



**DEPARTMENT OF
NATURAL RESOURCES**

FOREST REGULATION DIVISION

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TO: Interested Parties

FROM: Teresa Ann Ciapusci, Region-Operations Outreach Manager

SUBJECT: 2023 Fish Survey Season-Water Level and Streamflow Forecast

The Department of Natural Resources (DNR), in consultation with the Department of Fish and Wildlife (WDFW), has collated information on water abundance and provides the following analysis of statewide water abundance for the 2023 fish survey season to focus appropriate attention on potential drought conditions when scheduling and conducting fish surveys.¹ Many factors influence the extent and distribution of fish species in a watershed. Drought conditions can alter how fish species occupy or access streams.

Under Natural Resource Conservation Service (NRCS) definitions, drought conditions may be present where basins have 70 percent or less of the basin's snow water equivalent. Under Washington state statute, drought conditions can exist at 75 percent or less of the basin's normal water supply.² The 2023 NRCS Report estimated Washington state snow pack ("snow water equivalents") ranges from 82 to 111 percent of normal statewide as of February 8, 2023 (Figure 1). The February 2023, *Water Supply Outlook Report* displays basin percentages of "normal" to "above normal," ranging from 81 to 229 percent.³

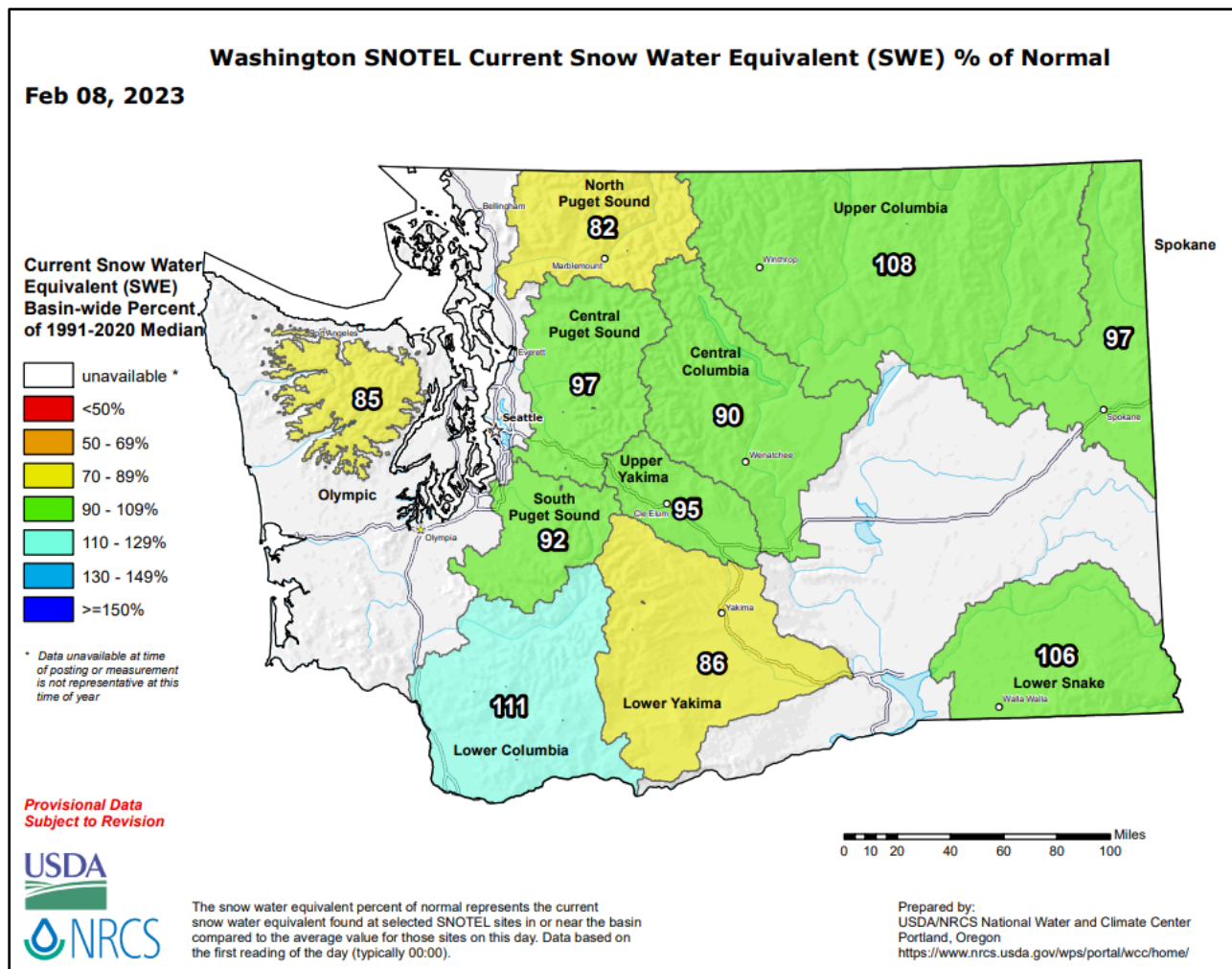
¹ Forest Practices Board Manual [Section 13, Part 2](#) "Guidelines for Determining Fish Use for the Purpose of Typing Waters" (see also WAC [222-16-031](#) *Interim Water Typing System*).

² [Chapter 43.83B.011](#) RCW; Drought Conditions Definition

³ NRCS January 1, 2023, Water Supply Outlook Report, page 3; [Washington Water Supply Outlook report | NRCS Washington \(usad.gov\)](#)

Figure 1. Washington SNOTEL snow water equivalent percentage of normal monthly outlook by basin as of January 20, 2023.

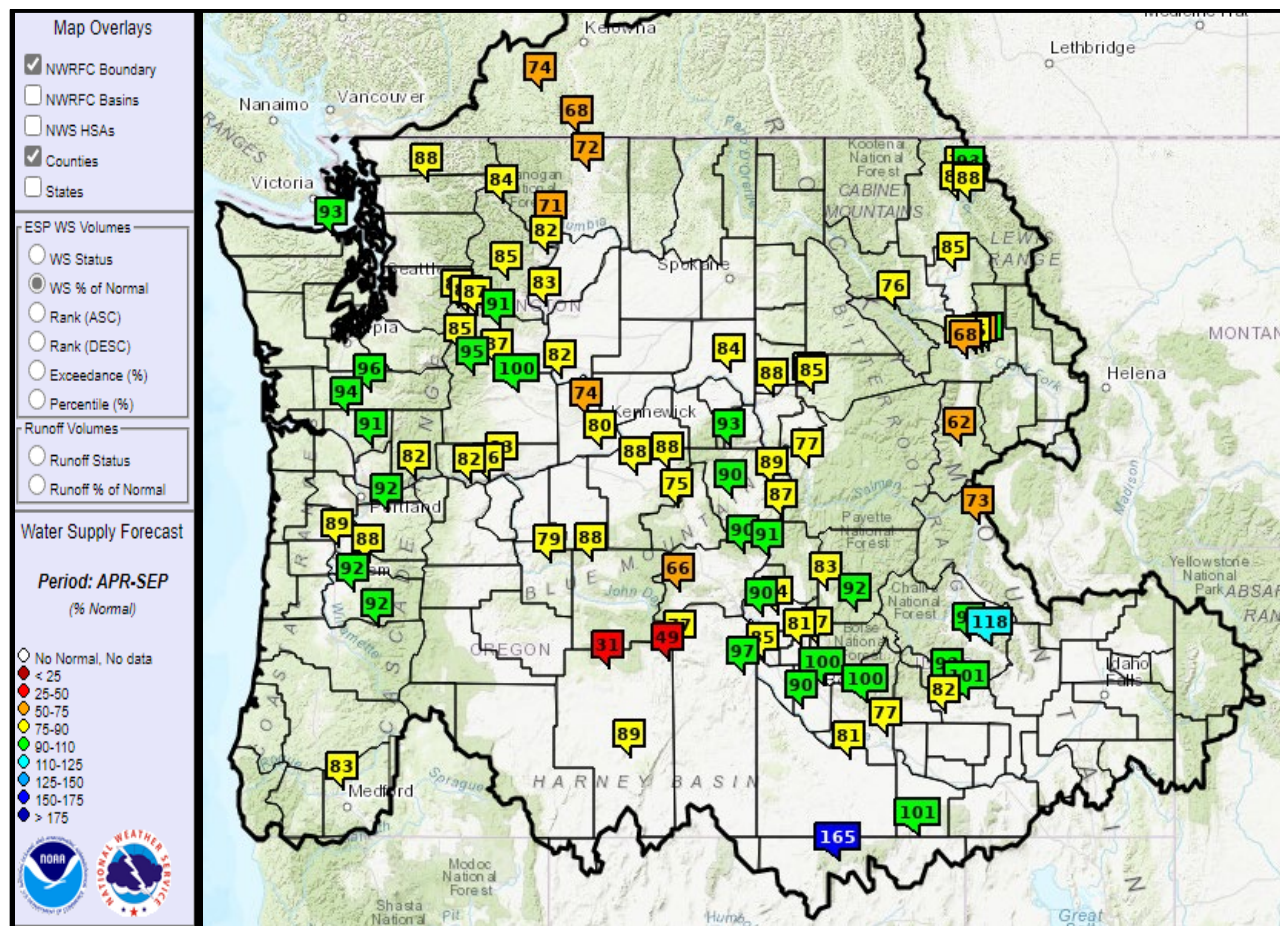
https://www.wcc.nrcs.usda.gov/ftpref/data/water/wcs/gis/maps/wa_swepctnormal_update.pdf



Washington water and fish managers review several forecasting products when considering a drought declaration under state statute and rule.⁴ 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. Figure 2 depicts the January 20, 2023, NWRFC water supply prediction for the period April - September 2023. As of this the last week of January 2023, water supplies are predicted to range between 31 and 165 percent of normal during April – September 2023, but are predominantly expected to average about 128 percent of normal for Washington streams.

⁴ Title [43.83B](#) (400-901) RCW; Chapter [173-166](#) WAC

Figure 2. NOAA Northwest River Forecast Center water supply prediction for the period April through September, 2023.



Map courtesy of <https://www.nwrfc.noaa.gov/ws/>

The current snow pack levels (Figure 1) and predictions for streamflow (Figure 2) are predominantly at or above normal. As well, the January 2023 NRCS *Water Supply Outlook Report* issued in late January indicates a high probability for above normal temperatures and above normal precipitation. Additionally, the report’s 3-month forecast indicates below normal temperatures and above normal precipitation, which is indicative of the forecasted *Enso La Nina*.⁵ Surveyors should review specific stream flow conditions (using the links provided below) prior to

⁵ NRCS January 1, 2023, Water Supply Outlook Report, page 3; [Washington Water Supply Outlook report | NRCS Washington \(usad.gov\)](#)

conducting surveys in low-flow affected areas. Landowners should consult with their DNR Forest Practices Forester, the DNR Small Forest Landowner Regulation Assistance Fish and Wildlife Biologist, a WDFW habitat biologist, and/or tribal biologist prior to conducting a protocol survey during low-flow conditions.

Proponents of water type changes need to answer all questions in the Water Type Modification Form and should provide specific information (pictures are strongly encouraged) demonstrating how stream flows and fish use determinations were unaffected by low-flow conditions, if present. If applicable, proponents should also provide information demonstrating how fish use determinations were unaffected by mass wasting or stream scouring events. DNR will process water type modifications only when complete information is provided on the water type modification forms in support of the proponent's request (for example, justification solely on a phrase such as "*flow was good*" is considered insufficient).

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*: <https://www.nrcs.usda.gov/sites/default/files/2023-01/01-Jan-WA-Water-Supply-Outlook-Report.pdf>
[2 Title 43.83B \(400-901\) RCW; Chapter 173-166 WAC](#)
- For drought status under the Washington State definition, as well as information about the state drought declaration process, review Ecology's drought information: Statewide Conditions: <https://ecology.wa.gov/Water-Shorelines/Water-supply/Water-availability/Statewide-conditions>
- Ecology also provides links to a variety of water supply data and forecasting web sites: <https://ecology.wa.gov/Water-Shorelines/Water-supply>
- 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*": <http://www.nwrfc.noaa.gov/ws/>.
- Please review stream flow conditions prior to conducting surveys in low-flow-affected areas. Review flows at specific Washington locations at:
 - Flow Monitoring Network: <https://fortress.wa.gov/ecy/eap/flows/regions/state.asp>
 - WA Current Streamflow Summary:

<https://waecy.maps.arcgis.com/apps/Viewer/index.html?appid=832e254169e640fba6e117780e137e7b>

If you have questions about conducting protocol fish presence surveys or water typing in general, please contact Forest Practices staff at one of the six DNR region offices:

- Northeast: (509) 684-7474
- Northwest: (360) 856-3500
- Olympic: (360) 374-2800
- Pacific Cascade: (360) 577-2025
- Southeast: (509) 925-8510
- South Puget Sound: (360) 825-1631

cc:

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