

2015 Monitoring Report
North Umpqua Wild & Scenic River



Cooperative Effort Between
**Bureau of Land Management, Roseburg District
&
Umpqua National Forest**

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I. Background Information

A. Designation of the North Umpqua River

The North Umpqua River was designated a recreational river in the National Wild and Scenic River System in the Omnibus Oregon Wild and Scenic River Act of 1988.

B. North Umpqua River Management Plan

In 1992, The US Forest Service (USFS), Bureau of Land Management (BLM), and Oregon Parks and Recreation Department cooperated with local, state, and federal agencies to complete the North Umpqua River Management Plan. The plan details a specific management direction and resource monitoring plan for each section of the river. The plan notes fisheries, water, recreation, scenery, and cultural resources as Outstandingly Remarkable Values (ORV's).

C. Boating Management Area

Boundaries include the North Umpqua River from Soda Springs Dam to its confluence with Rock Creek. Management of the lower section of the North Umpqua River (between mile markers 22 and 30 of Highway 138, 8.4 river miles) is the responsibility of the Roseburg BLM and management of the upper section (between mile marker 30 and Soda Springs Dam, 25.4 river miles) is the responsibility of the USFS. The two agencies work closely to jointly manage the North Umpqua Wild and Scenic River; the USFS administers special use permits for commercial fishing and rafting guides for the entire 33.8 miles and BLM is responsible for monitoring use.

D. Management Guidelines

Commercial rafters, anglers, and agency personnel have discussed user conflicts that can occur on the North Umpqua River. The various user groups agreed that conflicts could be reduced by using the river at different times. Anglers noted that they used the Steamboat area more extensively than other segments and boaters noted that they did not generally use the river during the early morning hours and late evening hours. As a result, certain segments have been placed under voluntary boater restrictions for both non-commercial and commercial boaters during certain hours of the day and certain seasons of the year. Since implementation in 1992, the number of conflicts between boaters and anglers has been reduced. Voluntary guidelines for each segment are as follows:

Soda Springs to Gravel Bin

Open to boating year-round

Voluntary boating closures - 6 p.m. to 10 a.m. from 7/1 through 10/31

Gravel Bin to Bogus Creek

Open to boating 11/1 through 6/30

Boating closure - 6 p.m. to 10 a.m. from 7/1 through 7/14

Voluntary boating closure – All times, 7/15 through 10/31

Bogus Creek to Susan Creek

Open to boating year-around

Voluntary boating closure - 6 p.m. to 10 a.m. from 7/1 through 10/31

Susan Creek to Rock Creek

Open to boating year-round

Voluntary boating closure - 6 p.m. to 10 a.m. from 7/1 through 10/31

Seven commercial whitewater guide/outfitters have a Special Use Permit which authorizes them to conduct trips on the river between May 20th and September 15th. Stipulations for commercial users exist: commercial trips are not allowed to use Apple Creek campground as a lunch stop; they are restricted from launching from the undeveloped campsites at Eagle Rock campground prior to July 15th; and they may not run trips between September 15th and December 31st to protect spawning fish and their habitat; however, they are authorized to run trips between January 1st and May 20th without using any of their permit allotted days. Non-commercial users (not for profit) are not required to obtain permits to float the river.

Ten commercial fly-fishing guides are permitted to conduct trips on the river between January 1st and November 14th. Trips are not authorized between November 15th and December 31st in order to protect spawning Coho salmon.

E. Methods of Collecting Information

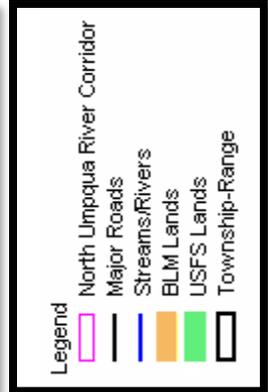
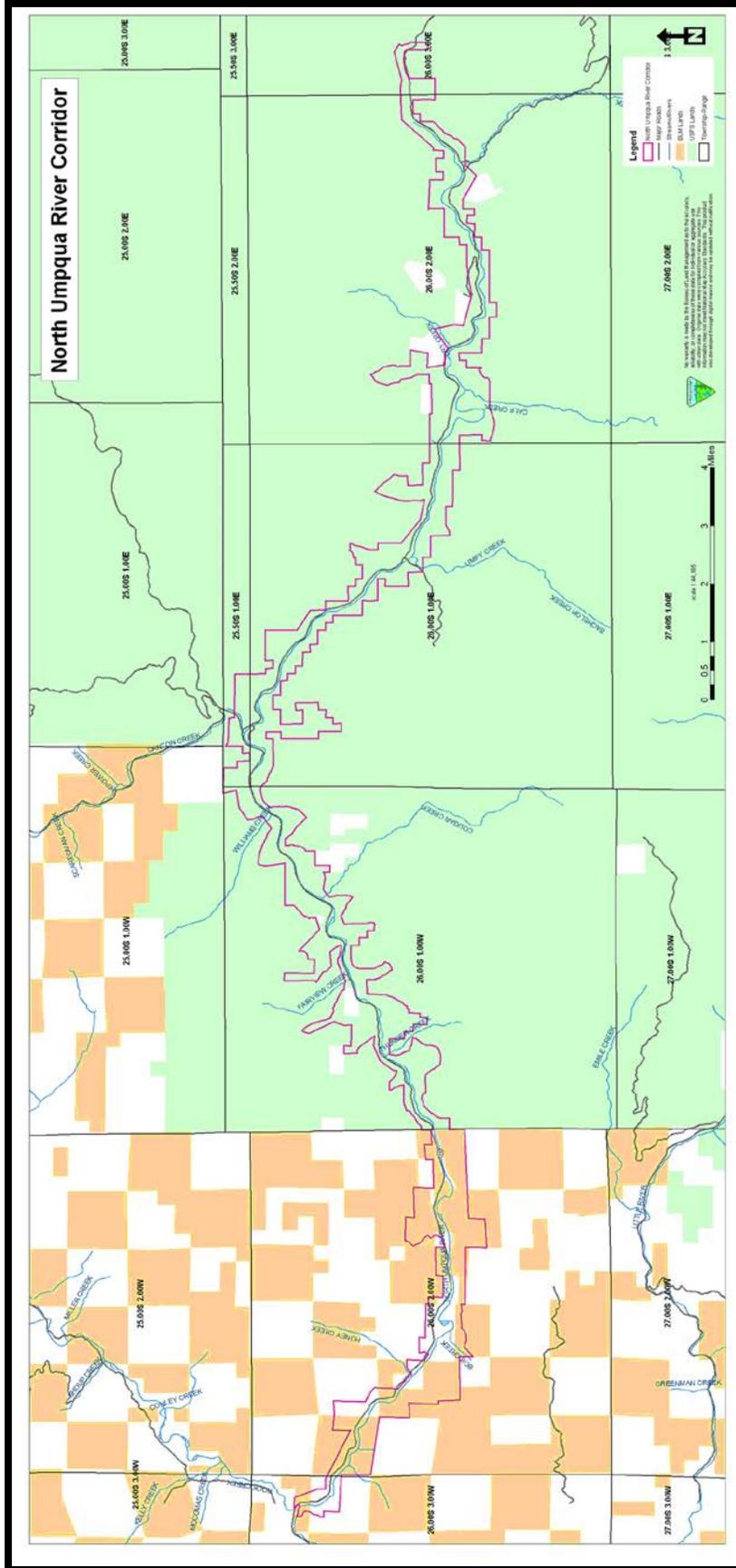
In the winter of 1991, the Roseburg District BLM funded a river manager position to manage and document use of the North Umpqua River. Since then, visual counting by river monitors has varied between two and four BLM and USFS employees per year. In 2015, one USFS and one BLM seasonal employee were in charge of the river monitoring.

F. Objectives of River Monitoring

1. Identify types of recreation use occurring on the river.
2. Document visitor use statistics on the river, including commercial and non-commercial use.
3. Provide a BLM/USFS presence on the river to contact, inform, and educate the public.
4. Coordinate river management issues between the BLM and the USFS.
5. Identify and mitigate safety hazards and minimize user conflicts.
6. Promote preservation of the five ORVs identified in the river management plan.
7. Provide recreational users a quality recreation experience.



Map 1: North Umpqua Wild & Scenic River Corridor



II. Methodology and River-Use Statistics

A. Observed Boating Use

The use recorded by the USFS and BLM monitors is referred to as “observed use”. The documented observed use indicates non-commercial use exceeded commercial use in 2015 (Table 1 & Graph 1). Non-commercial users accounted for 52% of the observed use and commercial users accounted for 48% of the observed use. (Note: This compares to 59% non-commercial observed use and 41% commercial observed use in 2014.)

In 2013, with permission from the USFS, commercial anglers, and commercial boaters the BLM implemented a new monitoring technique using time lapse cameras. In 2015, two cameras were used and placed in Segment 2 near Apple Creek and Segment 4 near Fall Creek. A third camera was added in July on Segment 3 near Williams Creek to better document potential user conflict among Boaters and Anglers. During the first half of the season (May, June and July), camera locations were often changed and settings altered as a result of reduced photo capture success. Old cameras were also replaced in early August with ones that could maintain battery life for much longer than previous models. Once effective camera locations were identified, photos were taken every 30 seconds between the hours of 10am-5pm. These cameras were able to observe use when no BLM or USFS monitors were present, as well as pick up boaters BLM and USFS monitors may have missed. The monitoring cameras accounted for 15% of non-commercial observed use and 21% of commercial observed use, compared to an equal 32% in 2014.

1. Non-commercial Observed Use: (52% of all use)	
Visual counts observed by BLM/USFS employees.....	935
Visual counts observed by monitoring cameras (segments 2,3 & 4).....	205
Guides observed.....	240
Total observed.....	1,380
2. Commercial Observed Use: (48% of all use)	
Visual counts observed by BLM/USFS employees.....	991
Visual counts observed by monitoring cameras (segments 1 & 4).....	265
Total observed.....	1,256

River monitors were present on the river 50 out of a possible 119 days (42%), while one, two, or all three monitoring cameras observed use for 114 of the 119 days (96%) during the season (May 20 – September 15). Due to reduced photo capture success May through early July yielded little benefit from camera use. An average of 5 hours was spent visually monitoring every Friday, Saturday, and Sunday between the hours of 10am-5pm. One monitor was usually present, with occasionally two on Fridays and Saturdays.



Table 1: Annual Comparison of Observed Boating Use

Year	*Non-commercial Observed	Commercial Observed	Total Observed Use
2006	3,009	1,873	4,882
2007	2,208	1,256	3,464
2008	2,458	1,367	3,825
2009	2,889	1,401	4,290
2010	2,720	1,345	4,065
2011	1,939	1,436	3,375
2012	1,833	1,266	3,099
2013	1,776	1,093	2,869
2014	2,108	1,438	3,546
2015	1,380	1,256	2,636

*Includes guides (240)

Table 2 shows total commercial and non-commercial use by day of the week. Saturday was the busiest day in 2015 for both user groups. Tuesday was the slowest day where in past seasons Thursday tended to be the slowest. Monitoring took place every other Tuesday, Fridays, Saturdays and Sundays, while relying on camera-only coverage Monday-Thursday.

Table 2: Daily Comparisons of Boaters Observed by USFS and BLM

Day	Non-Commercial	Commercial	Total
Monday	31	45	76
Tuesday	36	36	72
Wednesday	41	42	83
Thursday	33	78	111
Friday	140	192	332
Saturday	385	327	712
Sunday	269	271	540
Total	935	991	1,926

*Does not include guides (240) or observations by the monitoring cameras

B. Reported Boating Use

Reported use is the use that commercial outfitters reported to the USFS at the end of the use season. There is a difference between the number of visitors reported by commercial outfitters and the number observed in the field by the USFS and BLM monitors. Reasons for this discrepancy are:

- Evergreen trees and shrubs along the river continue to reduce the opportunity for observing boaters. Commercial trips were not seen and some commercial trips may have been mistaken for non-commercial boaters.
- The river was not monitored Monday-Thursday by a USFS or BLM employee.
- Camera monitoring can make it difficult to distinguish between commercial users and non-commercial users.

Table 3: Observed Use and Reported Commercial Use

Data from May 20th to September 15th, 2015

Outfitter	People Observed by BLM/USFS*							People Reported - Commercial Outfitters
	May	June	July	Aug	Sep	Camera	Total	
High County Expeditions	10	5	0	0	0	0	15	82
North Umpqua Outfitters	26	44	164	102	31	97	464	515
Orange Torpedo Trips	9	80	7	75	14	35	220	273
Oregon River Experiences	0	0	0	27	0	0	27	70
Oregon Whitewater Adventures	19	45	95	36	0	80	275	301
Ouzel Outfitters	36	62	42	47	0	38	225	279
Sun Country Tours	0	0	15	0	0	15	30	135
Total	100	236	323	287	45	265	1,256	1,655

*Figures exclude the 240 observed guides

C. Adjusted Boating Use

Adjusted boating use is a method used to estimate total boating use based on what is seen and reported. To determine adjusted boating use, observed commercial use is first compared to reported commercial use. Once this ratio is determined, the same ratio is used to determine the non-commercial adjusted use based on observation.

$$\frac{\text{Commercial observed}}{\text{Commercial reported}} = \frac{\text{Non-commercial observed}}{\text{Non-commercial adjusted}}$$

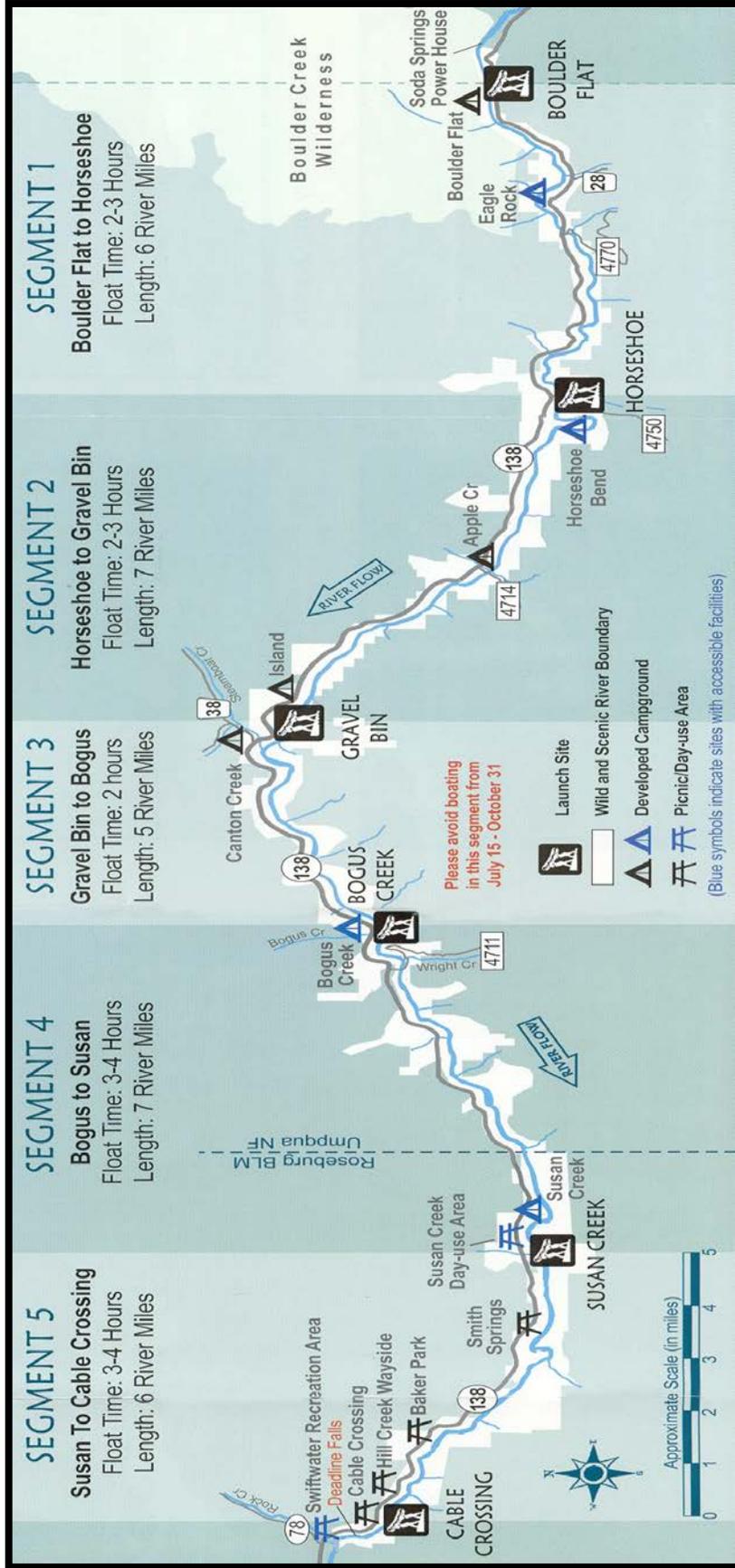
The difference between commercial observed and commercial reported is 24%. This compares to 26% in 2014 and 37% in 2013. In other words, it is estimated that 24% of all boaters were not observed by river monitors or monitoring cameras.

Total Adjusted Use is calculated by summing the non-commercial adjusted use with the commercial reported as shown below.

Table 4: Annual Comparison of Observed Watercraft Use

Year	Non-commercial Adjusted Use	Commercial Reported Use	Total Adjusted Use
2006	3,766	2,344	6,110
2007	3,484	1,982	5,466
2008	3,288	2,104	5,392
2009	3,518	1,706	5,224
2010	3,400	1,802	5,202
2011	2,501	2,005	4,506
2012	2,291	1,688	3,979
2013	2,433	1,750	4,183
2014	2,656	1,932	4,588
2015	1,711	1,655	3,366

Map 2: North Umpqua Wild & Scenic Rafting Segments



Map from: North Umpqua Wild and Scenic River Users Guide

D. Craft and Boat Launch Use

Data was queried to show watercraft used to float the river. During the 2015 boating season, rafts outnumbered other crafts on the river (table 5), accounting for 41% of all crafts used. Inflatable kayaks were second with 35% and hard kayaks third with 22%. Canoe use rose from recent years, but still represents less than 2% of total watercraft use.

Table 5: Comparison of Watercraft Observed Per Month

Month	Rafts	Inflatable Kayaks	Hard Kayaks	Canoes	Monthly Total
May	65	18	7	2	92
June	83	105	62	9	259
July	116	77	106	4	303
August	81	90	20	0	191
Sept.	18	15	2	0	35
Total	363	305	197	15	880

Table 6: Annual Comparison of Observed Watercraft Use

Year	Rafts	I. Kayaks	H. Kayaks	Canoes	Total Crafts
2006	901	608	364	32	1,905
2007	593	417	307	19	1,336
2008	659	549	360	7	1,575
2009	781	531	380	35	1,727
2010	771	342	427	68	1,608
2011	625	302	260	8	1,195
2012	557	327	241	17	1,142
2013	464	389	166	3	1,052
2014	642	407	210	1	1,260
2015	363	305	197	15	880

The data queried shows a breakdown of the put-in and take-out locations (see table 7). Boulder Flat was the most heavily used put-in location with 1,176 users and Gravel Bin was the most heavily used take-out location with 1,623 users.

Table 7: Launch Utilization

Site	Put-In	Take-Out
	Users	Users
Boulder Flat Boat Launch	1,176	0
Marsters Bridge	50	0
Horseshoe Bend	501	101
Gravel Bin	53	1,623
Bogus Creek	141	24
Susan Creek	5	170
Cable Crossing	0	9
Total	1,926	1,926

E. Boating Summary

- a) Non-commercial Use – 58% of all use
 - 1) Visual counts observed by BLM/USFS employees.....935
 - 2) Visual counts observed by monitoring camera.....205
 - 3) Number of guides observed by BLM/USFS employees.....240
 - 4) Total visual counts observed.....1,380
 - 5) Number missed (factored using 24% of users missed).....331
 - 6) Adjusted non-commercial use.....1,711

- b) Commercial Use – 42% of all use
 - 1) Visual counts observed by BLM/USFS employees.....991
 - 2) Visual counts observed by monitoring camera.....265
 - 3) Total visual counts observed.....1,256
 - 4) Reported Counts by Outfitter/Guides.....1,655

- c) Total Adjusted Use - Commercial and Non-commercial.....3,366

- d) Observed Watercraft
 - 1) Rafts.....363
 - 2) Hard Kayaks.....305
 - 3) Inflatable Kayaks.....197
 - 4) Canoes.....15
 - 5) Total Watercrafts.....880

F. Observed Fishing Use

Anglers were counted by drive-by observation, with very little contact being made. Angler outfitters were spotted mainly by vehicle type, color, and license plate. Outfitters are required to display a tag in their vehicles identifying they are presently guiding. If an outfitter was spotted, monitors would stop and confirm if the tag was present. If anglers were not visible from the highway, parked vehicles that were not obviously involved in other activities (picture-taking, picnicking) were counted as having transported two anglers. Table 8 shows the number of non-commercial and commercial anglers observed, the month observed, and the segment of river where observed.

Table 8: Observed Angler Use

Month	Segment	Total	Non-Commercial	Commercial	
May	1	2	2	0	
	2	2	2	0	
	3	9	9	0	
	4	0	0	0	
	5	14	14	0	
June	1	11	11	0	
	2	10	10	0	
	3	31	31	0	
	4	21	21	0	
	5	12	12	0	
July	1	24	24	0	
	2	21	19	2	
	3	300	261	39	
	4	95	91	4	
	5	41	39	2	
Aug.	1	17	17	0	
	2	6	6	0	
	3	160	143	17	
	4	27	25	2	
	5	14	12	2	
Sep.	1	0	0	0	
	2	0	0	0	
	3	19	19	0	
	4	5	5	0	
	5	0	0	0	
Total	1	54	54	0	Boulder Flat - Horseshoe Bend
	2	39	37	2	Horseshoe Bend - Gravel Bin
	3	519	463	56	Gravel Bin - Bogus Creek
	4	148	142	6	Bogus Creek-Susan Creek
	5	81	77	4	Susan Creek - Cable Crossing

Table 9: Daily Comparison of Anglers Observed By USFS & BLM

Day	Non-commercial	Commercial	Total
Monday	10	2	12
Tuesday	85	8	93
Wednesday	46	4	50
Thursday	96	13	109
Friday	148	11	159
Saturday	224	12	236
Sunday	164	18	182
Total	773	68	841

Table 10: Annual Comparison of Observed Angler Use and Reported Commercial Use

Year	Observed Non-commercial	Observed Commercial	Total	Reported Commercial
2012	1,506	163	1,669	Not Available
2013	1,077	64	1,141	Not Available
2014	1,342	63	1,405	341
2015	773	68	*841	364

*ODFW imposed a fishing ban July 18 through August 31, 2015. No angling was permitted after 2 p.m. This closure, combined with fire activity and low water flows, dramatically reduced angler presence on the river for the 2015 season.



G. Congestion at Parking Areas and Launch Sites

When parking capacity was exceeded, vehicles parked in unused campsites, overflow parking, staging areas, as well as double parking with party members.

Table 11: Number of Occasions Parking Capacity Exceeded Limit

Boulder Flat - 6 Cars Max		Horseshoe Bend - 5 Cars Max	Gravel Bin - 30 Cars Max
Date	Vehicles Exceeding Capacity	Vehicles Exceeding Capacity	Vehicles Exceeding Capacity
6/14	1	0	0
7/11	0	3	0

2015 observed reduced traffic congestion compared to 2014. Low water, fire activity, and fishing restrictions were all factors in reduced traffic flow along the North Umpqua Wild and Scenic Corridor.



Table 12: Comments, Hazards, & Violations

	Issue
Comments/ Compliments	<ul style="list-style-type: none"> • Throughout the summer common inquiries were made about possible river hazards, regulations/restrictions, directions, brochure requests and campsite info/questions. • Many visitors were appreciative of BLM/Forest Service presence at the boat ramps. • The public appreciated the information boards, new river brochures, up-to-date weather and flow information, and river hazard postings.
Hazards	<ul style="list-style-type: none"> • A large log is currently spanning the river below Soda Springs Dam. This uppermost segment of the river was closed for rafting use in 2015 and is expected to reopen in 2016 though the log will not be removed and instead be left in place for fish habitat. <div data-bbox="643 905 1222 1314" style="text-align: center;">  </div> <ul style="list-style-type: none"> • A tree fell across the river near Milepost 44 in late June. It was cut out by Forest Service personnel. <div data-bbox="634 1444 1222 1871" style="text-align: center;">  </div>

	<ul style="list-style-type: none"> Segment five was closed in late July and will remain closed to all boating as a result of the Cable Crossing Fire. Several strainers restricted safe passage and more are expected to fall through the 2015/2016 winter season.  
User Conflicts/ Violations	No reported incidents and none observed
Weather	<ul style="list-style-type: none"> The 2015 season represented one of the hottest and driest seasons on record. Flows were well below average, water temperatures were above average, and fire restrictions reached their highest level at IFPL 5.
Fire	<ul style="list-style-type: none"> The Cable Crossing Fire presented a substantial hindrance to recreation activity along the North Umpqua WSC. Ignition was reported on July 28 along Highway 138 at milepost 23 near Glide. Most acreage burned on the South side of the

	<p>North Umpqua River after the fire jumped the river shortly after ignition. 1857 acres burned, 908 of these within BLM land. Containment occurred on August 12. The greatest damage occurred along the North Umpqua Trail, burning all bridges within the fire boundary and damaging trail tread. Several burned trees also fell into the river resulting in a boating closure from Baker Wayside to the Cable Crossing takeout. Although most of these trees were removed, more are expected to fall over the 2015/2016 winter season and this section of river will remain closed until further notice.</p>
<p>Additional Information</p>	<ul style="list-style-type: none"> • A fatal accident involving a garbage truck occurred directly East of Bogus Creek. Hydraulic oil spilled into the river and booms were set for one week to clean up the spill. All other debris was removed. • An aggressive assault on Himalayan blackberry and knapweed was carried out at Gravel Bin by volunteer groups.

III. Outstandingly Remarkable Values

The North Umpqua River Management Plan notes that there are several components that make the North Umpqua Wild and Scenic River. These components are Outstandingly Remarkable Values (ORV's) and the plan recognizes fish, water quality, recreation, scenery and cultural resources as the ORV's within the North Umpqua Wild and Scenic Corridor. The plan also emphasizes the importance of protecting these resources through monitoring programs.

The monitoring being done for recreation is addressed in the first section of this report. The following information documents monitoring for fisheries, water quality, scenic value, and cultural resources.

A. Fisheries

ODFW, BLM, and the Partnership for the Umpqua Rivers (PUR) conducted an in-stream restoration project in Rock Creek, a major fish rearing North Umpqua tributary in 2015. Over 150 logs and 1000 boulders were added to Harrington creek a major tributary of Rock Creek over a 1.5 mile stretch. In addition, eight side channels were reconnected to the main creek in Harrington Creek. This project will provide much improved habitat for juvenile salmonids in summer and winter and will provide some improved spawning areas for adult salmon and steelhead. Species benefiting from the restoration project include: Spring Chinook salmon, Oregon Coast coho salmon, Steelhead, Cutthroat trout, and the Pacific lamprey.

Additionally ODFW monitored fish populations in Rock Creek and the North Umpqua. They conducted spawning surveys for adult Spring Chinook in September and October and Coho in November and December. They also conducted snorkel surveys in Rock Creek to count juvenile salmonids. These snorkel surveys were conducted in both summer and winter. Monitoring indicated significant increases in spawning adult salmon and steelhead in restored reaches, and increased numbers of juvenile salmonids near stream structures and in newly opened side channels.

The Forest Service conducted restoration work below Soda Springs Dam and spawning surveys from Calf Creek to Soda Springs Dam.

Table 13: Annual Fish Counts***

Year	Fall Chinook	Spring Chinook	Coho Salmon	Sea Run Cutthroat	**Winter Steelhead	Summer Steelhead
2006	76	*6,081	*11,250	*81	9,891	*6,989
2007	163	6,634	4,680	93	9,511	4,552
2008	171	10,328	4,274	178	7,831	6,674
2009	200	14,261	8,907	102	10,608	4,993
2010	169	13,887	10,878	153	9,589	5,415
2011	137	16,603	6,667	428	13,788	6,597
2012	369	16,868	3,858	204	12,479	6,098
2013	313	15,157	3,619	210	12,479	3,885
2014	364	14,611	4,320	117	10,605	4,667
2015	N/A	9,597	N/A	N/A	11,266	N/A

* Data is incomplete due to month long closure of fish counting station.

**Winter Steelhead counts are taken from December 1st – April 30th the following year

***From ODFW – ‘Due to budget and staffing cuts, the last 100% count was April 30, 2015.

ODFW is now counting 200 days per year which will give a count accuracy of at least 90%. At this time, staff is unsure how often future counts will be posted’.

Spring Chinook counts are through September 30th. Sea Run Cutthroat, Coho Salmon, Summer Steelhead and Fall Chinook counts are through December 31st.

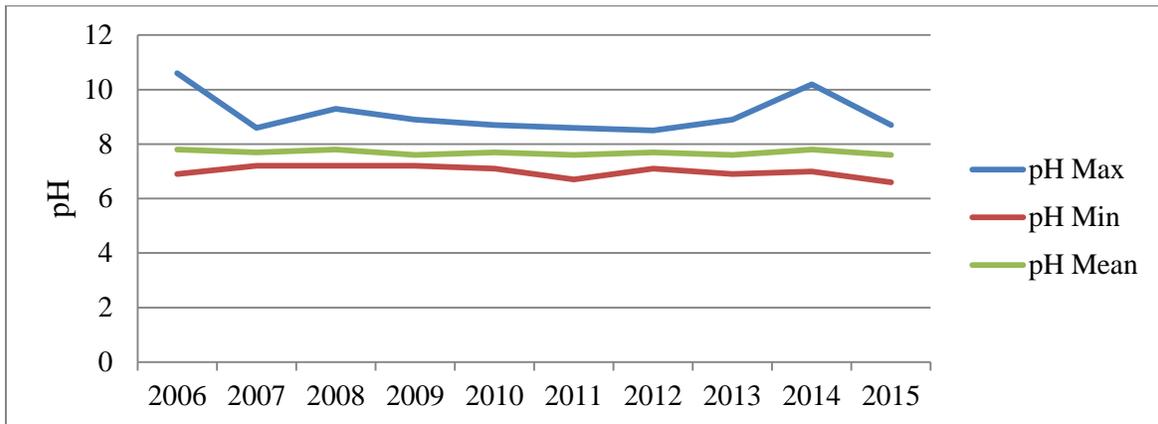
B. Water Quality

Water quality affects most of the other Outstandingly Remarkable Values. Table 10 shows some of the water quality parameters that have been consistently monitored over the past several years. The water samples were taken between Idlelyd Park and Rock Creek at a USGS gaging station. Data is taken for the calendar year.

Table 14: Annual Water Quality Statistics

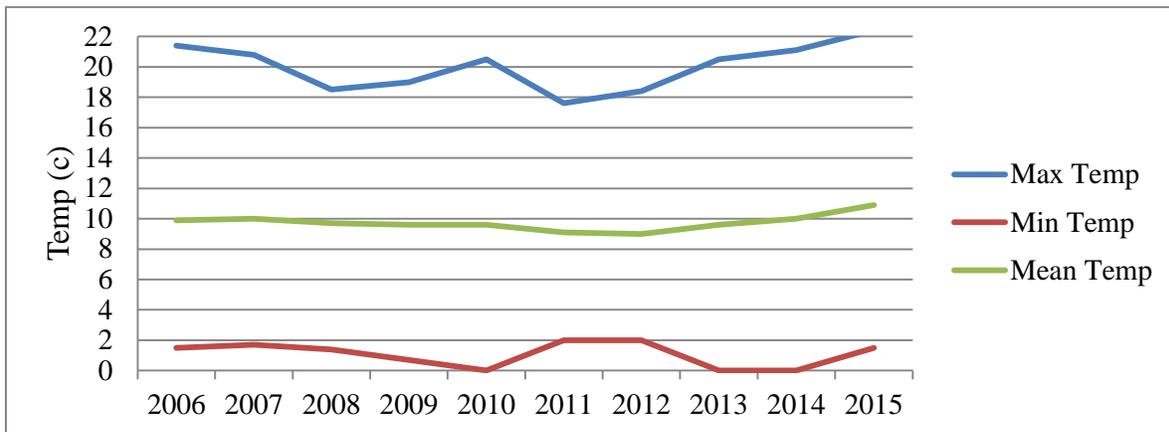
Year	Measurement	pH (units)	Temperature (°C)	Dissolved Oxygen (mg/L)	Specific Conductance (us/cm)
Desired Conditions		6.5-8.5	< 17.8	> 6.5	maintain
2006	Maximum	9.3	20.8	14.0	71
	Minimum	7.2	1.7	8.9	32
	Mean	7.8	10.0	11.5	54
2007	Maximum	8.9	18.5	14.3	72
	Minimum	7.2	1.4	9.4	31
	Mean	7.6	9.7	11.9	51
2008	Maximum	8.7	19.0	14.4	71
	Minimum	7.1	0.7	9.3	32
	Mean	7.7	9.6	11.6	54
2009	Maximum	8.6	20.5	14.8	70
	Minimum	7.2	0.0	8.9	33
	Mean	7.7	9.6	11.7	55
2010	Maximum	8.6	17.6	13.9	68
	Minimum	6.7	2.1	9.3	28
	Mean	7.6	9.1	11.6	51
2012	Maximum	8.5	18.4	14.3	69
	Minimum	7.1	2.0	9.2	29
	Mean	7.7	9.0	11.7	54
2013	Maximum	8.9	20.5	15.0	72
	Minimum	6.9	0.0	9.0	36
	Mean	7.6	9.6	11.6	56
2014	Maximum	10.2	21.1	15.0	70
	Minimum	7.0	0.0	8.8	32
	Mean	7.8	10.0	11.5	57
2015	Maximum	8.7	22.4	13.7	74
	Minimum	6.6	1.5	8.4	32
	Mean	7.6	10.9	11.0	61

Graph 3: North Umpqua Annual pH



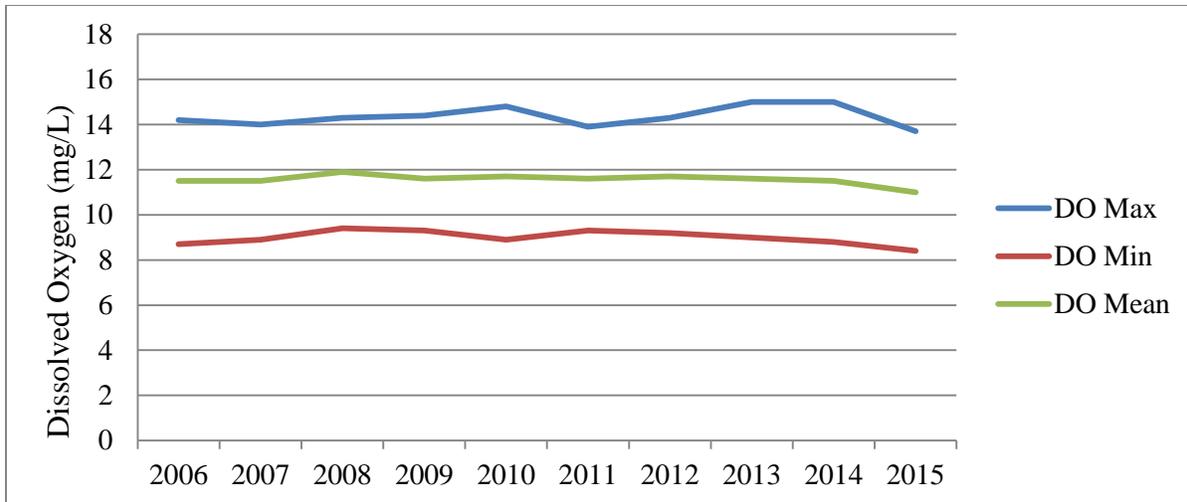
An acceptable pH range for the Umpqua Basin is between 6.5 and 8.5. It would be considered 'water quality limited' if greater than 10% of the samples exceeded this standard (fall outside the acceptable range), and a minimum of at least two samples exceeded the standard during a season of interest. An acceptable pH range was maintained during 2015.

Graph 4: North Umpqua Annual Temperature (C)



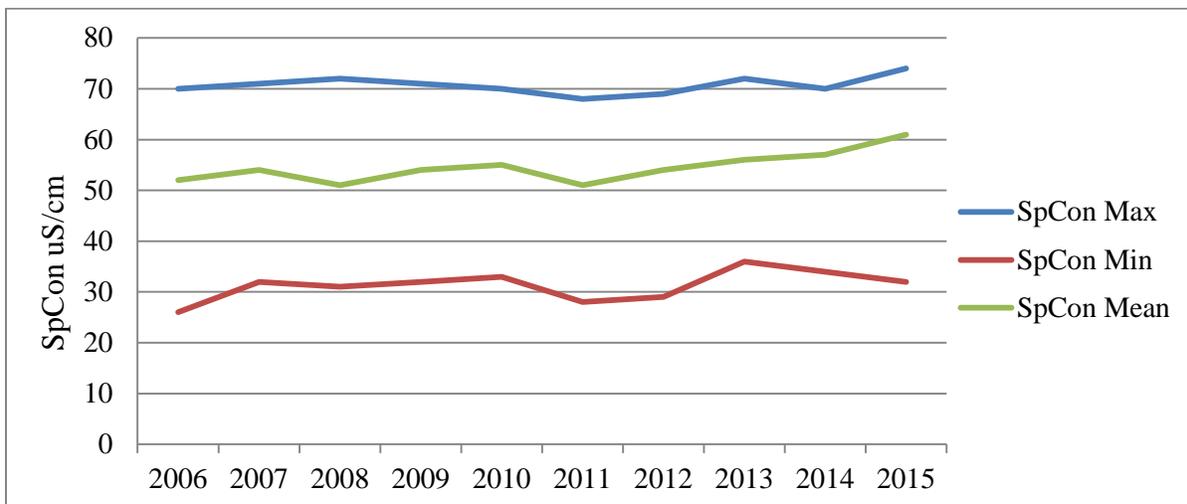
Maximum temperature standard reflects a 7-day average maximum. For good spawning conditions, the 7-day maximum average temperature of the river should not exceed 17.8°C between June 1 and September 14, and the 7-day maximum average temperature should not exceed 12.8°C at other times of the year. There were many instances over the course of the summer where river temperature thresholds were exceeded. This was due to some of the lowest flows ever recorded and the very hot summer temperatures. The mean temperature has also increased 2 degrees since 2012.

Graph 5: North Umpqua Dissolved Oxygen (mg/l)



Dissolved Oxygen (DO) is found in microscopic bubbles of oxygen that are mixed in the water and occur between water molecules. DO is a very important indicator of a water body's ability to support aquatic life. Fish "breathe" by absorbing dissolved oxygen through their gills. DO should have no less than 6.5mg/l or 90% saturation. If the 7 day minimum average for DO is less than this standard, water quality is considered limited. Dissolved oxygen levels were within acceptable levels during 2015.

Graph 6: North Umpqua Annual Specific Conductance (uS/cm)



Specific Conductance (SC) is a measure of how well water can conduct an electrical current and is an indirect measure of the presence of dissolved solids such as chloride, nitrate, sulfate, phosphate, sodium, magnesium, calcium, and iron that can be used as an indicator of water pollution. Although specific conductance has no standard, it is noted because SC for the North Umpqua River is uniquely low.

C. Cultural Resources

The North Umpqua River has attracted people for thousands of years. Because of this long-standing attraction, cultural resources are considered an outstandingly remarkable value of the river.

Ten archaeological sites were monitored during the year, including seven sites that are eligible to be listed and one that is listed in the National Register of Historic Places. Archaeologists repaired a damaged fence protecting the listed site.

D. Scenery

The lands within the Wild and Scenic River Corridor will be managed to retain the visual quality objectives (VQO) as defined in the North Umpqua Management Plan. Retention is defined as “management activities that should not be evident to the casual visitor.” The exception to this rule as written in the North Umpqua River Management Plan (pages 31-32) includes:

- a. The vegetation poses a safety hazard along the highway, the river, a trail, a power-line, or in a developed recreation area.
- b. The vegetation is located within an easement or right-of-way area, and a suitable alternate route cannot be found.
- c. The vegetation is in the way of a planned facility development or improvement project.
- d. The vegetation needs to be cut to enhance a significant or outstandingly remarkable value.
- e. A catastrophic natural event (such as wildfire, insect infestation, or blow down from a wind event) has left large numbers of dead, salvageable trees in the corridor.
- f. An insect infestation threatens adjacent timberlands outside the corridor.

There were no agency projects in 2015 that interfered with visual quality objectives within the corridor though the Cable Crossing Fire did impact the visual quality of the WSR corridor. Mitigation within the fire perimeter in the WSR corridor is scheduled for 2016.

IV. 2015 Staff

- BLM Monitors – Gabe Johnson, 1st year seasonal, Recreation Technician
- USFS Monitor – Bill Freese, 1st year seasonal, Recreation Technician
- BLM Swiftwater Field Manager – Max Yager
- USFS North Umpqua District Ranger – Bill Mulholland
- USFS Recreation Staff – Janie Pardo, Bill Freese
- BLM Recreation Staff – Erik Taylor, Phil Zumstein, Gabe Johnson
- Report Preparers – Gabe Johnson, Erik Taylor