foster Creek - Timing unknown 			
WRIs 51 – 61					
<p>EPA's Finding: No Change to WAC designations.</p>	No anadromous fish		<p><i>adult and sub-adult</i> presence/migration -timing not provided [WDFW Dist.] in some rivers in these WRIA's</p>		
WRIA 62					
<p>Pend Oreille River from Canada to Idaho boarder is Non-Core, including multiple tribs to this reach that are not on National Forest land.</p> <p>EPA's Finding:</p>	No anadromous fish		USFWS bull trout key recovery spawning/rearing habitat for Lower Cedar Creek, Mill Creek, and lower Le Clerc Creek, which		

DOE Non-Core Designation & EPA's Findings	Summer Juvenile Salmon/Steelhead rearing (¹ WDFW Dist. unless noted)	Summer Salmon/Steelhead Spawning-Emergence (¹ WDFW Dist./ ² SASI Timing unless noted)	July-August Adult/Sub-Adult Bull Trout Use	³Existing Temperatures (max 7DADM)	Habitat Conditions, Population Significance, Other Fish Uses, & Other Considerations
Core for Lower Cedar Creek, Mill Creek, and lower Le Clerc Creek			are designated Non-Core		