

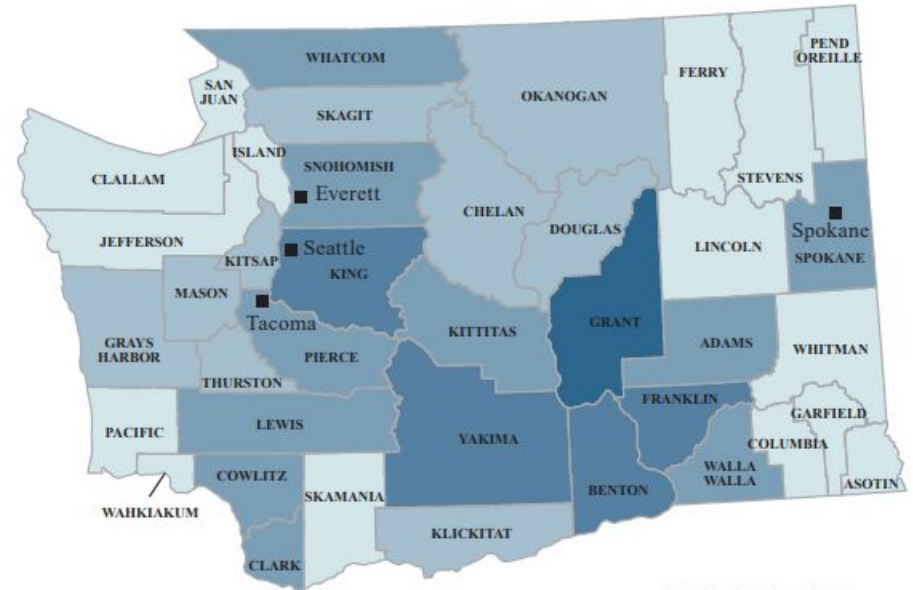
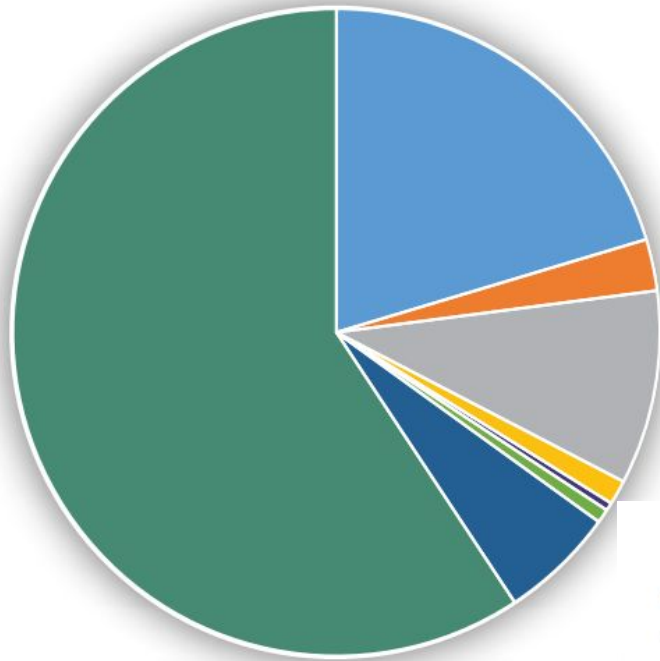


DEPARTMENT OF
ECOLOGY
State of Washington

State of Washington Water Use Data

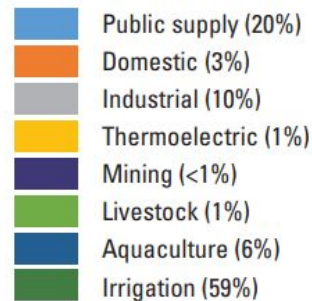
Andrea Lauden
August 17,
2022

Washington Water Use Background



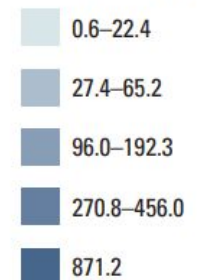
EXPLANATION

Water-use categories and (percentage of total water use)



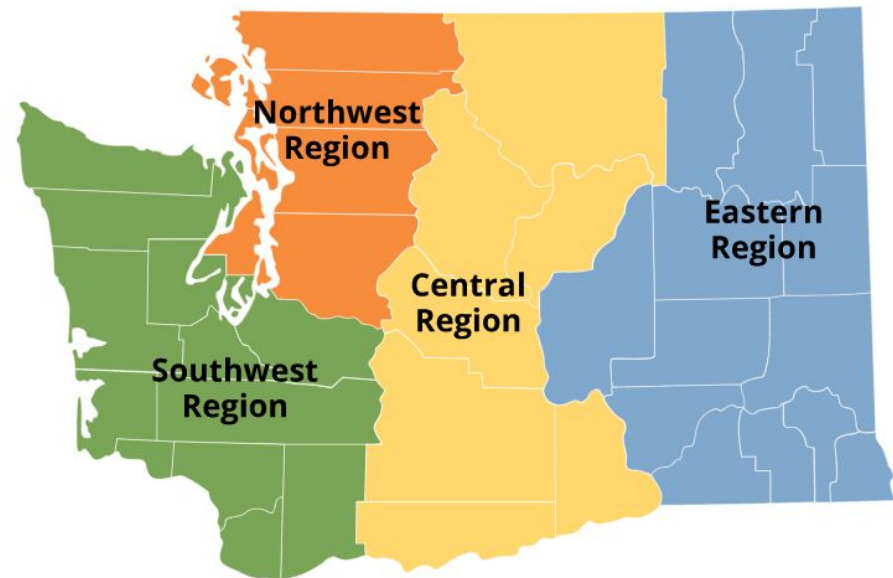
EXPLANATION

Total withdrawals (fresh and saline), in million gallons per day



Washington Water Rights Background

- Prior appropriation state
- Permitting system
 - 1917 - surface water
 - 1945 - groundwater
- ~225,000 water rights and claims
- Decentralized water right management



Water Rights Database

Map Navigation Menu

Search Options Legend/Layers Record Details

Record/Document No. : G1-*04486CWRIS

Quantities:
120.0000 GPM
100.0000 Acre Feet
50.0000 Irrigated Acres

Purposes:
Irrigation

Source Names:
Groundwater

Device Types:
Well

Number of Devices: 2

- Latitude/Longitude Point
- Township/Range/Section Centroid

[Open Record in WRTS](#)

[Submit Record Correction](#)

Images:

- [Application](#)
- [Certificate](#)
- [Certificate Supporting Documents](#)

Note!

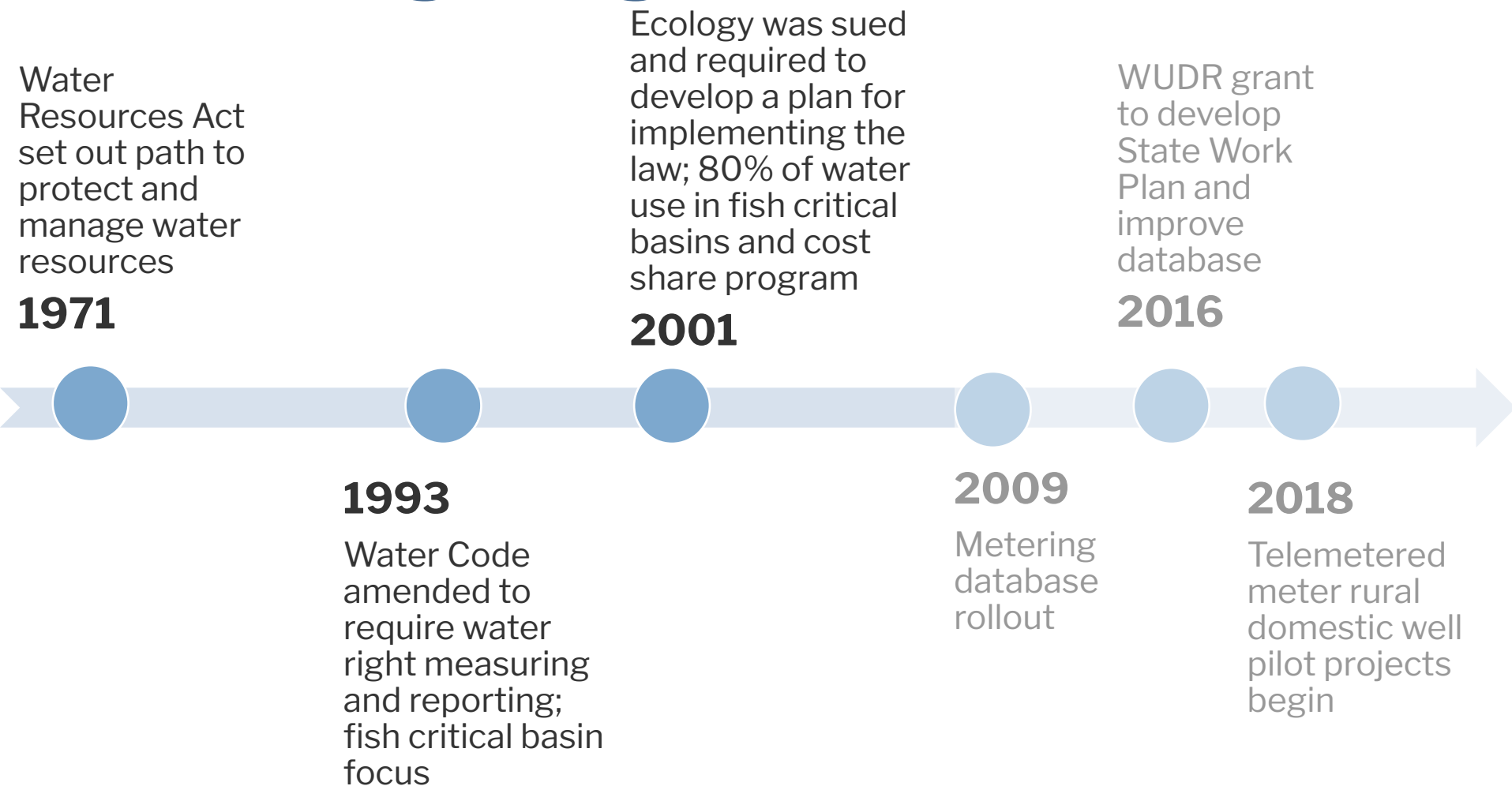
● The vicinity of this type of water right location is displayed using a [centroid](#) value. Neither the place of use nor the withdrawal

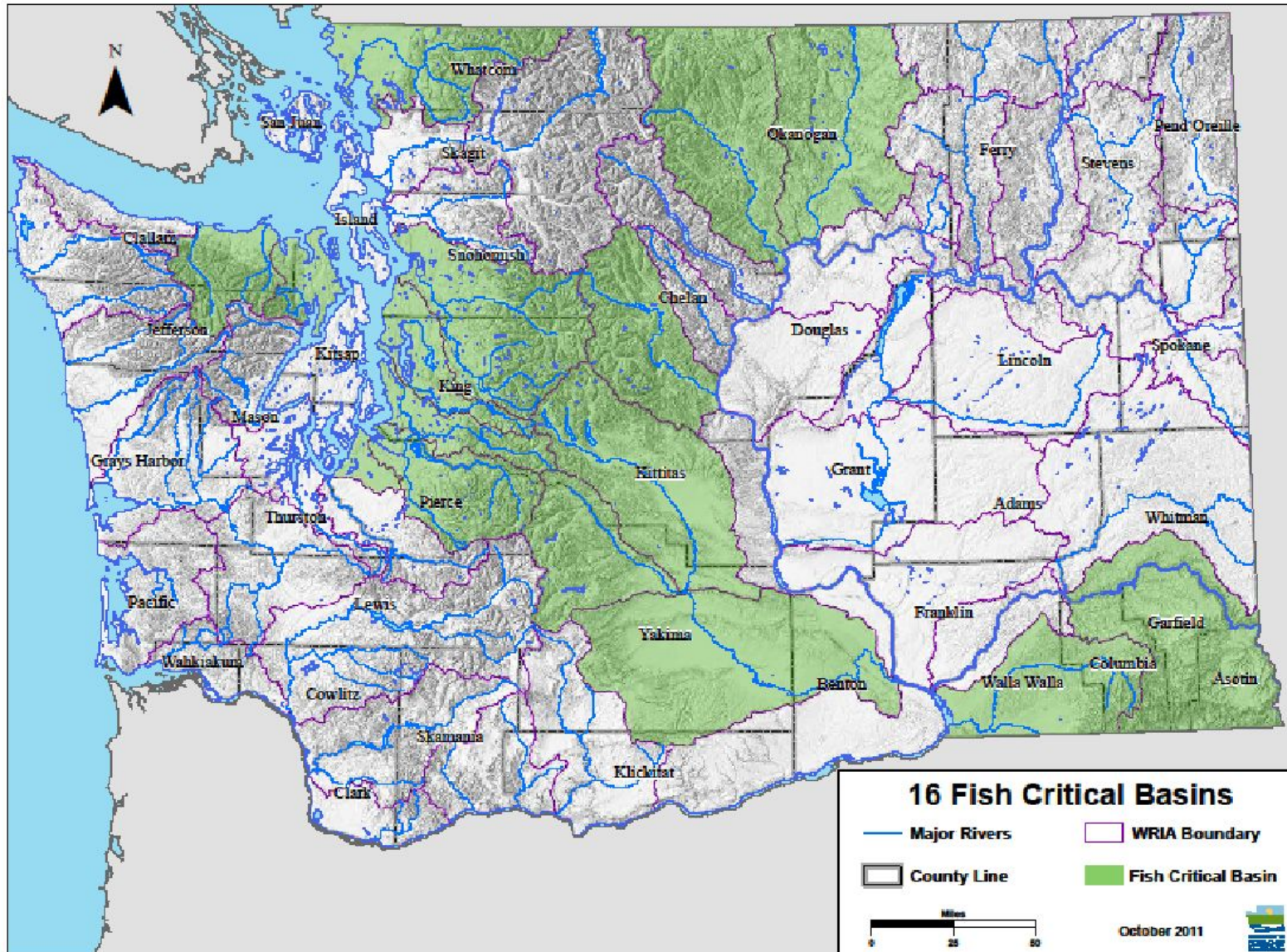


[Export Search Result](#) [Display in Text Search Result](#)

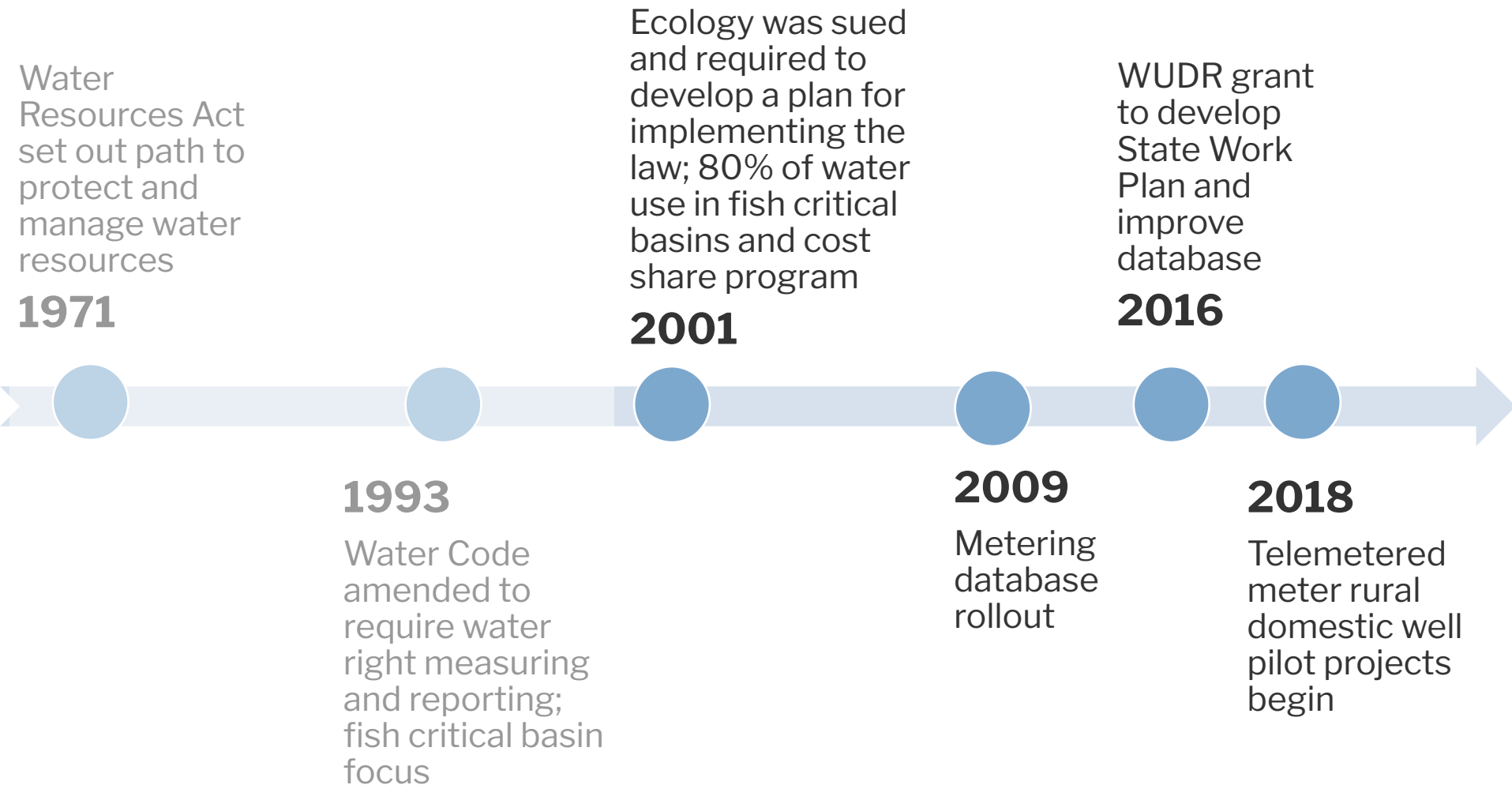
View Record	Record/Doc No.	WR Doc ID	Person or Organization	Priority Date/Claim First Use	Phase	Status	Images	Qi	Qa
View Details	G1-*04486CWRIS	2281803	Wilson N. C.	01/04/1957	Certificate	Active	Yes	120.0000 GPM	100.0000
View Details	G1-23937C	6404884	Cedar River Water & Sewer District.	09/04/1981	Superseding Certificate	Active	Yes	170.0000 GPM	34.9000

Metering Program Timeline





Metering Program Timeline



Metering Database

- User submitted data
- QA/QC tools
 - Year to year quantity comparison
 - Reported vs. authorized quantity
- Linked to water rights database
- Limited data exports

Month / Year	Acre Feet
2021 Total	456.0450000000
Jan-2021	0.0000000000
Feb-2021	0.0000000000
Mar-2021	98.2917000000
Apr-2021	13.2699000000
May-2021	78.8789000000
Jun-2021	114.1069000000
Jul-2021	95.6991000000
Aug-2021	38.2598000000
Sep-2021	14.4600000000
Oct-2021	3.0787000000
Nov-2021	0.0000000000
Dec-2021	0.0000000000
2020 Total	351.0723027778
Apr-2020	2.3103708333
Jun-2020	14.8254166667
May-2020	4.6063152778
Jul-2020	180.5107000000
Aug-2020	56.0338000000
Sep-2020	12.9831000000
Oct-2020	0.0000000000
Nov-2020	35.0147000000
Dec-2020	44.7879000000

Meter Stations associated with this person:

Station ID	Meter Owner's Name	Source Name	Owner's Name for Source	WRIA
7643	City of Snoqualmie	GROUNDWATER	North Well Field	Snohomish(7)
7644	City of Snoqualmie	GROUNDWATER	South Well Field	Snohomish(7)

Water Rights belonging to this person

Document Number	Name on Water Right	Status	Priority Date	TRS
G1-*00059S	Snoqualmie City	Active	1/1/1930 12:00:00 AM	T24.0N/R08.0E/19
G1-*00060S	Snoqualmie City	Active	1/1/1940 12:00:00 AM	T24.0N/R08.0E/19
G1-20316C@1	Snoqualmie City	Active	10/13/1973 12:00:00 AM	T24.0N/R08.0E/19

Metering Program Today

<1% of water users report metering data

- Water Code measurement requirements
- Settlement agreement: 80% of water use reported in fish critical basins
- Court order: Yakima River basin adjudicated surface water rights
- Legislature directive: Columbia and Snake River main stem diversions and groundwater within one-mile corridor
- Legislature directive: Telemetered meter pilot projects of rural single domestic uses



Metering Program

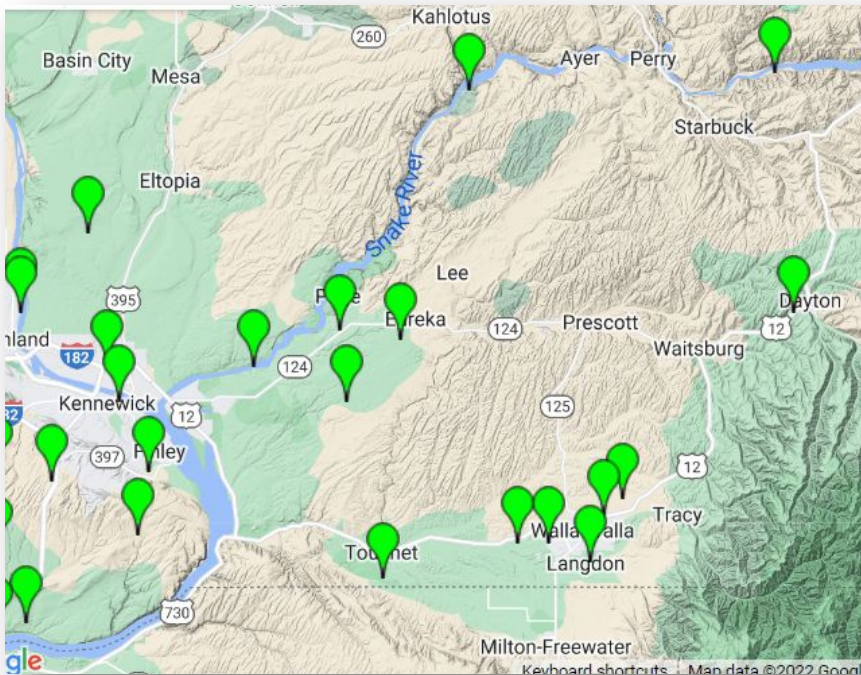
Challenges

- Self reported data
- Limited quality assurance
- Costly to scale up
- Public access to data
- Lack of capacity to oversee new projects with WUDR grant funding

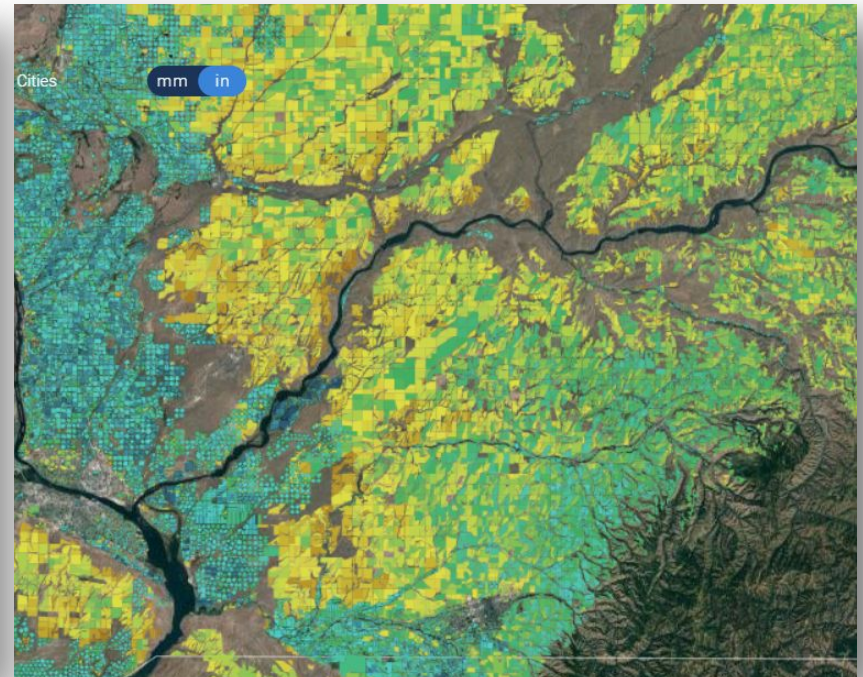
Opportunities

- Expanding use of telemetry
- Assessing water rights compliance
- Managing curtailments
- Snapshots of how much, where and when water is used

Irrigation Consumptive Use Estimation Tools



Washington Irrigation Needs
(WSU)
Station Locations



OpenET Field
Viewer

Water Use Data Estimates for Basin Planning

- Office of the Columbia River 20-year supply and demand forecasts (WSU, et al.)
 - 2016 METRIC Pilot
 - Future possible use of OpenET
- Existing groundwater models (USGS)
- New Walla Walla Basin Study (2025)



Columbia River Basin Evapotranspiration Project



Funded by NASA's Western Water Applications Office

OREGON EXPLORER

Columbia Basin Irrigated Agriculture Evapotranspiration

Map Viewer (BETA)

Search...

Sign in

Layers

Filter Layers...

Filter

I want to...

+

-

Tools

Tools

Evapo-Transpiration (Ensemble) HUC 12 Summaries

2021

2020

2019

2018

2017

2016

OpenET Ensemble

Field Boundaries

Columbia Basin Field Boundaries

State Field Boundaries

Administrative Boundaries

National Hydrography Dataset

Watershed Boundary Dataset

National Land Cover Database (NLCD)

Climate

Soils

Basemaps

Home Layers

Lat: 52.45690° N
Lon: 125.33203° W

WKID: 4326 Lat/Long

Default

1:500

0 100 200km

Copyright:© 2013 National Geographic Society, i-cubed | Esri, HERE, Garmin, USGS, EP...

Oregon Explorer Feedback

Layers

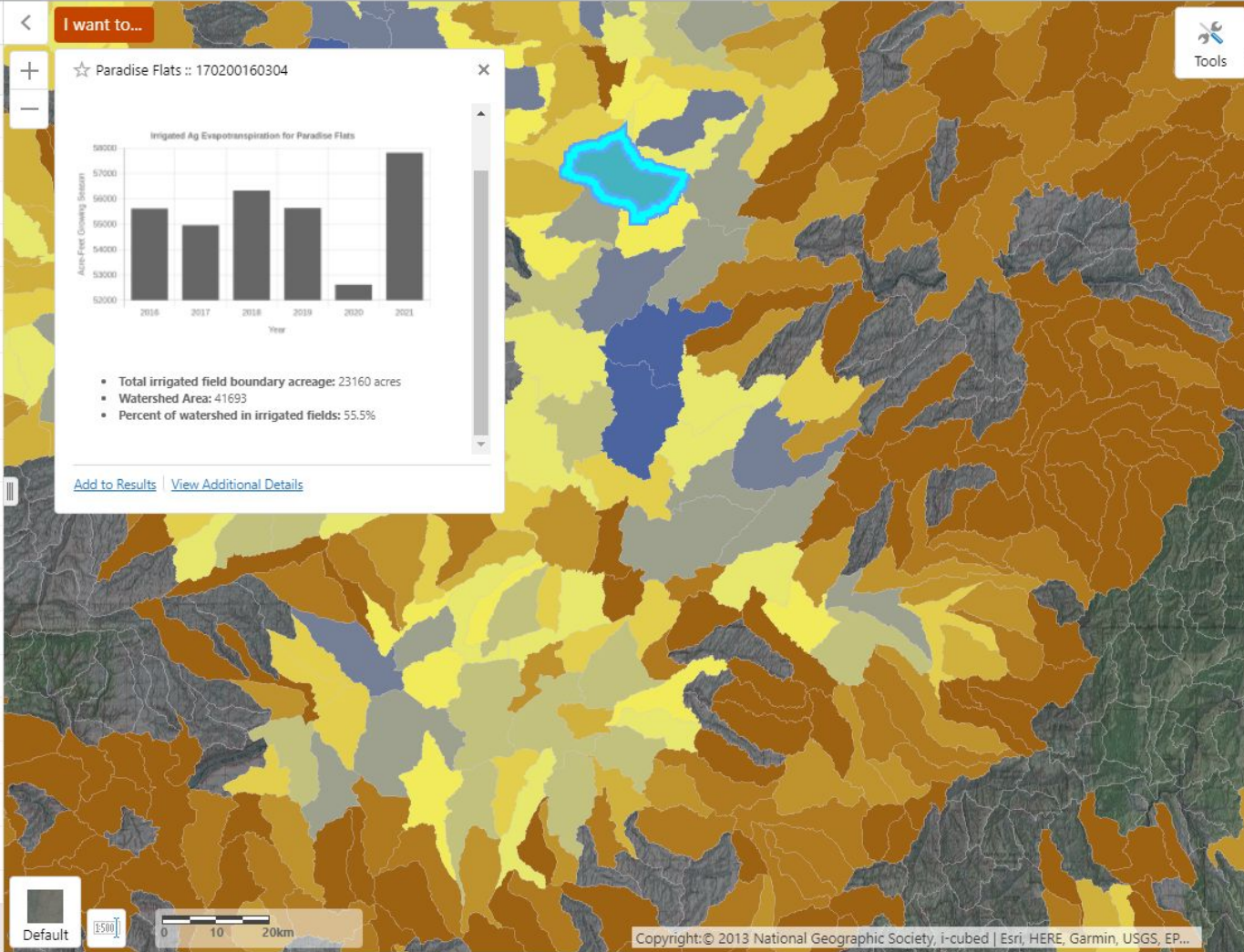
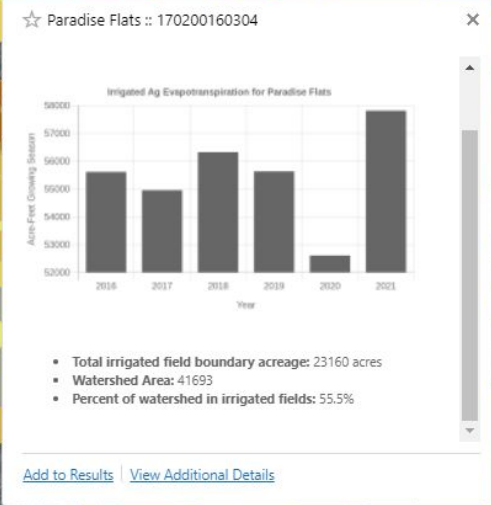


I want to...



Tools

- Filter Layers...
- Evapo-Transpiration (Ensemble) HUC 12 Summaries
 - 2021
 - 2020
 - 2019
 - 2018
 - 2017
 - 2016
 - OpenET Ensemble
 - Field Boundaries
 - Columbia Basin Field Boundaries
 - State Field Boundaries
 - Administrative Boundaries
 - National Hydrography Dataset
 - Watershed Boundary Dataset
 - National Land Cover Database (NLCD)
 - Climate
 - Soils
 - Basemaps



Copyright: © 2013 National Geographic Society, i-cubed | Esri, HERE, Garmin, USGS, EP...

Home Layers WKID: 4326 Lat/Long ▲ Lat: 46.72203° N Lon: 118.83636° W

Washington Water Use Data Outlook

- Currently reevaluating our long term strategic goals and priorities
- Integrating metering and other water use data with water rights information
- Metering can provide snapshots; looking to other tools for big picture
- Evaluating ways to incorporate OpenET and remote sensing ET technology into existing work





Thank you
andrea.lauden@ecy.wa.gov