



Surface Water Hydrology Section 2021-23 Biennium Projects and Priorities

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Item A, Attachment 3

Attachment 3



Surface Water Hydrology Section 2021-23 Biennium Work Priorities and Projects

The Surface Water Hydrology Section within the Technical Services Division of the Oregon Water Resources Department (OWRD) provides surface water and water use data, information, and analysis for the Department and the public. Our work supports the responsible management of water supplies in alignment with OWRD's Integrated Water Resources Strategy (IWRS) and 2019-24 Strategic Plan. Our team of scientists use best available science and collaborate with other technical experts to provide effective technical support.

Current Operations

Hydrographics – Review and publish streamgage and other surface water data (KPM 4)

- Analyze stream/diversion gage data to produce flow records at over 250 gages across Oregon
- Perform QA/QC for over 200 measurements a month
- Collaborate with Field to install new surface water measurement devices
- Establish and maintain contracts for equipment and gage operation across OWRD
- Maintain best practices and support training for all staff taking surface water measurements
- Collaborate with the USGS on improvements to Oregon's gage network

Surface Water Availability – Characterize surface water supplies available for allocation

- Maintain the Water Availability Reporting System (WARS) to accurately evaluate new applications
- Address identified errors in WARS and provide internal and external customer service
- Input credits/debits to Deschutes mitigation model to estimate effects on streamflow

Hydrologic Studies – Design and implement surface water studies and support planning

- Design and implement surface water data collection and analysis for the Walla Walla Basin Study and Recharge Study in collaboration with USGS over next decade
- Design monitoring and analysis for seasonal (or shorter term) water-management challenges
- Analyze, review, and apply hydrologic data in support of externally led water planning

Evapotranspiration (ET)/Water Use – Develop reliable and accessible water datasets (KPM 13)

- Support Water Use Reporting and track, link, and maintain the Water Use Reporting database
- Review, prioritize and implement improvements per the 2022 Water Use Report to the Legislature
- Perform analysis of water use in support of Walla Walla basin study
- Coordinate with OSU Extension, Agrimet, and other Federal, state, and technical partners on various projects, including installation of ground-based weather and ET data collection

Drought Condition Reporting and Drought Declaration Coordination

- Coordinate Water Supply Availability Committee and Drought Readiness Council
- Publish bi-weekly Water Supply Conditions Report



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2021-2023 Surface Water Hydrology Projects and Timelines

Administration

Jul 2021	Surface Water Manager recruitment – hired
Nov 2021 – Dec 2021	Senior Hydrographer (NRS 4) recruitment - hired
Aug 2021 – Dec 2021	Senior Hydrologist (Field) (NRS 4) move from FS to SWH - complete
Nov 2021 – Dec 2021	Hydrographer (NRS 3) recruitment – hired
Jan 2022 – Mar 2022	Hydrographer (NRS 3) recruitment – hired
Jan 2022 – Apr 2022	Hydrologist (CREP) (NRS 3) recruitment – hired
Feb 2022 – Apr 2022	Senior Hydrologist (ET/Water Use) (NRS 4) recruitment – hired
May 2022 – Jul 2022	Hydrologist (ET/Water Use) (NRS 3) recruitment – hired
May 2022 – Jun 2022	Hydrologist (ET/Water Use) (NRS 2) recruitment – hired
May 2022 – Jun 2022	Hydrographer (NRS 2) recruitment – hired
Jun 2022 – Nov 2022	Senior Hydrologist (Water Availability) (NRS 4) recruitment-hired
Jun 2022 – current	Senior Hydrologist (Field) (NRS 4) recruitment – interviewing
Aug 2022 – current	Reclassification of filled AS 1 to NRS 1
TBD	Hydrologist (Water Availability) (NRS 3) recruitment – position in development
TBD	Hydrographer (NRS 2) recruitment – position in development
Nov 2021 – Dec 2022	Project Management for Work Reimagined for Salem office
Jul 2021 – Jun 2023	Manage multiple water use/ET grants (i.e., DRI, USGS, NASA, and open RFP)

Water Availability, Drought, ET/Water Use, and Field Hydrology

Jan 2022 – Dec 2022	Perform analysis to identify gaps in the natural flow gage network
Jul 2021 – Jun 2022	Hydrologic analysis to support protest backlog reduction
Oct 2022 – Feb 2023	Provide technical support for the Drought Vulnerability Study
Nov 2022 – Feb 2023	Establish satellite-based ET partnerships and engage in stakeholder outreach to learn about, support, and coordinate technical and outreach work in Oregon
Jul 2021 – Jun 2023	Establish and implement contract to develop and publish data and report for field-scale and HUC-12 summaries of water use from 1985 through 2021
Jun 2022 – Jun 2023	Coordinate Agrimet station network expansion (BOR, Extension, OCS)
Jul 2021 – Jun 2023	Walla Walla Basin Study – Implement SW plan, collab with others on data collection; analyze SW data with respect to other datasets and analysis
Oct 2022 – Jun 2023	Statewide Recharge Study – Plan and initiate
Jul 2021 – Jun 2023	Technical support for Deschutes, Umatilla, Klamath, and Walla Walla planning
Aug 2022 – Jun 2023	Initiate CREP program in partnership with East Region, OWEB, and Farm Service

Hydrographics

Jul 2021 – Jun 2023	Install new gages in Walla Walla, Crooked River, and other basins
Jul 2021 – Jun 2023	Develop electronic field forms in collaboration with IS and FS
Jul 2021 – Jun 2023	Develop and implement Hydro Training-Team to support consistent data quality
Aug 2022 – Jun 2023	Implement crest stage-gage program for flood monitoring
Sep 2022 – Jun 2023	Publish backlog stream/diversion records pertinent to basin studies and HB 2018

Work on Hold

Update Water Availability – Update natural streamflow and consumptive use and consider updating the modeling approach; requires significant rebuilding of agency tools and capacity. *IWRS 1.B, 5.B, and 13.B*

Perform Statewide Gage Network Evaluation – Assess effectiveness of the network. *IWRS 1.B and 1.C*

Improve public access to data – Develop dataset tools, visualizations, and other technical assistance, including updating frequently used tools. *IWRS 1.B and 1.C*

Guided by Existing Plans

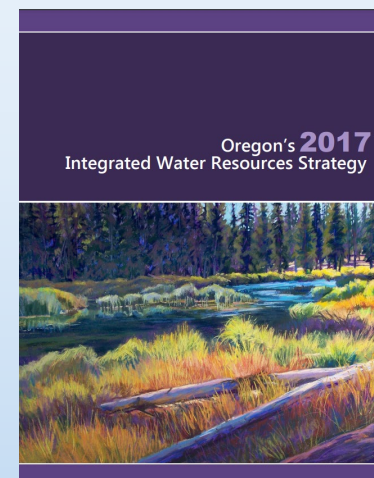
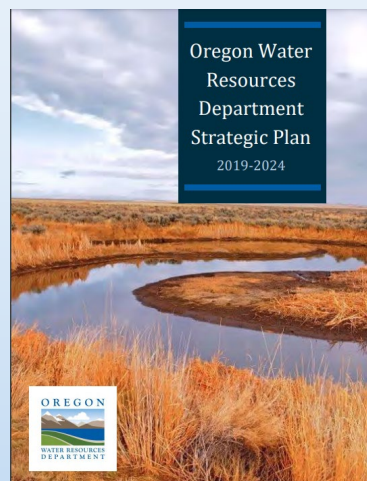
- Core agency functions defined in the 2019 Strategic Plan
- All work aligned with 2017 IWRS recommended actions and Legislative KPMs

Data and
Information

Distribution
and
Regulation

Water Right
Transactions

Meeting
Future Needs



Core Functions

- **Hydrographics** – review and publish surface water data
- **Surface Water Availability** – characterize SW supplies available for allocation, drought conditions and declaration
- **Hydrologic Studies** - reach to regional-level investigations
- **Evapotranspiration/Water Use** – develop reliable and accessible water use data



Data and
Information

Distribution
and Regulation



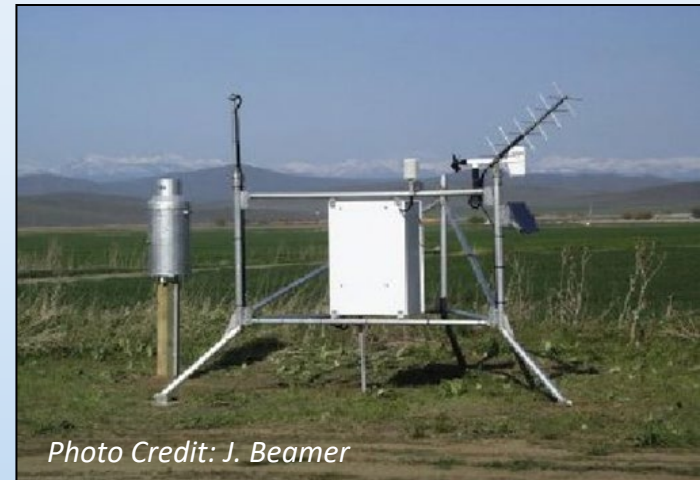
Water Right
Transactions

Meeting Future
Needs



Projects: Administration

- Section expanded from 8 to 17 positions
- Hired 11 positions, migrated 1 position
- Working through 4 additional hires and 2 position reclasses
- Grant management



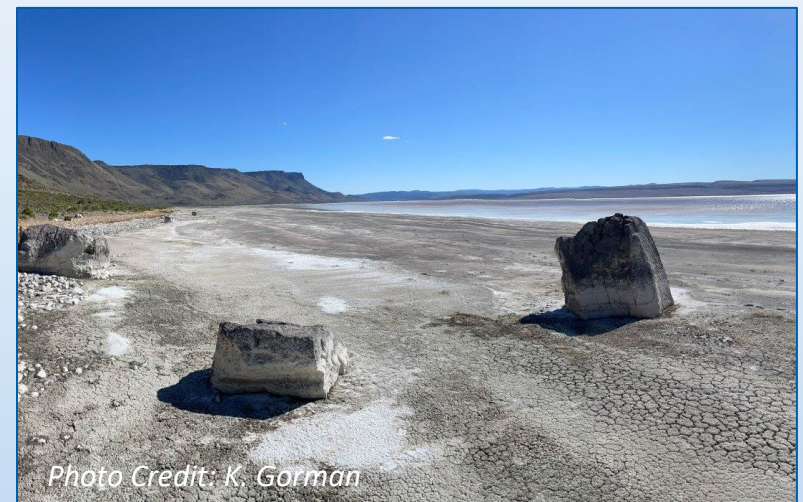
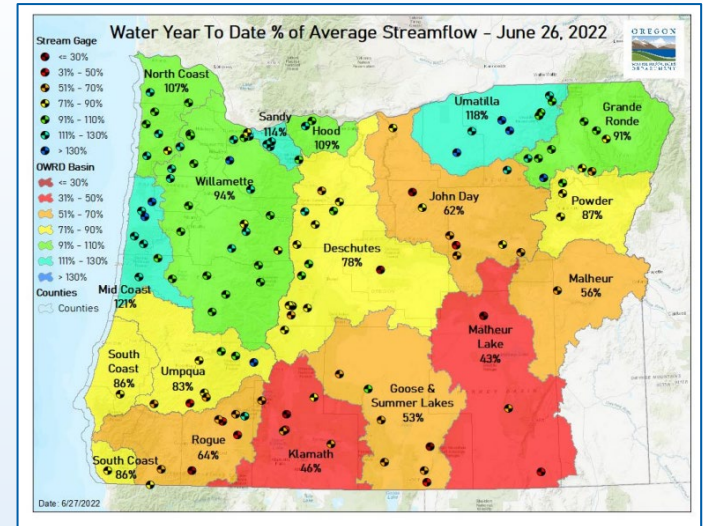
Projects: Hydrographics

- Installing gages in study areas*
(FSD, GW, ODFW, USGS)
- Publish backlog stream/diversion records*
- Develop electronic field forms
(IS, FSD)
- Establish Hydro-Training Team to improve hydrographics capacity
(FSD)
- Implement crest-stage gage
- Improvements to network

*Support HB 2018



- Gaps analysis for natural flow gage network
- Hydrologic analysis to support protest backlog reduction (*WRSD*)
- Drought vulnerability study (*Policy*)



Projects: Hydrologic Studies

- Statewide recharge study – Project launch, SC data collection* (*GW, FSD*)
- Walla Walla Basin Study – data collection and collaboration on analysis (*GW, FSD*)
- Review external technical work – Klamath, Deschutes, Lake Abert, Willamette, and Umatilla
- Implementing Harney Groundwater CREP (*FSD*)

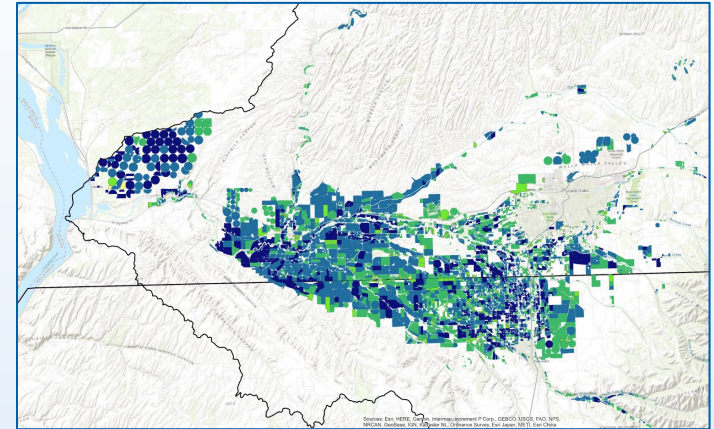
*Support HB 2018



Projects: ET/Water Use

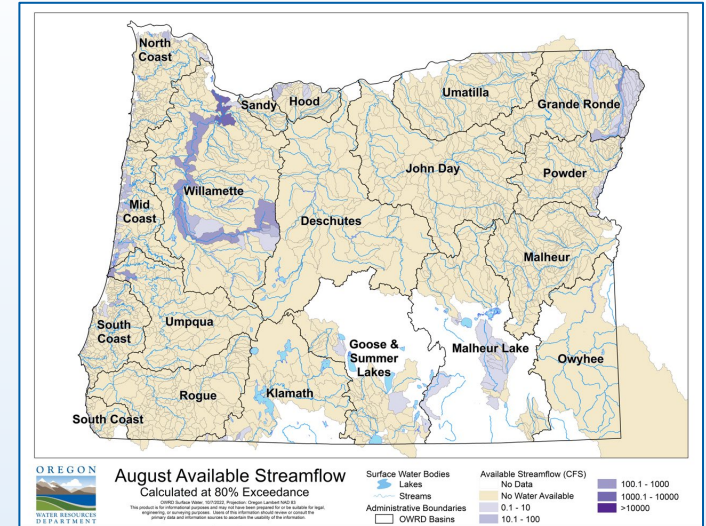
- Contract for field-scale and watershed summaries of water use from irrigated ag (1985 through 2021) using satellite-based ET*
- Coordinate Agrimet program expansion* (*BOR, Extension, OCS*)
- Provide trainings and outreach with partners (Extension, WA Ecology, Idaho WR, OSU INR)
- Improvements to Water Use Reporting Program

*Support HB 2018



Work On Hold

- Update Water Availability
 - Performing initial work – scoping, record publication, gaps analysis
 - Requires investment
- Statewide Gage Network Evaluation
 - Performing initial work – gaps analysis
 - Workload priority
- Update Deschutes Mitigation Program
 - Complex basin coordinator
 - Technical support
- Improving public access to data
 - Participating in initial phase of enterprise-wide efforts (ORWDP)
 - Requires investment for implementation



Thank You Surface Water!

Alison
Carlos
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Kara
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Mellony
Rich
Ryan
Wayne

