

**2012 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 noncommercial 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 have been reduced. Voluntary guidelines for each segment are as follows:

#### Soda Springs to Gravel Bin

Open to boating year-round

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

Boating closure – All times, 7/15 through 10/31

#### Bogus Creek to Susan Creek

Open to boating year-around

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

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

Eight commercial whitewater guide/outfitters have a Special Use Permit which authorizes them to conduct trips on the river between May 20<sup>th</sup> and September 15<sup>th</sup>. 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 15<sup>th</sup>; and they may not run trips between September 15<sup>th</sup> and December 31<sup>st</sup> to protect spawning fish and their habitat; however, they are authorized to run trips between January 1<sup>st</sup> and May 20<sup>th</sup> without using any of their permit allotted days. Noncommercial 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 1<sup>st</sup> and November 14<sup>th</sup>. Trips are not authorized between November 15<sup>th</sup> and December 31<sup>st</sup> in order to protect spawning Coho salmon.

#### **E. Methods of collecting information**

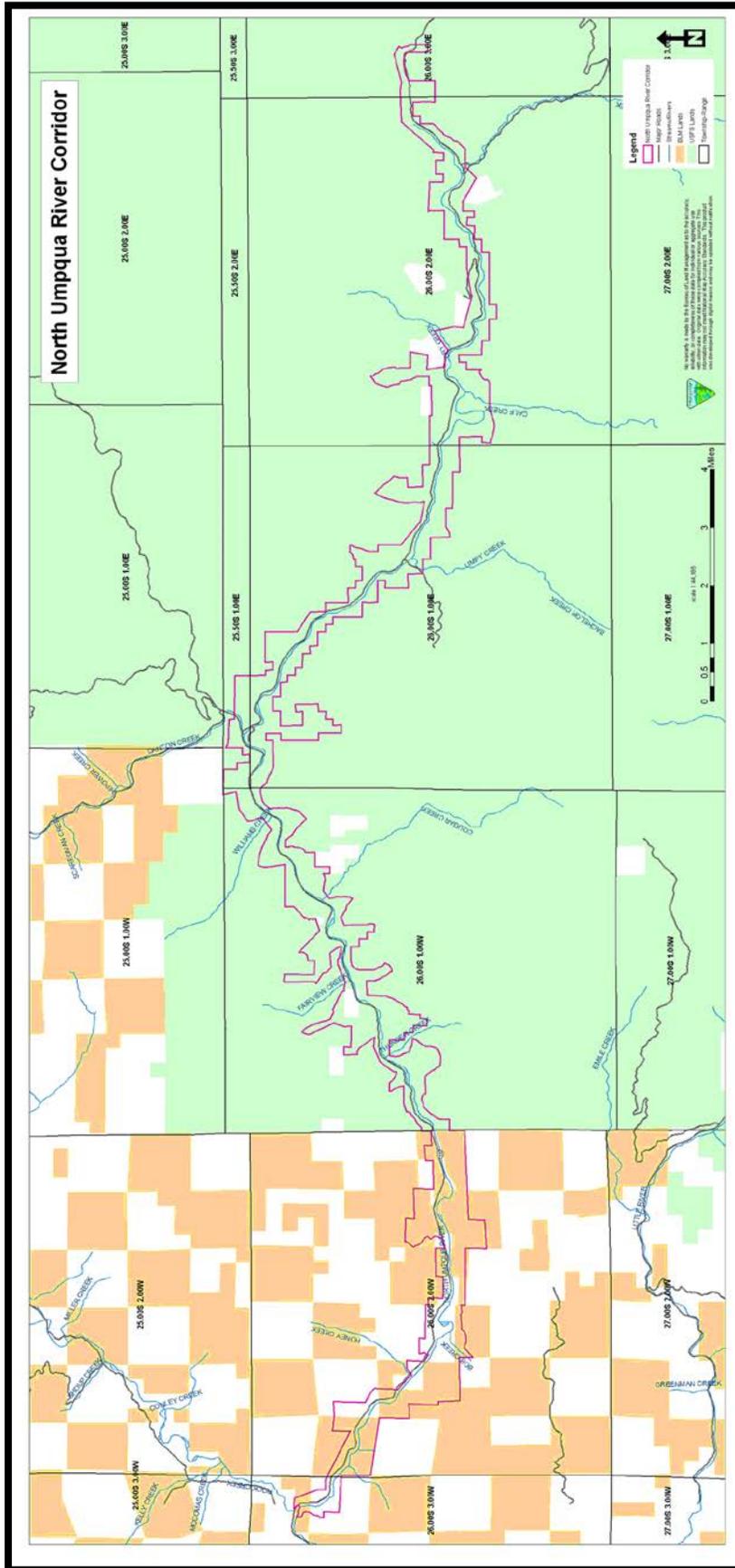
In the winter of 1991, the Roseburg District BLM funded a river manager position to manage and document use of the North Umpqua River. Since then, visual counting by river monitors has varied between two and four BLM and USFS employees per year. In 2012, one USFS and two BLM seasonal employees were in 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 noncommercial 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 AND SCENIC RIVER CORRIDOR



## II. METHODOLOGY AND RIVER-USE STATISTICS

### A. Observed Boating Use in 2012

The use recorded by the USFS and BLM monitors is referred to as “observed use”. The documented observed use indicates that non-commercial use exceeded commercial use in 2012 (Table 1 & Graph 1). Non-commercial users accounted for 59% of the observed use and commercial users accounted for 41% of the observed use. (Note: This compares to 42% commercial observed use and 58% non-commercial observed use in 2011.) Reasonable explanations for the lowest observed total since at least 1996 is the fact that cool and wet conditions lasted well into July, national trends for rafting and whitewater kayaking are either flat or slightly declining and it is becoming increasingly difficult for river monitors to observe floaters from the highway due to increasing vegetation density.

#### 1. Non-commercial Observed Use

Non-commercial boaters observed .....	1,533
Guides observed .....	300
Total non-commercial boaters observed .....	1,833

#### 2. Commercial Observed Use

Commercial boaters observed by monitors.....	1,266
----------------------------------------------	-------

River monitors were present on the river 89 out of a possible 119 days or 75% of the time during the 2012 monitoring season (May 20 – September 15). An average of 5 hours was spent monitoring; typically between 10:00am and 3:00pm and on Saturday and Sunday, two monitors were usually present.

**Table 1**

### ANNUAL COMPARISON OF OBSERVED BOATING USE

Year	Noncommercial Observed	Commercial Observed	Total Observed Use
2003	3,103	2,047	5,150
2004	2,976	1,402	4,378
2005	2,823	1,422	4,245
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

\*Includes 300 guides

Table 2 shows the breakdown of observed noncommercial and commercial use by day of the week during the monitoring season. More people were observed on Saturdays than any other day; commercial and non-commercial both. Observed commercial use exceeded non-commercial use on only 2 days (Tuesday and Wednesday) and was virtually even on 3 other days (Monday, Thursday and Friday). Commercial use is continuing their trend of using the river more during the week then the weekends.

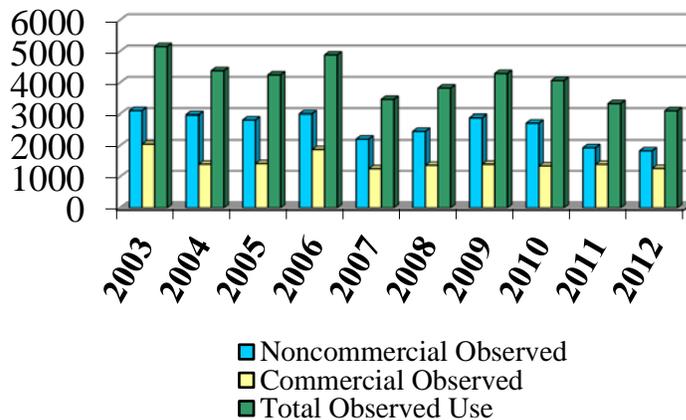
**Table 2**

**2012 DAILY COMPARISON OF BOATERS OBSERVED BY USFS AND BLM**

Day	Non-Commercial	Commercial	Total
Monday	80	105	185
Tuesday	72	147	219
Wednesday	111	191	302
Thursday	43	51	94
Friday	239	299	538
Saturday	534	308	842
Sunday	454	165	619
<b>Total</b>	<b>1,833</b>	<b>1,266</b>	<b>3,099</b>

**Graph 1**

**Annual Comparison of Observed Boating Use**



## 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; therefore, many commercial trips were not seen and a few commercial trips may have been mistaken for noncommercial floaters.
- Saturday continues to be the busiest day of the week on the river as the most commercial trips were reported for this day. Saturday was followed by Friday and Wednesday as the busiest days of the week as reported by outfitter guides.
- The river was monitored fewer times on Mondays, Wednesdays, and Thursdays, thereby creating a discrepancy between reported and observed use and resulting in a lower number of boaters counted on these days.



Table 3 is a breakdown of observed use for each outfitter by month compared to the actual use reported by each commercial outfitter.

**Table 3**

**2012 OBSERVED AND REPORTED COMMERCIAL USE**

Data from May 20<sup>th</sup> to September 15<sup>th</sup>, 2012

<b>OUTFITTERS</b>	<b>People Observed by BLM/USFS*</b>						<b>People Reported by Commercial Outfitters</b>
	May	June	July	Aug	Sept	Total	
North Umpqua Outfitters	0	41	124	150	76	<b>391</b>	<b>469</b>
High Country Expeditions	0	5	22	35	11	<b>73</b>	<b>152</b>
Orange Torpedo Tours	0	23	115	54	4	<b>196</b>	<b>225</b>
Oregon River Experiences	0	0	0	2	0	<b>2</b>	<b>6</b>
Oregon Whitewater Adventures	0	12	35	57	20	<b>124</b>	<b>193</b>
Ouzel Outfitters	0	32	123	90	0	<b>245</b>	<b>317</b>
Sun Country Tours	0	14	84	137	0	<b>235</b>	<b>326</b>
<b>Total</b>	0	127	503	525	111	<b>1,266</b>	<b>1,688</b>

\*Figure excludes the 308 guides that used the river

### 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 25%. This compares to 28% in 2011 and 25% in 2010. In other words, it is estimated that 25% of all boaters were not observed by river monitors.

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

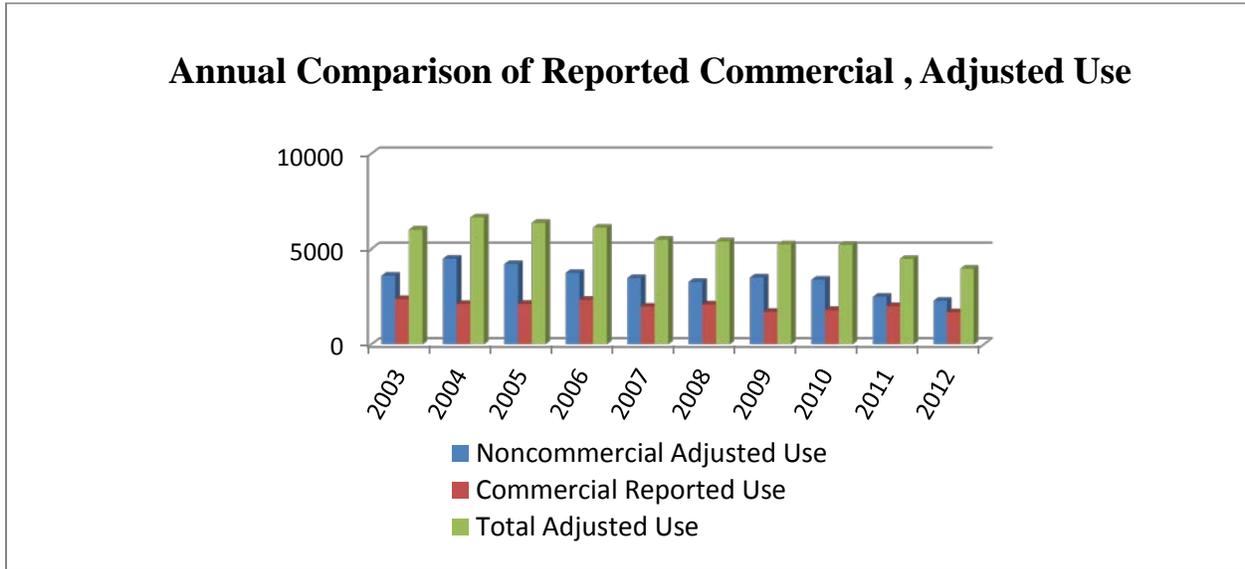
**Table 4**

#### ANNUAL COMPARISON OF REPORTED COMMERCIAL AND ADJUSTED USE

	Noncommercial Adjusted Use	Commercial Reported Use	Total Adjusted Use
<b>2003</b>	3,614	2,384	5,998
<b>2004</b>	4,511	2,125	6,636
<b>2005</b>	4,229	2,130	6,359
<b>2006</b>	3,766	2,344	6,110
<b>2007</b>	3,484	1,982	5,466
<b>2008</b>	3,288	2,104	5,392
<b>2009</b>	3,518	1,706	5,224
<b>2010</b>	3,400	1,802	5,202
<b>2011</b>	2,501	2,005	4,506
<b>2012</b>	2,291	1,688	3,979



**Graph 2**



**D. Craft and Boat Launch Use**

Data was queried to show the types of watercraft used to float the river. During the 2012 boating season, rafts outnumbered other crafts on the river (tables 5 & 6).

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 2,087 users and Gravel Bin was the most heavily used take-out location with 2,248 users.

Every year starting on July 15<sup>th</sup>, use between Gravel Bin and Bogus Creek is voluntarily restricted for commercial outfitters and for non-commercial users to help prevent conflict between boaters and anglers (for more information, see the Wild and Scenic River Management Plan, pg. 3 under Management Guidelines).

Map 2 NORTH UMPQUA WILD AND SCENIC RIVER RAFTING SEGMENTS



Map from: North Umpqua Wild and Scenic River Users Guide

**Table 5****2012 COMPARISON OF WATERCRAFT OBSERVED PER MONTH**

<b>Month</b>	<b>Rafts</b>	<b>Hard Kayaks</b>	<b>Inflatable Kayaks</b>	<b>Canoes</b>	<b>Monthly Total</b>
<b>May</b>	4	4	2	0	10
<b>June</b>	123	58	33	1	215
<b>July</b>	192	110	90	13	405
<b>August</b>	187	38	145	1	371
<b>September</b>	51	31	57	2	141
<b>Total</b>	557	241	327	17	1,142

**Table 6****ANNUAL COMPARISON OF OBSERVED WATERCRAFT USE**

<b>Year</b>	<b>Rafts</b>	<b>Hard Kayaks</b>	<b>Inflatable Kayaks</b>	<b>Canoes</b>	<b>Total Crafts</b>
<b>2003</b>	880	517	940	93	2,430
<b>2004</b>	657	525	846	36	2,064
<b>2005</b>	661	357	693	56	1,767
<b>2006</b>	901	364	608	32	1,905
<b>2007</b>	593	307	417	19	1,336
<b>2008</b>	659	360	549	7	1,575
<b>2009</b>	781	380	531	35	1,727
<b>2010</b>	771	427	342	68	1,608
<b>2011</b>	625	260	302	8	1,195
<b>2012</b>	557	241	327	17	1,142

**Table 7**

**2012 LAUNCH SITE UTILIZATION  
Observed, Commercial and Non-Commercial**

Site	Put-In	Take-Out
	Users	Users
Boulder Flat Boat Launch	2,290	0
Marsters Bridge	109	0
Horseshoe Bend	382	337
Gravel Bin	102	2,469
Bogus Creek	176	74
Susan Creek	40	174
Cable Crossing	0	45
<b>Total</b>	<b>3,099</b>	<b>3,099</b>

**E. 2012 River-Use Summary**

A. Non-Commercial Use – 58% of all use

- 1. Visual counts observed by BLM/USFS employees.....1,533
- 2. Number of guides observed by BLM/USFS.....300
- 3. Number missed (factored using 25% of users missed).....458
- 4. Adjusted noncommercial use.....2,291

B. Commercial Use – 42% of all use

- 1. Visual counts observed by BLM/USFS employees.....1,266
- 2. Reported Counts by Outfitter/Guides.....1,688

C. Total Adjusted Use - Commercial and Non-Commercial.....3,979

D. Observed Watercraft

- 1. Rafts.....557
- 2. Hard Kayaks.....241
- 3. Inflatable Kayaks.....327
- 4. Canoes.....17

E. Observed Fishing Use

Anglers were counted by drive-by observation, with very little contact being made. It was difficult to spot people fishing on the river from the highway and determining who was commercial vs. non-commercial. 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. Guides are required to display a tag in their vehicles identifying themselves as guides. Table 8 shows the number of people observed, the month observed, and the segment of river where observed.

**Table 8: Observed Angler Use**

Month	# of people	Segment	
May	2	1	
	2	2	
	0	3	
	1	4	
	0	5	
June	27	1	
	23	2	
	50	3	
	14	4	
	29	5	
July	40	1	
	55	2	
	247	3	
	192	4	
	121	5	
August	65	1	
	26	2	
	238	3	
	179	4	
	136	5	
September	15	1	
	10	2	
	103	3	
	64	4	
	30	5	
Totals	<b>149</b>	<b>1</b>	Boulder Flat - Horseshoe Bend
	<b>116</b>	<b>2</b>	Horseshoe Bend - Gravel Bin
	<b>638</b>	<b>3</b>	Gravel Bin - Bogus Creek
	<b>450</b>	<b>4</b>	Bogus Creek - Susan Creek
	<b>316</b>	<b>5</b>	Susan Creek - Rock Creek
	<b>1669</b>		

Day	NonCommercial	Commercial	Total
Monday	287	22	309
Tuesday	125	27	152
Wednesday	60	8	68
Thursday	91	12	103
Friday	329	23	352
Saturday	330	29	359
Sunday	284	42	326
<b>Total</b>	<b>1506</b>	<b>163</b>	<b>1669</b>



**F. Congestion / Crowding at Parking Areas and Launch Sites**

When parking capacity was exceeded, vehicles parked in the grass, in campsites, or blocked a portion of the roadway. During peak usage times, vehicles parked in areas designated as staging zones. Occasions noted this year are much lower than in past years.

**Table 9**

**2012 NUMBER OF OCCASIONS PARKING CAPACITY EXCEEDED LIMIT**

	<b>Boulder Flat - 6 Cars Max</b>	<b>Horseshoe Bend - 5 Cars Max</b>	<b>Gravel Bin - 30 Cars Max</b>
<b>Date</b>	<b>Vehicles Exceeding Capacity</b>	<b>Vehicles Exceeding Capacity</b>	<b>Vehicles Exceeding Capacity</b>
6/2	1		
6/16	4		
6/17	1	1	
6/30	4		
7/4	6		
7/7		5	
7/8		2	
7/14	2	7	
7/15		2	
7/21	1		
7/22	2		
7/29		1	
8/4		3	
8/16		3	

**Table 10**

**COMMENTS, HAZARDS, AND VIOLATIONS**

	<b>Issue</b>
<b>Comments</b>	<ul style="list-style-type: none"> <li>Throughout the summer common inquiries were about possible river hazards, regulations/restrictions, directions, brochure requests and campsite info/questions</li> </ul>
<b>Compliments</b>	<ul style="list-style-type: none"> <li>Many visitors were appreciative of the greater presence of Forest Service and BLM at the boat ramps.</li> <li>The public appreciated the information boards, brochures, up-to-date weather and flow information, river hazard postings.</li> <li>After the Tioga Bridge was set, many people had questions about and made comments about how great the bridge looked</li> </ul>
<b>Logs in the River</b>	<ul style="list-style-type: none"> <li>A large log spanned the river just below Soda Springs water quality station and was removed in February</li> </ul> 
<b>Special Events</b>	<ul style="list-style-type: none"> <li>The Umpqua Chapter of the Northwest Raft Association and the Oregon Whitewater Association held their annual campout at Deer Flat Campground on June 1<sup>st</sup> through 3<sup>rd</sup> and conducted two river trips. On the 2<sup>nd</sup> 37 people in 17 crafts (start times were staggered) went from Boulder Flat to Gravel Bin, and on the 3<sup>rd</sup> 16 people in 9 crafts travelled from Gravel Bin to Susan Creek. There were no parking issues.</li> </ul>

**Snag Rock  
Incident**

- On Sunday afternoon July 29<sup>th</sup>, seven people launched on a raft from Boulder Flat and planned on ending at Horseshoe Bend. About 2:40 p.m., the 911 center received a call of a boating accident near mile post 52 on Highway 138. This particular raft was carrying seven people had capsized just upriver from Snag Rock. A 16-year old girl became trapped in debris under water with the other passengers able to make it to shore. The Sheriff's Office Dive Team, Search and Rescue, Marine Patrol, Fire District #2 Swiftwater Rescue Team and Oregon State Police responded to the scene. Divers were unable to pull her body from the river. A local construction company responded using heavy equipment and assisted divers but they were still unable to free the girl from the debris. Rescuers worked until about 9:30 p.m. Sunday. One lane of Highway 138 East was closed for the recovery effort. Rescuers were back at the scene Monday morning and were able to remove her body from the river around 1:45 p.m. Monday. Sheriff Deputy Brian Melvin, incident commander, said that the victim got stuck in a root system at the butt of a jammed log in turbulent waters. Other rafters reported the victim had been underwater for about 10 minutes before they called 911 at 2:40 p.m. Search and rescue crews arrived on scene at 3:30 p.m., at which time the victim was determined to be deceased and the surviving rafters interviewed.



	
<b>User Conflicts</b>	<ul style="list-style-type: none"> <li>• There was three documented incidents amongst river users: a commercial rafting guide and anglers with obscenities being yelled; another incident between a commercial rafting guide and anglers (no details); and conflict between parties of two different rafting companies.</li> </ul>
<b>Weather</b>	<ul style="list-style-type: none"> <li>• This year had another late spring with many rainy days into early-July, which likely reduced the number of river users early in the season.</li> </ul>
<b>Survey</b>	<ul style="list-style-type: none"> <li>• The Forest Service commissioned a needs assessment study through West Virginia University where two surveyors spent the summer interviewing boaters and anglers on the river. A report of the findings is pending.</li> </ul>

### 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 conducted an in-stream restoration project on Rock Creek, a major fish rearing North Umpqua tributary in 2012. They added approximately 50 logs and 800 boulders to main stem Rock Creek and its tributaries within a 2.5 mile stretch of the lower creek. These projects will provide much improved habitat for juvenile salmonids in summer and winter in Rock Creek and will provide some improved spawning areas for adult fish.

Additionally ODFW monitored fish populations in Rock Creek and the North Umpqua. They conducted spawning surveys for adult Coho in the North Umpqua in November and December and conducted snorkel surveys in Rock Creek to count juvenile salmonids. These snorkel surveys were conducted in both summer and winter.

**Table 11**

**ANNUAL FISH COUNTS**

<b>Year</b>	<b>Fall Chinook</b>	<b>Spring Chinook</b>	<b>Coho Salmon</b>	<b>Sea Run Cutthroat</b>	<b>**Winter Steelhead</b>	<b>Summer Steelhead</b>
<b>2003</b>	174	20,156	13,809	34	14,507	7,997
<b>2004</b>	129	15,433	16,160	62	7,547	9,157
<b>2005</b>	108	9,013	13,398	62	7,419	6,987
<b>2006</b>	76	*6,081	*11,250	*81	9,891	*6,989
<b>2007</b>	163	6,634	4,680	93	9,511	4,552
<b>2008</b>	171	10,328	4,274	178	7,831	6,674
<b>2009</b>	200	14,261	8,907	102	10,608	4,993
<b>2010</b>	169	13,887	10,878	153	9,589	5,415
<b>2011</b>	137	16,603	6,667	428	13,788	6,597
<b>2012</b>	369	16,868	3,858	204		6,098

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

\*\*Winter Steelhead counts are taken from December 1<sup>st</sup> – April 30<sup>th</sup> the following year  
 Spring Chinook counts are through September 30<sup>th</sup>. Sea Run Cutthroat, Coho Salmon, Summer Steelhead and Fall Chinook counts are through December 31<sup>st</sup>.

**B. WATER QUALITY**

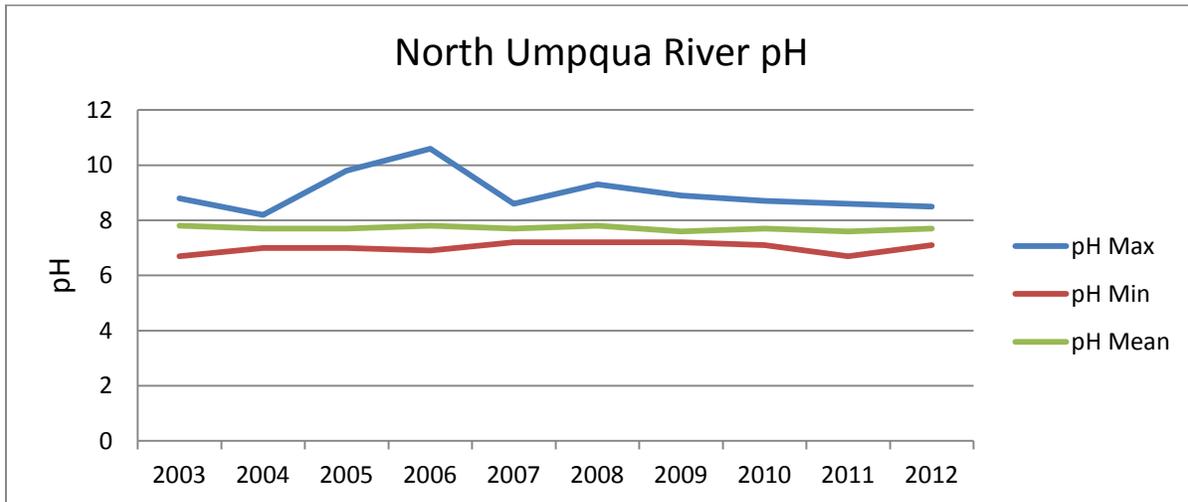
Water quality affects most of the other Outstandingly Remarkable Values. Table 10 shows some of the water quality parameters that have been consistently monitored over the past several years. The water samples were taken between Idleyld Park and Rock Creek at a USGS gaging station. Data is taken for the water year (October 1 – September 30).

**Table 12**

**ANNUAL WATER QUALITY STATISTICS**

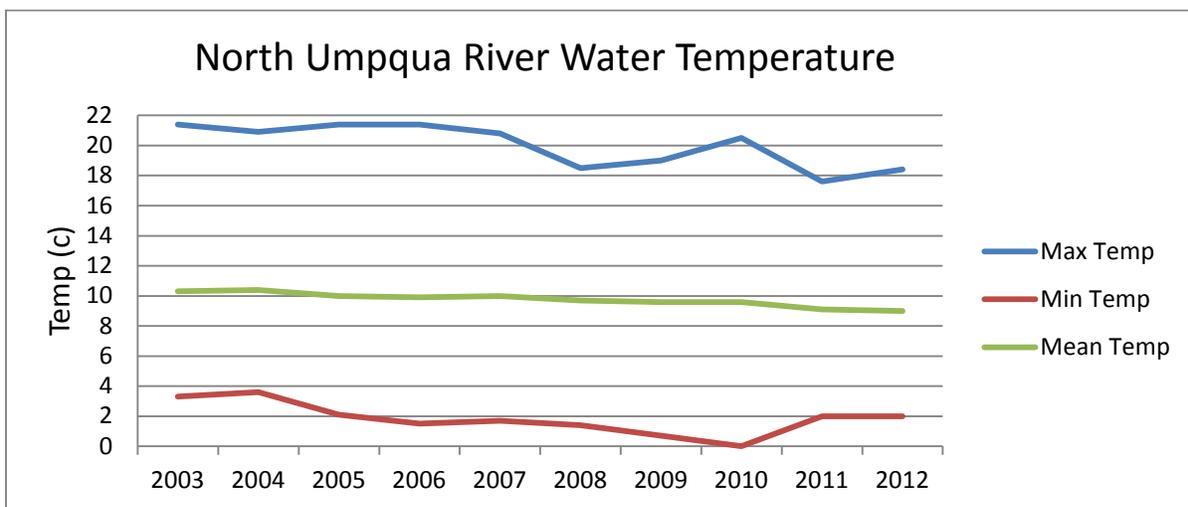
Year	Measurement	pH (units)	Temperature (°C)	Dissolved Oxygen (mg/L)	Specific Conductance (us/cm)
<b>Desired Conditions</b>		<b>6.5-8.5</b>	<b>&lt; 17.8</b>	<b>&gt; 6.5</b>	<b>maintain</b>
2003	Maximum	9.8	20.9	14.0	69
	Minimum	7.0	3.6	7.5	31
	<b>Mean</b>	<b>7.7</b>	<b>10.4</b>	<b>11.6</b>	<b>54</b>
2004	Maximum	10.6	21.4	15.7	70
	Minimum	6.9	2.1	8.2	31
	<b>Mean</b>	<b>7.8</b>	<b>10.0</b>	<b>11.7</b>	<b>59</b>
2005	Maximum	8.6	21.4	14.2	70
	Minimum	7.2	1.5	8.7	26
	<b>Mean</b>	<b>7.7</b>	<b>9.9</b>	<b>11.5</b>	<b>52</b>
2006	Maximum	9.3	20.8	14.0	71
	Minimum	7.2	1.7	8.9	32
	<b>Mean</b>	<b>7.8</b>	<b>10.0</b>	<b>11.5</b>	<b>54</b>
2007	Maximum	8.9	18.5	14.3	72
	Minimum	7.2	1.4	9.4	31
	<b>Mean</b>	<b>7.6</b>	<b>9.7</b>	<b>11.9</b>	<b>51</b>
2008	Maximum	8.7	19.0	14.4	71
	Minimum	7.1	0.7	9.3	32
	<b>Mean</b>	<b>7.7</b>	<b>9.6</b>	<b>11.6</b>	<b>54</b>
2009	Maximum	8.6	20.5	14.8	70
	Minimum	7.2	0.0	8.9	33
	<b>Mean</b>	<b>7.7</b>	<b>9.6</b>	<b>11.7</b>	<b>55</b>
2010	Maximum	8.6	17.6	13.9	68
	Minimum	6.7	2.1	9.3	28
	<b>Mean</b>	<b>7.6</b>	<b>9.1</b>	<b>11.6</b>	<b>51</b>
2012	Maximum	8.5	18.4	14.3	69
	Minimum	7.1	2.0	9.2	29
	<b>Mean</b>	<b>7.7</b>	<b>9.0</b>	<b>11.7</b>	<b>54</b>

**Graph 3**



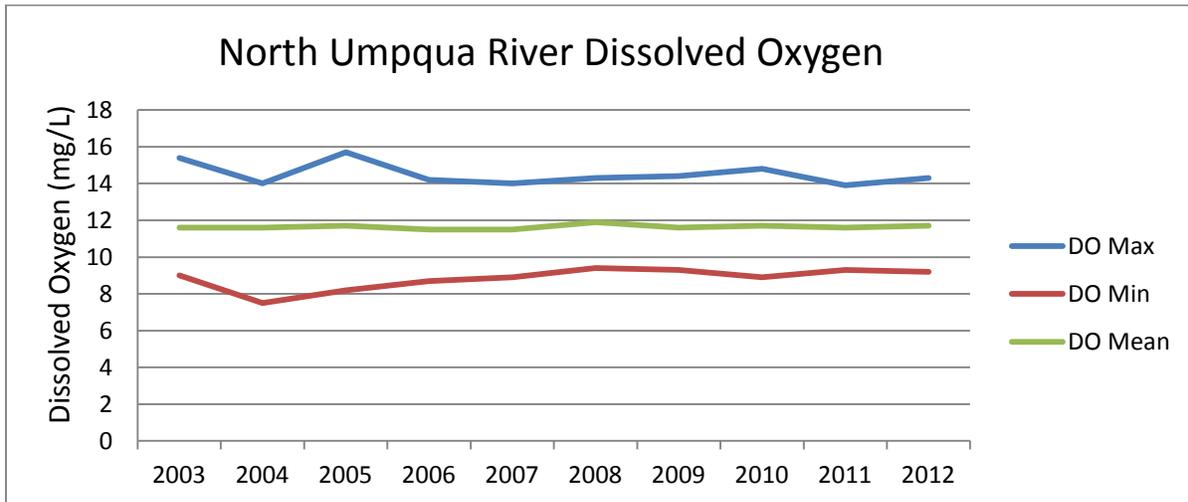
An acceptable pH range for the Umpqua Basin is between 6.5 and 8.5. It would be considered 'water quality limited' if greater than 10% of the samples exceed this standard (fall outside the acceptable range), and a minimum of at least two samples exceeded the standard during a season of interest. An acceptable pH range was maintained during the 2011 season.

**Graph 4**



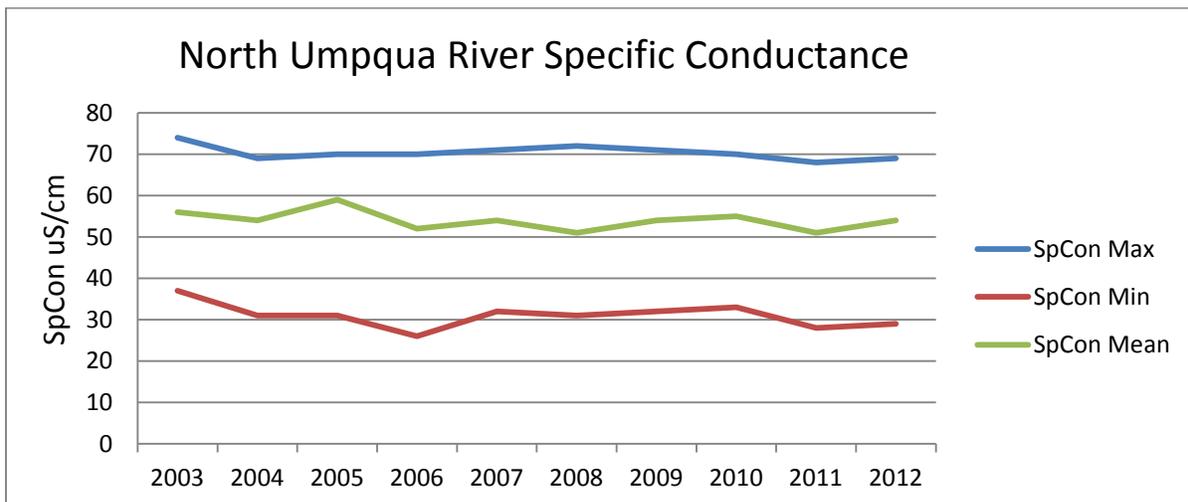
Maximum temperature standard reflects a 7-day average maximum. For good spawning conditions, the 7-day maximum average temperature of the river should not exceed 17.8°C between June 1 and September 14, and the 7-day maximum average temperature should not exceed 12.8°C at other times of the year. There were no instances of a 7-day period where the river temperature thresholds were exceeded.

**Graph 5**



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 the entire 2011 season.

**Graph 6**



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. Fourteen archaeological sites were monitored during the year, including five sites that are eligible to be listed on the National Register of Historic Places. Two of the eligible sites showed a changed condition consisting of slight erosion along the river bank. No Archaeological Resource Protection Act violations were documented during the year.

## **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.

2012 projects meeting visual quality objectives included: the Tioga Bridge and associated components of that project, construction of a gazebo and post-rail fence at Susan Creek day-use area and painting of the Rock Creek Fish Hatchery pumping station building.

## **IV. 2012 STAFF**

- BLM Monitors – Dodge DiVall, 1<sup>st</sup> year seasonal, Recreation Technician; John Clevenger, 1<sup>st</sup> year seasonal, Recreation Technician
- USFS Monitor – David Companione, 1<sup>st</sup> year seasonal, Recreation Technician
- BLM Swiftwater Field Manager – Max Yager
- USFS North Umpqua District Ranger – Carol Cushing
- USFS Recreation Staff – Janie Pardo, Robin Duarte, Bill Blackwell
- BLM Recreation Staff – Erik Taylor, Gregg Morgan, Ariel Hiller
- Report Preparers – Erik Taylor, Dodge DiVall, John Clevenger