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To: Robert Woodard

From: Michelle Groesbeck

Subject: CURRENT STEELHEAD ESCAPEMENT DATA FOR ALL STREAMS IN WASHINGTON STATE

The following table is a statewide naturally spawning steelhead escapement data, by return year for winter run and by brood year for summer runs. The second table is any updates that may have occurred for previous years. The purpose of these tables is to incorporate data that has not been summarized yet into StreamNet to provide information on fisheries in a timely manner and a known location.

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Attach: Tables 1-2

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Table 1. 2007 Naturally Spawning steelhead escapement estimates. Return year for all years except Summer-Run Steelhead, which are Brood Year.

Stream	Run	TrendID	WRIA	Escapement Estimate	Comments
Abernathy Creek	Winter	180174	25.0297	200	Data for Abernathy Creek are total escapement estimates expanded from annual peak live plus dead spawner counts from the U.S. Fish & Wildlife Service Abernathy Creek Salmon Culture Technology Center weir (RM 3.0) downstream to the mouth of the creek.
Asotin Creek	Summer	180070	35.1716	342	Population estimates are based on the number of adults captured at the weir site near rkm 7.0.
Bear River	Winter	180388	24.0689	176	Data are total escapement based on redd counts in index area with in the Bear River.
Calawah River	Winter	180137	20.0175	3,144	Winter steelhead spawner escapement has been monitored for the Quillayute River system which includes the Sol Duc, Quillayute/Bogachiel, Calawah, & Dickey steelhead stocks, since 1978. In 1985 WDFW & Quilete Tribes agreed to a wild steelhead spawner escapement goal of 5900 for the entire Quillayute River system.
Carbon River	Winter	180106	10.0413	418	Data are total escapement estimates based on redd counts in all suitable

					steelhead spawning habitat of the Carbon River.
Cedar Creek	Winter	180520	27.0339	108	
Cedar River	Winter	180098	08.0299	0	
Chehalis River	Winter	180158	22.0190	1,201	Data are total escapement estimates based on redd counts in index areas within the Chehalis River basin.
Clallam River	Winter	180521	19.0129	110	Poor survey conditions in March due to high water & poor viewing conditions. Spawning escapement data have been collected since 1999 but are not yet sufficient to determine stock status. Escapement estimates are based on redd counts in index areas of the mainstem Clallam River. The index escapement goal is 159 spawners.
Clearwater River	Winter	180142	21.0024	1,762	Data are total escapement estimates based on redd counts in index areas in the Clearwater basin. Index areas include the MS Clearwater R (RM 0.5 to 2.7, RM 15.5 to 17.0 & RM 22.3 to 23.0) & tribs such as Shale Cr (RM 0 to 2.0), Miller Cr (RM 0 to 1.0 & RM 2.3 to 2.9), EF Miller Cr (RM 0 to 0.5), Christmas Cr (RM 0 to 1.3), Snahapish R (RM 0 to 1.6 & RM 2.3 to 5.2), Stequaleho R (RM 0

					to 1.8) & Sollecks R (RM 0 to 1.2 & RM 6.1 to 7.1).
Coweeman River	Winter	180177	26.0003	384	Total escapement data are total escapement estimates based on redd counts in index areas in the MS from the mouth to the confluence with Mulholland Cr (RM 18.4) & in Mulholland, Baird & Goble Creeks. Additional surveys are carried out in Mulholland, Baird & Goble Creeks during peak spawning.
Cowlitz River	Winter	180176	26.0002	706	Most spawning downstream of Mayfield Dam takes place in the lower MS Cowlitz R & in Ostrander and Salmon crs. Spawning also takes place in Olequa, Stillwater, Whittle, Arkansas, & Delameter crs. Cowlitz winter steelhead are also trucked above the three dams on the Cowlitz R & released into the Tilton R & Lake Scanewa, the uppermost reservoir. Spawning occurs in the Tilton R, the Cispus R & its tribs, & the upper Cowlitz and its tribs. This is a mixed stock with wild production.
Deep Creek	Winter	180115	19.0103	83	Poor survey conditions in March due to high water & poor viewing

					conditions. Escapement estimate for index only from RM 0.0 to RM 4.8
Dewatto River	Winter	180088	15.0420	28	Data are escapement estimates based on redd counts in the Dewatto River (RM 0 to 3.75).
Dickey River	Winter	180134	20.0097	214	Winter steelhead spawner escapement has been monitored for the Quillayute R system, which includes Sol Duc, Quillayute/Bogachiel, Calawah & Dickey steelhead stocks, since 1978. In 1985, WDFW & the Quileute Tribe agreed to a wild steelhead spawner escapement goal of 5,900 for the entire Quillayute R system.
Dosewallips River	Winter	180095	16.0442	15	Minimum estimate poor visibility due to high flows. Data are escapement estimates based on redd counts in Dosewallips R (RM 0.2 to 12.0).
Duckabush River	Winter	180522	16.0351	16	10 in Duckabush plus 6 in Johnson Cr (16.0253). Data are escapement estimates based on redd counts in the Duckabush R (RM 0 to 2.6).
East Fork Lewis River	Summer (BROOD YEAR)	180402	27.0173	412	Data are total escapement estimates 1995-2001 estimates are based on expanded of mid-July index snorkel counts. Estimates since 2002 are based on mark-recapture data

					collected annually through mid-summer adult tagging and late fall snorkel surveys.
East Fork Lewis River	Winter	180185	27.0173	448	Estimates based on redd counts expanded from index counts for tribs and MS. 2004 – Estimate based on Area-Under-the-Curve adjusted for observer efficiency of MS counts & redd counts expanded based on index counts for tribs.
East Twin River	Winter	180111	19.0082	23	Poor survey conditions in March due to high water & poor viewing conditions. Escapement estimate for index only from RM 0.0 to RM 2.6.
Elochoman River	Winter	180173	25.0236	300	Data from the Elochoman R are total escapement estimates based on redd counts in index areas in the MS from the mouth to the Elochoman Hatchery (RM 9.5) & in the 2 miles above the hatchery, & in the NF Elochoman, WF Elochoman, EF Elochoman & Otter Creek.
Entiat River	Summer (BROOD YEAR)	180523	46.0042	111	Estimate prior to 1987 may not be comparable to those from 1987 on. Wild steelhead estimate based on Rock Island Dam count minus Rocky Reach Dam count minus in-river harvest. Wild-hatchery break out

					based on radio telemetry data.
Germany Creek	Winter	180175	25.0313	132	Data for Germany creek are total escapement estimates expanded from annual peak live plus dead spawner counts from RM 3.5 downstream to the mouth of the creek.
Goodman Creek	Winter	180428	20.0346	---	Not enough surveys to complete an estimate. Data are escapement estimates based on redd counts in index area located on MS of Goodman Cr (RM0.3 to 12.0).
Grays River	Winter	180171	25.0093	724	Total escapement data are total escapement estimates based on redd counts in index areas in the mainstem Grays from tidewater to the confluence with the EF Grays R (RM 21.7) & in Hull Creek, WF Grays, SF Grays, Blaney & Mitchell creeks.
Green River (Toutle)	Winter	180180	26.0323	410	Data are index escapement estimates based on redd counts in index areas on the MS Green R & Elk, Cascade & Devils creeks.
Green River (Duwamish)	Winter	180099	09.0001	1,452	Data are total escapement estimates based on cumulative redd counts in all MS spawning areas (RM 26.4 to 59.9) & in index reaches in Soos & Newaukum creek totaling 12 miles.
Hamma Hamma River	Winter	180094	16.0251	193	Data are escapement estimates based on

					redd counts in the Hamma Hamma R (RM 0.3 to 1.8) & John Cr, a trib.
Hoh River	Winter	180140	20.0422	3,026	Data are total escapement estimates based on redd counts on the Hoh R & SF Hoh R. Terminal run size data are based on total escapement plus in-river tribal net-catches (wild only) & in river sport catches.
Hoko River	Winter	180117	19.0148	390	Poor survey conditions in March due to high water & poor viewing conditions. Data are total escapement estimates are based on redd counts in index areas in the mainstem Hoko & Little Hoko R & their tributaries.
Hoquiam River	Winter	180155	22.0137	418	Data are total escapement estimates based on redd counts in index areas within the Hoquiam R.
Humptulips River	Winter	180144	22.0004	2,096	Data are total escapement estimates based on redd counts in index areas within the Humptulips basin.
Kalama River	Summer (BROOD YEAR)	180060	27.0002	361	Data are total escapement estimates based on trap counts at Lower Kalama Falls (RM 10.5).
Kalama River	Winter	180181	27.0002	1,011	Data are total escapement estimates based on counts at the adult trap at Lower Kalama Falls (RM 10.5) expanded to account for fish that spawn below the trap.
Little Quilcene	Winter	180524	17.0076	39	Index escapement

River					data are index escapement estimates based on redd counts from RM 0.2 to 5.3 on the Little Quilcene River.
Lower Quinault River	Winter	180127	21.0398	1,050	Data are wild spawner total escapement estimates based on redd counts in index areas of the Quinault basin.
McDonald Creek	Winter	180123	18.0160	63	
Methow River	Summer (BROOD YEAR)	180074	48.0002	409	Estimate prior to 1987 may not be comparable to those from 1987 on. Wild steelhead estimate based on Rock Island Dam count minus Rocky Reach Dam count minus in-river harvest. Wild-hatchery break out based on radio telemetry data.
Mill Creek	Winter	180525	25.0284	44	Data for Mill Creek are total escapement estimates expanded from annual peak live plus dead spawner counts from the Mill Creek road bridge (RM 2.0) downstream to the mouth.
Morse Creek	Winter	180125	18.0185	118	Data are total escapement estimates based on redd counts in the entire anadromous zone of Morse Cr from RM 0 to 4.7.
Naselle River	Winter	180170	24.0543	617	Data are total escapement estimates based on redd counts in index areas within the Naselle River.
Nemah River	Winter	180166	24.0460	350	Data are total

					escapement estimates based on redd counts in index areas within the Nemah River.
Nisqually River	Winter	180109	11.0008	303	Data are total escapement estimates based on Nisqually R (mainstem only) redd counts. Survey conditions were poor in April & likely affected the estimate.
Nooksack River	Winter	180526	01.0120	---	Currently working on basin wide estimate with the tribes. Escapement data have been collected inconsistently for this stock. Consequently stock status is rated unknown in 2002. Status may be depressed because of recent flooding & habitat instability.
North Fork Skykomish River	Winter	180527	07.0982	---	No escapement estimate was determined due to chronic high flow events, preventing routine spawning ground surveys to occur.
North River	Winter	180059	24.0034	442	Data are total escapement estimates based on redd counts in index areas within North R & Smith creek.
Okanogan River	Summer (BROOD YEAR)	180075	49.0019	120	
Palix River	Winter	180168	24.0426	38	Data are total escapement estimates based on redd counts in index areas within Palix R basin.
Pilchuck River	Winter	180086	07.0125	976	Data are total escapement estimates based on redd counts

					on the mainstem Pilchuck R from RM 0 to 15.3 (counts from RM 0 to 7.5 are peak counts) & in Worthy, Dubuque & Little Pilchuck creeks
Puyallup River	Winter	180100	10.0021	91	Data are index escapement estimates based on redd counts in all suitable spawning habitat of the Puyallup R & it's tributaries.
Pysht River	Winter	180116	19.0113	79	Poor survey conditions in March due to high water & poor viewing conditions. Index areas include the mainstem Pysht and South Fork Pysht Rivers.
Queets River	Winter	180141	21.0016	2,650	Data are total escapement estimates based on redd counts in index areas in the Queets basin. Index areas include mainstem Queets R (RM 23.5 to RM 25.8) & tribs such as Salmon R (RM 3.7 to 4.7 & RM 10.8 to 11.9), Matheny Cr (RM 0.5 to 2.7), & Sams R (RM 1.9 to 3.0).
Quillayute/ Bogachiel River	Winter	180133	20.0096/ 20.0162	1,293	Poor survey conditions in March due to high water & poor viewing conditions. Winter steelhead spawner escapement has been monitored for the Quillayute R sys, which includes the Sol Duc, Quillayute/Bogachiel,

					Calawah, Dickey steelhead stocks, since 1978. In 1985, WDFW & the Quileute Tribes agreed to a wild steelhead spawner escapement goal of 5,900 for the entire Quillayute R sys.
Salt Creek	Winter	180126	19.0007	105	Poor survey conditions in March due to high water & poor viewing conditions. Data are total escapement estimates based on redd counts in index areas in Salt Cr & it's tribs.
Samish River	Winter	180079	03.0005	---	2007 data not available. Total escapement data are total escapement estimates based on cumulative redd counts in the mainstem Samish & in Friday Creek.
Satsop River	Winter	180161	22.0360	2,499	Data are total escapement estimates based on redd counts in index areas within the Satsop R basin.
Skagit River	Winter	180080	03.0176	4,242	Total escapement data are total escapement estimates for all Skagit Basin winter steelhead based on total observed & calculated redds in MS areas & total observed & calculated redds in tribs. For MS areas flights counting redds are conducted on the MS Skagit R from RM 27.5 to 94.1, the

					Sauk R from RM 0 to 39.9 & in the SF Sauk to RM 2.5. MS redds in areas not flown are expansions based on redds/mile in surveyed MS reaches of similar width & gradient. Total trib redds are calculated by regressing redd counts against spawning area in 13 index reaches & expanding for tribs not surveyed.
Skamokawa Creek	Winter	180172	25.0194	190	Data are from Skamokawa Creek total escapement estimates based on redd counts in index areas in the MS Skamokawa Cr from the mouth to the confluence with the LF Skamokawa Cr (RM 4.9) & in Wilson Cr, the LF, Standard & McDonald creeks.
Skokomish River	Winter	180092	16.0001	405	Data are total escapement estimates based on redd counts in index areas on the MS Skokomish (RM 0 to 9.0), in the NF Skokomish (RM 9.0 to 13.0) & in the SF Skokomish (RM 0 to 21.4). Surveys in 1992 & 1993, 1996 & 1997, as well as 2002 & 2003, were incomplete due to high water.
Skookumchuck/ Newaukum River	Winter	180528	23.0190	1,205	Data are total escapement estimates based on redd counts in index areas within

					the Newaukum & lower Skookumchuck Rivers plus dam counts for the upper Skookumchuck R.
Snohomish/ Skykomish River	Winter	180529	07.0012	---	No escapement estimate was determined due to chronic high flow events, preventing routine spawning ground surveys to occur. Data are total escapement estimates based on redd counts from RM 16.0 in the MS Snohomish to RM 51.5 on the SF Skykomish, in the Wallace R from RM 0 to 5.8, in the Sultan R from RM 0 to 15.0 (Snohomish PUD surveys), & in Proctor Creek, Elwell/Young's Cr, the East & West forks of Woods Cr, Olney Cr, Lewis Cr, & Salmon Cr.
Snoqualmie River	Winter	180087	07.0219	---	No escapement estimate was determined due to chronic high flow events, preventing routine spawning ground surveys to occur. Data are total escapement estimates based on redd counts in the MS Snoqualmie from the mouth upstream to Snoqualmie Falls (RM 40.5) in the MS Tolt, North & South forks of the Tolt, & Raging River & in Tokul, Cherry, Harris, Griffin, Patterson,

					Canyon & Deep creeks.
Sol Duc River	Winter	180132	20.0096	2,819	Winter steelhead spawner escapement has been monitored for the Quillayute R sys which includes the Sol Duc, Quillayute/Bogachiel, Calawah & Dickey steelhead stocks since 1978. In 1985, WDFW & the Quileute tribes agreed to a wild steelhead spawner escapement goal of 5,900 for the entire Quillayute R sys.
South Fork Toutle River	Winter	180179	26.0248	548	Data are total escapement estimates based on redd counts in index areas in the MS SF Toutle from the mouth to Goat Creek & in Studebaker, Johnson, Harrington & Loch creeks.
Stillaguamish River	Winter	180082	05.0001	762	Data are counts of spawners in the NF & tribs upstream from Deer Creek.
Sultan River	Winter	180530	07.0881	---	No escapement estimate was determined due to chronic high flow events, preventing routine spawning ground surveys to occur.
Tahuya River	Winter	180089	15.0446	175	Data are escapement estimates based on redd counts in the Tahuya R (RM 1.0 to 11.0).
Tolt River	Summer (BROOD YEAR)	180268	07.0291	50	Data are redd counts from Sunset Falls.
Touchet River	Summer	180065	32.0097	269	Data are wild

	(BROOD YEAR)				spawner index escapement estimates in the NF, SF, Wolf Fork & Robinson Fork of the Touchet R & in the upper MS Touchet. These indices do not include Coppei creek & many small tribs upstream from the town of Dayton.
Toutle River (Mainstem & North Fork)	Winter	180178	26.0227	155	Data are trap counts from the NF Toutle Fish Collection Facility. Redd surveys are also conducted in Wyant & Nineteen Mile creeks.
Tucannon River	Summer	180068	35.0009	137	Data are index escapement estimates based on spawner counts in the Tucannon R from the mouth of Sheep Creek downstream to Hwy 12 & in Cummings Creek.
Union River	Winter	180090	15.0503	21	Index escapement data are index escapement estimates based on redd counts in the Union R (RM 0.3 to 4.0).
Upper Quinault River	Winter	180128	21.0398	1,652	Data are total escapement estimates based on redd counts in the Quinault basin.
Wallace River	Winter	180531	07.0940	242	
Washougal River	Summer (BROOD YEAR)	180403	28.0159	681	95% CI +/- 371. Data are total escapement estimates based on index snorkel counts using expansion factors from recent mark recapture studies in summer steelhead holding pools.

Washougal River	Winter	180187	28.0159	632	
Wenatchee River	Summer (BROOD YEAR)	180072	45.0030	779	Total escapement data are wild spawner total escapement estimates.
West Twin River	Winter	180113	19.0093	42	Poor survey conditions in March due to high water & poor viewing conditions.
White River	Winter	180103	10.0031	327	
Willapa River	Winter	180167	24.0251	668	Data are total escapement estimates based on redd counts in index areas within the Willapa R basin.
Wind River	Summer (BROOD YEAR)	180062	29.0023	689	"Jumper" Estimate – 95% CI 650-738. Data are total escapement derived from snorkel index estimates based on a mark-recapture program. Summer steelhead are marked at the Shippard Falls trap & passed upstream. During snorkel surveys in index areas above the falls, numbers of marked & unmarked fish are counted & index escapement estimates are made. Data from 2000-2004 is based on "jumper" estimates at Shippard Falls & are considered preliminary estimates.
Wind River	Winter	180404	29.0023	13	
Wishkah River	Winter	180159	22.0191	440	Data are total escapement estimates based on redd counts in index areas within the Wishkah R.
Wynoochee	Winter	180160	22.0260	1,629	Data are total

River					escapement estimates based on redd counts in index areas within the Wynoochee R.
Yakima River	Summer (BROOD YEAR)	180071	37.0002	2,753	Data are total escapement estimates based on counts at Prosser Dam plus tribal harvest below Prosser minus sport & tribal harvest above Prosser.

Table 2. Updates or revisions for any previous years.

Stream	Run	Year	TrendID	WRIA	Escapement Estimate	Comments
Cedar Creek	Winter	2006	180520	27.0339	129	
Green River (Toutle)	Winter	2005	180180	26.0323	114	
Green River (Toutle)	Winter	2006	180180	26.0323	318	
Pilchuck River	Winter	2004	180086	07.0125	1,336	
Queets River	Winter	2005	180141	21.0016	3,737	
Skagit River	Winter	1993	180080	03.0176	N/A	
Skagit River	Winter	2006	180080	03.0176	6,757	
Snoqualmie River	Winter	2004	180087	07.0219	708	
Stillaguamish River	Winter	2006	180082	05.0001	676	
Washougal River	Summer	2004	180403	28.0159	Null	
Washougal River	Summer	2005	180403	28.0159	608	95% CI +/- 418
Washougal River	Summer	2006	180403	28.0159	636	95% CI +/- 212
Yakima River	Summer	1992	180071	37.0002	1,032	
Yakima River	Summer	1993	180071	37.0002	537	
Yakima River	Summer	1995	180071	37.0002	431	
Yakima River	Summer	1996	180071	37.0002	961	
Yakima River	Summer	1997	180071	37.0002	898	
Yakima River	Summer	1998	180071	37.0002	1,006	
Yakima River	Summer	2001	180071	37.0002	4,480	
Yakima River	Summer	2002	180071	37.0002	2,190	
Yakima River	Summer	2003	180071	37.0002	2,739	
Yakima River	Summer	2004	180071	37.0002	3,377	
Yakima River	Summer	2005	180071	37.0002	1,995	
Yakima River	Summer	2006	180071	37.0002	1,319	