

**EMERGENCY DROUGHT APPLICATION: GROUNDWATER REVIEW**

TO: Water Rights Section Date: 07/14/2020

FROM: Groundwater Section: Michael Thoma  
Reviewer's Name

SUBJECT: Application G- 19005  Re-review; date of original review: ##/##/####

This review is based on authorities laid out in OAR 690-019 Drought Mitigation rules. This is an expedited review to evaluate an emergency request for groundwater use for one season under a Governor's drought declaration. Notwithstanding groundwater availability, stability of the groundwater resource, and surface water and Scenic Waterway considerations, the Department may issue a drought permit for short-term emergency use provided that there is no injury and that the use is within the public interest as per OAR 690-019-0040(3).

**Assessment of temporary emergency use groundwater permits includes review of the policy items described in the attached memo: "General availability of groundwater under 2020 Governor's declared drought for the Klamath Basin" [effective 03/02/2020]**

**A. GENERAL INFORMATION:**

Applicant's Name: Dale Carland, Carland Family Trust County: Klamath

A1. Applicant(s) seek(s) 3.0 cfs from 1 well(s) in the Klamath Basin  
Klamath Falls Subbasin

A2. Proposed use: Irrigation: 67.2 acres Seasonality: 2020 Irrigation Season

A3. Well and aquifer data (**attach and number logs for existing wells; mark proposed wells as such under LogID**):

Well	Well Report LogID	Applicant's Well #	Proposed Aquifer*	Proposed Rate (cfs)	Location; (T/R-S QQ-Q)	Location; metes and bounds
<b>1</b>	KLAM0053732	1	bedrock	3.0	39S/09E-28 SENE	202 ft N, 52 ft W of E ¼ cor S 28

**If no well report is available or the well is proposed, fill out the following table.**

Well	Well Depth (ft)	Seal Interval (ft)	Casing Intervals (ft)	Liner Intervals (ft)	Perforation or Screen Interval (ft)	Well Yield (gpm)
-	--	--	--	--	--	--

Comments: no comments

**B. WATER AVAILIBLTY:**

B1. Is there information that this drought groundwater use will **injure senior spring or surface water rights** during the duration of the drought declaration? ( Yes) ( No); If yes, explain:

B2. Is there information that this drought groundwater use will **injure senior groundwater rights** during the duration of the drought declaration? ( Yes) ( No); If yes, explain:

Seasonal groundwater level fluctuations in response to pumping in this area are generally on the order of 10-20 feet and most wells on groundwater rights are deep enough to accommodate this seasonal interference. However, long-term groundwater level declines have been documented throughout the area and are punctuated by drought-related groundwater pumping. Pumping related to 2020 emergency drought use by this, and other wells, is expected to exacerbate these declines, which has the potential to impact shallow wells.

B3. Groundwater ( is) ( is not) available within the **capacity of the resource**, Comments:

Groundwater levels have declined noticeably across almost the entire Lost River Subbasin within the past 20 years and over 20 feet in some areas. Increased use by drought-permit wells and supplemental groundwater permits is anticipated to continue these declines. Additionally, a reduction in groundwater storage has been observed across the Lost River Subbasin since 2000 and is likely to continue as a result of 2020 drought groundwater use, implying that the groundwater resource is over-appropriated as defined in OAR 680-400-0010.

B4. Is any proposed POA within an area of the Klamath Basin that has been previously delineated as having experienced documented, long-term groundwater level decline? ( Yes) ( No)

See attached memo "General availability of groundwater under 2020 Governor's declared drought for the Klamath Basin" [effective 03/02/2020]

B5. There ( is) ( is not) a preponderance of evidence that the proposed short-term emergency groundwater use will measurably reduce the surface water flows necessary to maintain the free-flowing character of a scenic waterway.

A preponderance of evidence exists to establish that groundwater development occurring in Oregon since 1995 in the Upper Klamath Basin and Lost River subbasin has "measurably reduced" surface water flows within the Klamath Scenic Waterway (refer to attached memo dated 2/19/2013). Short term emergency groundwater uses will further reduce surface water flows in the Klamath Scenic Waterway. The timing and degree (amount of reduction in flow) of additional impacts from the proposed short-term emergency groundwater use is beyond the scope of this review.

**C. PERMIT CONDITIONS:**

If a permit is issued, include the following conditions:

**Condition 7B (Interference Condition):** Drought permits are junior to existing water rights and are subject to regulation

**Condition 7P (Well Tag):** If there is no existing OWRD Well ID Tag on the well, one shall be attached

**Large Water Use Reporting Condition:** totalizing flowmeter and reporting required. Include condition that “the readings must be reported to the Department by December 1, 2020.”

**Special Condition – Water-Level Measurement Access:** “Prior to use, the well shall be configured to allow a strictly clean water (no oil) static water level measurements with an electric-tape. This can include measurement access via an unobstructed vertical discharge pipe that allows the groundwater level to fluctuate freely within the discharge pipe (no valves), or unobstructed access within the casing to the water level. Otherwise, a dedicated measuring tube must be installed prior to use that has a diameter of ¾ inch (0.75 inch) or greater, and pursuant to figure 200-5 in OAR 690-200.”

**Special Condition - Regulation:** “Groundwater pumping under this permit shall discontinue or be reduced if area wells with permanent primary and/or supplemental groundwater rights are being regulated off due to groundwater level decline or interference with senior water rights unless the Department determines no action is necessary (pumping under this permit can continue) because the groundwater resource can sustain continued groundwater pumping without causing substantial interference with senior water rights.”

D. SUPPORTING FIGURES AND DOCUMENTS:

Well Reports

KLAM 53732

**RECEIVED**

STATE OF OREGON  
 WATER SUPPLY WELL REPORT  
(as required by ORS 537.765)  
 Instructions for completing this report are on the last page of this form.

MAR 18 2003  
 WATER RESOURCES DEPT  
 SALEM, OREGON

WELL I.D. # L 32935  
 START CARD # 102562

**(1) LAND OWNER** Well Number \_\_\_\_\_  
 Name LEE R. SUKRAW  
 Address 1881 LOWER KLAMATH LAKE RD.  
 City KLAMATH FALLS State OR Zip 97603

**(2) TYPE OF WORK**  
 New Well  Deepening  Alteration (repair/recondition)  Abandonment

**(3) DRILL METHOD:**  
 Rotary Air  Rotary Mud  Cable  Auger  
 Other \_\_\_\_\_

**(4) PROPOSED USE:**  
 Domestic  Community  Industrial  Irrigation  
 Thermal  Injection  Livestock  Other \_\_\_\_\_

**(5) BORE HOLE CONSTRUCTION:**  
 Special Construction approval  Yes  No Depth of Completed Well 480 ft.  
 Explosives used  Yes  No Type \_\_\_\_\_ Amount \_\_\_\_\_

HOLE		SEAL		Sacks of Gravel	
Diameter	From To	Material	From To		
24"	0 55	CEMENT	0 55	4	915
20"	55 250				
12"	250 325				
10"	325 425	6" Gravel	425 to 480'		

How was seal placed: Method  A  B  C  D  E  
 Other \_\_\_\_\_

Backfill placed from \_\_\_\_\_ ft. to \_\_\_\_\_ ft. Material \_\_\_\_\_  
 Gravel placed from \_\_\_\_\_ ft. to \_\_\_\_\_ ft. Size of gravel \_\_\_\_\_

**(6) CASING/LINER:**

Diameter	From To	Gauge	Steel	Plastic	Welded	Threaded
Casing: 20"	420' 55'	250	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Liner:			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Drive Shoe used  Inside  Outside  None  
 Final location of shoe(s) \_\_\_\_\_

**(7) PERFORATIONS/SCREENS:**  
 Perforations Method \_\_\_\_\_  
 Screens Type \_\_\_\_\_ Material \_\_\_\_\_

From To	Slot size	Number	Diameter	Telo/pipe size	Casing	Liner
					<input type="checkbox"/>	<input type="checkbox"/>

**(9) LOCATION OF WELL by legal description:**  
 County KLAMATH Latitude \_\_\_\_\_ Longitude \_\_\_\_\_  
 Township 39 N or S Range 9 W or E. WM.  
 Section 28 SE 1/4 NE 1/4  
 Tax Lot 1900 Lot \_\_\_\_\_ Block \_\_\_\_\_ Subdivision \_\_\_\_\_  
 Street Address of Well (or nearest address) SE End of WASHBURN way

**(10) STATIC WATER LEVEL:**  
12 ft. below land surface. Date 3-09-03  
 Artesian pressure \_\_\_\_\_ lb. per square inch Date \_\_\_\_\_

**(11) WATER BEARING ZONES:**  
 Depth at which water was first found 34

From	To	Estimated Flow Rate	SWL
34	45	10 gpm	
60	480	3000 +	12'

**(12) WELL LOG:** Ground Elevation 4130

Material	From	To	SWL
SANDY CLAY TOPSOIL	0	8	
BROWN CLAY	8	14	
GREEN CLAY	14	15	
BROWN SAND	15	16	
GREEN CLAY	16	34	
GREEN CLAYSTONE/SAND	34	39	32'
BLACK SAND	39	45	
BLACK SANDSTONE	45	48	
BLACK BASALT	48	89	72'
BLACK BASALT / ASH	89	92	12
BROKEN BASALT	92	322	12
VERY HARD GRAY BASALT WITH LAYERS OF BROKEN AREA	322	480	12

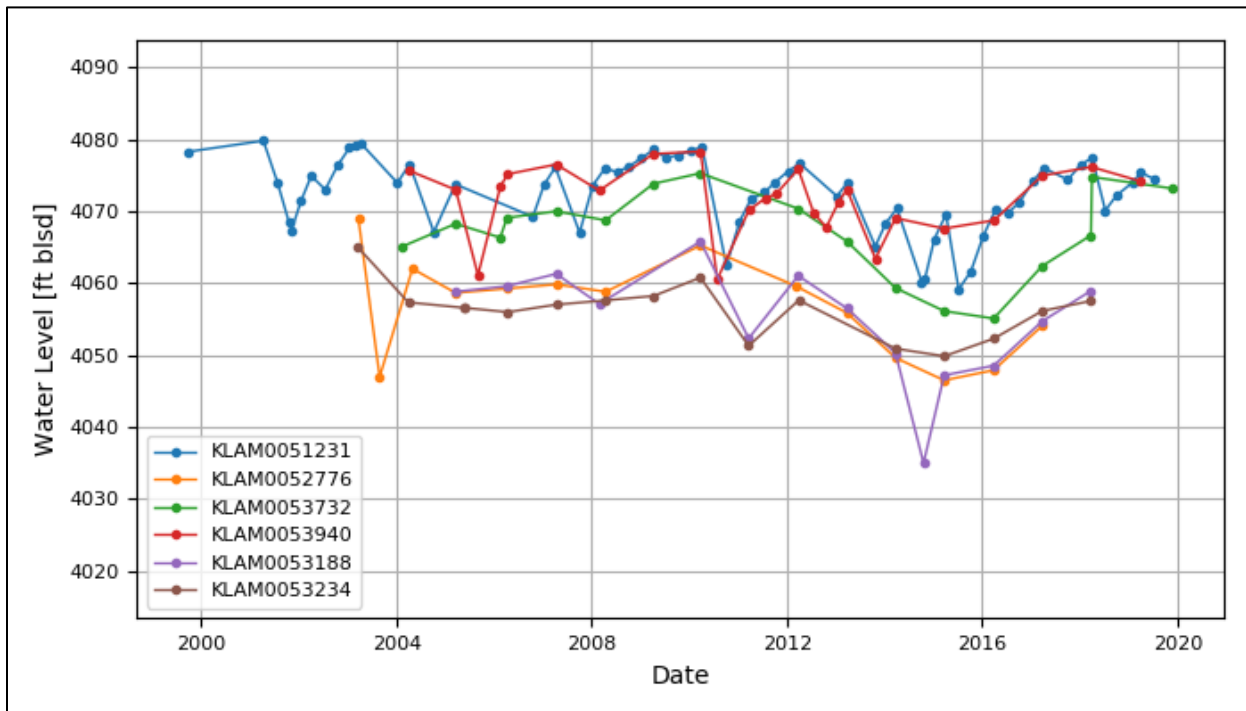
Date started 10-10-01 Completed 3-07-03

**(unbonded) Water Well Constructor Certification:**  
 I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon water supply well construction standards. Materials used and information reported above are true to the best of my knowledge and belief.  
 WWC Number \_\_\_\_\_  
 Signed \_\_\_\_\_ Date \_\_\_\_\_

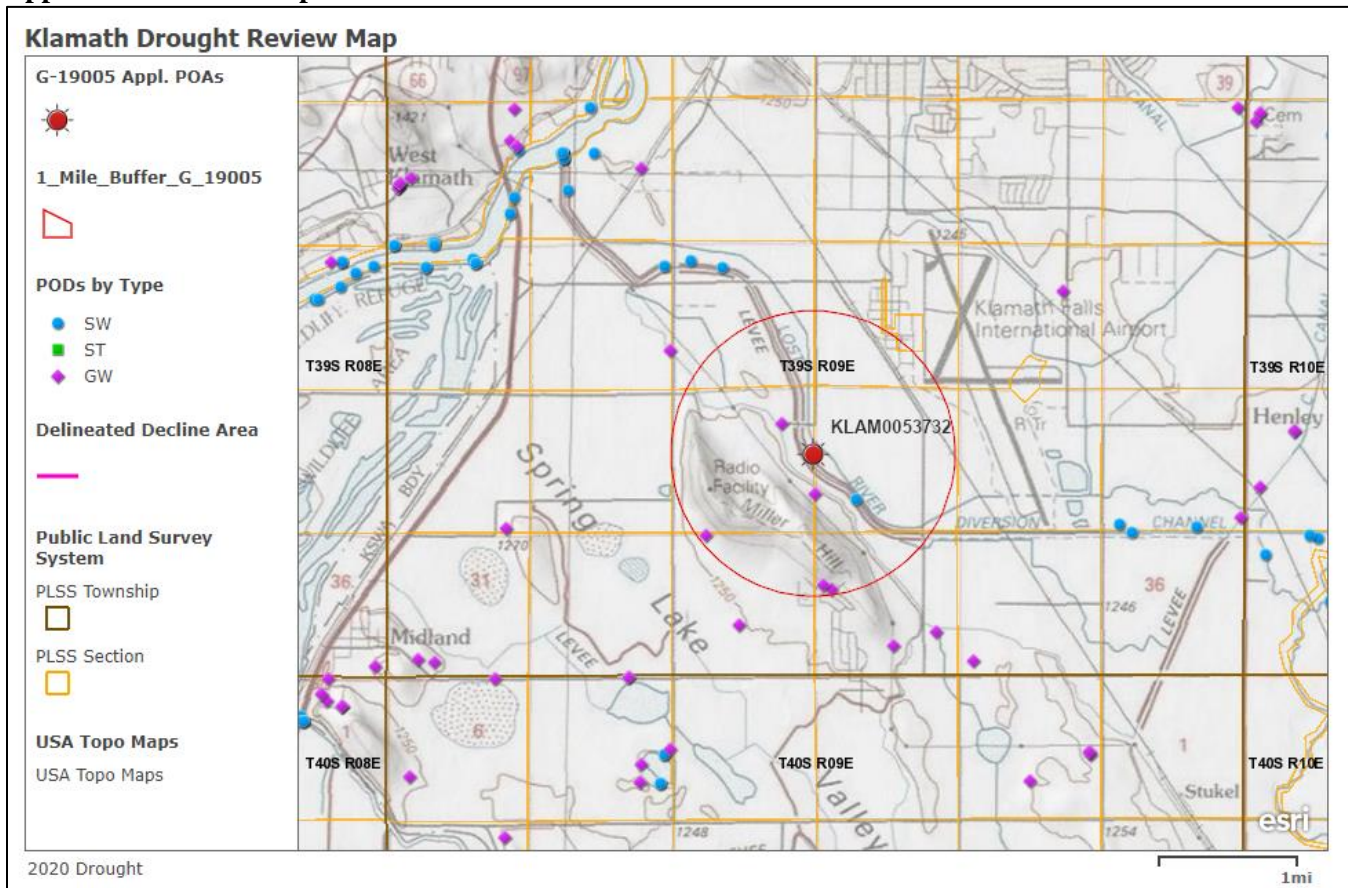
**(bonded) Water Well Constructor Certification:**  
 I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon water supply well construction standards. This report is true to the best of my knowledge and belief.  
 WWC Number 1355  
 Signed Arthur J. Jay Date 3-09-03

ORIGINAL - WATER RESOURCES DEPARTMENT    FIRST COPY - CONSTRUCTOR    SECOND COPY - CUSTOMER

### Water-Level Plots



### Application Review Map



**Memo: General availability of groundwater under 2020 Governor's declared drought for the Klamath Basin**

# Klamath Basin 2020 Drought Permits

<b>Procedure title:</b>
General availability of groundwater under 2020 Governor's declared drought for the Klamath Basin
<b>Approved by:</b>
Dwight French, Administrator, Water Rights Services Division Ivan Gall, Administrator, Field Services Division Justin Iverson, Manager, Groundwater Section of the Technical Services Division
<b>Effective date:</b>
March 2, 2020 through December 31, 2020 (effective period of Governor's declared drought, 2020)

## Background

On March 2, 2020, Oregon Governor Kate Brown signed a Determination of a State Drought Emergency in Klamath County ([Executive Order No. 20-02](#)). Temporary emergency use groundwater permits may be issued in designated drought areas under the Department's [Division 19](#) rules for drought mitigation.

The Department has monitored the long-term effects of past declared droughts and issuance of emergency groundwater use permits since the early 2000s. Data collected under this monitoring program is available from the Department's [Groundwater Site Information System](#), and analyses of these data have been provided in annual reports to the Bureau of Reclamation (most recent report available at [https://www.oregon.gov/owrd/wrdreports/USBR\\_2019\\_Klamath\\_Report.pdf](https://www.oregon.gov/owrd/wrdreports/USBR_2019_Klamath_Report.pdf)). Water level response to groundwater use under past drought permits indicates that pumping has resulted in a decrease in groundwater storage across the Klamath Project area, with the largest declines in the vicinity of Merrill and Malin (see included map).

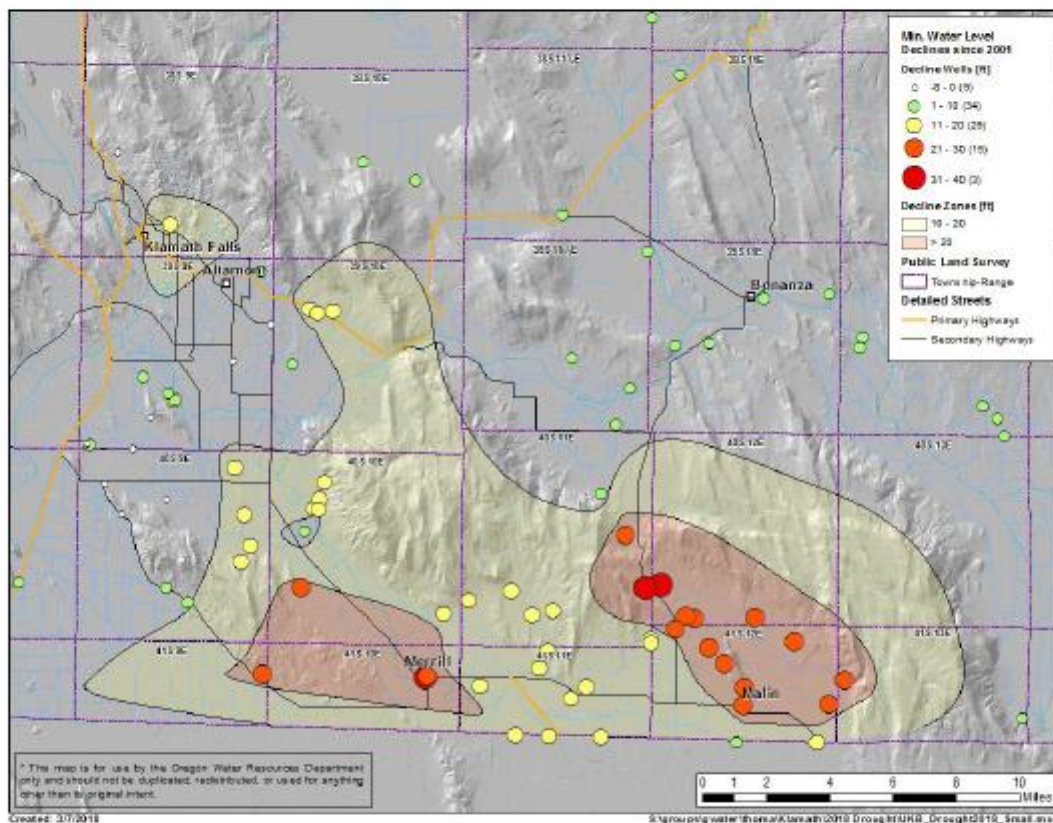
The Klamath Tribes submitted a call for enforcement of Tribal determined instream claims on March 3, 2020, with concurrence from the US Bureau of Indian Affairs.

## Policy

The Department will not issue groundwater drought permits in areas tributary to Upper Klamath Lake in order to limit additional impacts to surface water sources that are subject to or tributary to Tribal determined instream claims.

The Department will not issue groundwater drought permits in the lower basin, in and around the Project Area, in areas with a documented long-term water level decline (from the early 2000s to Spring 2017) of more than 20 feet, as documented on the included map. A more detailed copy of the map is available at the watermaster's office.

Groundwater drought permits issued outside these areas will be conditionally limited to a duty of 1 acft/ac to limit further depletion of groundwater storage. Drought permits will also be conditioned to require metering, record keeping, and reporting of groundwater use over the season to the Department by February 1, 2021.



**Memo: Analysis of Groundwater Pumping Impacts on Scenic Waterway Flows**

**State of Oregon**  
**Water Resources Department**

**Memorandum**

**To:** Barry Norris – Administrator, Technical Services Division  
Dwight French – Administrator, Waterrights Division  
Tom Paul – Deputy Director  
Doug Woodcock – Administrator, Field Services Division

**From:** Ivan Gall – Manager, Groundwater Section *I.G.*

**Date:** February 19, 2013

**Subject:** Analysis of Groundwater Pumping Impacts on Klamath Scenic Waterway Flows

In 1971 the Oregon Legislature created the Scenic Waterway Act, codified by Oregon Revised Statutes 390.805 to 390.925, to preserve for the benefit of the public Waldo Lake and selected parts of the state's free-flowing rivers. The Klamath Scenic Waterway was part of the Act and includes the Klamath River from the John Boyle Dam powerhouse downstream to the Oregon-California border. Under the Act, the Water Resources Commission is allowed to allocate small amounts of surface water for human consumption and livestock watering, as long as issuing the water right does not significantly impair the free-flowing character of these waters in quantities necessary for recreation, fish and wildlife, and the amount allocated may not exceed a cumulative total of one percent of the average daily flow or one cubic foot per second (cfs), whichever is less.

In 1995 the Scenic Waterway Act was modified to address the impact of groundwater uses that, based upon a preponderance of evidence, would measurably reduce the surface water flows within a scenic waterway. "Measurably reduce" means that the use authorized will individually or cumulatively reduce surface water flows within the scenic waterway in excess of a combined cumulative total of one percent of the average daily flow or one cfs, whichever is less.



In 2012 the United States Geological Survey (USGS), in cooperation with OWRD and the US Bureau of Reclamation, completed groundwater flow and management models for the Upper Klamath Basin. The 2012 groundwater flow model uses generally accepted hydrogeologic methods and the relevant field data to model the cumulative effects of groundwater pumping within the Klamath Scenic Waterway, and provides a comprehensive methodology for analyzing the relevant field data necessary to determine whether the cumulative use of groundwater in the Klamath Basin will measurably reduce the surface water flow necessary to maintain the free-flowing character of the Klamath Scenic Waterway.

In September 2012 the OWRD Groundwater Section conducted two model simulations. The two simulations used the 2012 USGS flow model, incorporating groundwater permits issued (61.96 cfs) since adoption of the 1995 Scenic Waterway Act amendment up through 2004. Each simulation was run to steady-state, where inflows and outflows for that model run balanced. An evaluation of the water budgets showed that groundwater discharge to the Klamath Scenic Waterway decreased by 5.88 cfs as a result of the 61.96 cfs of groundwater uses issued between 1995 and 2004. These results indicate to the OWRD that a preponderance of evidence exists to establish that groundwater development occurring in the Upper Klamath Basin in Oregon since 1995 has "measurably reduced" surface water flows within the Klamath Scenic Waterway.

In January 2013 the OWRD Groundwater Section conducted flow model simulations to evaluate impacts to streams from pumping groundwater within the Lost River subbasin. Groundwater pumping was simulated by placing wells in the model that correspond to the center of 39 townships in the southeast part of the Klamath Basin in Oregon. Each of the simulations was run to steady-state, where inflows and outflows for that model run balanced. These results indicate that the scenic waterway is impacted by pumping groundwater in all of the townships evaluated in Oregon in the Lost River subbasin. In summary, a preponderance of evidence exists to establish that groundwater development occurring in Oregon since 1995 in the Upper Klamath Basin and Lost River subbasin has "measurably reduced" surface water flows within the Klamath Scenic Waterway.

**References:**

Gannett, M.W., Lite, K.E., Jr., La Marche, J.L., Fisher, B.J., and Polette, D.J., 2007. Ground-water hydrology of the upper Klamath Basin, Oregon and California: U.S. Geological Survey Scientific Investigations Report 2007-5050, 84p.

Gannett, M.W., Wagner, B.J., and Lite, K.E., Jr., 2012. Groundwater simulation and management models for the upper Klamath Basin, Oregon and California: U.S. Geological Survey Scientific Investigations Report 2012-5062, 92p.