Skookumchuck Water Right Acquisition

- ❑ Phase 1 - 2024 Project Update
- ❑ Phase 2 - 2026 Proposal

Targeted Acquisition Approach

WDFW: Flickr

2026 Streamflow Restoration Competitive Grant

Water Rights Acquisition

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Addendum to the Chehalis Watershed Plan (WRIA 22/23)

RCW 90.94 "Streamflow Restoration Act" (2018)

- Requires forecasted permit exempt wells be mitigated (2018 – 2038).
- Minimum Offset for impact across the Planning Horizon (2018 – 2038).
- Mitigation not required prior to 2018 legislation.
- "Net Ecological Benefit" (NEB) should occur in watershed and subbasins.

Purpose of Addendum – Fulfill "Streamflow Restoration Act"

- Estimate consumptive water use from future domestic use through 2040.
- Identify impacts of domestic withdrawals on stream flows.
- Develop projects and actions to both "offset" and provide a "NEB" to the entire basin.

Addendum Project: SK-00 – TransAlta Water Right Acquisition (*2,898 AFY*)

- TransAlta Water Bank – 26,631 acre-feet/year (AFY) available.
- Phase 1: 2024 Ecology Streamflow Restoration Grant (800 AFY)
- ✓ Meets the Minimum Offset for PE Wells in WRIA 22/23 (505 AFY)
- ✓ Provides NEB for "uncertainty" (295 AFY)

Skookumchuck River

Riverbend Ranch, Thurston County

April 2025

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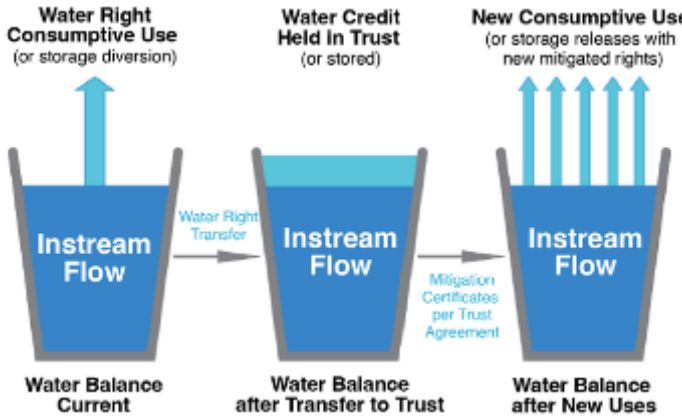
What is a TransAlta Water Bank Right?

– Report of Examination for Water Right Change

2021 – Permanently placed into the State Trust Water Right Program (TWRP) for instream flow benefit and to mitigate for future out-of-priority water use in the Skookumchuck and Chehalis River watersheds.



https://geosyntec.com/practices/water-and-natural-resources/water-rights

<u>2nd Largest water bank in WA: 26,631 AF</u>

- Senior water right – priority date 1966
- Predates instream flow rules established by WAC 173-522
- Not subject to curtailment
- Provides offset and mitigation for future downstream development
- TransAlta manages sales from the bank; Ecology enforces downstream junior water rights holders.

<u>Important Points</u>

- As mitigation certificates are issued increased flows will diminish unless reserved for non-consumptive uses.
- Provides a mechanism to legally ensure that water is reserved for instream flow.

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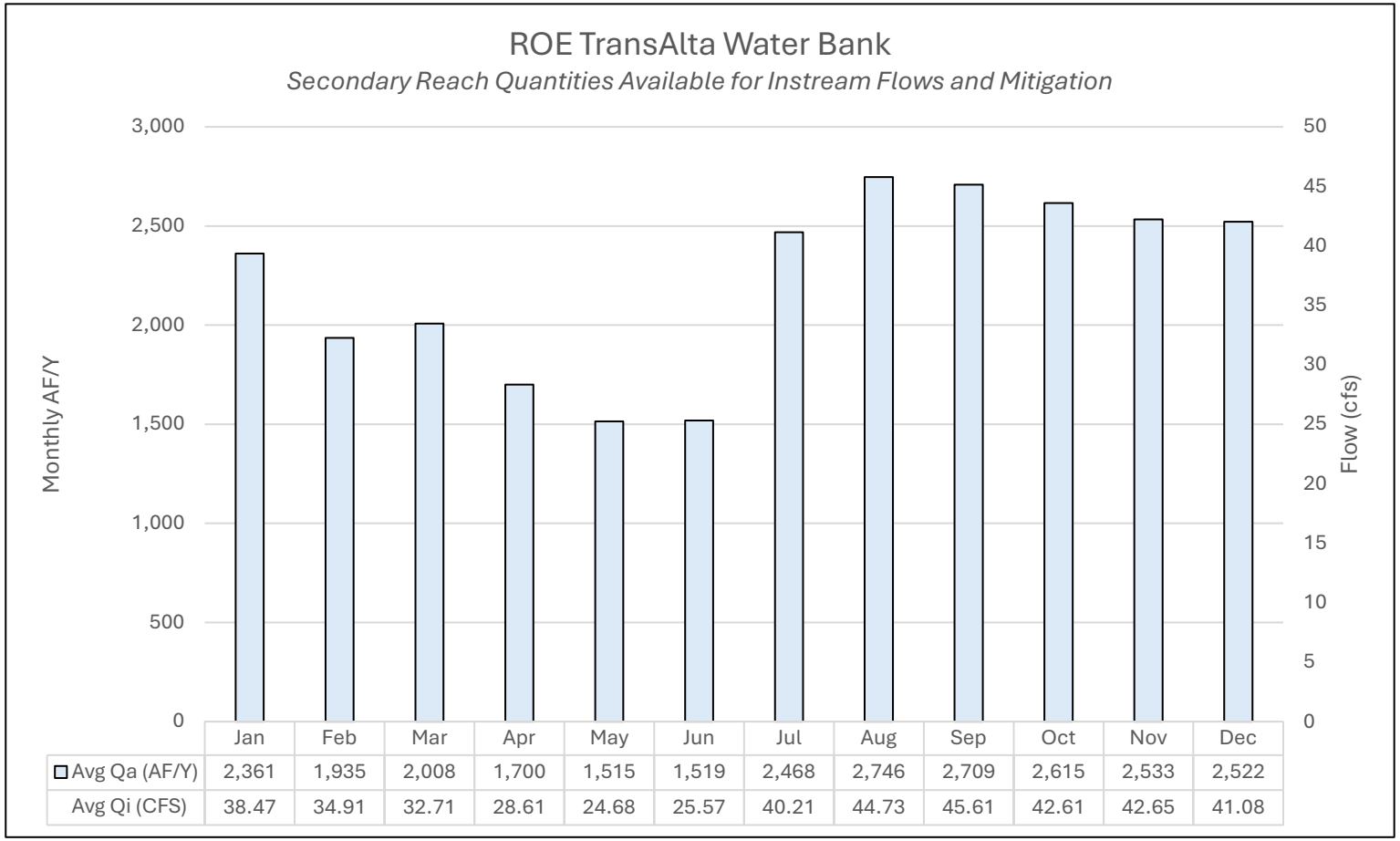
Quantities Available
– *Final Report of Examination*



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Avg Qa (AF/Y)	2,361	1,935	2,008	1,700	1,515	1,519	2,468	2,746	2,709	2,615	2,533	2,522
Avg Qi (CFS)	38.47	34.91	32.71	28.61	24.68	25.57	40.21	44.73	45.61	42.61	42.65	41.08

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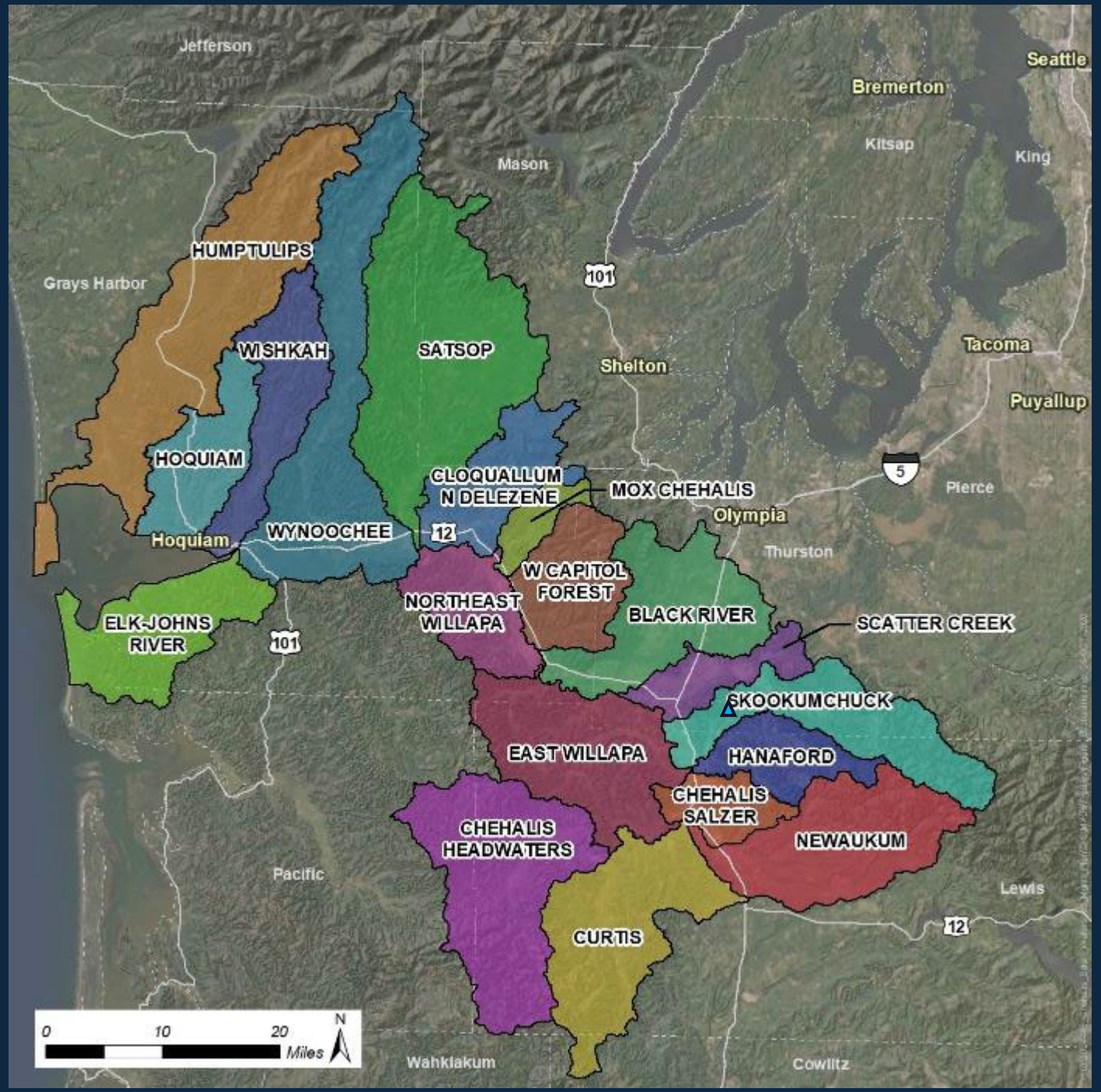
Where are we in the watershed?

Upper Chehalis Basin

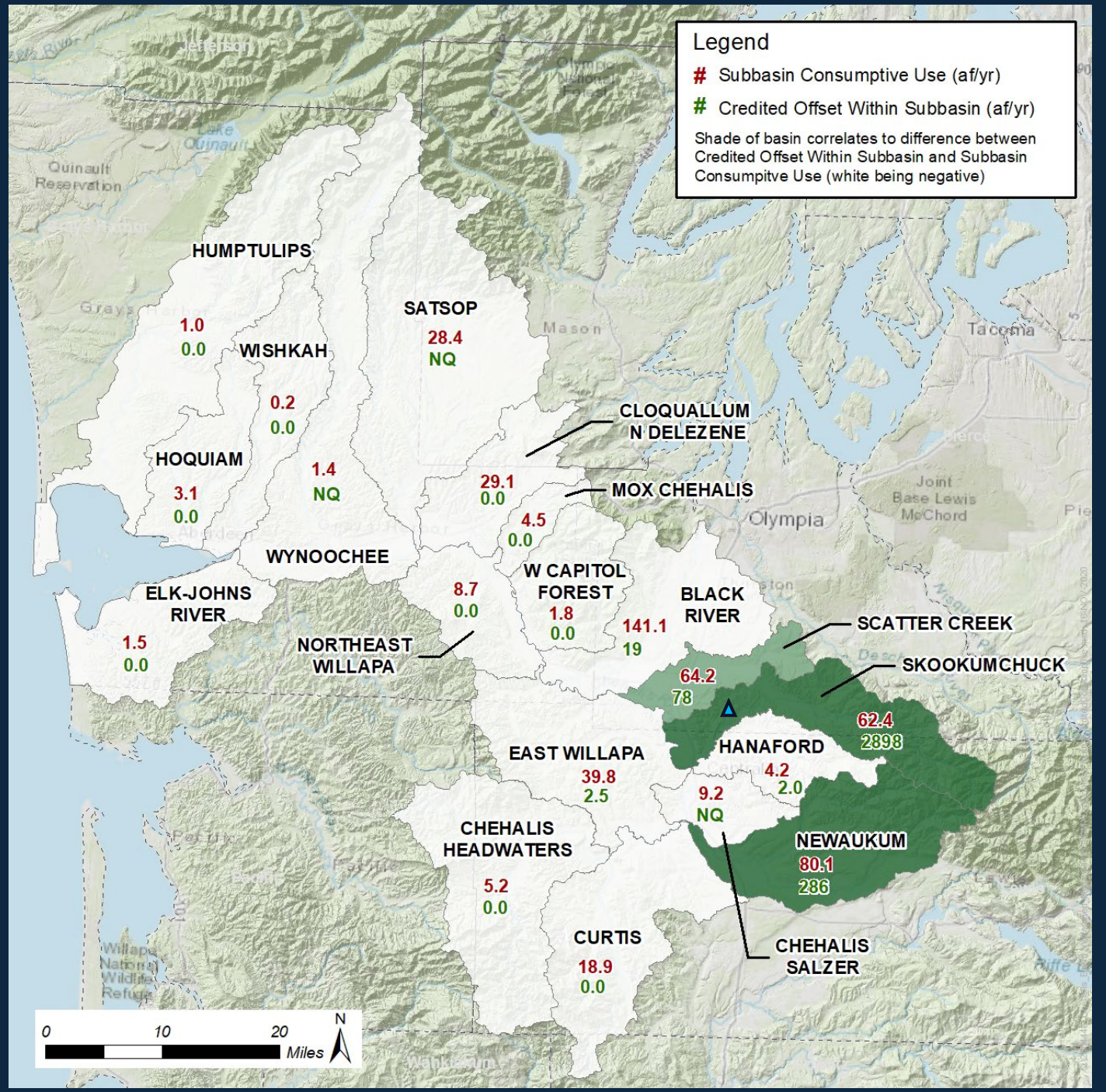
Skookumchuck Subbasin – 2,898 AFY



Where is water identified?

Addendum Projects of High Certainty

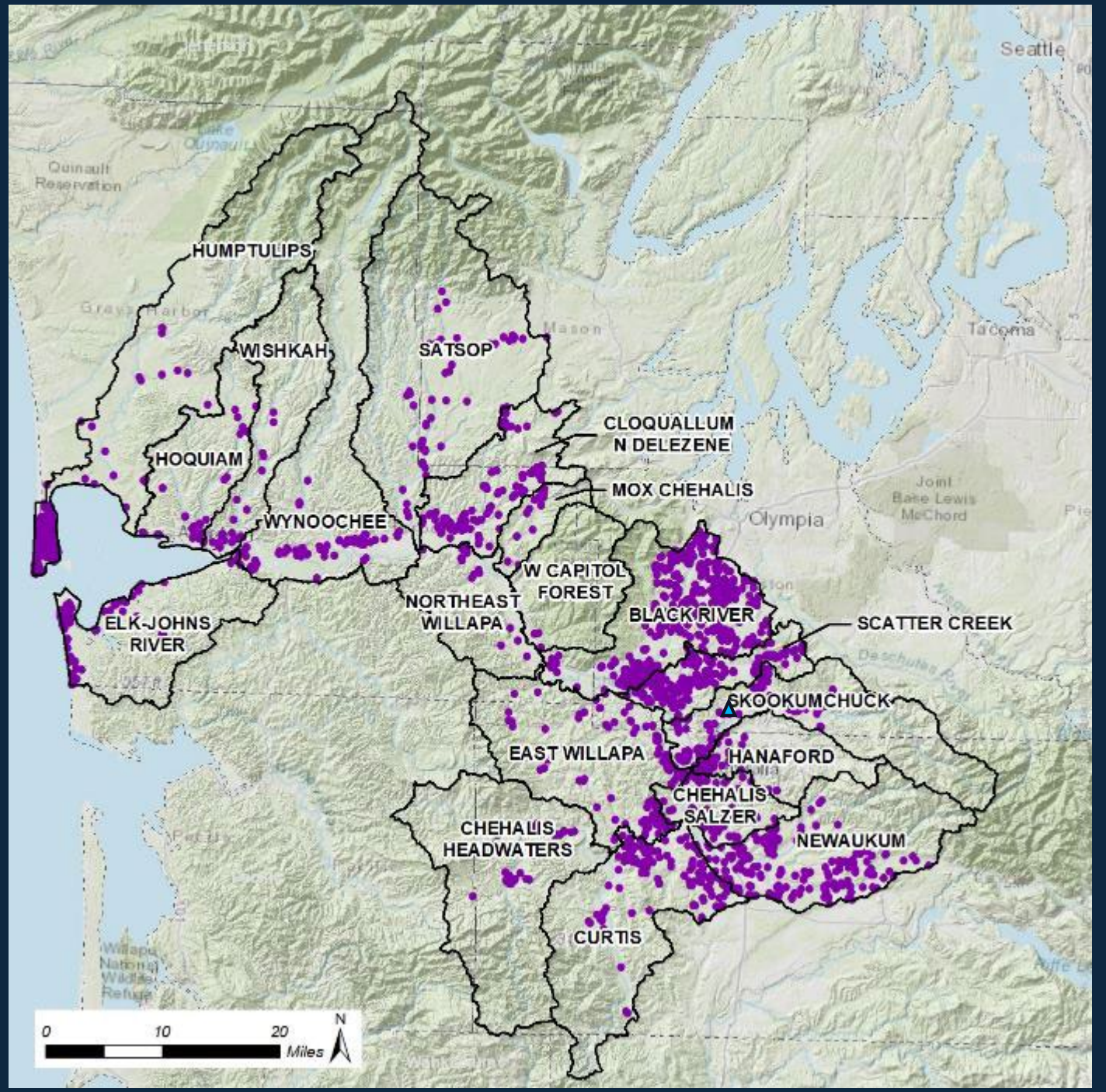
Skookumchuck Subbasin – 2,898 AFY



Where is growth occurring?

PE Wells Installs
2008-2018

Upper Subbasins – mainstem Chehalis



Phase 1 – Acquisition Outcomes

Meet Minimum Offsets – RCW 90.94 – 2018 - 2038

- Offset Thurston County only
- Offset WRIA 22/23
- ✓ Offset WRIA 22/23 + additional for uncertainty

Proposal: 700 AFY; Outcome: 800 AFY

- Cost savings in administrative process and due diligence.
- TransAlta cost-basis guarantee through the transaction.
- CBP Letter of Support – June 2025 – thank you!

Flexibility in the "Period of Use" by TransAlta – they set terms of sale.

- Requested Scope Change: align a portion of the water right to high-consumptive use periods attributed to domestic outdoor water use/loss

Skookumchuck River

Riverbend Ranch, Thurston County

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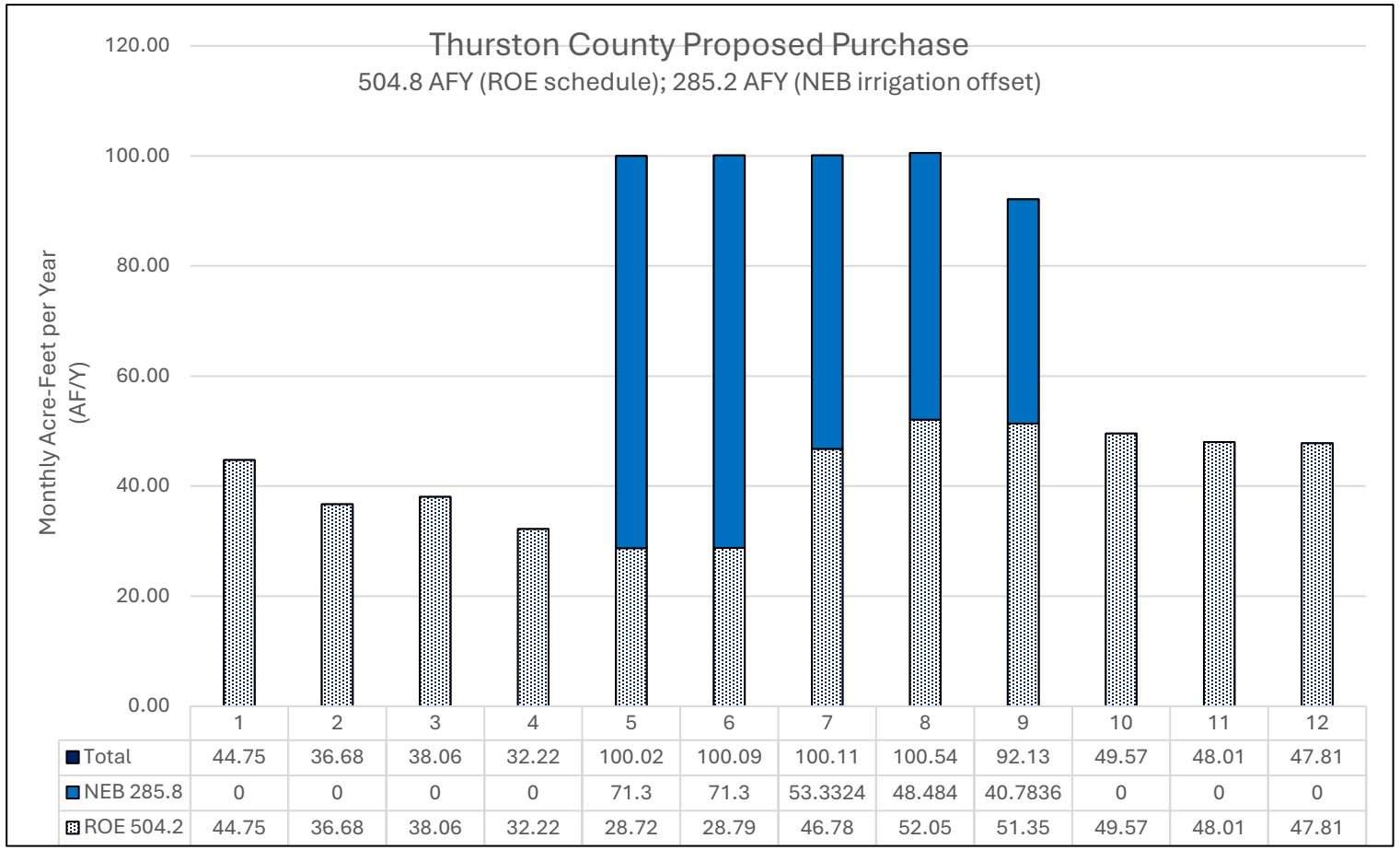
Requested Grant Scope Change – not allowed

- Minimum offset for PE wells (504.8 AFY) proportional to ROE Availability.
  - To satisfy attenuated impact to surface waters by PE wells.
- NEB remainder (~295 AFY of 800 AFY total) targeting outdoor water use impacts.



	1	2	3	4	5	6	7	8	9	10	11	12
Total	44.75	36.68	38.06	32.22	100.02	100.09	100.11	100.54	92.13	49.57	48.01	47.81
NEB 285.8	0	0	0	0	71.3	71.3	53.3324	48.484	40.7836	0	0	0
ROE 504.2	44.75	36.68	38.06	32.22	28.72	28.79	46.78	52.05	51.35	49.57	48.01	47.81

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Willingness to sell outside of ROE proportions

Domestic consumptive use is primarily driven by outdoor water use – primarily in summer.

- Not necessarily tied to an immediate hydrological effect on stream flows.
- Wells are diversified across the landscape, but negative impacts are acutely realized in low flow season.
- Other mitigation rights may be more hydrologically connected to Chehalis.

Table 9. Annual Consumptive Use for One Home with Subbasin Average-Sized Yard

Subbasin	# PE Wells Anticipated in Subbasin	Irrigated Area per Well (ac)	Per Well Consumptive Use (gpd)			Total Consumptive Use (af/yr)
			Indoor	Outdoor	Total	
Black River	1,215	0.074	15.0	88.7	103.7	141.1
Chehalis - Salzer	76	0.074	14.4	93.5	107.9	9.2
Chehalis Headwaters	50	0.074	14.4	77.7	92.1	5.2
Cloquallum - N Delezene	333	0.074	15.2	62.7	77.9	29.1
W Capitol Forest	18	0.074	15.0	74.1	89.1	1.8
Elk - Johns River	25	0.074	15.0	38.5	53.5	1.5
East Willapa	350	0.074	14.5	87.0	101.4	39.8
Hanaford	35	0.074	14.4	91.9	106.3	4.2
Hoquiam	49	0.074	15.0	42.2	57.2	3.1
Humptulips	13	0.074	15.0	53.4	68.4	1.0
Mox Chehalis	51	0.074	15.0	63.9	78.9	4.5
Newaukum	703	0.074	14.4	87.3	101.7	80.1
Satsop	289	0.074	15.9	71.9	87.9	28.4
Scatter Creek	526	0.074	15.0	93.9	108.9	64.2
Curtis	168	0.074	14.4	86.0	100.4	18.9
Skookumchuck	539	0.074	14.6	88.8	103.4	62.4
Northeast Willapa	95	0.074	15.0	67.0	82.0	8.7
Wishkah	2	0.074	15.0	54.3	69.3	0.2
Wynoochee	18	0.074	15.0	56.1	71.1	1.4
WRIA 22/23 Aggregated	**4,555**	**0.074**	**14.8**	**84.1**	**98.9**	**504.8**

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Phase 2 – Targeted acquisition

Why here and now?

Riverbend Ranch,
Thurston County

Skookumchuck River

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Phased Approach - Method

Meeting NEB targets established in the Addendum, by specifically:

1. Addressing water rights acquisition in smaller, but frequent purchases in high-growth subbasins.
2. Targeting upper reaches of the Chehalis Watershed that have continued downstream benefits for habitat projects where quantity/quality are primary limiting factors.
3. Planning for long-term climate and streamflow uncertainties by ensuring water is legally as instream flow during critical flow periods.

Tangential benefits:

- Limited grant funding is better utilized and may improve project attractiveness.
- Bolster climate resiliency by more rapidly acquiring instream flow rights while prices are low.

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Guidance for NEB (Ecology GUID-2094)

Critical Flow Period:

Season of greatest likelihood to negatively impact the survival and recovery of threatened or endangered salmonids or other fish species targeted by the planning group.

- Skookumchuck: Base flows are buffered by Reservoir
  - 35 cfs from Aug. 15 – Oct. 31 generally realized
- Chehalis: Base flows more vulnerable
  - Increased development – water and land-use changes
  - UW Climate Impacts Group forecasts 3% - 10% decline in WRIA 22/23 flows by the 2070 - 2099.

Month	Day	12.0264.00 Skookumchuck River	12.0275.00 Chehalis R. at Grand M.
Jan.	1	160	1300
	15	160	1300
Feb.	1	160	1300
	15	160	1300
Mar.	1	160	1300
	15	160	1300
Apr.	1	160	1300
	15	160	1300
May	1	160	1000
	15	130	780
June	1	103	600
	15	83	460
July	1	67	355
	15	54	275
Aug.	1	43	210
	15	35	165
Sep.	1	35	165
	15	35	165
Oct.	1	35	200
	15	35	250
Nov.	1	59	440
	15	96	760
Dec.	1	160	1300
	15	160	1300

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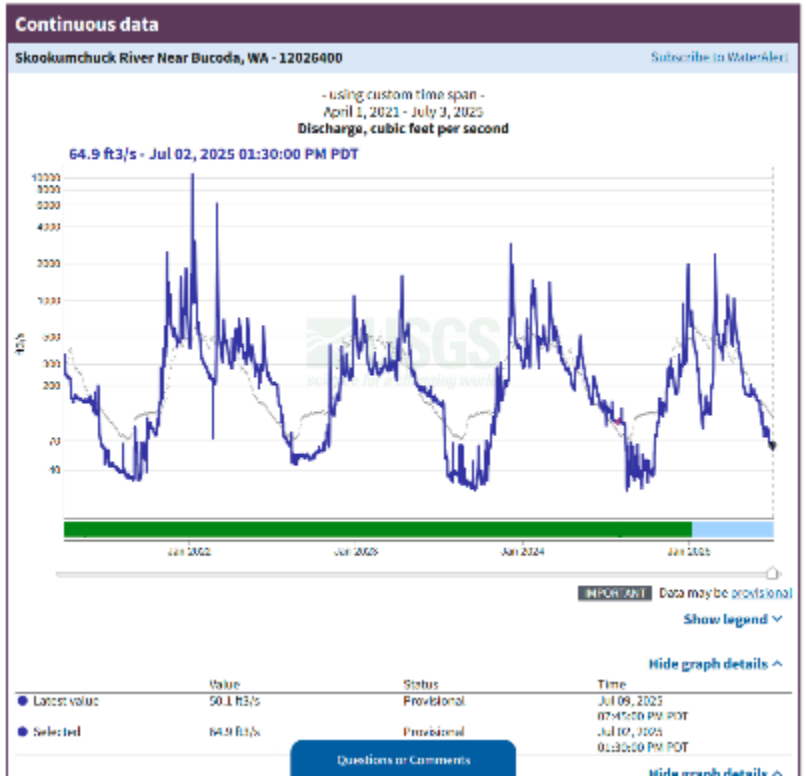
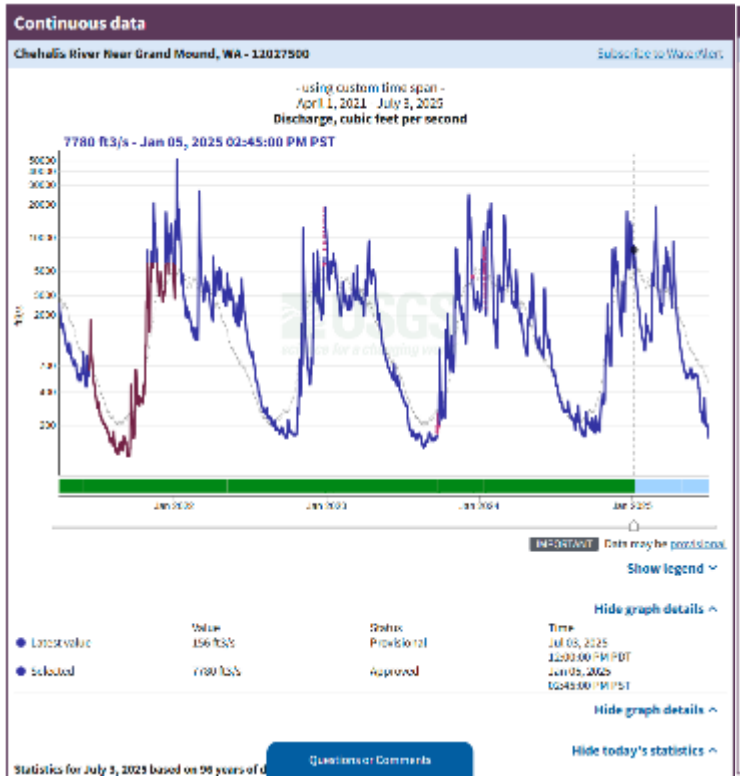
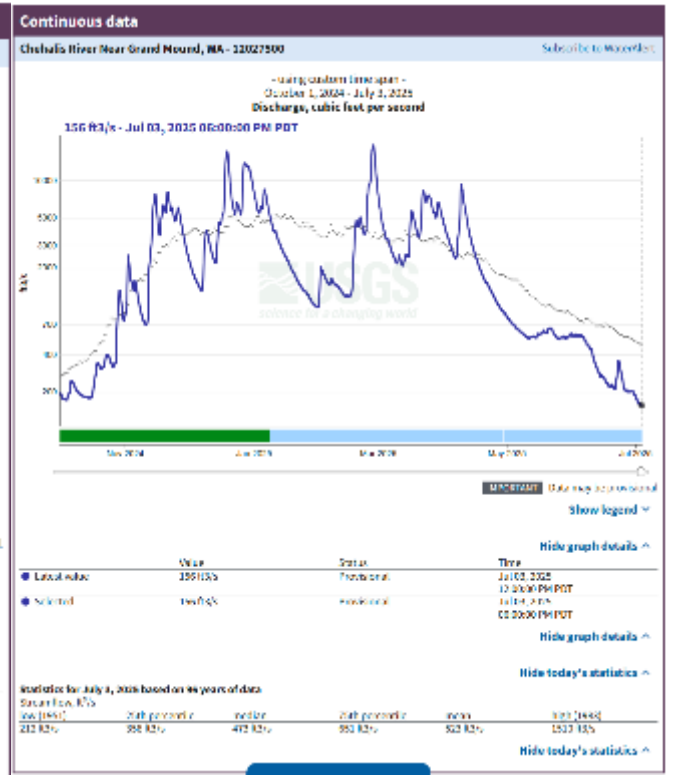
Considerations – Flows

Skookumchuck @ Bucoda



Chehalis @ Grand Mound



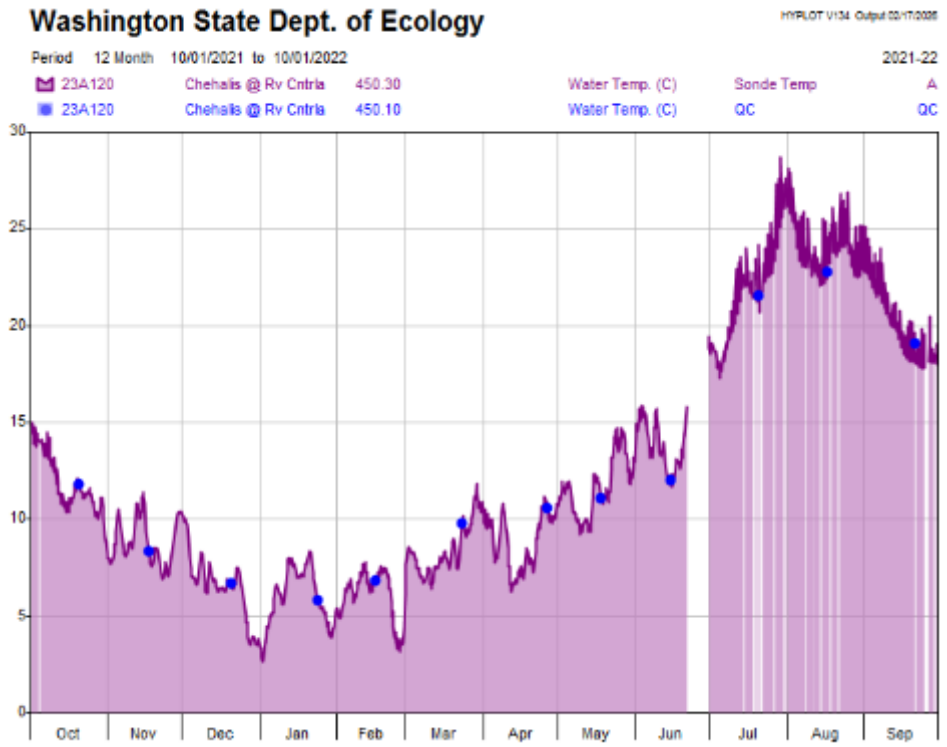


Considerations - Water temperatures

Mainstem Chehalis @ Centralia

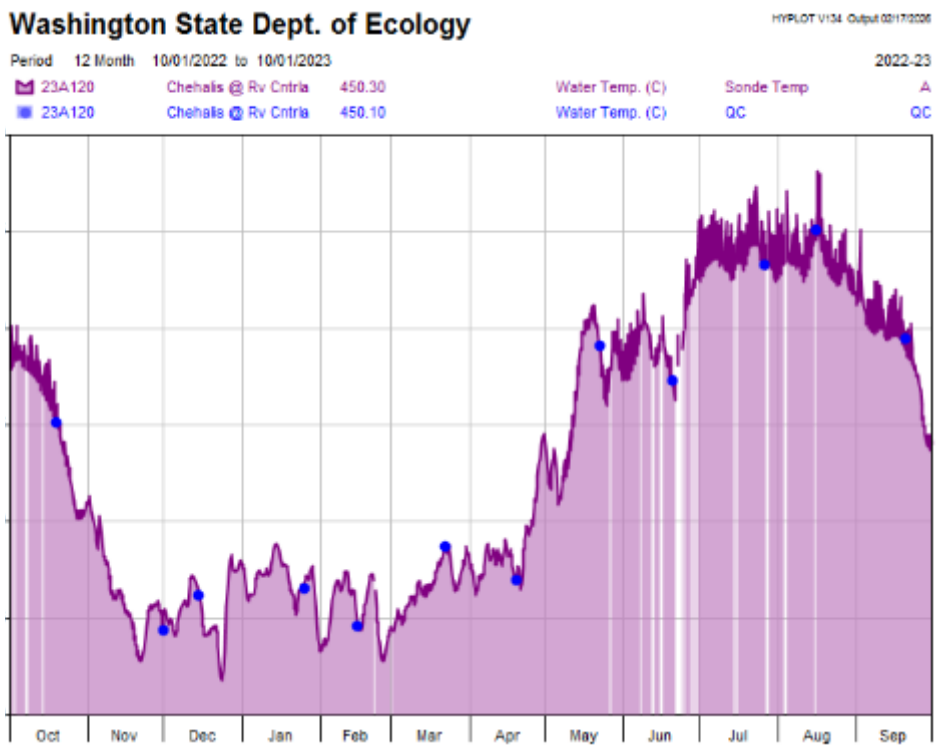
WY 2022

High Precipitation – wet spring



WY 2023

Low Precipitation – drought declared



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Purpose and Intent of the Water Bank

- Trust Water Right Agreement - Purpose

> "The reason that Ecology is willing to accept the Trust Water Rights in the Trust Water Rights Program is to *improve instream flow function*, and to *promote agriculture, economic, and municipal and residential development* in the Chehalis Basin"

This dual mandate requires careful consideration:

- Purchase for instream flow limits future development rights downstream through the Chehalis.
  - Bank is large, but not inexhaustible
  - Lowest months of availability are April (1,700), May (1,515) and June (1519)
  - High/highest availability in July, August, September, October
- Goal is to limit undue hardships to future purchasers, is acceptable to TransAlta, but still has a strong ecological benefit.
- Final phased project completion (2,898 AFY) represents just 11% of ROE.

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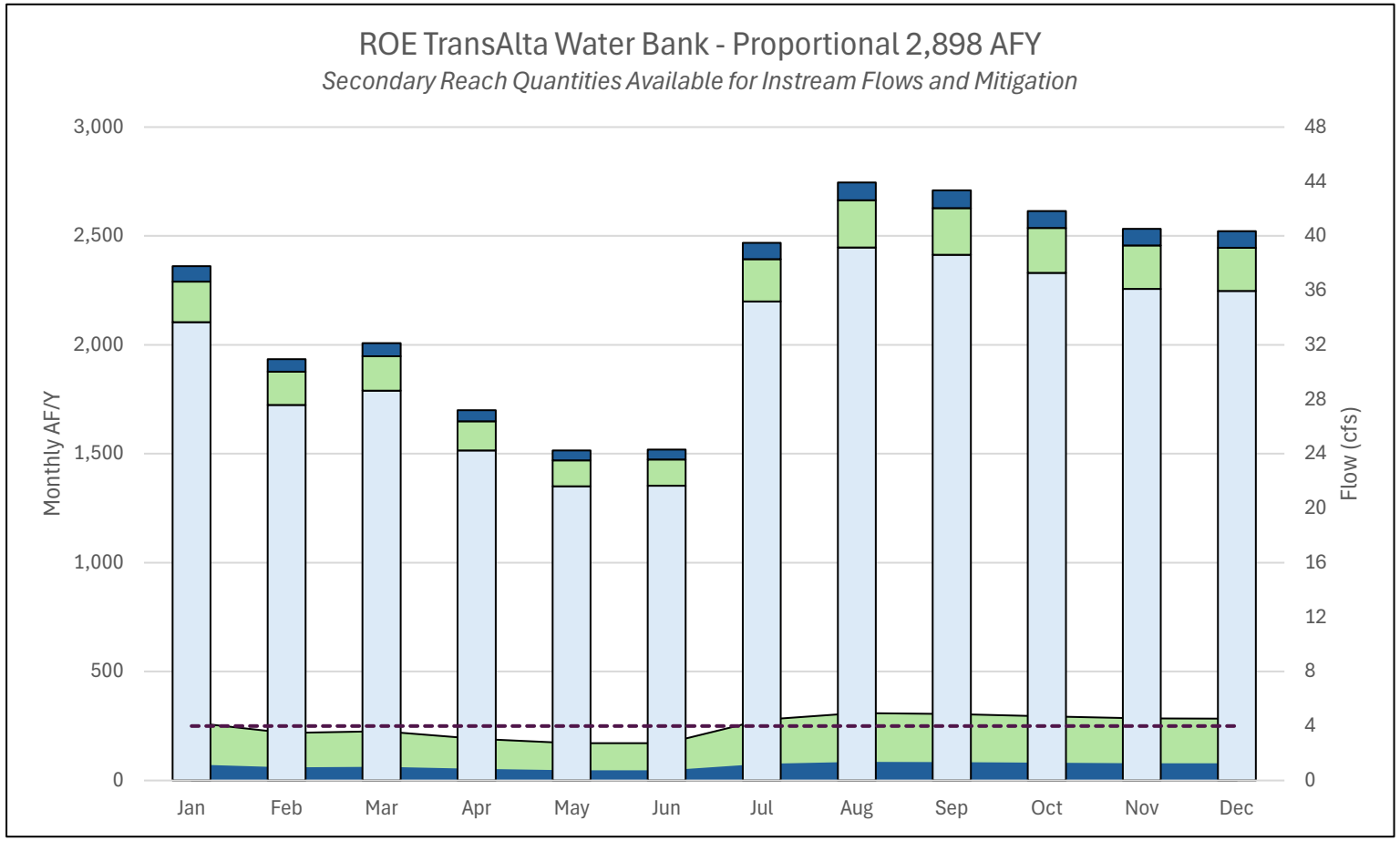
2024 Grant – 800 AFY (3% of ROE showcased as dark blue)
Phased Completion – 2,898 AFY (11% of ROE – combined blue/green)



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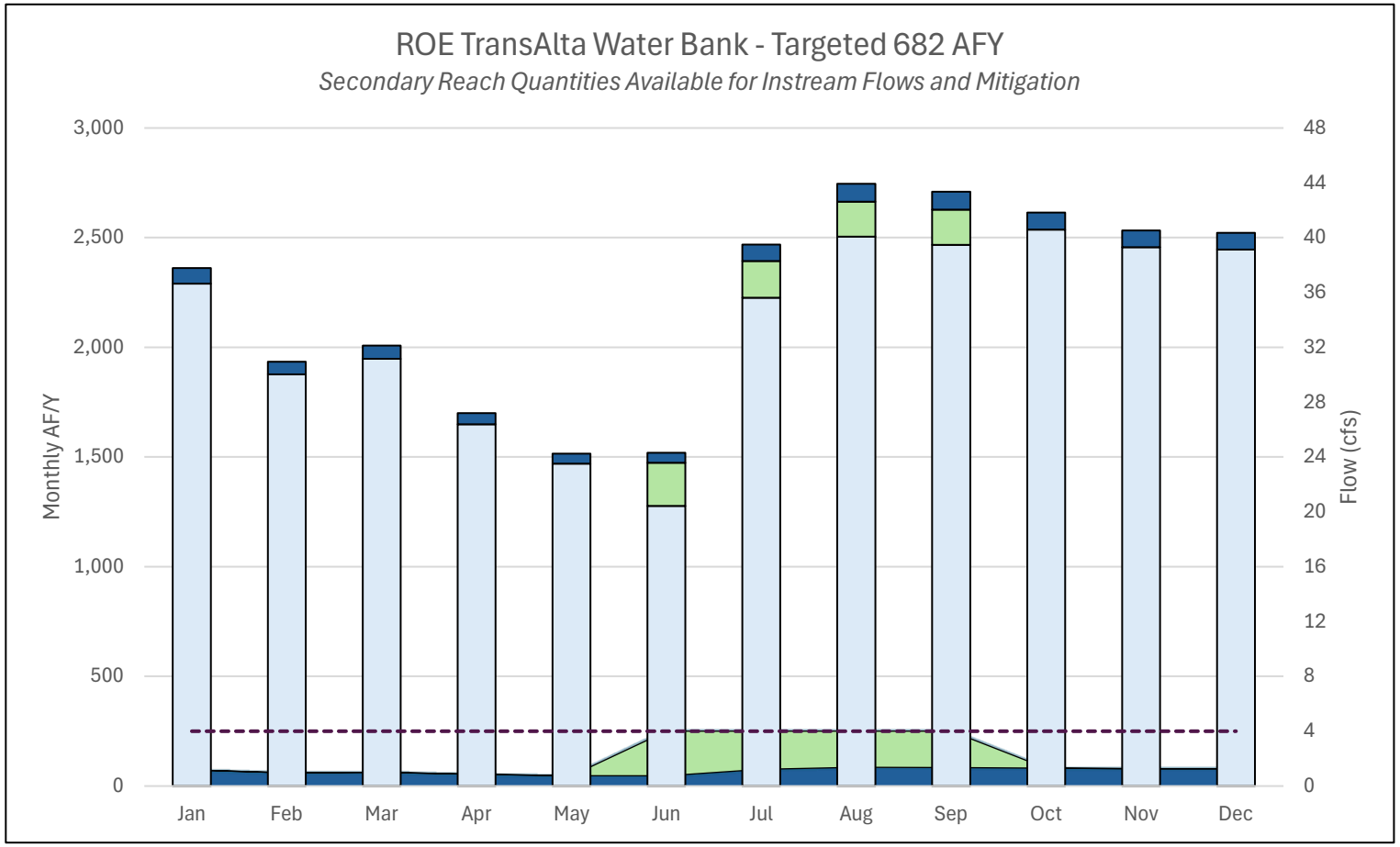
Phase 1 – 800 AFY (3% of ROE showcased as dark blue)
Phase 2 – 682 AFY (6% of ROE - combined blue/green) - proposed



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Expected flow benefits
Phase 2: targeting a 4 cfs threshold

Volume	January	February	March	April	May	June	July	August	September	October	November	December
TC 2024 (AFY)	70.9	58.1	60.3	51.1	45.5	45.6	74.1	82.5	81.4	78.6	76.1	75.8
TC 2026 (AFY) - proposed	0.0	0.0	0.0	0.0	0.0	195.9	167.4	159.0	160.1	0.0	0.0	0.0
Total - combined (AFY)	***70.9***	***58.1***	***60.3***	***51.1***	***45.5***	***241.5***	***241.5***	***241.5***	***241.5***	***78.6***	***76.1***	***75.8***
Flows												
TC 2024 (cfs)	1.2	1.0	1.0	0.8	0.8	0.8	1.2	1.4	1.3	1.3	1.3	1.3
TC 2026 (cfs) - proposed	0.0	0.0	0.0	0.0	0.0	3.2	2.8	2.6	2.7	0.0	0.0	0.0
Total - combined (cfs)	***1.2***	***1.0***	***1.0***	***0.8***	***0.8***	***4.0***	***4.0***	***4.0***	***4.0***	***1.3***	***1.3***	***1.3***

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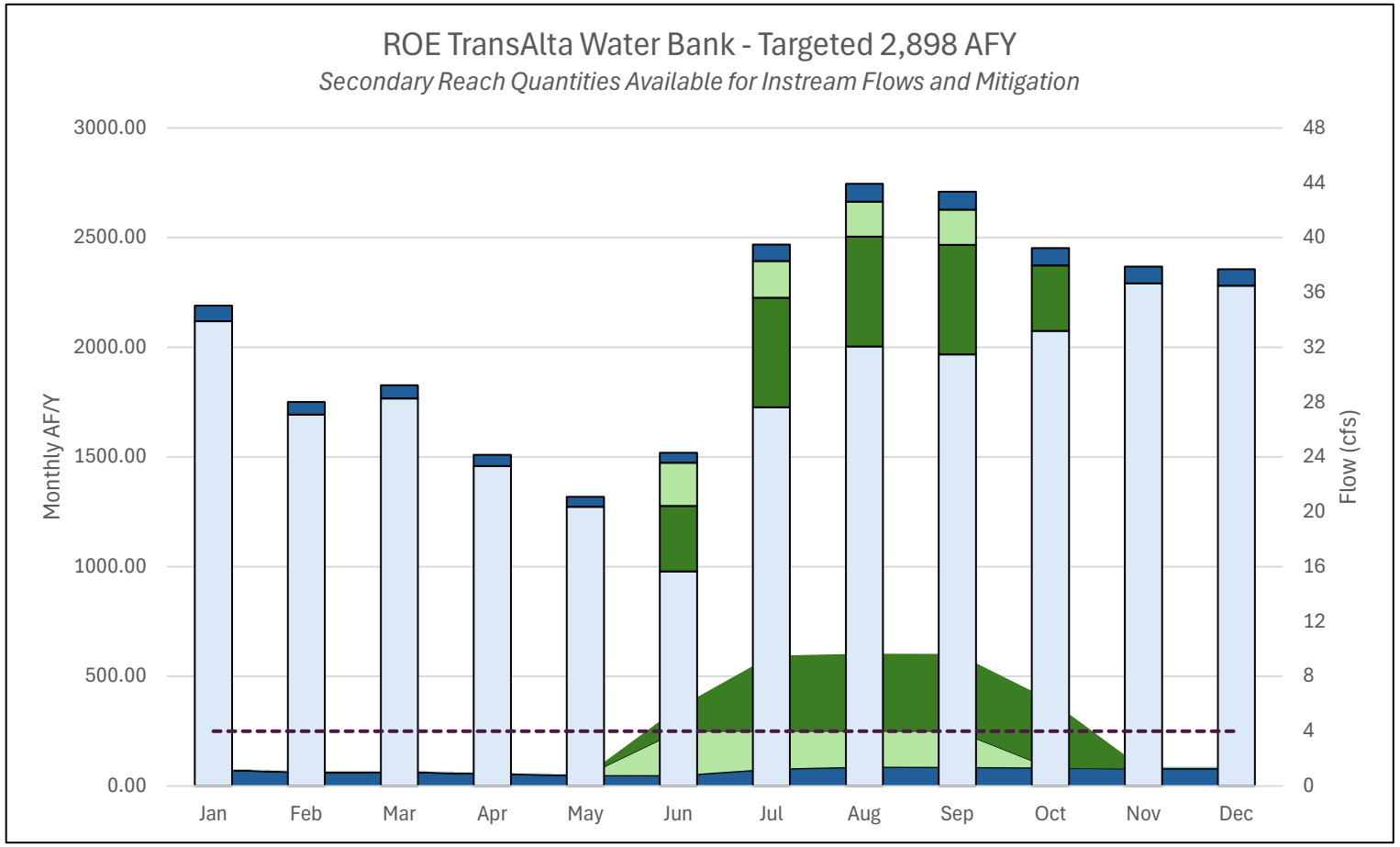
Phased Targeted Completion – 2,898 AFY (11% of ROE) – for illustrative purposes (dark green potential completion)



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Summary

TransAlta Water Bank identified as the most impactful acquisition in WRIA 22/23 with the highest degree of certainty.

- Phase 2 proposal seeks to build upon prior funding, by targeting future acquisitions across months with the greatest long-term impact in a period of climate and streamflow uncertainty.
- Addendum calls for 2,898 AF/Y (for basin-wide uncertainty) – Phase 2 achieves 50%.
- Cost efficient strategy to ensuring instream flow is protected in perpetuity.
- Preserves streamflow - baseline metric for success of instream habitat projects.
- Buys back rights to water historically used by TransAlta – lost to the watershed – and dedicates to instream flow rather than alternative mitigation purposes.

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Questions - recommendations?

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