

2011 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 numerous 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

The boundaries of the river use report 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, approximately 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, approximately 25.4 river miles) is the responsibility of the USFS, North Umpqua Ranger District (NURD). The two agencies work closely to jointly manage the North Umpqua Wild and Scenic River; the USFS administers all special use permits for commercial fishing and whitewater guides for the entire 33.8 miles and the 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 they could reduce the conflicts by using the river at different times. Anglers noted that they used the Steamboat area more extensively than any other Wild and Scenic section of the river. Boaters noted that they did not generally use the river during the early morning hours and late evening hours. As a result, sections of the river have been placed under voluntary boater restrictions for noncommercial boaters and mandatory restrictions for commercial boaters during certain hours of the day and certain seasons of the year (North Umpqua River Management Plan, 1992). Since the implementation of these guidelines, 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 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. Noncommercial users (not for profit) are not required to obtain permits to float the river.

E. Methods of collecting information

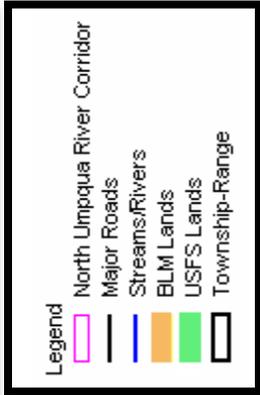
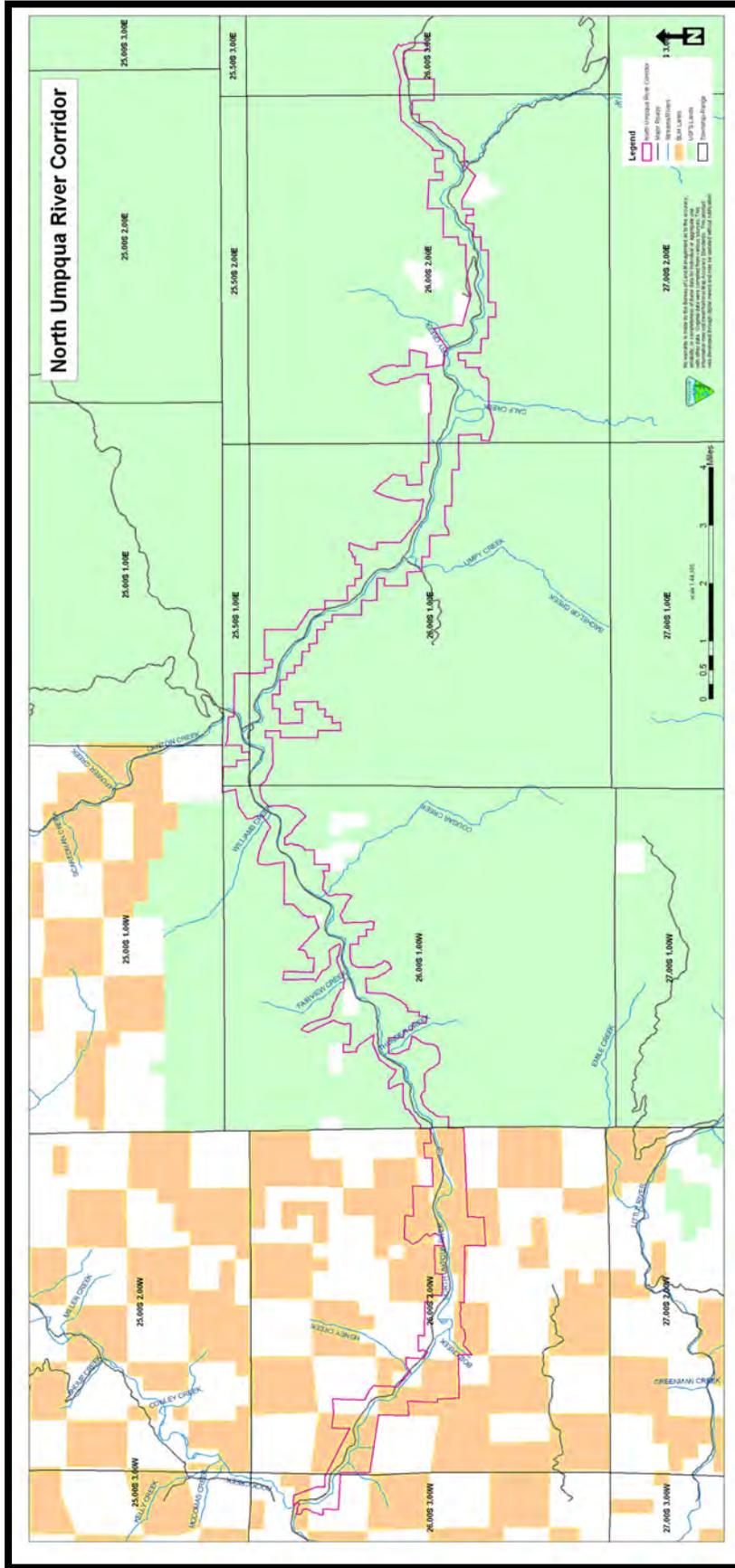
In the winter of 1991, the Roseburg District BLM funded a river manager position to manage and document use of the North Umpqua River. Since then, visual counting by river monitors has varied between two and four BLM and USFS employees per year. In 2011, one USFS and two BLM seasonal employees were in 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 2011

The use recorded by the USFS and BLM monitors is referred to as the “observed use”. The documented observed use indicates that non-commercial use exceeded commercial use in 2011 (Table 1 & Graph 1). Commercial use accounted for 42% of the use observed and non-commercial use accounted for 58% of the use observed. Note: This compares to 33% commercial observed use and 67% non-commercial observed use in 2010. A reasonable explanation for the lowest observed total since at least 1996 is the fact that very cool and wet conditions lasted well into July, which in turn would affect people’s desire to recreate on the water.

1. Non-commercial Observed Use

Non-commercial boaters observed.....	1,579
Guides observed	360
Total non-commercial boaters observed.....	1,939

2. Commercial Observed Use

Commercial boaters observed by monitors.....	1,436
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River monitors were present on the river 88 out of a possible 119 days or 74% of the time during the 2011 monitoring season (May 20 – September 15). An average of 4 hours was spent monitoring; typically between 10 and 4 and on Saturday’s and Sunday’s, two monitors were usually present.

Table 1

ANNUAL COMPARISON OF OBSERVED BOATING USE

Year	Noncommercial Observed	Commercial Observed	Total Observed Use
2001	3,071	1,532	4,603
2002	2,372	1,679	4,051
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

*Includes 360 guides

Table 2 shows the breakdown of observed noncommercial and commercial use by day of the week during the monitoring season (May 20 – September 15). More people were observed on Saturdays than any other day; commercial and non-commercial both. Observed commercial use exceeded non-commercial use on four days of the week (Tuesday – Friday).

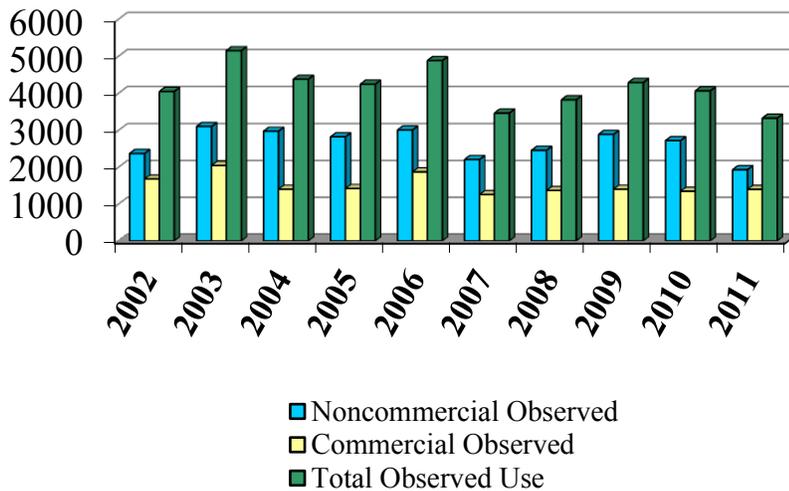
Table 2

2011 DAILY COMPARISON OF BOATERS OBSERVED BY USFS AND BLM

Day	Commercial	Noncommercial	Total
Monday	47	67	114
Tuesday	169	142	311
Wednesday	174	115	289
Thursday	138	106	244
Friday	258	183	441
Saturday	351	756	1,107
Sunday	299	570	869
Total	1,436	1,939	3,375

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:

- 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 commercial outfitters.
- 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

2011 OBSERVED AND REPORTED COMMERCIAL USE

Data from May 20th to September 15th, 2011

OUTFITTERS	People Observed by BLM/USFS*						People Reported by Commercial Outfitters
	May	June	July	Aug	Sept	Total	
Adventure River Center	0	0	0	0	0	0	0
North Umpqua Outfitters	3	29	191	105	23	351	463
High Country Expeditions	0	58	14	16	5	93	243
Orange Torpedo Tours	4	21	30	39	10	104	164
Oregon River Experiences	0	0	16	36	0	52	72
Oregon Whitewater Adventures	0	54	111	92	13	270	365
Ouzel Outfitters	0	69	180	107	0	356	388
Sun Country Tours	9	0	116	85	0	210	310
Total	16	204	654	476	46	1,436	2,005

*Figure excludes the 360 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 28%. This compares to 25% in 2010 and 18% in 2009. In other words, it is estimated that 28% of all boaters were not observed by river monitors.

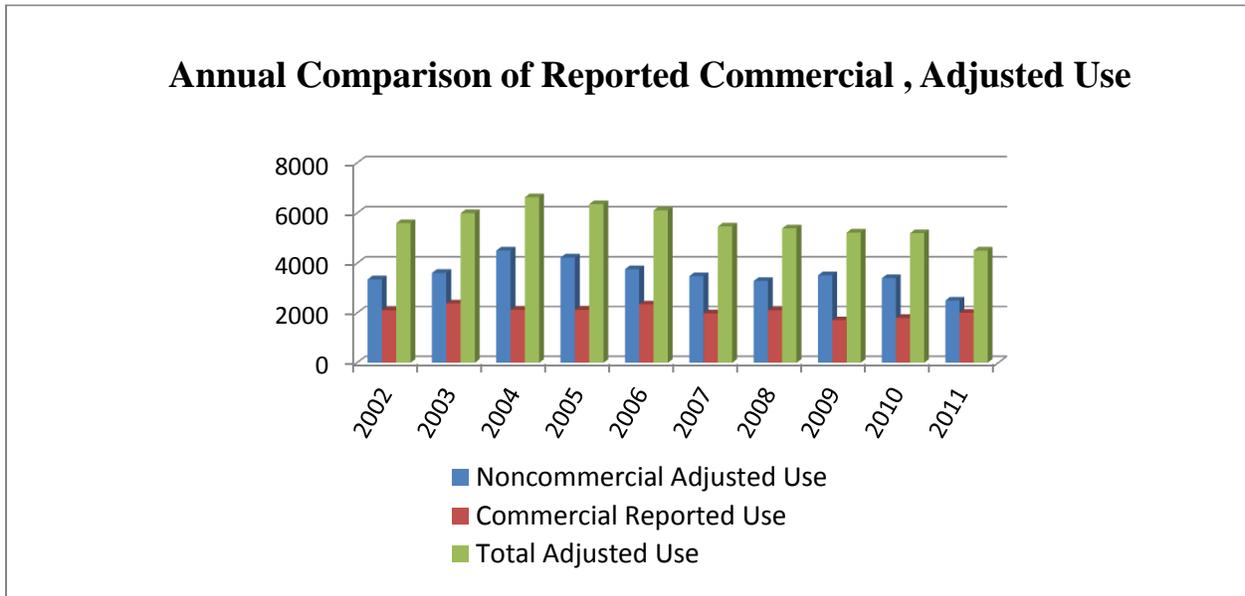
Total Adjusted Use is calculated by summing the non-commercial adjusted use with the commercial reported as shown below.

Table 4

ANNUAL COMPARISON OF REPORTED COMMERCIAL AND ADJUSTED USE

	Noncommercial Adjusted Use	Commercial Reported Use	Total Adjusted Use
2002	3,354	2,102	5,601
2003	3,614	2,384	5,998
2004	4,511	2,125	6,636
2005	4,229	2,130	6,359
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

Graph 2



D. Craft and Boat Launch Use

Data was queried to show the types of watercraft used to float the river. During the 2011 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 2,411 users and Gravel Bin was the most heavily used take-out location with 2,732 users.

Every year starting on July 15th, 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). Only one outfitter guide was observed using this segment of the river after July 15th and this was done due at the request of the clients.

Table 5**2011 COMPARISON OF WATERCRAFT OBSERVED PER MONTH**

Month	Rafts	Hard Kayaks	Inflatable Kayaks	Canoes	Monthly Total
May	15	6	0	0	21
June	158	65	37	1	261
July	274	122	144	4	544
August	159	63	94	2	318
September	19	4	27	1	51
Total	625	260	302	8	1,195

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

Year	Rafts	Hard Kayaks	Inflatable Kayaks	Canoes	Total Crafts
2002	631	475	600	77	1,783
2003	880	517	940	93	2,430
2004	657	525	846	36	2,064
2005	661	357	693	56	1,767
2006	901	364	608	32	1,905
2007	593	307	417	19	1,336
2008	659	360	549	7	1,575
2009	781	380	531	35	1,727
2010	771	427	342	68	1,608
2011	625	260	302	8	1,195

Table 7

**2011 LAUNCH SITE UTILIZATION
Observed, Commercial and Non-Commercial**

Site	Put-In	Take-Out
	Users	Users
Boulder Flat Boat Launch	2,421	0
Marsters Bridge	80	0
Horseshoe Bend	487	155
Gravel Bin	117	2,742
Bogus Creek	253	107
Susan Creek	12	322
Cable Crossing	5	49
Total	3,375	3,375

E. 2011 River-Use Summary

A. Non-Commercial Use – 55% of all use

1. Visual counts observed by BLM/USFS employees.....1,579
2. Number of guides observed by BLM/USFS.....360
3. Number missed (factored using 28% of users missed).....401
4. Adjusted noncommercial use.....2,501

B. Commercial Use – 45% of all use

1. Visual counts observed by BLM/USFS employees.....1,436
2. Reported Counts by Outfitter/Guides.....2,005

C. Total Adjusted Use - Commercial and Non-Commercial.....4,506

D. Observed Watercraft

1. Rafts.....625
2. Hard Kayaks.....260
3. Inflatable Kayaks.....302
4. Canoes.....8

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, however, they are very difficult to see driving by, and hardly any were observed. 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	0	1	
	2	2	
	6	3	
	4	4	
	77	5	
June	2	1	
	6	2	
	23	3	
	13	4	
	190	5	
July	56	1	
	18	2	
	128	3	
	89	4	
	156	5	
August	48	1	
	41	2	
	149	3	
	90	4	
	64	5	
September	24	1	
	6	2	
	63	3	
	36	4	
	40	5	
Totals	130	1	Boulder Flat - Horseshoe Bend
	73	2	Horseshoe Bend - Gravel Bin
	369	3	Gravel Bin - Bogus Creek
	232	4	Bogus Creek - Susan Creek
	527	5	Susan Creek - Rock Creek
	1331		



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

2011 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
6/25	1		
7/2	3		
7/23		1	
7/30	9		
8/7	1		
8/20	2		
9/4		2	

Table 10

COMMENTS, HAZARDS, AND VIOLATIONS

	Issue
Site Improvements	<ul style="list-style-type: none"> The Forest Service installed a changing station at Boulder Flat.
Compliments	<ul style="list-style-type: none"> Boaters liked the changing room at Boulder Flat, although many said it would have been better located at Gravel Bin. The public appreciated the information boards, brochures, up-to-date weather and flow information, river hazard postings, and the presence of river monitors.
Logs in the River	<ul style="list-style-type: none"> Several logs around Steamboat and Apple Creek bridges were removed in March. 

- A log at the Forest Service - BLM boundary blocked most of the river channel and was removed in May.



Logs in the River

- Several logs on Snag Rock were removed in August, but as water levels continued to drop, remaining logs posed a hazard to rafters. At least two known, minor injuries resulted from collisions with the logs prior to the August removal.



<p>Special Events</p>	<ul style="list-style-type: none"> • The Umpqua Chapter of the Northwest Raft Association and the Oregon Whitewater Association held their annual campout at Deer Flat Campground on June 4th and 5th and conducted two river trips. On the 4th 40 people in 20 crafts (start times were staggered) went from Boulder Flat to Gravel Bin, and on the 5th 17 people in 10 crafts travelled from Gravel Bin to Susan Creek. There were no parking issues, however there were some delays at the Boulder Flat staging area due to the volume of people, and there were some complaints about crowding from other non-commercial boaters who showed up at the same time. • An Umpqua River Basin cleanup occurred during the week of September 17th thru 24th. Many volunteers cleaned up trash and litter along the Wild and Scenic River corridor.
<p>Weather</p>	<ul style="list-style-type: none"> • A La Nina weather pattern caused this to be the second wettest and fifth coolest spring on record, which most likely reduced the number of river users this year.
<p>Survey</p>	<ul style="list-style-type: none"> • 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.



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

The BLM conducted an instream restoration project on a North Umpqua tributary in 2011. Rock Creek - Added approximately 80 logs and 10 root wads to four side channels of main stem Rock Creek. Also pushed over approximately 25 trees into those side channels. Total project length was 1.5 miles. 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, the Oregon Department of Fish and Wildlife conducted some improvements to the pumping and electrical facilities at the confluence of Rock and the North Umpqua that would allow for ODFW to provide ample, reliable and cool water from the North Umpqua River to the Rock Creek Fish Hatchery, located approximately ¼ mile to the north of the river. The hatchery lies adjacent to Rock Creek; however, during the summer months, the water within Rock Creek is too warm for fish at the hatchery necessitating the pumping of water from the cooler waters of the North Umpqua River. Independent of these upgrades is the annual dredging of the North Umpqua directly in front of the lower intake facility. This action is to clear the intake screens in order to provide cooler water to the Rock Creek fish hatchery rearing ponds, located approximately ¼ mile from the intake facility.

Table 11, next page, shows annual fish counts taken at the Winchester Dam Counting Station by Oregon Department of Fish and Wildlife (ODFW).

Table 11

ANNUAL FISH COUNTS

Year	Fall Chinook	Spring Chinook	Coho Salmon	Sea Run Cutthroat	**Winter Steelhead	Summer Steelhead
2002	154	24,202	20,468	110	9,325	9,175
2003	174	20,156	13,809	34	14,507	7,997
2004	129	15,433	16,160	62	7,547	9,157
2005	108	9,013	13,398	62	7,419	6,987
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		6,597

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

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

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 Idleyld Park and Rock Creek at a USGS station. Data is taken for the water year (October 1 – September 30).

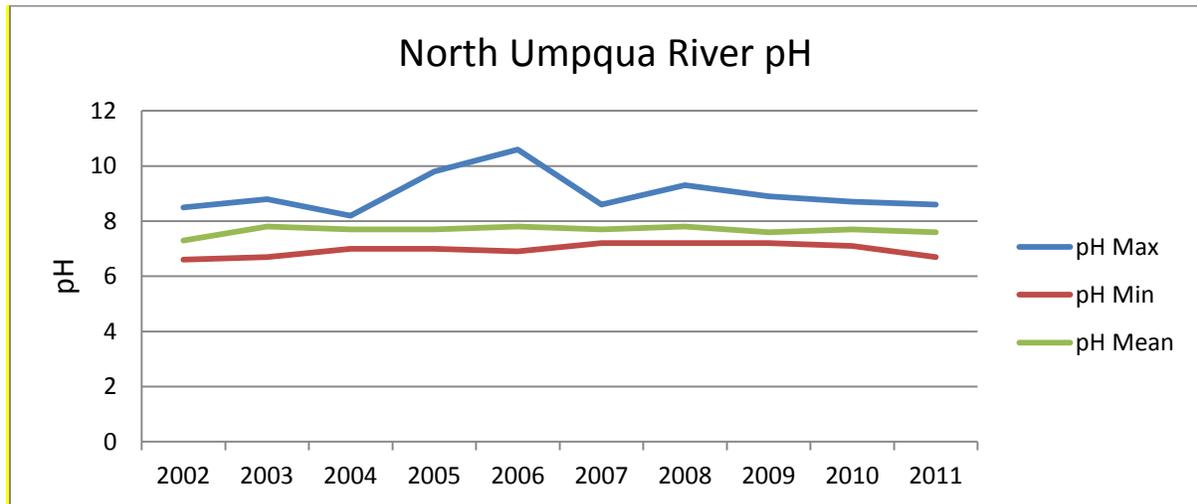
Table 12

ANNUAL WATER QUALITY STATISTICS

Year	Measurement	pH (units)	Temperature (°C)	Dissolved Oxygen (mg/L)	Specific Conductance (us/cm)
Desired Conditions		6.5-8.5	< 17.8	> 6.5	maintain
2002	Maximum	8.8	20.9	13.3	73
	Minimum	6.7	3.0	7.3	30
	Mean	7.8	11.9	10.3	52
2003	Maximum	8.2	21.4	15.4	74
	Minimum	7.0	3.3	9.0	37
	Mean	7.7	10.3	11.6	56
2004	Maximum	9.8	20.9	14.0	69
	Minimum	7.0	3.6	7.5	31
	Mean	7.7	10.4	11.6	54
2005	Maximum	10.6	21.4	15.7	70
	Minimum	6.9	2.1	8.2	31
	Mean	7.8	10.0	11.7	59
2006	Maximum	8.6	21.4	14.2	70
	Minimum	7.2	1.5	8.7	26
	Mean	7.7	9.9	11.5	52
2007	Maximum	9.3	20.8	14.0	71
	Minimum	7.2	1.7	8.9	32
	Mean	7.8	10.0	11.5	54

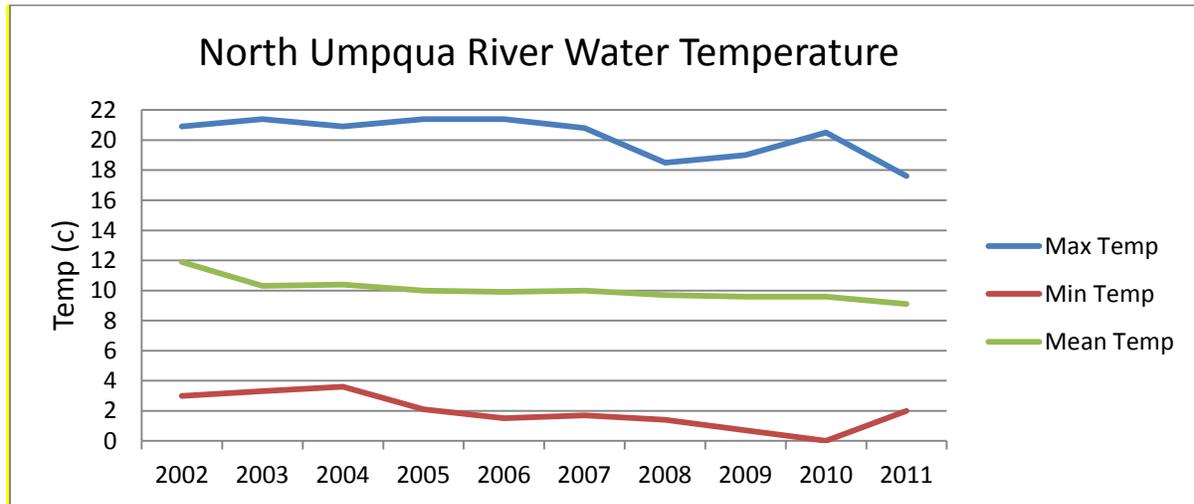
2008	Maximum	8.9	18.5	14.3	72
	Minimum	7.2	1.4	9.4	31
	Mean	7.6	9.7	11.9	51
2009	Maximum	8.7	19.0	14.4	71
	Minimum	7.1	0.7	9.3	32
	Mean	7.7	9.6	11.6	54
2010	Maximum	8.6	20.5	14.8	70
	Minimum	7.2	0.0	8.9	33
	Mean	7.7	9.6	11.7	55
2011	Maximum	8.6	17.6	13.9	68
	Minimum	6.7	2.1	9.3	28
	Mean	7.6	9.1	11.6	51

Graph 3



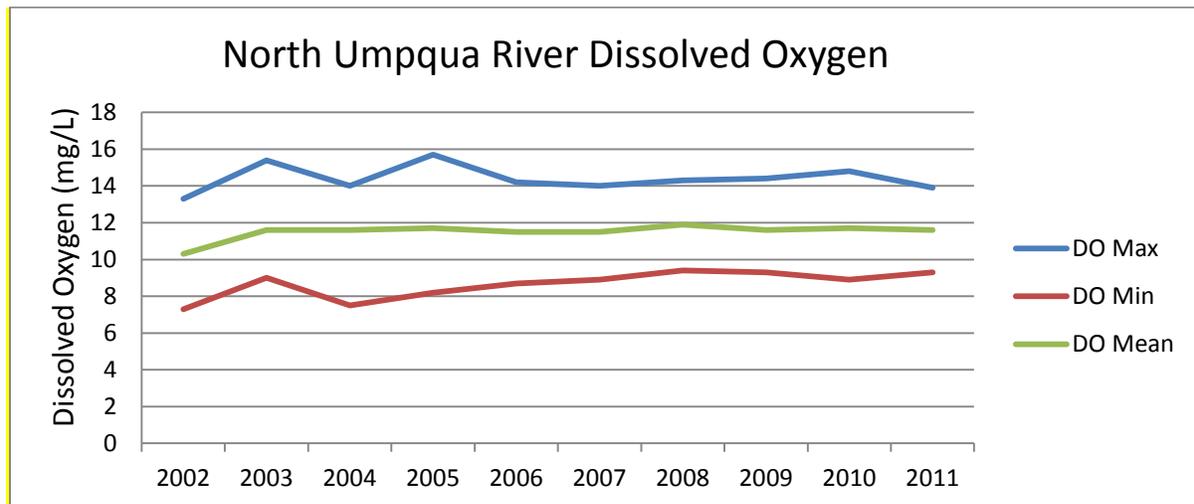
An acceptable pH range for the Umpqua Basin is between 6.5 and 8.5. It would be considered 'water quality limited' if greater than 10% of the samples exceeded this standard (fall outside the acceptable range), and a minimum of at least two samples exceeded the standard during a season of interest. An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

Graph 4



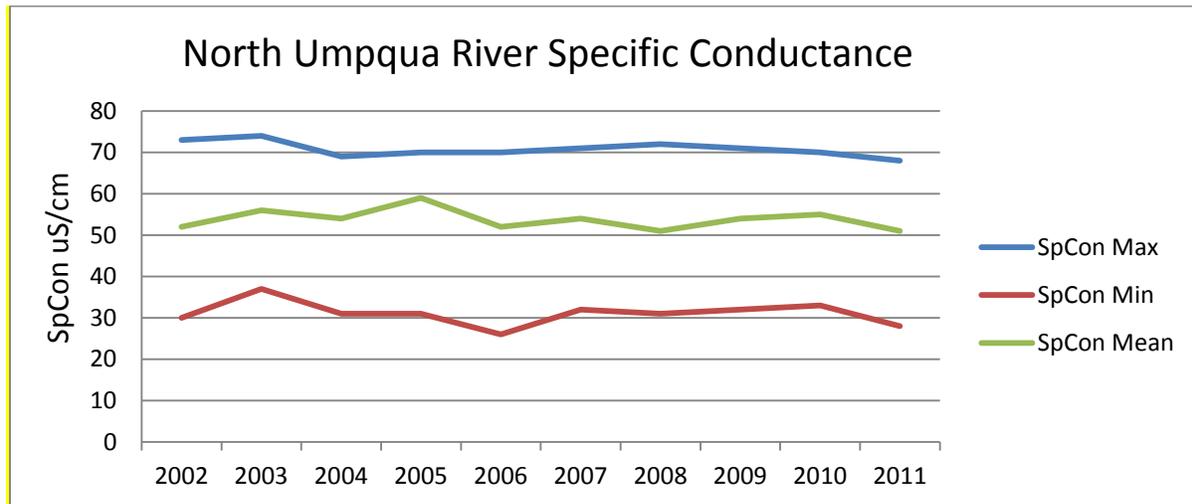
Maximum temperature standard reflects a 7-day average maximum. For good spawning conditions, the 7-day maximum average temperature of the river should not exceed 17.8°C between June 1 and September 14, and the 7-day maximum average temperature should not exceed 12.8°C at other times of the year. There 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.

2011 projects meeting visual quality objectives included: upgrades to the Rock Creek Fish Hatchery pumping station, construction of the Emerald Trail and construction of a changing station at Boulder Flat. Douglas County Parks Department also removed all the infrastructure at Cable Crossing Wayside.

IV. 2011 STAFF

- BLM Monitors – Brian Schmidt, 2nd year seasonal, Recreation Technician; Kelley Boak, 1st year seasonal, Recreation Technician
- USFS Monitor – Larry Moulton, 1st year seasonal, Recreation Technician
- BLM Swiftwater Field Manager – Max Yager
- USFS North Umpqua District Ranger – Carol Cushing
- USFS Recreation Staff – Janie Pardo, Aaron Grimes, Robin Duarte, Bill Blackwell
- BLM Recreation Staff – Erik Taylor, Gregg Morgan, Ariel Hiller
- Report Preparers – Erik Taylor and Kelley Boak