

Groundwater Transfer Review Summary Form

Transfer/PA # T- 14343

GW Reviewer Stacey Garrison/Travis Brown Date Review Completed: 7/22/2024

Summary of Same Source Review:

☐ The proposed change in point of appropriation is not within the same aquifer as per OAR 690-380-2110(2).

Summary of Injury Review:

☒ The proposed transfer will result in another, existing water right not receiving previously available water to which it is legally entitled or result in significant interference with a surface water source as per 690-380-0100(3).

Summary of GW-SW Transfer Similarity Review:

☐ The proposed SW-GW transfer doesn't meet the definition of "similarly" as per OAR 690-380-2130.

This is only a summary. Documentation is attached and should be read thoroughly to understand the basis for determinations.



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Ground Water Review Form:

- ☐ Water Right Transfer
☐ Permit Amendment
☒ GR Modification
☐ Other

Application: T-14343

Applicant Name: Weyerhaeuser NR CO

Proposed Changes: ☒ POA ☐ APOA ☐ SW→GW ☐ RA
☐ USE ☐ POU ☐ OTHER

Reviewer(s): Stacey Garrison/Travis Brown

Date of Review: 7/22/2024

Date Reviewed by GW Mgr. and Returned to WRSD: JTI 6/4/25

The information provided in the application is insufficient to evaluate whether the proposed transfer may be approved because:

- ☐ The water well reports provided with the application do not correspond to the water rights affected by the transfer.
- ☐ The application does not include water well reports or a description of the well construction details sufficient to establish the ground water body developed or proposed to be developed.
- ☐ Other _____

1. Basic description of the changes proposed in this transfer: Applicant proposes to add three POAs: to-POA 3/New Greenhouse Well (**PROP 482**), to-POA 4/Well 4 (**PROP 483**), and to-POA 5/McGill Well 1 (**MARI 16029**) to **Claim GR-170**. **Claim GR-170** authorizes from-POA 1/GR Well 1 (**MARI 16007**) to irrigate 29.51 ac and from-POA 2/GR Well 4 (**MARI 16008**) to irrigate 35.42 ac; Pump Well 2 (**MARI 16088**) authorized to irrigate 77.57 ac is not impacted by this transfer. The to-POAs will be used to irrigate less than the total POU acres authorized under **Claim GR-170** and will be pro-rated according to this reduced acreage. Transfer application **T-14344** on **Claim GR-411** was submitted simultaneously with application **T-14343**, and effects to-POA 3/New Greenhouse Well (**PROP 482**) and to-POA 4/Well 4 (**PROP 483**). **Claim GR-411** authorizes irrigation of 52 ac, but T-14344 is applicable to 14.54 ac, resulting in a prorating of the rate and duty. The prorated rates and duties applicable under both **T-14343** and **T-14344** will be used and are summarized in the table below. To-POA 5/McGill Well 1 (**MARI 16029**) is also authorized under **Claim GR-1054** for irrigation of 32.5 ac at 500 gpm; the maximum combined rate and duty are based on the prorated equivalent for this transfer and **Claim GR-1054**, included in the table below.

Rates and Duties		POA		
		New Greenhouse Well/POA 3 (PROP 482)	Well 4/POA 4 (PROP 483)	McGill Well/POA 5 (MARI 16029)
POU (ac)	This transfer, T-14343/Claim GR-170	4.56	4.56	2.92
	T-14344/Claim GR-411	14.54	14.54	Not authorized
	Claim GR-1054	Not authorized	Not authorized	32.5
	Total	19.1	19.1	35.42
Authorized duty (AF/year)	This transfer, T-14343/Claim GR-170	36.7	36.7	28.2
	T-14344/Claim GR-411*	36.35	36.35	Not authorized
	Claim GR-1054*	Not authorized	Not authorized	81.25
	Total	73.05	73.05	109.45
Flow rate CFS (gpm)	This transfer, T-14343/Claim GR-170	0.14 cfs (64.37 gpm)	0.14 cfs (64.37 gpm)	0.11 cfs (49.475 gpm)
	T-14344/Claim GR-411	0.73 cfs (327.48 gpm)	0.73 cfs (327.48 gpm)	Not authorized
	Claim GR-1054	Not authorized	Not authorized	1.114 cfs (500 gpm)
	Total	0.873 cfs (391.85 gpm)	0.873 cfs (391.85 gpm)	1.22 cfs (549 gpm)

*A maximum volume duty in AF/year was not included in Claim GR-1054 or Claim GR-411; the standard maximum duty of 2.5 AF/ac/year for the Willamette Basin has been applied.

2. Will the proposed POA develop the same aquifer (source) as the existing authorized POA?
☒ Yes ☐ No Comments: The from-POAs POA 1/GR Well 1 (MARI 16007) and POA 2/GR Well 4 (MARI 16008) develop the unconfined and highly permeable coarse-grained Holocene floodplain deposits associated with the North Santiam River, with shallow groundwater levels that approximate the stage of adjacent reaches of the river. The to-POA 5/McGill Well 1 (MARI 16029) develops the same source, and the proposed to-POAs POA 3/New Greenhouse Well (PROP 482) and POA 4/Well 4 (PROP 483) are anticipated to develop the same source.
3. a) Is there more than one source developed under the right (e.g., basalt and alluvium)?
☐ Yes ☒ No _____
- b) If yes, estimate the portion of the right supplied by each of the sources and describe any limitations that will need to be placed on the proposed change (rate, duty, etc.): _____

4. a) Will this proposed change, at its maximum allowed rate of use, likely result in an increase in interference with **another ground water right**?

☒ Yes ☐ No Comments: From-POA 1/GR Well 1 (MARI 16007) is 3,513 ft from the closest groundwater user MARI 16034. From-POA 2 /GR Well 4 (MARI 16008) is 3,109 ft from the closest groundwater user MARI 16000, authorized under Certificate 31090 with priority date 2/5/1959. To-POA 3/New Greenhouse Well (PROP 482) is 4,681 ft from the closest groundwater user MARI 16000. To- POA 4/Well 4 (PROP 483) is 4,874 ft from the closest groundwater user MARI 16000. To-POA 5/McGill Well 1 (MARI 16029) is 2,860 ft from the closest groundwater user MARI 16034. To-POA 4/McGill Well 1 (MARI 16029) has a reduced distance to the closest groundwater user.

- b) If yes, would this proposed change, at its maximum allowed rate of use, likely result in another groundwater right not receiving the water to which it is legally entitled?

☐ Yes ☒ No If yes, explain: Given the efficient hydraulic connection with surface water, short distance to surface water, and unconfined conditions of the aquifer it is not anticipated drawdown caused by pumping by to-POA 5/McGill Well 1 (MARI 16029) at the respective maximum combined, prorated rated described in the table above will result in another groundwater user not receiving the water to which it is legally entitled.

5. a) Will this proposed change, at its maximum allowed rate of use, likely result in an increase in interference with **another surface water source**?

☒ Yes ☐ No Comments: The North Santiam River is south of all the from-POAs and to-POAs: 2,030 ft from-POA 1/GR Well 1 (MARI 16007); 2,230 ft from-POA 2 /GR Well 4 (MARI 16008); 1,350 ft to-POA 3/New Greenhouse Well (PROP 482); 1,270 ft to-POA 4/Well 4 (PROP 483); 3,094 ft to-POA 5/McGill Well 1 (MARI 16029). The to-POAs are closer and anticipated to cause an increase in interference with the North Santiam River.

- b) If yes, at its maximum allowed rate of use, what is the expected change in degree of interference with any **surface water sources** resulting from the proposed change?

Stream: North Santiam River

☐ Minimal ☒ Significant

Provide context for minimal/significant impact: The reduced intervening distance between the North Santiam River and both proposed to-POAs POA 3/New Greenhouse Well (PROP 482) and POA 4/Well 4 (PROP 483) will likely cause an overall increase in interference with the North Santiam River. It will also cause surface water depletions due to groundwater pumping under Claim GR-170 to accrue quicker in relation to the onset of pumping. Because Claim GR-170 allows for Irrigation use from March 1 to October 31, the proposed change is anticipated to increase interference with the North Santiam River within this time period. The North Santiam River is an over-appropriated surface water source, with no water typically available for additional appropriations between August and October, and very little water available for additional appropriations in July (see attached Water Availability Analysis). Because the proposed change would likely increase interference with a surface water source during a period in which that source is typically over-appropriated, the expected change in degree of interference is significant.

6. For SW-GW transfers, will the proposed change in point of diversion affect the surface water source similarly (as per OAR 690-380-2130) to the authorized point of diversion specified in the water use subject to transfer?

☐ Yes ☐ No Comments: N/A

7. What conditions or other changes in the application are necessary to address any potential issues identified above: N/A
8. Any additional comments: To avoid a Significant Change in Degree of Interference with the North Santiam River, the applicant can remove POA 3/New Greenhouse Well (PROP 482) and POA 4/Well 4 (PROP 483) from the transfer. Alternatively, the pumping rate can be reduced for POA 3/New Greenhouse Well (PROP 482) and POA 4/Well 4 (PROP 483) such that the degree of interference for the months the North Santiam is over-appropriated (August, September, October) is the same as produced by pumping at the maximum rate at the authorized POA that water is being transferred from, POA 2/GR Well 4 (MARI 16008). The reduced rate to achieve the same degree of interference as POA 1/GR Well 1 (MARI 16007) is 0.106 cfs (47.6 gpm) for POA 3/New Greenhouse Well (PROP 482), and 0.104 cfs 46.4 gpm) for POA 4/Well 4 (PROP 483).

The combined pumping rate for all POAs under this transfer for the subject acreage should not exceed the proportional rate of 0.14 cfs. For example, if POA 4 is pumped at the maximum reduced rate of 0.104 cfs, then POA 3 or 5 should not be simultaneously pumped at more than 0.036 cfs.

References

Application File: T-14343/Claim GR-170, T-14344/Claim GR-411

Pumping Test Files: MARI 16029, MARI 14656, MARI 50649, MARI 50190

Well Reports: MARI 16029, MARI 14656, MARI 50649, MARI 50190, MARI 16000, MARI 16005, MARI 16006, MARI 16007, MARI 16008, MARI 16088, MARI 16019, MARI 16034

Conlon, T.D., Wozniak, K.C., Woodcock, D., Herrera, N.B., Fisher, B.J., Morgan, D.S., Lee, K.K., and Hinkle, S.R., 2005, *Ground-water hydrology of the Willamette Basin, Oregon*, Scientific Investigations Report 2005-5168: U. S. Geological Survey, Reston, VA.

Freeze, R.A. and J.A. Cherry, 1979. *Groundwater*, Prentice Hall, Englewood Cliffs, New Jersey, 604p

Gannett, M.W. and Caldwell, R., 1998, *Geologic framework of the Willamette Lowland aquifer system, Oregon and Washington*, Professional Paper 1424-A, 32 p: U. S. Geological Survey, Reston, VA.


Hunt, B., 1999, Unsteady stream depletion from ground water pumping: *Ground Water*, v. 37, no. 1, p. 98-102.

Iverson, J., 2002, *Investigation of the hydraulic, physical, and chemical buffering capacity of Missoula flood deposits for water quality and supply in the Willamette Valley of Oregon*: Unpublished M.S. thesis, Oregon State University, 147 p

Theis, C.V., 1935, The relation between the lowering of the piezometric surface and the rate and duration of discharge of a well using ground-water storage: *American Geophysical Union transactions*, v. 16, p. 519-524.

Watershed Sciences, 2009, LIDAR remote sensing data collection, Department of Geology and Mineral Industries, Willamette Valley Phase I, Oregon: Portland, OR, December 21.

Water Availability Analysis

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Water Availability Analysis

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Water Availability Analysis
Detailed Reports

N SANTIAM R > SANTIAM R - AT MOUTH
WILLAMETTE BASIN

Watershed ID # 141 ([Map](#))
Date: 6/17/2024

Water Availability as of 6/17/2024

Exceedance Level: 80%
Time: 12:19 PM

Water Availability Calculation

Consumptive Uses and Storages

Instream Flow Requirements

Reservations

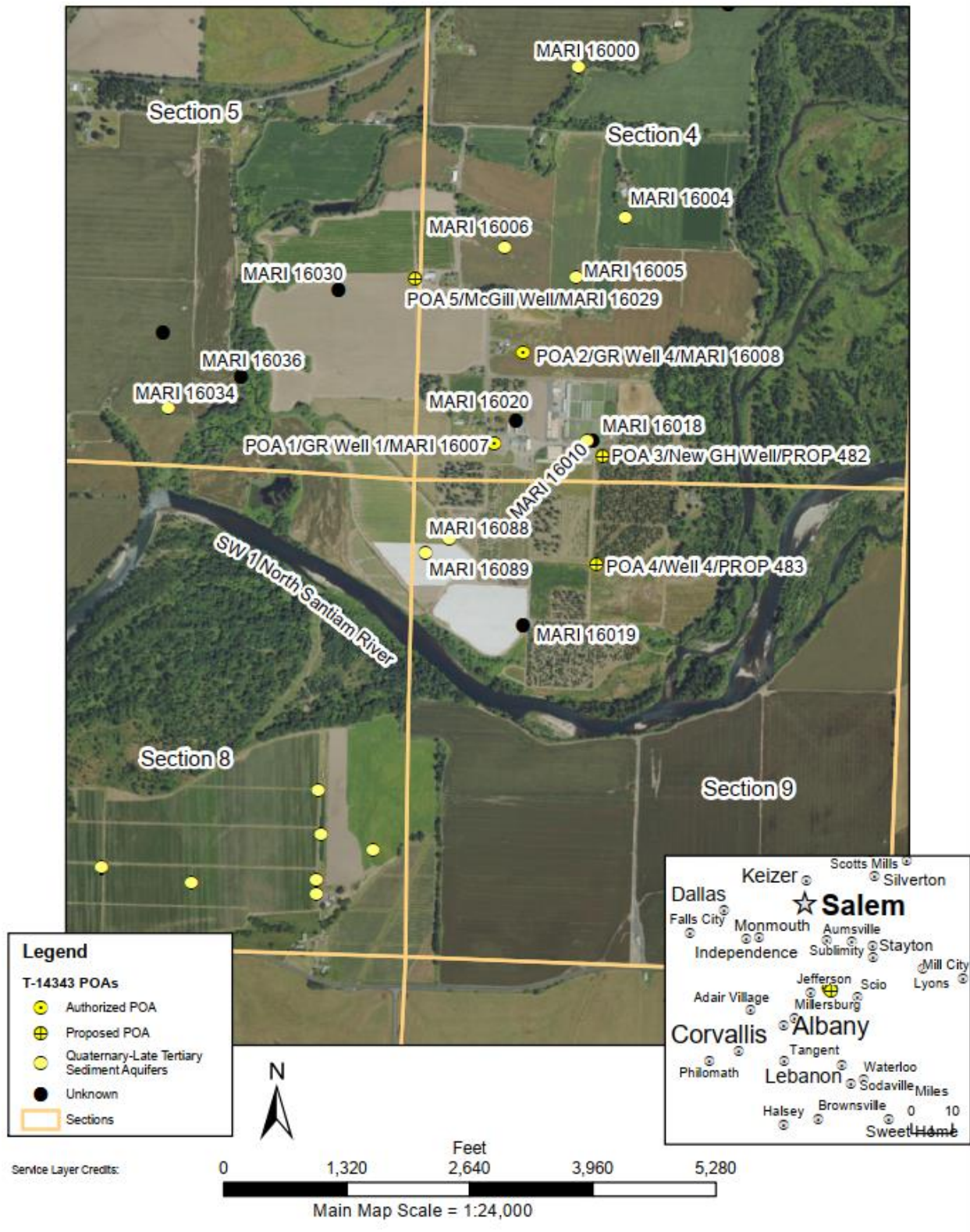
Water Rights

Watershed Characteristics

Water Availability Calculation
Monthly Streamflow in Cubic Feet per Second
Annual Volume at 50% Exceedance in Acre-Feet

Month	Natural Stream Flow	Consumptive Uses and Storages	Expected Stream Flow	Reserved Stream Flow	Instream Flow Requirement	Net Water Available
JAN	2,330.00	482.00	1,850.00	0.00	430.00	1,420.00
FEB	2,670.00	1,490.00	1,180.00	0.00	430.00	750.00
MAR	2,540.00	1,320.00	1,220.00	0.00	430.00	790.00
APR	2,500.00	1,480.00	1,020.00	0.00	430.00	587.00
MAY	2,590.00	804.00	1,790.00	0.00	430.00	1,360.00
JUN	1,500.00	434.00	1,070.00	0.00	430.00	636.00
JUL	856.00	331.00	527.00	0.00	430.00	96.90
AUG	661.00	317.00	344.00	0.00	430.00	-66.30
SEP	627.00	295.00	332.00	0.00	430.00	-97.60
OCT	694.00	265.00	428.00	0.00	430.00	-2.33
NOV	1,380.00	269.00	1,110.00	0.00	430.00	681.00
DEC	2,540.00	269.00	2,270.00	0.00	430.00	1,840.00
ANN	1,960,000.00	464,000.00	1,500,000.00	0.00	312,000.00	1,190,000.00

Download Data ([Text - Formatted](#), [Text - Tab Delimited](#), [Excel](#))

Map**T-14343 Weyerhaeuser**

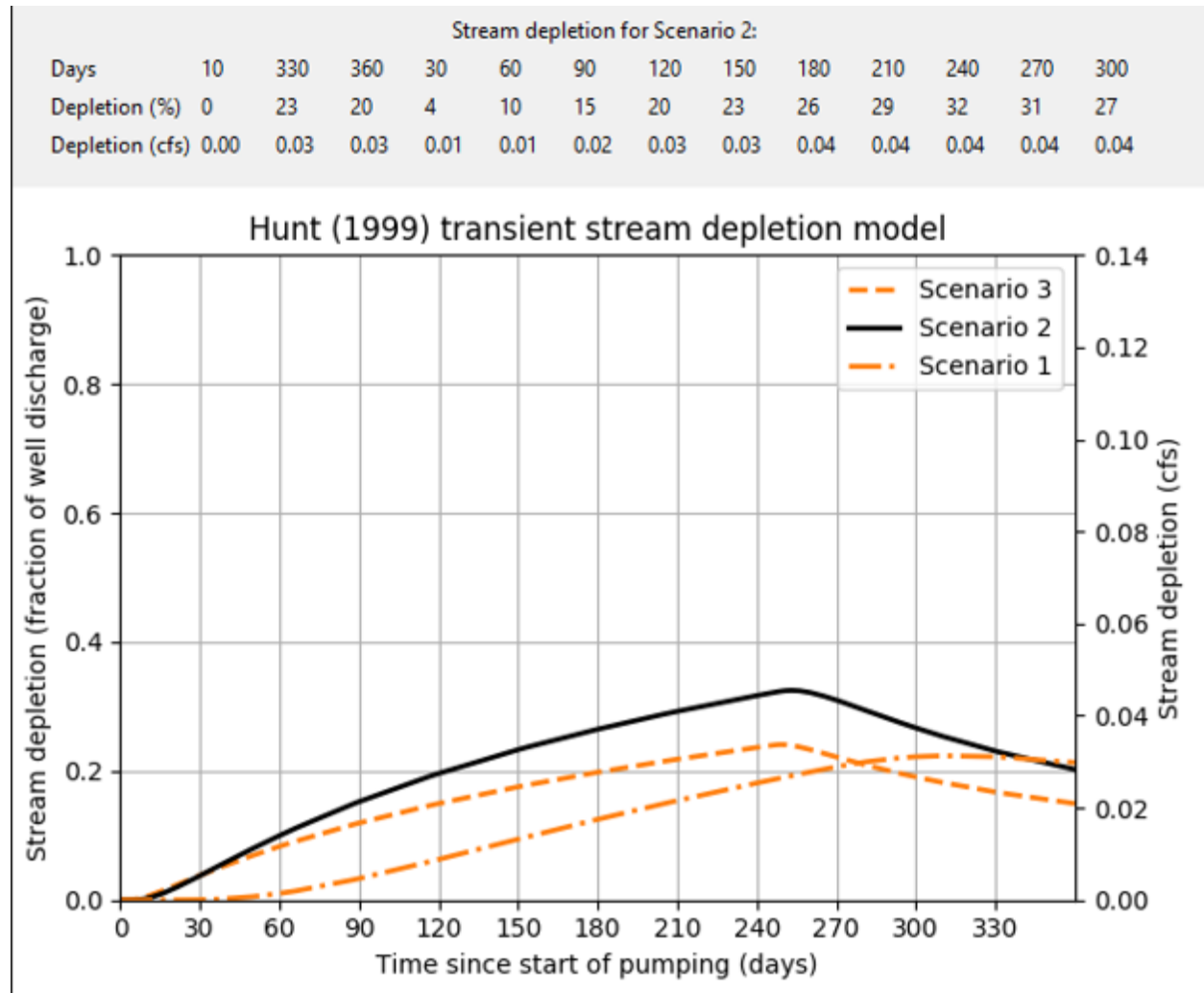
Stream Depletion Analysis

POA	Stream Depletion @ Day 180 (August)		Pumping rate	
	cfs	%	cfs	gpm
POA 1/GR Well 1 (MARI 16007)	0.037	26.5	0.14	62.8
POA 3/New Greenhouse Well (PROP 482)	0.037	34.9	0.106	47.7
POA 4/Well 4 (PROP 483)	0.037	35.8	0.104	46.5

Hunt 1999-POA 2/GR Well 4/MARI 16008

Application type:	T
Application number:	14343
Well number:	2
Stream Number:	1
Pumping rate (cfs):	0.14
Pumping duration (days):	244.0
Pumping start month number (3=March)	3.0

Parameter	Symbol	Scenario 1	Scenario 2	Scenario 3	Units
Distance from well to stream	a	2230	2230	2230	ft
Aquifer transmissivity	T	1200.0	10375.0	28000.0	ft ² /day
Aquifer storativity	S	0.15	0.2	0.3	-
Aquitard vertical hydraulic conductivity	Kva	0.1	0.1	0.1	ft/day
Not used		10.0	20.0	30.0	
Aquitard thickness below stream	babs	3.0	3.0	3.0	ft
Not used		0.2	0.2	0.2	
Stream width	ws	160.0	160.0	160.0	ft



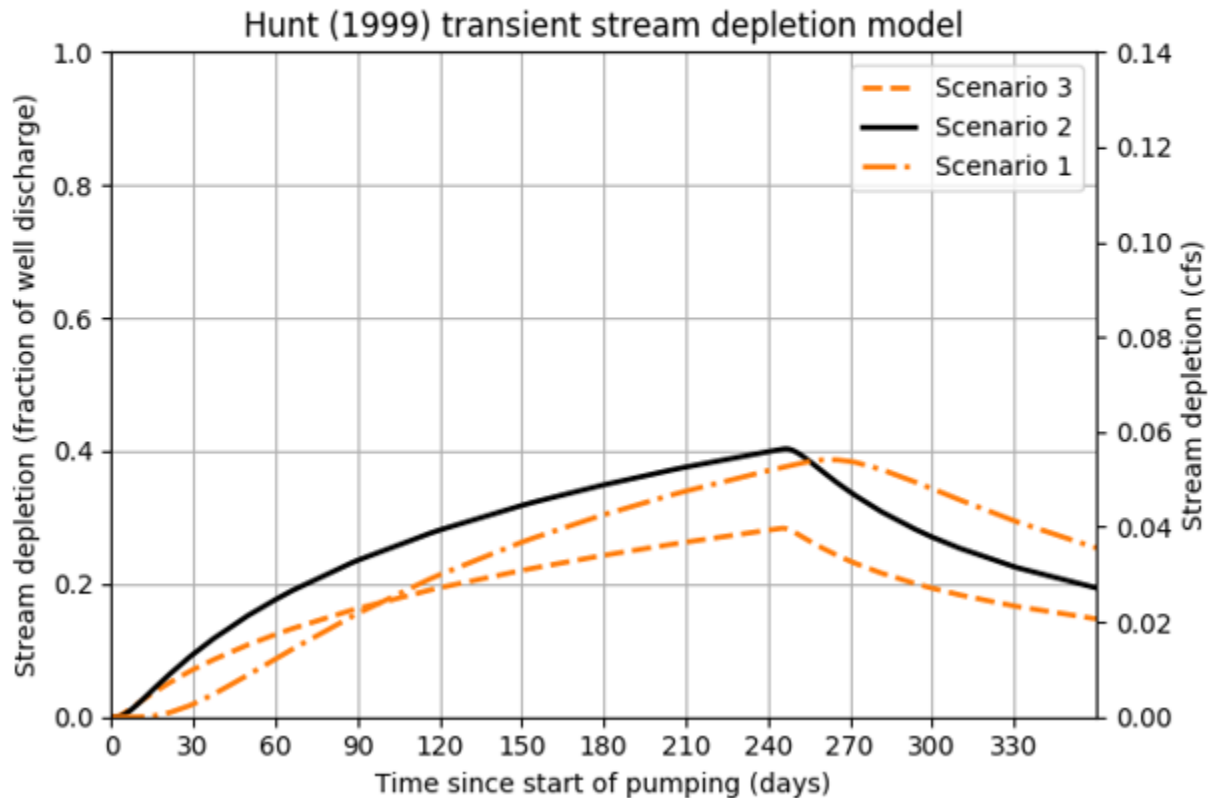
Hunt 1999-POA 3/New Greenhouse Well/PROP 482 (at full non-reduced rate)

Application type:	T
Application number:	14343
Well number:	3
Stream Number:	1
Pumping rate (cfs):	0.14
Pumping duration (days):	244.0
Pumping start month number (3=March)	3.0

Parameter	Symbol	Scenario 1	Scenario 2	Scenario 3	Units
Distance from well to stream	a	1350	1350	1350	ft
Aquifer transmissivity	T	1200.0	10375.0	28000.0	ft ² /day
Aquifer storativity	S	0.15	0.2	0.3	-
Aquitard vertical hydraulic conductivity	Kva	0.1	0.1	0.1	ft/day
Not used		10.0	20.0	30.0	
Aquitard thickness below stream	babs	3.0	3.0	3.0	ft
Not used		0.2	0.2	0.2	
Stream width	ws	160.0	160.0	160.0	ft

Stream depletion for Scenario 2:

Days	10	330	360	30	60	90	120	150	180	210	240	270	300
Depletion (%)	2	23	19	9	18	24	28	32	35	38	40	34	27
Depletion (cfs)	0.00	0.03	0.03	0.01	0.02	0.03	0.04	0.04	0.05	0.05	0.06	0.05	0.04



Hunt 1999-POA 4/Well 4/PROP 483 (at full non-reduced rate)

Application type:	T
Application number:	14343
Well number:	4
Stream Number:	1
Pumping rate (cfs):	0.14
Pumping duration (days):	244.0
Pumping start month number (3=March)	3.0

Parameter	Symbol	Scenario 1	Scenario 2	Scenario 3	Units
Distance from well to stream	a	1270	1270	1270	ft
Aquifer transmissivity	T	1200.0	10375.0	28000.0	ft ² /day
Aquifer storativity	S	0.15	0.2	0.3	-
Aquitard vertical hydraulic conductivity	Kva	0.1	0.1	0.1	ft/day
Not used		10.0	20.0	30.0	
Aquitard thickness below stream	babs	3.0	3.0	3.0	ft
Not used		0.2	0.2	0.2	
Stream width	ws	160.0	160.0	160.0	ft

Stream depletion for Scenario 2:

Days	10	330	360	30	60	90	120	150	180	210	240	270	300
Depletion (%)	2	22	19	10	19	24	29	33	36	38	41	34	27
Depletion (cfs)	0.00	0.03	0.03	0.01	0.03	0.03	0.04	0.05	0.05	0.05	0.06	0.05	0.04

