2022 Monitoring Report

North Umpqua Wild & Scenic River

Cooperative Effort Between

Bureau of Land Management, Roseburg District
&
Umpqua National Forest

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Tables, Graphs, & Maps

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 ¼ mile below 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 have 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

Six 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. Private boaters are not required to obtain permits to float the river.

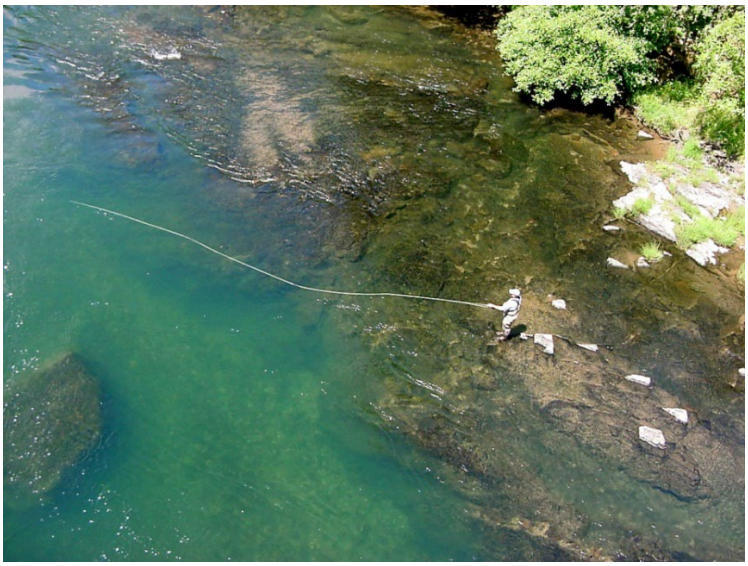
Seven commercial fly-fishing guides are permitted to conduct trips on the river between January 1st and November 14th. Trips are not authorized between November 15th and December 31st in order to protect spawning Coho salmon.

E. Methods of Collecting Information

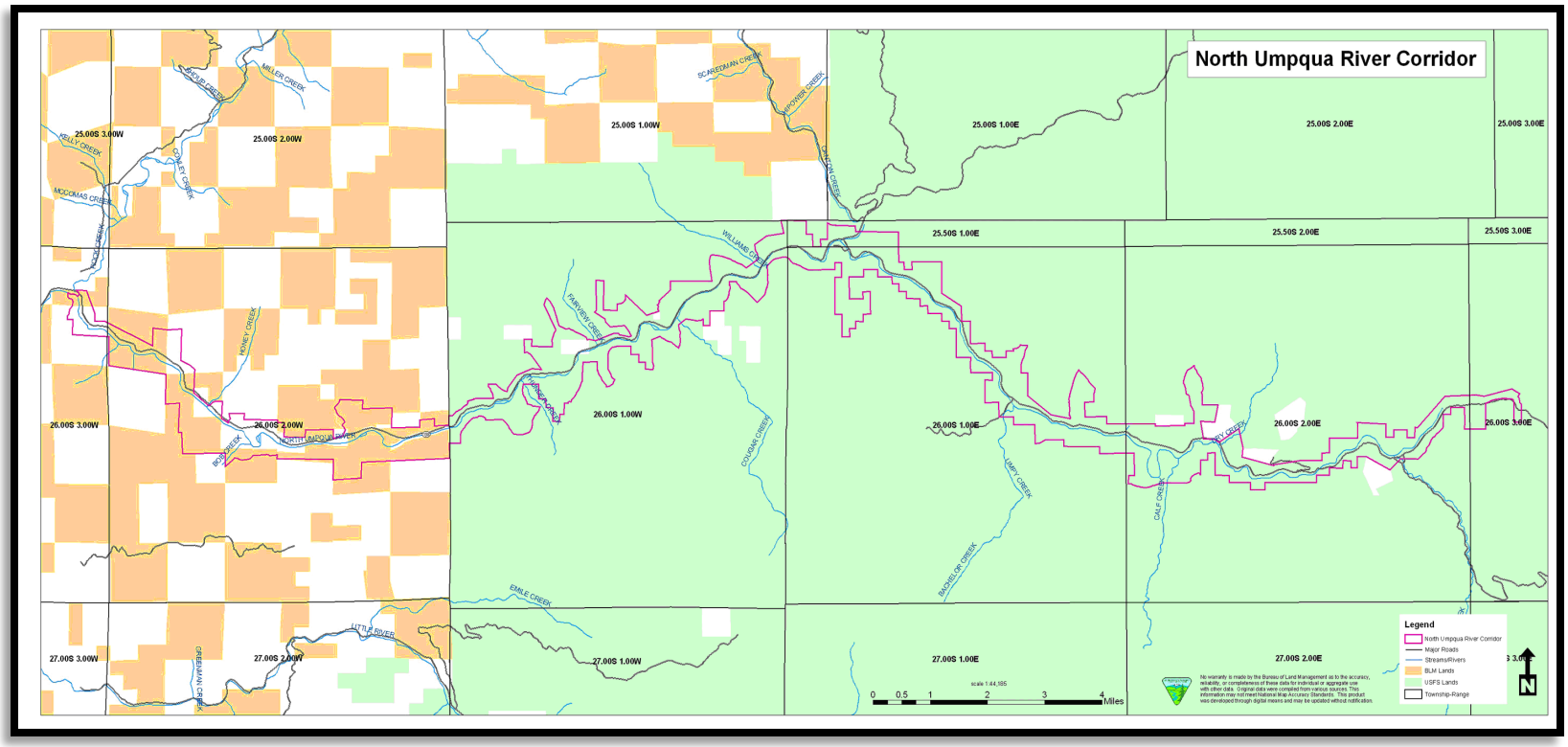
In the winter of 1991, the Roseburg District BLM funded a river manager position to manage and document use of the North Umpqua River. Since then, visual counting by river monitors has varied between two and four BLM and USFS employees per year. In 2022, one BLM seasonal and three USFS employee oversaw the river monitoring.

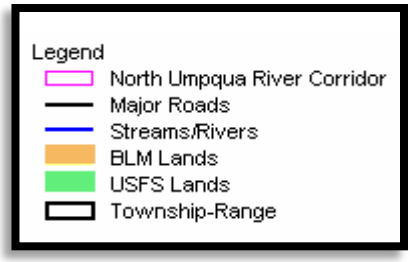
F. Objectives of River Monitoring

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 2022 (Table 1 & Graph 1). Non-commercial users accounted for 80% of the observed use and commercial users accounted for 20% of the observed use. (Note: This compares to 79% non-commercial observed use and 21% commercial observed use in 2021.)

In 2013, with permission from the USFS, commercial anglers, and commercial boaters, the BLM implemented a new monitoring technique using time-lapse cameras. In 2022, as in the previous season, monitoring cameras were placed in each of the five segments of the North Umpqua River. When cameras are operating, the 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 50% of non-commercial observed use and 63% of commercial observed use, compared to 73% of non-commercial and 53% commercial observed use in 2021.

1. Non - Commercial Observed Use: (80% of all use)
   - Visual counts observed by BLM/USFS employees.....199
   - Visual counts observed by monitoring cameras…….....316
   - Guides observed.....22
   - Total observed.....516

2. Commercial Observed Use: (20% of all use)
   - Visual counts observed by BLM/USFS employees.....63
   - Visual counts observed by monitoring cameras 63
   - Total observed.....126

River monitoring, by person or camera, was present on the river 55 out of 138 days (40%). One to five monitoring cameras were active for each of these days during the season. An average of 4 hours was spent visually monitoring every Sunday between the hours of 10am-2pm for the first half of the season. BLM was short staffed during the 2022 season, not allowing for the typical amount of monitoring to occur through the duration of the season.

Table 1: Annual Comparison of Observed Boating Use

Year	*Non-commercial Observed	Commercial Observed	Total Observed Use
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
2016	2,462	1,319	3,781
2017	1,661	1,145	2,806
2018	1,931	1,350	3,281
2019	2,265	936	3,201
2020	1,397	612	2,009
2021	1,784	391	2,175
**2022	516	126	642

*Figures include the observed guides
** Year of 2022 shows discrepancy to correlating patterns in previous years reports. This is due to field camera issues involving public tampering with monitoring cameras and lack of seasonal staffing BLM employees working on field monitoring for the season.

Table 2 shows total commercial and non-commercial use by day of the week. Sunday was the busiest day in 2022 for both user groups, Typically, Saturday was the busiest day in previous seasons. Monday was the slowest day for non-commercial users and commercial groups. Monitoring took place primarily on Saturday and Sunday, while relying on camera coverage Monday-Friday, with employees monitoring when available.

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

Day	Non-Commercial	Commercial	Total
Monday	16	0	**16**
Tuesday	52	0	**52**
Wednesday	77	10	**87**
Thursday	31	34	**65**
Friday	63	9	**72**
Saturday	55	5	**60**
Sunday	220	68	**288**
Total	**516**	**126**	**642**

*Figures exclude the 22 observed guides

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 regularly monitored Sunday 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

Outfitter	People Observed by BLM/USFS*							People Reported - Commercial Outfitters
	May	June	July	Aug	Sep	Total	Camera**	
North Umpqua Outfitters	0	0	9	0	0	**9**	**0**	**497**
Orange Torpedo Trips	0	12	40	25	0	**77**	**63**	**178**
Oregon River Experiences	0	0	0	0	0	**0**	**0**	**No Use**
Oregon Whitewater Adventures	0	5	20	15	0	**45**	**0**	**226**
Ouzel Outfitters	0	0	0	0	0	**0**	**0**	**57**
Sun Country Tours	0	0	0	0	0	**0**	**0**	**29**
Total	**0**	**17**	**69**	**40**	**0**	**126**	**63**	**987**

*Figures exclude the 22 observed guides.
**Total captured by camera. Number is included in the total observed column.

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 87%. This compares to 40% in 2021 and 40% in 2020. In other words, it is estimated that 87% of all boaters were not observed by river monitors or monitoring cameras.

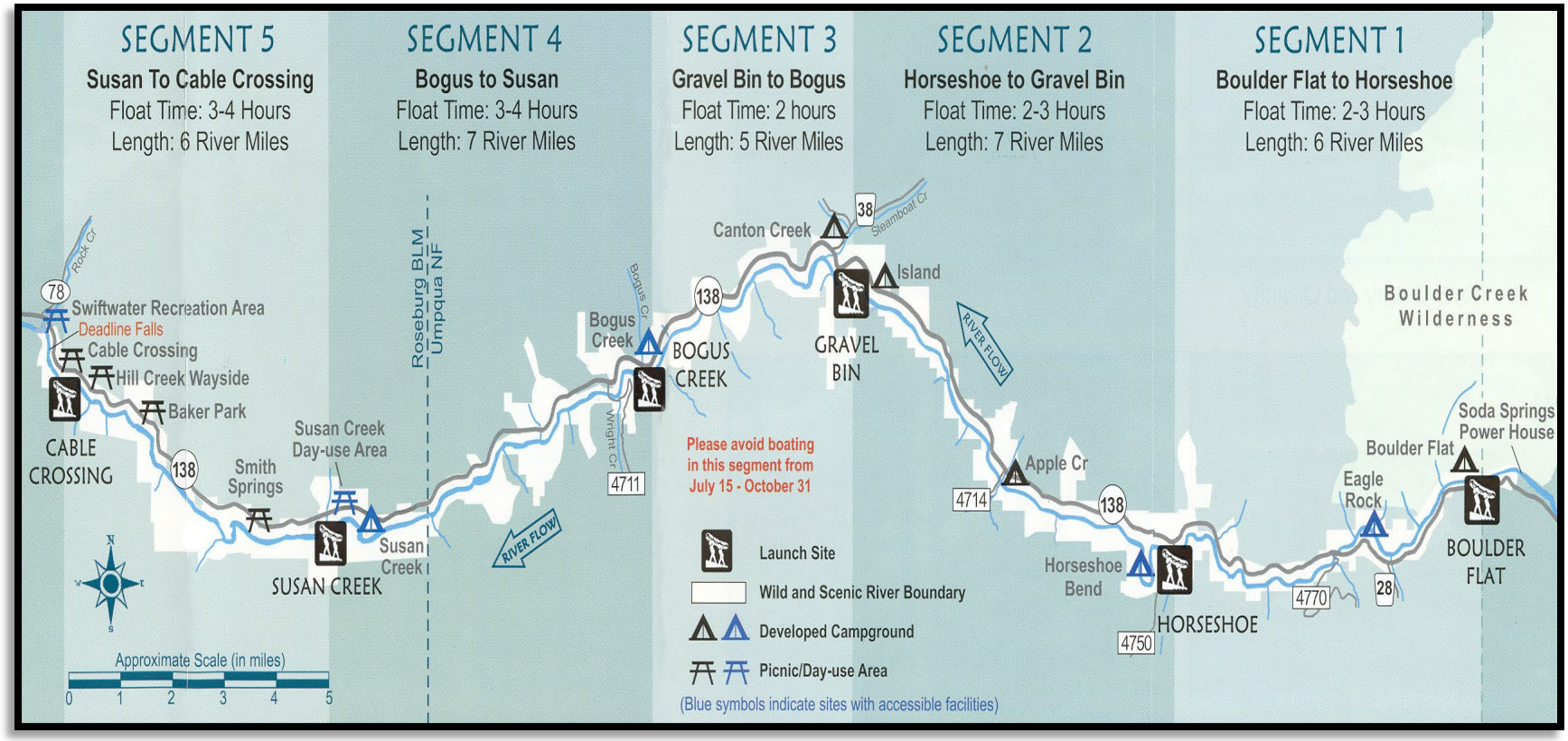
Total Adjusted Use is calculated by summing the non-commercial adjusted use with the commercial reported as shown below.

Table 4: Annual Comparison of Observed Watercraft Use

Year	Non-commercial Adjusted Use	Commercial Reported Use	Total Adjusted Use
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
2016	2,856	1,569	4,425
2017	2,076	1,527	3,603
2018	2,356	1,467	3,823
2019	2,876	1,233	4,109
2020*	1,956	1,031	2,987
2021**	2,498	657	3,155
2022***	3,969	987	4,956

*Use numbers down in comparison due to Covid-19 and shortened season due to Archie Creek fire
**Use numbers down due to Covid-19, fire, and road closures
*** Year of 2022 shows discrepancy to correlating patterns in previous years reports. This is due to field camera issues involving public tampering with monitoring cameras and lack of seasonal staffing BLM employees working on field monitoring for the season.

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 2022 boating season, rafts outnumbered other crafts on the river (table 5), accounting for 45% of all crafts used. Inflatable kayaks were second with 27% and hard side kayaks third with 28%. Canoe and Paddle board use remains low and represents less than 1% of total watercraft use in 2022.

Table 5: Comparison of Watercraft Observed Per Month

Month	Rafts	Inflatable Kayaks	Hard Kayaks	Canoes/ Paddle Boards	Monthly Total
May	8	0	15	0	**23**
June	58	14	17	0	**89**
July	28	34	28	0	**90**
August	32	25	9	0	**66**
Sept.	7	6	12	0	**25**
Total	**133**	**79**	**81**	**0**	**293**

Table 6: Annual Comparison of Observed Watercraft Use

Year	Rafts	I. Kayaks	H. Kayaks	Canoes/ISUP	Total Crafts
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**
2016	707	435	357	28	**1,527**
2017	558	230	268	4	**1,060**
2018	586	461	225	9	**1,281**
2019	552	435	238	2	**1,227**
2020	408	309	173	4	**894**
2021	503	277	207	1	**988**
2022	133	79	81	0	**293**

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 274 users (42%) and Gravel Bin was the most heavily used take-out location with 270 users (42%).

Table 7: Launch Utilization

Site	Put-In	Take-Out
	Users	Users
Boulder Flat Boat Launch	274	2
Marsters Bridge	0	0
Horseshoe Bend	268	219
Gravel Bin	85	270
Bogus Creek	15	20
Susan Creek	0	131
Cable Crossing	0	91
Total	**642**	**642**

E. Boating Summary

a) Non-commercial Use – 80% of all use
   1) Visual counts observed by BLM/USFS employees.....199
   2) Visual counts observed by monitoring camera.....317
   3) Number of guides observed by BLM/USFS employees.....22
   4) Total visual counts observed.....262
   5) Number missed (factored using 87% of users missed) 3453
   6) Adjusted non-commercial use.....516

b) Commercial Use – 20% of all use
   1) Visual counts observed by BLM/USFS employees.....68
   2) Visual counts observed by monitoring camera…….....63
   3) Total visual counts observed.....126
   4) Reported Counts by Outfitter/Guides.....987

c) Total Adjusted Use - Commercial and Non-commercial.....4,956

d) Observed Watercraft
   1) Rafts.....133
   2) Hard Kayaks.....79
   3) Inflatable Kayaks.....81
   4) Canoes/ISUP.....0
   5) Total Watercrafts.....293

F. Observed Fishing Use

Anglers were counted by drive-by observation, with very little contact being made. Outfitters were identified 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 were spotted, monitors would stop and confirm if the tag were present. If anglers were not visible from the highway, parked vehicles that were not obviously involved in other activities were counted as having transported one and a half anglers.

Table 8: Observed Angler Use

Month	Segment	Total	Non-Commercial	Commercial	
May	1	0	3	0	
	2	0	0	0	
	3	7	5	2	
	4	1	1	0	
	5	19	15	4	
June	1	0	0	0	
	2	0	0	0	
	3	2	2	0	
	4	1	1	0	
	5	20	20	0	
July	1	1	1	0	
	2	0	0	0	
	3	2	2	0	
	4	1	1	0	
	5	20	20	0	
Aug.	1	0	0	0	
	2	5	5	0	
	3	5	5	0	
	4	7	7	0	
	5	5	5	0	
Sep.	1	0	0	0	
	2	0	0	0	
	3	5	5	0	
	4	7	7	0	
	5	5	5	0	
Total	**1**	**1**	**1**	**0**	**Boulder Flat - Horseshoe Bend**
	2	**5**	**5**	**0**	**Horseshoe Bend - Gravel Bin**
	3	**56**	**54**	**2**	**Gravel Bin - Bogus Creek**
	4	**41**	**41**	**0**	**Bogus Creek-Susan Creek**
	5	**69**	**65**	**4**	**Susan Creek - Cable Crossing**
OVERALL TOTAL – 172		**NON- 166**		**COMMERCIAL - 6**	

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

Day	Non-commercial	Commercial	Total
Monday	2	0	**2**
Tuesday	36	0	**36**
Wednesday	0	0	**0**
Thursday	3	0	**3**
Friday	22	6	**28**
Saturday	10	0	**10**
Sunday	93	0	**93**
Total	**166**	**6**	**172**

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**
2016	1,154	136	**1,290**	**419**
****2017**	426	34	**460**	**281**
2018	303	49	**303**	**241**
2019	550	12	**562**	**356**
2020	334	33	**367**	**325**
*****2021**	50	0	**50**	**17**
2022	166	6	**172**	**140**

*The 2015 figures in Table 10 are due to ODFW imposing a fishing ban July 18 through August 31.
**River segments 1-4 were closed from August 19 – September 30, 2017.
***The 2021 figures are due to ODFW imposing a fishing ban August 10 through November 30. As well as effects of the fire and drought stress.

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

When parking capacity was exceeded, vehicles parked in unused campsites, overflow parking, staging areas, double-parking with party members, as well as utilizing other nearby areas. There was one observed occasions of exceeded parking capacity in 2021.

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
6/26		12	
7/3		7	
8/28		7	

Table 12: Comments, Hazards, & Violations

	Issue
Comments/ Compliments	• 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, river brochures, up-to-date weather and flow information, and river hazard postings.
Hazards	• 2 downed trees in the water were removed in July 2022 by BLM and USFS personnel. • 7 downed trees in the water that were hazards were removed by FS contract.
User Conflicts/ Violations	• Users were covering BLM trail cameras making monitoring more complicated.
Weather	• July and August 2022 there was a low precipitation rate with weather above 100 degrees.
Fire	• No imminent issues this season.

Additional Information	• Park rangers from the Bureau of Land Management and Forest Service conducted 2 river patrol trips to monitor visitor use and river conditions. • BLM and USFS was understaffed for seasonal employees making data collection more difficult than previous seasons.

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

In September of 2020, the Archie Creek fire burned over 130,000 acres, most of which was in the lower North Umpqua Watershed. The fire severity was severe resulting in nearly a 100% tree mortality in a 100 square mile area. Over 70% of the Rock Creek watershed has moderate to high burn severity. The BLM, Forest Service, and Partnership for the Umpqua Rivers (PUR) are monitoring the effects of the fire on watershed health. Streams in the fire area are expected to have increased stream temperatures and flows, increased turbidity and substrate movement, and an increased chance of landslides.

The BLM and the Partnership for the Umpqua Rivers (PUR) planned and implemented stream restoration projects in Rock Creek and Canton Creek, both of which are major tributaries to the North Umpqua River. Phase 1 of the restoration work was completed in 2021 and restored over 5.0 miles of stream by pulling in riparian trees and adding logs and boulders to create important spawning and rearing habitat for Spring Chinook salmon, Coho salmon, summer and winter Steelhead, Cutthroat trout, and Pacific Lamprey. Phase 2 of the restoration was implemented in 2022 and involved re-connecting side channels and floodplains in the Rock Creek watershed and adding fire-killed trees to streams in the fire area to help mitigate expected fire impacts. Oregon

Department of Fish and Wildlife implemented approximately 4.0 miles of stream restoration work in Rock Creek on private lands in 2021 & 2022. The project involved adding logs, boulders, and opening upside channels to main stem Rock 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 and BLM 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. 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.

This project is also expected to provide a positive effect on water quality of the North Umpqua River.

B. Water Quality

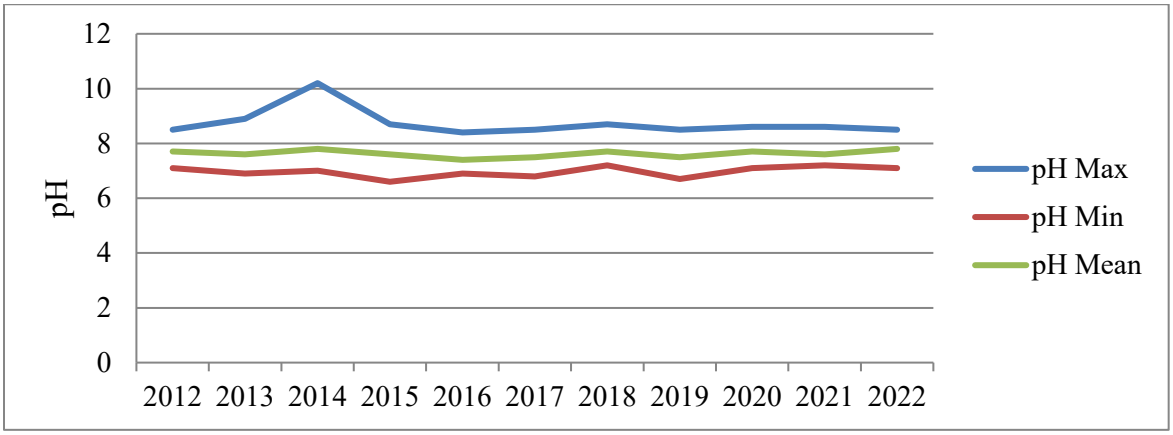
Water quality affects most of the other Outstandingly Remarkable Values. Table 13 shows some of the water quality parameters that have been consistently monitored over the past several years. The water samples were taken between Idleyld Park and Rock Creek at a USGS gaging station. Data is taken for the calendar year. The Discharge (cfs) data is taken from the Copeland Creek gage and is based on a monthly mean during the monitoring season months (May-September).

Table 13: Annual Water Quality Statistics

Year	Measurement	pH (units)	Temperature (˚C)	Dissolved Oxygen (mg/L)	Specific Conductance (us/cm)	Discharge (CFS)
Desired Conditions		**6.5-8.5**	**< 17.8**	**> 6.5**	**maintain**	**> 800**
2012	Maximum	8.5	18.4	14.3	69	2536
	Minimum	7.1	2.0	9.2	29	983
	Mean	**7.7**	**9.0**	**11.7**	**54**	**1553**
2013	Maximum	8.9	20.5	15.0	72	1616
	Minimum	6.9	0.0	9.0	36	823
	Mean	**7.6**	**9.6**	**11.6**	**56**	**1101**
2014	Maximum	10.2	21.1	15.0	70	1880
	Minimum	7.0	0.0	8.8	32	801
	Mean	**7.8**	**10.0**	**11.5**	**57**	**1100**
2015	Maximum	8.7	22.4	13.7	74	1070
	Minimum	6.6	1.5	8.4	32	718
	Mean	**7.6**	**10.9**	**11.0**	**61**	**854**

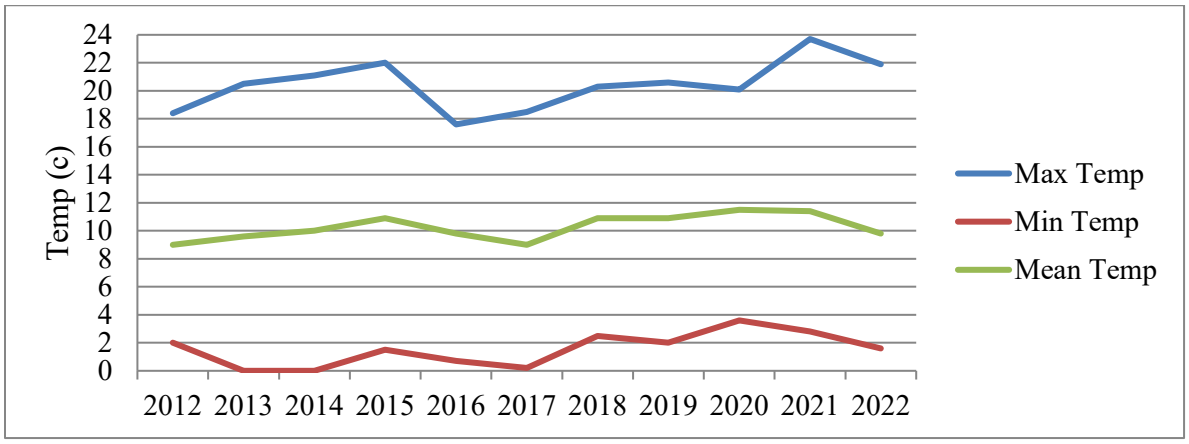
2016	Maximum	8.4	17.6	13.8	71	1700
	Minimum	6.9	0.7	9.0	31	863
	Mean	**7.4**	**9.8**	**11.3**	**54**	**1125**
2017	Maximum	8.5	18.5	14.5	71	2830
	Minimum	6.8	.2	9.2	34	996
	Mean	**7.5**	**9**	**11**	**55**	**1595**
2018	Maximum	8.7	20.3	14.7	72	1330
	Minimum	7.2	2.5	10.1	37	777
	Mean	**7.7**	**10.9**	**11.5**	**60**	**962**
2019	Maximum	8.5	20.6	14.4	72	1770
	Minimum	6.7	2	9	32	806
	Mean	**7.5**	**10.9**	**11.5**	**57**	**1114**
2020	Maximum	8.6	20.1	13.6	73	1730
	Minimum	7.1	3.6	8.9	37	740
	Mean	**7.7**	**11.5**	**12.3**	**59**	**1061**
2021	Maximum	8.6	23.7	13.2	75	1220
	Minimum	7.2	2.8	8.5	43	642
	Mean	**7.6**	**11.4**	**11.1**	**61**	**825**
2022	Maximum	8.5	21.9	14.2	72	2415
	Minimum	7.1	1.6	8.8	38	814
	Mean	**7.8**	**9.8**	**11.4**	**58**	**1423**

Graph 3: North Umpqua Annual pH



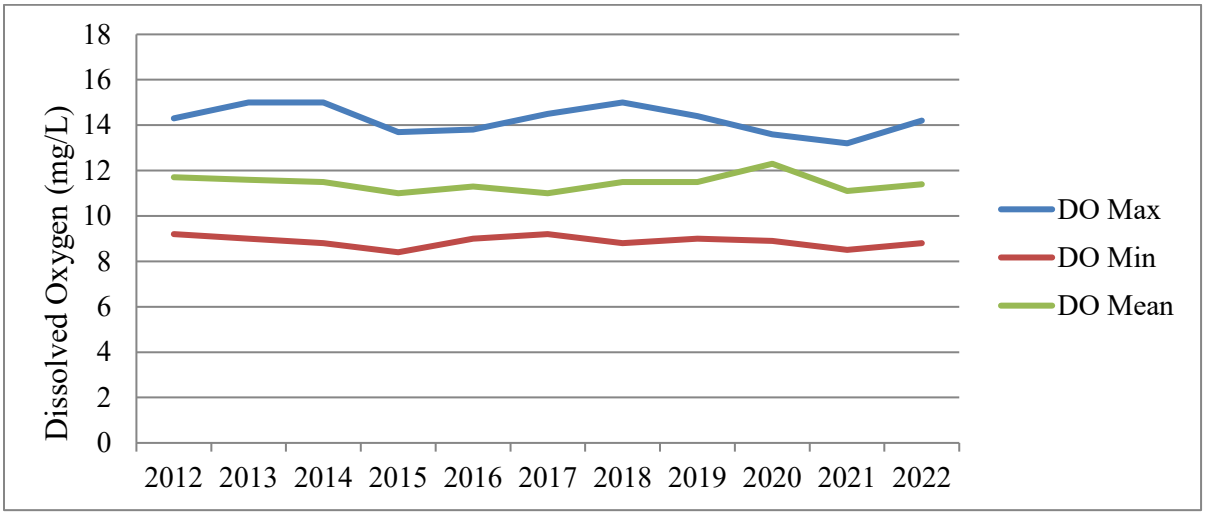
An acceptable pH range for the Umpqua Basin is between 6.5 and 8.5. It would be considered 'water quality limited' if greater than 10% of the samples exceed this standard (fall outside the acceptable range), and a minimum of at least two samples exceeded the standard during a season of interest. An acceptable pH range was maintained during 2022.

Graph 4: North Umpqua Annual Temperature (C)



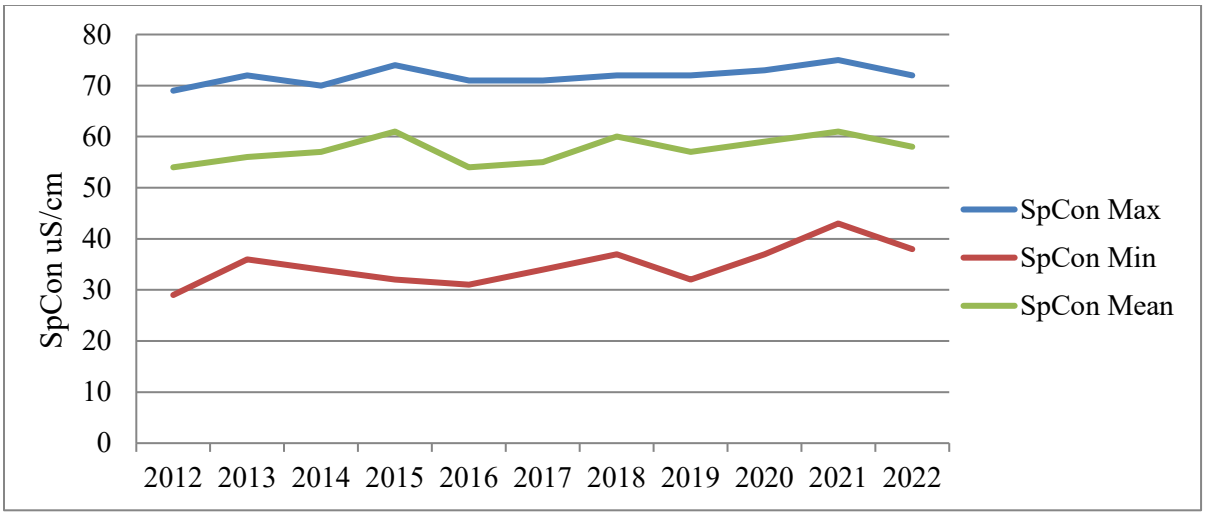
Maximum temperature standard reflects a 7-day average maximum. For good spawning conditions, the 7-day maximum average temperature of the river should not exceed 17.8˚C between June 1 and September 14, and the 7-day maximum average temperature should not exceed 12.8˚C at other times of the year. There were a few instances over the course of the summer where river temperature thresholds were exceeded. The mean temperature was slightly lower than the 2021 average. The temperature readings show an increase of the average temperature over the past several years.

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 2022.

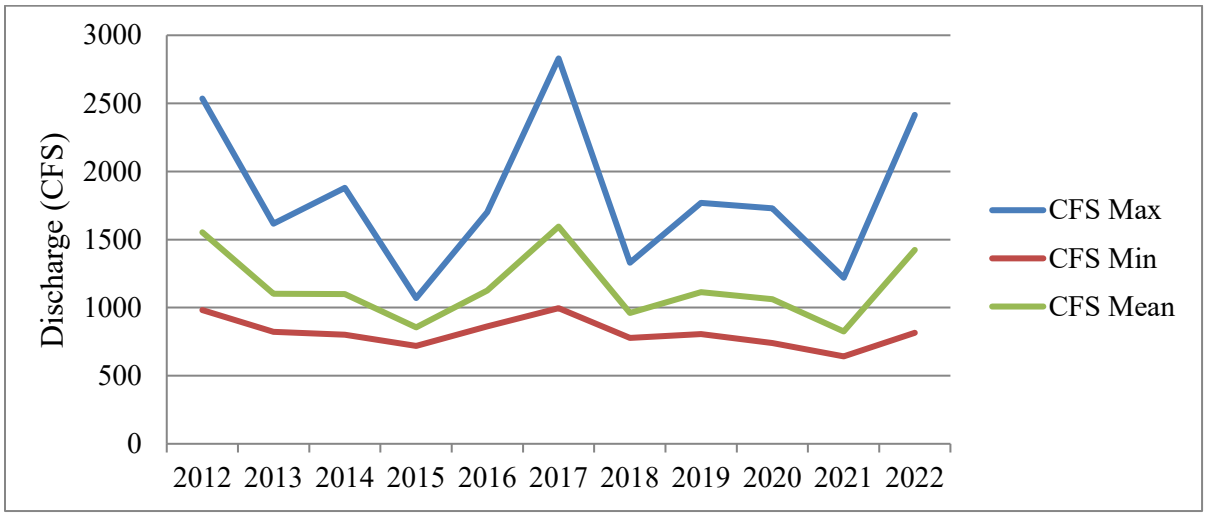
Graph 6: North Umpqua Annual Specific Conductance (uS/cm)



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.

Graph 7: North Umpqua Mean Data for Discharge (cfs)

Discharge, Cubic Feet per Second (cfs), for the North Umpqua River is monitored daily during the monitoring season, May through September. Readings are taken from the Copeland Creek gage to get an idea of flows for the river and hazards that may become present throughout the year. Data presented in the graph represents monthly means to determine a maximum, minimum, and mean for the season.



C. Cultural Resources

The North Umpqua River has provided and attracted people since time in memorial to present day. Because of this long-standing attraction and rich history, cultural resources are considered an outstanding and remarkable finite natural resource and provides exceptional value to the North Umpqua River.

Following the 2020 Archie Creek Fire, surveys conducted in the burned area including the North Umpqua corridor resulted in the identification of many new cultural resources ranging from pre-contact to historic period sites ranging from ~13,750 years old to ~50 years old. Significant work by archaeologists includes site condition monitoring of previously known sites, discovery and recordation of new sites, and the design and implementation of protection measures for cultural resources. The National Register of Historic Places (NRHP) is the Secretary of Interior's list of historically significant cultural sites, which archaeologists use to determine the degree of protections needed to preserve a site.

One hundred forty-seven archaeological sites were affected by fire or fire related activities, of these sites one site is currently listed on the NRHP, thirteen sites are eligible for listing. The remaining sites either previously or considered not eligible, for the NRHP, are currently determined unevaluated until future research is conducted. Sites listed, eligible, or unevaluated are protected to preserve cultural resources for future generations. Archaeological investigations and newly analyzed research continue to increase the depth and breadth of knowledge of cultural resources along the North Umpqua corridor. This research has and will continue to reshape the current understanding of how people have used this area in the past.

D. Scenery

Within the Wild and Scenic River Corridor a total of 6,423.47 were affected by the Archie Creek Fire (2020). BLM and private totaling 2,808.71 acres and FS lands 3,614.46 acres.

In 2021 the BLM completed priority hazard tree removal at recreation sites where the public would be likely to linger in a stationary fashion. For example, at trailheads, viewing sites like Deadline Falls or the viewing area and picnic table at Susan Creek Falls. Trailheads like Susan Creek Falls, Emerald Waters and Swiftwater Trailhead also had hazard trees cut down to prevent fire damaged trees from falling on these areas.

Work was also completed and inspected by BLM staff along highway 138 to see that the finished work conformed to the project design features (PDF's) that were established in 2021 with the Oregon Department of Transportation and Pacific Power. The purpose of the PDF's was to create as natural appearance as possible, to not draw undue attention of the casual observer. Visitors would be able to see there was a fire and loss of vegetation, but they would not observe a litter of cut logs, stumps, and other debris piles. With the regrowth of ground cover and remaining debris, tree removal and loss will not be readily apparent.

Recreationists will still be able to observe the results of timber harvest operations more clearly and boaters will be able to see traffic on the Highway more frequently and will experience higher noise levels from traffic due to the loss of vegetative ground cover. However, with the completion of hazard tree cutting and removal according to the pdfs and the successional regrowth of ground cover vegetation the visual aspect has improved within the corridor.

Management Guidelines for Vegetation

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 powerline, 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.

In September of 2020, the Archie Creek fire burned over 130,000 acres, most of which occurred in the lower North Umpqua Watershed. This fire has brought about significant effects regarding the visual/scenic quality of the river corridor.

The fire burned along hwy. 138, the Swiftwater segment of the North Umpqua Trail, some portions of the Tioga segment on BLM and FS, and on to Wright Creek Bridge. The fire burned over recreation sites, Swiftwater Trailhead, Susan Creek Falls Trailhead, the proposed Emerald

Water Recreation Site, Baker Wayside and the Bogus Creek Boat Launch and Campground on the Umpqua National Forest, and portions of the Susan Creek Campground, the North Umpqua Trail and Swiftwater Day Use Area.

IV. 2022 Staff

BLM Monitor – Donovan De Leon, 1st year seasonal, Park Ranger
BLM Recreation Staff – Cheyne Rossbach, Suzanne Shelp, Jacob Holden
BLM Swiftwater Field Manager – Michael Korn
USFS Monitor – William Eschliman, Coleman Hamilton
USFS Recreation Staff – Janie Pardo, Eric Figura, Jennifer Taylor
USFS North Umpqua District Ranger – Sherri Chambers
Report Preparers – Donovan De Leon, Jacob Holden, Janie Pardo, Suzanne Shelp