





June 6, 2019

To: Interested Parties

From: Joseph Shramek, Washington Department of Natural Resources

Terra Rentz, Washington Department of Fish and Wildlife Mark Hicks, Washington Department of Ecology

## **Subject: Use of Field Surveys for Protocol Surveys during Drought Conditions**

On May 20, 2019, the Governor expanded the drought declaration issued on April 4th extending Washington's drought emergency on specific stream systems in Washington State. The definition of "drought" is when water supply for a geographical area (or statewide) is below 75% of normal (RCW 43.83B.400). The intent of this advisory letter is to provide background information and recommendations from the three State agencies that participate on interdisciplinary teams. The purpose is to help practitioners planning to conduct forest practices water type protocol surveys during the remainder of the 2019 survey season.<sup>1</sup>

State agencies recommend protocol surveys not be used in streams that are experiencing low flow conditions during drought designations due to the risk of mistyping, as well as the risk of having survey results rejected. There is a high likelihood that protocol surveys conducted during a drought will not be concurred with for determining the end of Type F waters. Landowners intending to pursue protocol surveys in drought designated area streams are strongly advised to request pre-consultation with DNR, WDFW, Ecology and the affected Tribe(s); which will likely include an ID team visit to the site.

We recommend during periods of drought that the physical criteria (WAC 222-16-031(3)(b)(i)) be used for water typing designations, and submitted as part of a forest practices application rather than through a separate Water Type Modification request. This is because permanent changes to the water type maps for fish and non-fish streams will not be accepted under most situations within drought designated areas. There may be a few exceptions to this if the surveyor can adequately justify within the water type modification form why drought conditions did not affect the proposed stream(s) on the date a protocol survey was conducted.

Drought conditions can create many biological concerns for fish such as increased mortality and disease from elevated temperatures and/or stranding, and a reduction in effective spawning from

<sup>&</sup>lt;sup>1</sup> This letter provides guidance beyond the information provided in the 2017 Fish Survey Season-Water Level and Streamflow Forecast letter issued on February 28, 2017 (Appendix A).

loss of spawning habitat. Flows and habitats may recede downstream or become isolated, and connectivity to once available stream segments or off-channel habitats can be temporarily lost. Protocol surveys may indicate that fish use is lower in the stream system than it would be under normal flows, resulting in under-representation of Type F waters. Furthermore, visual field observations of stream conditions may be unreliable for determining whether or not drought conditions are actually affecting the upper extent of fish use.

Consistent with the <u>Forest Practices Board Manual Section 13</u>, drought conditions necessitate greater caution by all parties when conducting and reviewing protocol surveys to establish the uppermost point of Type F waters.<sup>2</sup> This is an opportunity to remember that although the period of March 1 to July 15 is a reasonable time to presume that fish and flows are present, it is recommended in Board Manual 13 that practitioners consult in advance with WDFW and the affected tribes to determine the appropriate time to survey in a specific stream location. This is ever more important during drought conditions.

#### Resources for Determining Drought Conditions

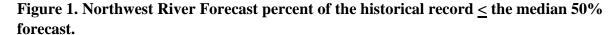
The agencies recommend the use of the NOAA/NWS Northwest River Forecast Center products as a basis for planning protocol survey activities. The Center produces a map showing "natural" stream flow forecasts as a percent of "normal" for streams with gauges in the Center's forecast area for the April through September period, and also provides a summary list with tabular forecast results. The agencies recommend using "less than 75 percent of average/normal" for the "50% exceedance" column of numbers when determining the drought condition of a given stream. The 50% exceedance factor is a designation of risk that has been used in the governor's drought declaration.

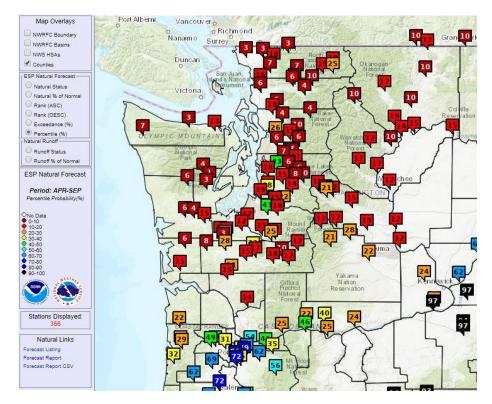
The map and summary list can be found at: <a href="https://www.nwrfc.noaa.gov/natural/index.html">https://www.nwrfc.noaa.gov/natural/index.html</a>. The screenshot of the map below will appear. Make sure to select the "% of average" in the legend to see the appropriate data. The summary list is accessible by clicking on the link shown on the lower portion of the legend.

Figure 1 is a screenshot example of the *summary list*, which has been narrowed down to include only stations in Washington State and for the 50% exceedance forecast. Table 1 provides the *summary list* that can be accessed online. It includes other states in the Pacific Northwest, so the ID number/text shown to the left of each stream or water body can be used as a direct link for querying updated information for a specific stream. The complete updated summary list can be assessed from the link shown on the map. Forecasts are updated daily (weekdays), and the agencies recommend referencing the most recent forecast before scheduling surveys.

2

<sup>&</sup>lt;sup>2</sup> This memo is focused on determining the extent of Type F waters, however, the general precautions and conditions also apply to establishing the uppermost limit of Type Np non-fish streams during these drought periods.





Not every stream in Washington is gauged or has enough gauge data to qualify for a forecast. In these cases, it is recommended that you check the status of a similar stream in the table and use local knowledge and expertise.

# Table 1. Northwest River Forecast Summary list example: natural flow forecast for water bodies in Washingston state on May 29, 2019.

The following summary list has been narrowed down to only Washington State and the "percent of normal" using the 50% exceedance forecast. It shows forecast data as of May 29, 2019 as an example. The primary column (in the table below and on the website) useful for determining drought conditions is "Percent of Normal", where less than 75% of the average would be used for a drought determination. *Check most recent updated forecast prior to scheduling surveys*.

#	ID	Name	50% Exceedence	% Normal	30 Year Normal
20	ASCW1	ASOTIN CREEK - NEAR ASOTIN	27.72	103	27
272	SHDW1	BAKER - LAKE SHANNON	782	77	1016

#	ID	Name	50% Exceedence	% Normal	30 Year Normal
328	<u>UBDW1</u>	BAKER - UPPER BAKER LAKE	648	80	806
42	BUMW1	BUMPING - BELOW BUMPING DAM	88.49	71	124
45	CALW1	CALAWAH - NEAR FORKS	91.2	58	158
103	FFXW1	CARBON - NEAR FAIRFAX	133	91	146
258	RNTW1	CEDAR - AT RENTON	174	78	223
194	MORW1	CEDAR - CHESTER MORSE LAKE	107	70	152
160	LNDW1	CEDAR - NEAR LANDSBURG	144	76	191
68	CRPW1	CHEHALIS - AT PORTER	375	65	575
49	CENW1	CHEHALIS - NEAR CENTRALIA	147	52	284
83	DOTW1	CHEHALIS - NEAR DOTY	43.86	61	72
51	CGMW1	CHEHALIS - NEAR GRAND MOUND	248	64	390
53	CHDW1	CHELAN - LAKE CHELAN DAM	780	69	1127
57	<u>CIYW1</u>	CISPUS - NEAR RANDLE	300	70	429
59	CLEW1	CLE ELUM - NEAR ROSLYN	315	75	417
257	RISW1	COLUMBIA - BLO ROCK ISLAND DAM	55500	84	66049
55	CHJW1	COLUMBIA - CHIEF JOSEPH DAM	51742	85	60659
112	GCDW1	COLUMBIA - GRAND COULEE DAM	51743	85	60655
173	MCDW1	COLUMBIA - MCNARY DAM	85488	92	93125
244	PRWW1	COLUMBIA - PRIEST RAPIDS DAM	55486	84	66054
260	RRHW1	COLUMBIA - ROCKY REACH DAM	54298	84	64558

#	ID	Name	50% Exceedence	% Normal	30 Year Normal
337	WANW1	COLUMBIA - WANAPUM DAM	55490	84	66052
341	WELW1	COLUMBIA - WELLS DAM	53370	84	63220
151	KTFW1	COLVILLE - AT KETTLE FALLS	87.61	67	131
48	CASW1	COWLITZ - AT CASTLE ROCK	2034	81	2521
220	PACW1	COWLITZ - AT PACKWOOD	489	83	590
249	RAWW1	COWLITZ - AT RANDLE	702	74	949
199	MYDW1	COWLITZ - MAYFIELD RESERVOIR	1541	81	1896
197	MSRW1	COWLITZ - MOSSYROCK RESERVOIR	1451	82	1774
63	COKW1	COWLITZ - NEAR KOSMOS	1411	84	1673
87	DSRW1	DESCHUTES - NEAR RAINIER	27.31	67	41
86	DRSW1	DUNGENESS - NEAR SEQUIM	114	78	145
96	ELWW1	ELWHA - AT MCDONALD BRIDGE NEAR PORT ANGELES	295	62	472
15	ARDW1	ENTIAT - NEAR ARDENVOIR	150	69	218
128	HHDW1	GREEN - HOWARD HANSON DAM	199	77	260
21	AUBW1	GREEN - NEAR AUBURN	266	80	334
122	HAGW1	HANGMAN CREEK - AT SPOKANE	71.94	184	39
139	ISSW1	ISSAQUAH CREEK - NEAR MOUTH	23.83	95	25
146	KACW1	KACHESS - NEAR EASTON	90.93	75	122
152	LAUW1	KETTLE - AT LAURIER	1317	70	1876
109	FRYW1	KETTLE - NEAR FERRY	678	66	1020

#	ID	Name	50% Exceedence	% Normal	30 Year Normal
233	PITW1	KLICKITAT - NEAR PITT	537	103	522
180	MEWW1	LEWIS - MERWIN DAM	844	78	1087
164	LSDW1	LITTLE SPOKANE - AT DARTFORT	113	105	108
355	WTHW1	METHOW - AT WINTHROP	503	70	720
225	PATW1	METHOW - NEAR PATEROS	658	74	895
182	MFNW1	MF NOOKSACK - NEAR DEMING	138	80	173
306	TANW1	MF SNOQUALMIE - NEAR TANNER	255	66	385
188	MLKW1	MILL CREEK - NR WALLA WALLA	36.85	136	27
177	MCMW1	MINERAL CREEK - NEAR MINERAL	55.63	84	66
60	CLFW1	NACHES - NEAR CLIFFDEL	262	63	413
202	NACW1	NACHES - NEAR NACHES	751	96	782
203	NASW1	NASELLE - NEAR NASELLE	39.45	69	57
204	NEWW1	NEWAUKUM - NEAR CHEHALIS	60.05	75	80
206	NFNW1	NF NOOKSACK - NEAR GLACIER	259	72	360
276	SKOW1	NF SKOKOMISH - BELOW STAIRCASE RAPIDS NEAR HOODSPORT	92.9	69	135
70	CSHW1	NF SKOKOMISH - CUSHMAN DAM	102	54	191
286	SNQW1	NF SNOQUALMIE - NEAR SNOQUALMIE FALLS	109	73	149
16	ARGW1	NF STILLAGUAMISH - NEAR ARLINGTON	266	59	454
7	ALRW1	NISQUALLY - ALDER RESERVOIR	315	83	378
186	MKNW1	NISQUALLY - AT MCKENNA	374	85	441

#	ID	Name	50% Exceedence	% Normal	30 Year Normal
207	NISW1	NISQUALLY - NEAR NATIONAL	230	86	267
211	NRKW1	NOOKSACK - AT CEDARVILLE	781	67	1159
209	NKSW1	NOOKSACK - AT FERNDALE	836	69	1215
215	OKMW1	OKANOGAN - AT MALOTT	959	58	1663
216	OKNW1	OKANOGAN - AT OROVILLE	207	52	396
320	TONW1	OKANOGAN - NEAR TONASKET	938	57	1633
132	HOPW1	PALOUSE - AT HOOPER	249	190	131
5	ALFW1	PEND OREILLE - ALBENI FALLS DAM	12740	95	13392
232	PILW1	PILCHUCK - NEAR SNOHOMISH	72.34	75	96
246	PUYW1	PUYALLUP - AT PUYALLUP	946	89	1063
218	ORTW1	PUYALLUP - NEAR ORTING	242	97	250
283	SMRW1	SAMISH - NEAR BURLINGTON	29.04	68	43
266	SATW1	SATSOP - NEAR SATSOP	181	58	313
338	WCHW1	SAUK - ABOVE WHITE CHUCK	268	64	415
263	SAKW1	SAUK - NEAR SAUK	1187	73	1624
212	NSSW1	SF NOOKSACK - AT SAXON BRIDGE	178	68	263
245	PULW1	SF PALOUSE - AT PULLMAN	16.1	179	9
297	SSUW1	SF SKOKOMISH - NEAR UNION	65.33	52	125
111	GARW1	SF SNOQUALMIE - NEAR GARCIA	67.22	68	99
113	GFLW1	SF STILLAGUAMISH - NEAR GRANITE FALLS	188	67	280

#	ID	Name	50% Exceedence	% Normal	30 Year Normal
316	TLRW1	SF TOLT - TOLT RESERVOIR	31.81	69	46
208	NITW1	SIMILKAMEEN - NEAR NIGHTHAWK	1174	69	1703
296	SRMW1	SKAGIT - AT MARBLEMOUNT	2028	77	2649
116	GORW1	SKAGIT - AT NEWHALEM	1673	83	2009
64	CONW1	SKAGIT - NEAR CONCRETE	4548	78	5852
198	MVEW1	SKAGIT - NEAR MT VERNON	4738	76	6268
259	RODW1	SKAGIT - ROSS RESERVOIR	1227	81	1523
71	CTAW1	SKOOKUMCHUCK - AT CENTRALIA	59.43	73	81
24	BCDW1	SKOOKUMCHUCK - NEAR BUCODA	45.3	72	63
115	GLBW1	SKYKOMISH - NEAR GOLD BAR	880	65	1349
136	IHDW1	SNAKE - ICE HARBOR DAM	27890	113	24643
157	LGSW1	SNAKE - LITTLE GOOSE DAM	27642	113	24512
155	LGDW1	SNAKE - LOWER GRANITE DAM	27642	113	24512
159	LMNW1	SNAKE - LOWER MONUMENTAL DAM	27890	113	24643
9	ANAW1	SNAKE - NEAR ANATONE	19500	116	16769
196	MROW1	SNOHOMISH - NEAR MONROE	2011	70	2862
67	CRNW1	SNOQUALMIE - NEAR CARNATION	739	71	1041
292	SQUW1	SNOQUALMIE - NEAR SNOQUALMIE	576	72	800
289	SPEW1	SOUTH PRAIRIE - AT SOUTH PRAIRIE	46.88	79	59
158	LLKW1	SPOKANE - AT LONGLAKE	2521	95	2661

#	ID	Name	50% Exceedence	% Normal	30 Year Normal
290	SPOW1	SPOKANE - AT SPOKANE	2390	95	2523
298	STHW1	STEHEKIN - AT STEHEKIN	586	74	791
18	ARLW1	STILLAGUAMISH - NEAR ARLINGTON	746	81	924
280	SLTW1	SULTAN - NEAR SULTAN	147	70	212
278	SLKW1	SULTAN - SPADA LAKE	126	67	189
318	TNAW1	TEANAWAY - BELOW FORKS	80.54	62	130
310	THNW1	THUNDER CREEK - NEAR NEWHALEM	306	93	329
255	RIMW1	TIETON - AT TIETON DAM	188	85	220
314	TILW1	TILTON - NEAR CINEBAR	135	86	157
319	TOLW1	TOLT - NEAR CARNATION	111	70	159
322	TOTW1	TOUTLE - AT TOWER BRIDGE	397	80	498
307	TCHW1	WALLA WALLA - NEAR TOUCHET	353	228	155
228	PESW1	WENATCHEE - AT PESHASTIN	1199	81	1489
189	MMRW1	WHITE - AT MUD MOUNTAIN DAM	457	87	528
351	WRAW1	WHITE - AT R STREET	510	98	519
331	UNDW1	WHITE SALMON - NEAR UNDERWOOD	329	88	374
346	WILW1	WILLAPA - NEAR WILLAPA	43.55	54	81
191	MNSW1	WYNOOCHEE - NEAR MONTESANO	133	61	217
357	WYDW1	WYNOOCHEE - WYNOOCHEE DAM	63.71	65	98
90	EASW1	YAKIMA - AT EASTON	297	86	344

#	ID	Name	50% Exceedence	% Normal	30 Year Normal
149	KIOW1	YAKIMA - AT KIONA	1970	89	2201
330	UMTW1	YAKIMA - AT UMTANUM	973	83	1169
130	HLKW1	YAKIMA - NEAR HORLICK	778	79	989
147	KEEW1	YAKIMA - NEAR MARTIN	95.58	72	132
224	PARW1	YAKIMA - NEAR PARKER	1763	87	2025

**Ensemble Date: 2019-05-29 Issued Date: 2019-05-29** 

## Appendix 1. DNR 2017 Protocol Stream Survey Process and Water Level and Stream Forecast.

February 28, 2017

TO: Interested Parties

FROM: Joe Shramek, Forest Practices Division Manager

**SUBJECT: 2017 Protocol Stream Survey Process and Water Level and** 

**Streamflow Forecast** 

## **Purpose**

"Protocol stream surveys" may be used to determine fish use and define the on-ground regulatory division point between fish and non-fish waters. Alternatively, the physical criteria of the stream in question govern water typing. Both methods are discussed in <u>WAC 222-16-031(3)(b)</u>. The purpose of this memo is to describe the Department of Natural Resources' (DNR's) expectations regarding submittal of proposed water type changes based upon stream surveys, reiterate expectations about the role of water type review teams, and provide a forecast of 2017 water abundance.

## **Background**

DNR's Forest Practices Division maintains and otherwise manages the hydrography-water layer (hydro layer) that is used by forest practices stakeholders for "typing" of waters associated with proposed forest practices applications. People may propose changes to waters typed in the hydro layer using water type modification forms (WTMFs) based on water type definitions found in rule (WAC 222-16-031) and with consideration of guidance provided in Forest Practices Board (FPB) Manual Section 13. DNR reviews proposed changes in consultation with affected tribes and the Washington State Departments of Ecology (Ecology) and Fish and Wildlife (WDFW).

Due to on-going work by the Forest Practices Board (FPB) and its Adaptive Management Program, DNR believes that new water typing rules and guidance will be adopted in the next year or two. In the meantime, this memo seeks to re-confirm the existing ways for conducting protocol stream surveys and determining the regulatory break between fish and non-fish waters.

The protocol must follow existing rule and consider Manual technical guidance until an alternative or alternatives are approved by the FPB. A portion of the 2002 DNR memo entitled "*Type 3 Water Breaks*" remains applicable going forward for those wanting to type waters based upon fish presence, and bears reiterating:

Under the interim water typing system, [regulatory break points between the Type F and Type N water segments<sup>3</sup>] are to be based upon fish presence, not fish habitat. After an acceptable fish use survey has been completed, the [regulatory break point between the Type F and Type N water segments] should be set at a point upstream of the last fish detection where presence of the last fish detected can be logically and directly assumed. This recognizes that the upper extent of [Type F] water is not necessarily "where the nose of the last fish detected breaks the surface" and requires the reasonable exercise of professional judgement. In other words, if it is reasonable to assume that the last fish detected was likely using an upward portion of the stream, then the [regulatory break point between the Type F and Type N water segments] should be set at the point which represents the upward extent of the fish use area. This is not the same as the upward extent of fish habitat.

This memorandum builds on the helpful guidance from the 2002 "Type 3 Water Breaks" memorandum expressed above, but otherwise supersedes it.

### **Expectations for Submitting Complete WTMFs**

Proponents of water type changes need to provide complete information on WTMFs<sup>4</sup> so that DNR and other water type reviewers have adequate information to fully understand and consider the request. This was a consistent concern voiced during the Adaptive Management Program's review of the current water typing process. Proponents will describe on a WTMF the specific field observations (that is, bankfull width, wetted widths, gradient, protocol pools, stream morphology and other applicable criteria) which contributed to their proposed location of each regulatory break point between Type F and Type N segments.

DNR expects water type modification proponents to provide specific information on the WTMF regarding each particular stream demonstrating how stream flows and fish use determinations were unaffected by low-water conditions, if present. DNR strongly encourages proponents to include photographs illustrating site conditions for other WTMF reviewers. Appendix A provides an example of a complete WTMF.

The DNR Region office will return incomplete WTMFs along with specific requests for missing or additional information required from the proponent in order for the WTMF to be deemed complete and ready for evaluation.

#### The Role of Water Type Review Teams

In 2010, DNR and stakeholders developed a process expected to result in an effective and efficient way to conduct the WTMF review, comment period, and decision-making process.

<sup>&</sup>lt;sup>3</sup> The 2002 memo from which this paragraph is cited used the term "Type 3 water break" here; for clarity, the term "regulatory break point between the Type F and Type N segments" has been substituted, consistent with the Forest Practices Board's 2006 amendment of WAC 222-16-031 regarding water typing nomenclature.

<sup>&</sup>lt;sup>4</sup> Pertinent information must be provided *on the water type modification form itself*; including important information only on attached field survey forms is insufficient.

Detail about that process can be found here: http://file.dnr.wa.gov/publications/fp\_watertyping\_reviewteam\_guidance.pdf

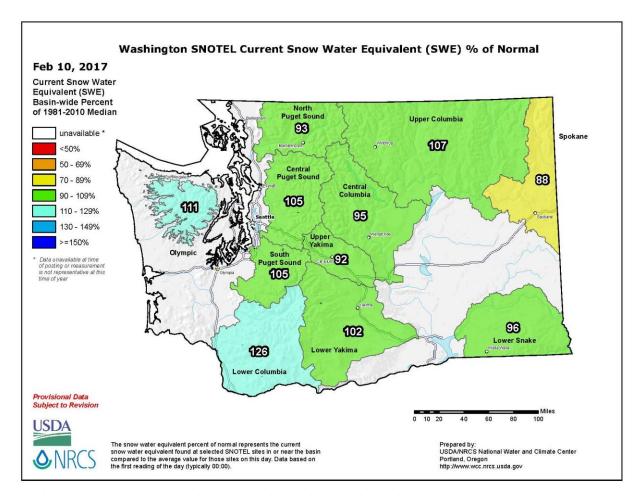
Using this process, reviewers (DNR, tribes, Ecology and WDFW) in each DNR Region formed water type review teams (WTR) to achieve increased collaboration, communication, and transparency of decisions. Recognizing the high degree of variability across the State, each WTR team has flexibility to develop methods for prioritizing WTMFs and for deciding on a frequency of meetings to review/discuss WTMFs that best fits its needs. DNR is committed to providing leadership aimed at reinvigorating use of this process in order to accomplish the desired benefits.

#### 2017 Forecast for Statewide Water Abundance

The DNR, in consultation with WDFW, provides the following forecast for statewide water abundance for the 2017 protocol stream survey season. This information focuses appropriate attention on potential drought conditions when scheduling and conducting protocol stream surveys. Many factors influence the extent and distribution of fish species in a watershed. Drought conditions can alter how fish species occupy or access streams.

The Natural Resource Conservation Service (NRCS) estimated statewide Washington State snow pack ("snow water equivalents") as of February 10, 2017 at 109 percent of normal (*Water Supply Outlook Report*), ranging from 88-126 percent (see map below). Current snow pack and rainfall has saturated soils, but as we move into the later part of the protocol stream survey season (for example, June through July 15) flows will be entirely dependent upon future temperatures and rainfall amounts and could therefore be minimal. Under Washington state law, drought conditions can exist at 75 percent or less of the basin's normal water supply (RCW 43.83B.400).

<sup>&</sup>lt;sup>5</sup> Forest Practices Board Manual Section 13, Part 2 "Guidelines for determining Fish Use for the Purpose of Typing Waters" (see WAC 222-16-031 *Interim Water Typing System*)



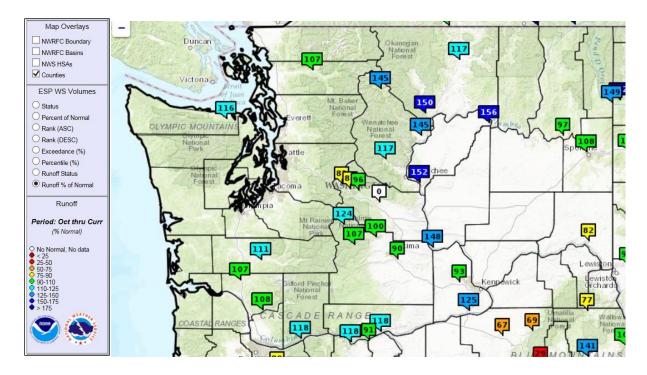
http://www.wcc.nrcs.usda.gov/ftpref/data/water/wcs/gis/maps/wa swepctnormal update.pdf

Water and fish managers review several forecasting products when considering a drought declaration under state law and rule.<sup>6</sup> In addition to the aforementioned NRCS information, Washington references the National Oceanic and Atmospheric Administration's (NOAA) Northwest River Forecast Center (NWRFC) forecast for water supply in Washington.

The following map depicts the NWRFC February 10, 2017 water supply forecast, and predicts water supplies to fall between 77% - 156% of normal for many western- and central-Washington streams.

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<sup>&</sup>lt;sup>6</sup> RCW 43.83B.400 to -.900; WAC 173-166.



Map courtesy of <a href="http://www.nwrfc.noaa.gov/ws/">http://www.nwrfc.noaa.gov/ws/</a>

Although the current snow pack levels and rain-dominated areas are at normal or above normal, the most-recent 3-month outlook predicts normal temperatures and below normal precipitation, which may impact protocol surveys planned for May 15 - July 15, 2017. If the prediction holds true, low flow or drought conditions could exist in streams and may require the use of physical characteristics to type streams (WAC 222-16-031(3)(b)(i)) because of an absence of adequate water in which to carry out protocol stream surveys. Surveyors are therefore urged to review specific current stream flow conditions (using the links provided below) prior to conducting surveys of streams located within low-flow geographic areas. Landowners should consult their DNR forest practices forester, WDFW habitat biologist, and/or tribal biologist prior to conducting protocol stream surveys during low-flow conditions.

Landowners and interested parties can find details regarding drought effects in specific basins by reviewing the following water supply forecast and stream flow resources:

The Natural Resource Conservation Service *Current Water Supply Outlook Report* is available at: <a href="http://www.nrcs.usda.gov/wps/portal/nrcs/detail/wa/snow/waterproducts/">http://www.nrcs.usda.gov/wps/portal/nrcs/detail/wa/snow/waterproducts/</a>

For drought status under the Washington State definition, as well as information about the state drought declaration process, review Ecology's 2016 drought web site at: <a href="http://www.ecy.wa.gov/drought/index.html">http://www.ecy.wa.gov/drought/index.html</a>

Ecology also provides links to a variety of water supply data and forecasting web sites at: <a href="http://www.ecy.wa.gov/programs/wr/ws/wtrsuply.html">http://www.ecy.wa.gov/programs/wr/ws/wtrsuply.html</a>

For details regarding whether or not drought may affect a specific basin, please review the Northwest River Forecast Center (NWRFC) "Ensemble Streamflow Prediction (ESP) Water Supply Forecast as Percent of Average," available at <a href="http://www.nwrfc.noaa.gov/ws/">http://www.nwrfc.noaa.gov/ws/</a>.

Flows at specific Washington locations can be reviewed at: <a href="http://waterdata.usgs.gov/wa/nwis/rt">http://waterdata.usgs.gov/wa/nwis/rt</a> and <a href="http://www.ecy.wa.gov/programs/eap/flow/shu\_main.html">http://www.ecy.wa.gov/programs/eap/flow/shu\_main.html</a>. Please review stream flow conditions prior to conducting surveys in low-flow-affected areas.

If applicable, proponents should also provide information demonstrating how fish use determinations were unaffected by mass wasting or stream scouring events where a water type change is being proposed.

If you have questions about conducting fish surveys or water typing, please contact Forest Practices staff at one of the six DNR region offices (see map):

Northeast: (509) 684-7474Northwest: (360) 856-3500Olympic: (360) 374-2800

Pacific Cascade: (360) 577-2025Southeast: (509) 925-8510

• South Puget Sound: (360) 825-1631

#### Attachment (14p.)

Stephen Bernath, DNR Deputy Supervisor for Forest Practices
DNR Region Managers
DNR Wildfire and Forest Practices Assistant Region Managers
Donelle Mahan, DNR Forest Practices Assistant Division Manager for Operations
Marc Engel, DNR Forest Practices Assistant Division Manager for Policy and Landowner Services