

Introduction

The Willamette River flows through Oregon's major population centers and is one of the state's most heavily used waterways. The Willamette Greenway was established in 1967 to protect and preserve the natural, scenic, and recreational qualities of lands along the Willamette River. The Oregon Parks and Recreation Department (OPRD) administers over 8,000 acres of Greenway property. Greenway lands range from large destination parks and campgrounds like Champoeg, Willamette Mission, and Elijah Bristow, to smaller undeveloped parcels that provide natural habitat and remnant samples of the gallery forests and other flora and fauna once prevalent along the Willamette prior to European settlement. Additional demands are being placed on the Willamette River and Greenway resources as Oregon's population grows; for this reason it is imperative to monitor conditions to ensure that Willamette Greenway goals are being met and to identify opportunities for improving the Greenway.

The Willamette River and Greenway survey was designed to survey users and resources in order to identify current use trends and conditions. Survey methods included on-site observations, on-site questionnaires, and a detailed mail survey. The survey was conducted by researchers at Oregon State University (OSU) with assistance and guidance of the OPRD.

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Methods

OPRD and Oregon State University (OSU) staff selected 13 publicly owned parks along the Willamette River to concentrate study efforts (Table 1).

Table 1. Willamette River survey study sites	
Name	Relative location
Alton Baker	Eugene
Champoeg State Park	Champoeg, formerly
Clackamette Park	Oregon City
Corvallis Waterfront	Corvallis
Crystal Lake	Corvallis
Hyak Park	Albany
Marshall Island	Eugene
Molalla River State Park	Wilsonville
Montieth Park	Albany
Salem Riverfront	Salem
Sellwood Riverfront	Portland
Wallace Marine	Salem
Willamette	Portland

A systematic sampling scheme was created to guide observation and data collection at the sites from June 19- Sep. 19, 2004. During this period two student workers from OSU observed and recorded user numbers at one of the sites every weekend (except the July 4th holiday weekend). Each site was observed during four weekend days. Quantifying weekday use was identified as being less of a priority than weekend use. Accordingly, one student worker was scheduled to visit each study site twice during a weekday throughout the study period. Study sites were observed between 9:30 AM and 6 PM. During these times, student workers asked users who had been observed using the park for at least a half hour to complete a brief on-site questionnaire in which respondents provided basic use and contact information. The questionnaire was constructed by OSU and OPRD staff (Appendix A). Specific attributes included:

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General activities

Activity during the day that they were surveyed

Reasons for coming to the park

How far they traveled

How much time spent in park

How they got to park

Alone or with group

Perceptions of crowding

Whether they were on the river in a motorized or non-motorized craft

If a conflict occurred and who with

Only users that appeared to be 18 years and older were asked to complete a questionnaire, a total of 663 on-site questionnaires were collected. The on-site questionnaires yielded 365 addresses.

A detailed mail survey questionnaire was created by OSU and OPRD staff (Appendix B).

Sections within the survey addressed the Willamette River specifically, the Willamette Greenway, demographic characteristics of users, and also provided an open section for respondents to provide general comments. Specific attributes within the mail questionnaire included:

Willamette River

Overall impression

Getting better or worse

Focus of managing land along Willamette

Impediments to Willamette use

Satisfaction with services

Importance of features

Importance of additions or improvements

Frequency of specific activities at the Willamette

Crowding scale for Willamette Park components

Importance of funding for items

Willamette Greenway

Management goals

Land purchase goals

Funding sources

Demographic

Gender

Education

Age

Income and household composition

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Three full mailings were conducted in which respondent addresses drawn from the on-site questionnaire were sent a packet with first-class postage, signed letter from the project principal investigator, questionnaire, and pre-stamped return envelope. The first and second mailings included a reminder-postcard that was mailed 7-10 days after the packet. The reminder-postcard encouraged respondents to complete and mail their questionnaire. Nineteen of the addresses were discovered to be invalid. A total of 227 questionnaires were returned for an initial response rate of 66%. Five respondents refused to complete the questionnaire resulting in 222 completed questionnaires and a 64% final response rate for the mail questionnaire.

Site Descriptions

Alton Baker Park is located in Eugene. This is a large park that includes restroom facilities, large open grass spaces, a covered picnic area, a duck pond, and a paved connective river trail. Many visitors use the paved trail for bike riding, exercise, and transport. Since there are paved river trails on both sides of the Willamette River through Eugene, it can be difficult to discern if visitors are passing through or actually enjoying park resources. Among those who use Alton Baker Park, picnicking and sunbathing are popular activities. In addition, Alton Baker is used for many different types of community events from Japanese drum circle demonstrations to dog shows. A small boat ramp is new to the park and is mostly limited to non-motorized boat use.



Figure 1. Alton Baker

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Champoeg State Park is located a few miles west of Aurora along the Willamette River in a rural setting. This is a large park and also a historical site that marks the place where Oregon's first provisional government was formed by vote in 1843. There are multiple covered picnic area facilities, a campground, group campsite areas, a dock, many picnic areas that can be reserved with sinks and counters, restroom facilities, a visitor center, an original townsite area, a Frisbee golf course, an off-leash area for dogs, and paved and unpaved trails. Champoeg State Park is a popular site for group picnicking because of the many picnic facilities. Since the park is located fairly close to metro areas, it draws visitors from several different populated areas and is a camping destination.



Figure 2. Champoeg State Park

Clackamette Park is located in Oregon City where the Clackamas River connects to the Willamette River and is near Interstate 205. There is a picnic area, a rock beach, a boat ramp and dock, horse shoe pits, covered picnic area, a restroom facility, an RV park, and a skate park. The boat ramp and dock are located on the Clackamas River side and are used by swimmers and boaters, while the rock beach is located along the Willamette River side and is a popular fishing area. Families and small groups use the facilities to hold picnics. There is a blue heron reserve across the Willamette River from the park that locals come to observe.



Figure 3. Clackamette Park

The Corvallis Waterfront is located along downtown Corvallis. The park consists primarily of a narrow strip bordering the Willamette River split by a paved path that provides connectivity to south Corvallis. The pathway is popular for exercise, recreation, and transportation. A skate park and basketball court are located nearby under the bridge. This park was recently remodeled with a design that inspired much controversy among local residents. Corvallis Waterfront Park includes a water fountain that is very popular with visitors and young children, and includes many picnic tables, benches and river viewpoints.



Figure 4. Corvallis Waterfront

Crystal Lake Boat Launch is a segment of Willamette Park in south Corvallis. This park area has a boat launch and dock, nearby sport fields, a portable restroom facility, significant off-leash areas for dogs, a shaded river path with river access points, and several picnic tables. Crystal Lake is used by many dog owners who appreciate the off-leash area, and is one of two boat launches in Corvallis. On hot days during the summer, it is not uncommon to see visitors swimming at the boat launch.



Figure 5. Crystal Lake

Hyak Park is located along the Willamette River near north Albany. Hyak is a small park in a semi-secluded area and features a boat ramp, restroom facility, picnic tables, a footbridge that crosses over the boat ramp, and a small open area. Hyak is used heavily as a rest stop and non-motorized boaters frequent the boat launch for starting or ending a float trip.



Figure 6. Hyak Park

Marshall Island Park is located in a rural, secluded area between north Eugene and Junction City and is a well developed but limited size park. Marshall Island includes a boat ramp, one picnic table, a restroom facility, rocky and sandy beaches, and a popular rope swing in which users can fly 20-30 feet into the area. Marshall Island is used by boaters, swimmers, adolescents using the rope swing, and for fishing. The boat launch is also popular as a put in or take out for both motorized and non-motorized boaters for the Eugene and Junction City area. A small parking lot is usually overcapacity on hot weekend days, with nearby field areas sometimes used as additional parking as circumstances dictate.



Figure 7. Marshall Island

Molalla River State Park is located near Wilsonville and Canby in a rural area. This is a semi-secluded park and part of the property once was farmland. Facilities include a small boat ramp, open space areas, picnic tables, restroom facilities, and several walking trails. A popular walking trail runs along the Willamette River to the far corner of the park where the Willamette and Molalla rivers meet. The section of the Willamette River along the park is slow moving and fairly calm, with some boaters choosing the calmer waters for wakeboarding.



Figure 8. Molalla River State Park

Montieth Riverfront Park is located near downtown Albany. Montieth Riverfront Park includes an open space area, covered picnic area, picnic tables, restroom facilities, a wood plank walkway that ends with a viewing area, a large covered stage, a small beach, and a nearby creek that confluences with the Willamette River and has a rope swing. This is a very well-maintained park that holds weekly concerts during the summer with high attendance from the community. This park is mostly used by visitors on lunch break to eat, and local teens as a hang out.



Figure 9. Montieth Park

The Salem Riverfront Park is located in downtown Salem, and is on a high bank above the Willamette that does not allow river access. Facilities include a playground, an indoor carousel with gift shop, restroom facilities, picnic tables, a paved path, an amphitheatre and a large open grass area. During the summer of 2004 extensive construction was being undertaken on a boat dock area. There are many different types of users at this park, most with young children for play and picnics, and exercisers. This park is also used for community events such as carnivals, benefits, and outdoor concerts.



Figure 10. Salem Riverfront

Sellwood Riverfront Park is located in Southeast Portland directly along the Willamette River. There is one set of restroom facilities, a few picnic tables along the river, stairs to access a sand beach and a boat dock. A connective paved trail runs through the park. There is an open grassy area surrounded by trees which provide nice shaded areas for relaxing. The sand beach is a popular picnic spot for hot days. Sellwood is a popular destination for bikers, dog walkers, and picnickers.



Figure 11. Sellwood Riverfront

Wallace Marine Park is located in west Salem. The park includes are sport fields, picnic areas, sand volleyball pits, a large rock beach with good river access, a boat ramp and dock, and restroom facilities. During the summer of 2004, it was the home of sternwheeler cruises while the Salem Riverfront Park's dock was under construction. The boat ramp and dock, along with the sternwheeler are in a separate section of the park than the picnic areas, rock beach and sports fields. This is one of the only boat ramps in the area. This park is used by picnickers and for river access by boaters.



Figure 12. Wallace Marine

Willamette Park is located in Portland just downstream and across the river from Sellwood Riverfront. This park is fairly close to the downtown area and a fee is required for entrance. There is a large covered group picnic area, playground, picnic tables, a connective paved trail, tennis courts, restroom facilities, and several open space areas. In addition, a large dual boat ramp system offers several docks. Besides being a heavily used site for motorized boat and personal watercraft access, many visitors come here to walk or for large group events.



Figure 13. Willamette (Portland)

Results

Results for the Willamette River and Greenway survey are reported below and are separated into three primary sections: on-site observations, on-site questionnaire, and mail questionnaire.

On-site Observation Results

Observed user numbers were generated for each site, and for weekend and weekday use (Table 2). A total of 7,975 users were observed during the survey season (June 19-Sep. 19, 2004). Estimates for total use during the survey season were created by calculating a daily use average and multiplying the average by the number of days that occurred during the survey. This calculation resulted in a total use estimate of 44,116 people (95% confidence interval = 6,034) during weekends and 68,120 people (95% confidence interval = 12,469) during weekdays for a total use estimate of 112,236 throughout the survey season. Individually, Willamette Park in Portland had the highest weekend day average (286 people), followed by Corvallis Waterfront (178), and Champoeg State Park (173). Sellwood Riverfront had the highest average weekday use (171), followed by Corvallis Waterfront (136), and Montieth Riverfront (98). In terms of total estimated use during the survey season, Corvallis Waterfront had the most (13,824), followed by Sellwood Riverfront (13,656), and Willamette Park in Portland (13,454). A limitation of the weekday use estimate is that data were not available for one day at three of the thirteen sites (Alton Baker Park, Marshall Island Park, and Sellwood Riverfront Park). In these cases the daily use average was drawn from one observation rather than two.

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Table 2. Use (number of people) at Willamette River study sites							
	Observed weekend day use	Average weekend day use	Estimated weekend day season use	Observed weekday use	Average weekday use	Estimated weekday season	Estimated total season use
Alton Baker Park	484	161	4,517	63	63	4,095	8,612
Champoeg SP	690	173	4,830	109	55	3,543	8,373
Clackamette Park	448	112	3,136	182	91	5,915	9,051
Corvallis Waterfront	712	178	4,984	272	136	8,840	13,824
Crystal Lake Launch	286	72	2,002	117	59	3,803	5,805
Hyak Park	365	91	2,555	123	62	3,998	6,553
Marshall Island Park	330	83	2,310	28	28	1,820	4,130
Molalla River SP	375	94	2,625	112	56	3,640	6,265
Monteith Riverfront	261	65	1,827	196	98	6,370	8,197
Salem Riverfront	365	91	2,555	141	71	4,582	7,137
Sellwood Riverfront	363	91	2,541	171	171	11,115	13,656
Wallace Marine	320	80	2,240	152	76	4,940	7,180
Willamette Park (Portland)	1,142	286	7,994	168	84	5,460	13,454
Total	6,141		44,116	1,834		68,120	112,236

On-site Questionnaire Results

Users that were at the parks longer than 30 minutes were asked to complete an on-site questionnaire consisting of two pages (Appendix A). In the case of large groups, researchers were instructed to not survey all group members but to limit surveys to the number of clipboards available (10) in order to avoid introducing bias into survey results. A total of 663 users completed on-site questionnaires. The following section describes on-site questionnaire results for all study sites. The margin of error for single variable responses should be less than 4% at a 95% confidence level when the entire sample (663) is considered. Results for individual study sites are provided in tabular format in Appendix C. Care must be taken in interpreting the on-site questionnaire results for individual sites with low sample numbers. The margin of error for single variable responses should be within 16-18% for sites with fewer than 40 observations, and no greater than 16% for all other sites, at a 95% confidence level.

All Activities

The first question asked respondents to report all activities they had engaged in while at the park or on the river (Table 3). Scenic enjoyment had the highest participation (68.3%), followed by walking for pleasure and hiking (60.5%), and nature/wildlife observation (45.7%).

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Scenic enjoyment	68.3%
Walking for pleasure and hiking	60.5%
Nature/wildlife observation	45.7%
Picnicking	36.7%
Jogging, running, or walking for exercise	32.6%
Bike riding	30.3%
Bird watching	28.7%
Exercising dog(s)	27.3%
Relaxing/tanning on a beach	22.9%
Swimming	20.5%
Boating (motorized)	18.1%
Photography	13.3%
Fishing from shore or a pier	13.0%
Fishing from a boat	12.1%
Other	11.2%
Camping in improved area	8.0%
Kayaking	7.8%
Canoeing	7.5%
Historical Education	6.9%
Frisbee golf	6.2%
Environmental Education	6.0%
Floating on an inner tube	6.0%
Camping in unimproved area	5.4%
Operating a personal watercraft (jet ski)	5.1%
Rafting	5.0%
Boat-in camping	4.5%
Waterskiing	4.2%
Playing	2.1%
Drift boating	1.7%
Sailing	0.8%
Horseback riding	0.5%
Windsurfing	0.3%
n = 663	

Primary Activity

Respondents were asked to indicate their primary activity (Table 4). Twenty-one percent reported that walking was their primary activity, nearly 11% reported exercising dog(s), just over 10% reported picnicking, and over 8% reported motorized boating. Approximately six percent

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of respondents wrote in an activity that wasn't included as a choice in the questionnaire and common responses included reading and wakeboarding.

Walking for pleasure and hiking	21.4%
Exercising dog(s)	10.9%
Picnicking	10.1%
Boating (motorized)	8.4%
Other	6.2%
Scenic enjoyment	6.0%
Bike riding	5.6%
Jogging, running, or walking for exercise	5.0%
Kayaking	3.8%
Fishing from shore or a pier	3.6%
Relaxing/tanning on a beach	3.0%
Operating a personal watercraft (jet ski)	2.4%
Fishing from a boat	2.3%
Playing	2.1%
Canoeing	1.7%
Rafting	1.5%
Swimming	1.2%
Nature/wildlife observation	1.1%
Camping in improved area	0.9%
Floating on an inner tube	0.6%
Drift boating	0.5%
Frisbee golf	0.5%
Photography	0.5%
Waterskiing	0.5%
Sailing	0.3%
Boat-in camping	0.2%
n = 663	

Reason for Visiting Park

Respondents were also asked to list the reasons why they chose to visit the park on the day that they completed their questionnaire (Table 5). This was an open-ended question and resulted in many different responses. Responses were categorized for reporting purposes.

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Nearly 36% percent reported that proximity to the park was the primary reason for their visits, followed by river access (7.5%), and park appeal (6.5%).

Close by	35.9%
River access	7.5%
Nice park	6.5%
Other	6.0%
Nice day	5.6%
Family/Friends	5.0%
Market/business	4.8%
Dog	4.5%
Walk	2.9%
Boat ramp/dock	2.7%
Scenery	2.6%
Play	2.4%
Uncrowded/quiet	2.3%
Bike	2.1%
Picnic	1.8%
Exercise	1.7%
Water fountain	1.7%
Fishing	1.4%
Shade	0.6%
No reason given	2.1%
N = 663	

Nearly 52% of respondents did not report a secondary reason for visiting the park at which they were interviewed (Table 6). Over 7% indicated that proximity was an important secondary reason, followed by park appeal (5.7%), and river access (3.9%).

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Close by	7.4%
Nice park	5.7%
River access	3.9%
Other	3.6%
Scenery	3.6%
Uncrowded/quiet	3.3%
Nice day	2.9%
Walk	2.6%
Dog	2.3%
Family/Friends	1.8%
Fishing	1.4%
Picnic	1.4%
Boat ramp/dock	1.2%
Shade	1.1%
Market/business	0.9%
Outdoors	0.9%
Play	0.9%
Water fountain	0.9%
Wildlife	0.9%
Exercise	0.8%
Bike	0.5%
Exercise	0.3%
No reason given	51.9%
N = 663	

Time Spent on Trip to Willamette

On-site questionnaire respondents were asked to list the amount of time spent during their trip to the Willamette River. On average, respondents reported spending about 3 hours and 45 minutes during their stay. Some respondents had spent several days or more either boat camping or camping, resulted in a skewed distribution of reported time. Respondents were also asked to list the number of miles they had traveled to reach the park. On average, respondents drove nearly 11 miles to reach the park. In several cases, distances over 100 miles were driven in order to attend a family reunion.

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Transportation to Park

On-site questionnaire respondents were also asked to list the form of transportation that they used to travel to the park (Table 7). All but one respondent listed a transportation type. Of those who reported a transportation type, the majority (82.6%) reported using a personal vehicle, nearly nine percent reported walking, and about five percent rode a bicycle. Just over one percent reported other means of transportation including skateboarding and running.

Personal Vehicle	82.6%
Walk	8.8%
Bicycle	5.4%
Watercraft	1.7%
Other	1.1%
Public Transportation	0.5%
n = 662	

Group Type

Respondents were asked to report whether they visited the park alone or, if they were with others, to identify the type of group (Table 8). All but one respondent indicated an answer and of those who answered, almost 40% were with family, 22.5% with friends, 22.4% alone, and 14.4% were with family and friends. The remainder of respondents reported being associated with an organized group during their trip.

Family	39.3%
Friends	22.5%
Alone	22.4%
Family & Friends	14.4%
Organized Group	1.5%
n = 662	

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Level of Crowding

A crowding scale was placed on the on-site questionnaire survey to assess visitor perceptions of crowding the parks and on the river for boaters. Responses 1-2 on the scale indicate no perceptions of crowding, while responses 3-9 indicate some degree of crowding. The percentage of those indicating responses 3-9 is used to calculate a “crowding percentage.” The crowding scale has been used by hundreds of carrying capacity studies across the U.S. and provides a benchmark for comparisons. Table 9 contains a summary of crowding scale results for select recreation sites in Oregon.

Table 9. Crowding in relation to other recreation sites in Oregon (Source: B. Shelby and J. Tokarczyk, 2002)	
Crowding %	Resource
Greatly over capacity: Should be managed for high densities	
100	Deschutes River – Weekend boaters
97	Deschutes River – Lower river weekend boaters
88	Deschutes River – Weekday boaters
84	Deschutes River – Upper river day
Over capacity: Studies and management likely needed to preserve quality	
77	Marina at The Cove Palisades State Park
75	Deschutes River – Lower river day
70	Crooked River – Day Use Area at The Cove Palisades State Park
70	Short Sand Beach at Oswald West State Park
67	Pelton Park at Lake Billy Chinook
67	Crooked River – Campground at The Cove Palisades State Park
67	Perry South near Lake Billy Chinook
66	Indian and Ecola beaches at Ecola State Park
High Normal: Should be studied if use increases expected; managers might anticipate problems	
64	Deschutes – Campground at The Cove Palisades State Park
63	Chinook Island at Lake Billy Chinook
62	Indian Park – Campground at Lake Billy Chinook
58	Three Rivers at Lake Billy Chinook
52	Cape Kiwanda to Neskowin River
51	Necanicum River to Tillamook Head
50	Hells Canyon reservoir
Low Normal: Unlikely to be a problem; may offer unique low density experiences	
49	Eagle Cap Wilderness – backpackers
48	Chapman pt. To Humbug pt.
48	Oxbow Reservoir, Snake River
42	Harris Beach at Harris Beach State Park
42	Lake Simtustus – RV park

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Table 9. Crowding in relation to other recreation sites in Oregon- continued from previous page	
Crowding %	Resource
Low Normal: Unlikely to be a problem; may offer unique low density experiences	
41	Sutton Creek to Siuslaw River
40	Hug Point to Arch Cape
40	Netarts River to Cape Lookout
37	North Sand Lake Spit
37	Sand Lake to Cape Kiwanda
37	Brownlee Reservoir, Snake River
36	Point Maxwell to Netarts
No Crowding: No problem; may offer unique low-density experiences	
34	Roads End to Siletz River
34	Devils Puchbowl to Schooner Bay
33	Columbia River to Necanicum River
31	Humbug Point to Hug Point
31	Yaquina Head to Yaquina River
30	Cape Sebastian to Pistol River
27	Siuslaw River to Siltcoos River
26	Illinois River – Rafters
25	Harbor Beach
24	Nehalem River to Tillamook Bay
24	Rocky Knoll to Heceta Head
23	Tenmile Creek to Coos Bay
23	Whaleshead Beach
22	Neahkanie Mountain to Nehalem Mountain
21	Siletz River to Boiler Bay
20	Round Butte Observatory, Lake Billy Chinook
19	Bay Ocean Spit
16	Alsea River to Star Creek
16	Bastendorf Beach
16	Umpqua River to Tenmile Creek
16	Rogue River to Cape Sebastian
15	Nestucca River to Cascade Head
15	Battle Rock to Humbug Mountain
14	South Beach
12	Face Rock to New River
11	Fivemile Point to Coquille River
11	Winchuck and Chrissie Fields, California Border
10	Collins Creek to Alsea River

About 41% of all respondents indicated some degree of crowding. This percentage falls roughly in the middle of the “Low Normal” category in Table 9.

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Watercraft Crowding

Respondents were asked if they had used a motorized or non-motorized watercraft on the Willamette during the day that they completed the survey (Table 10). About 16% percent reported using a motorized watercraft and 10% a non-motorized watercraft.

Table 10. Percentage reporting using a watercraft	
Motorized watercraft	16.1%
Non-motorized watercraft	10.3%
n = 663	

Respondents reporting the use of a watercraft were asked to respond to the crowding scale (Table 11). Nearly half of the motorized boaters reported some degree of crowding while almost 40% of the non-motorized boaters reported some degree of crowding. The crowding percentage for the motorized boaters is near the top and non-motorized in the middle of the “Low Normal” category in Table 9.

Table 11. Percentage reporting crowding by watercraft type	
Motorized watercraft (n = 104)	49.0%
Non-motorized watercraft (n = 63)	39.7%

Conflicts

All respondents were asked whether they had experienced a conflict during the day they completed the survey (Table 12). If a conflict occurred, respondents were asked to describe the nature of the conflict. About six percent of respondents reported a conflict.

Table 12. Percent reporting a conflict	
No	94.2%
Yes	5.8%
n = 654	

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Dogs were the most commonly cited reason for a conflict (21.4%), followed by frustrations with facility design (16.7%), and motorized boater behavior and presence (14.3%) (Table 13).

Dogs	21.4%
Facility design	16.7%
Motorboats	14.3%
Behavior / Noise	11.9%
Homeless	9.5%
Bikers	7.1%
Litter	7.1%
Aggressive birds	2.4%
Enforcement	2.4%
Insects	2.4%
Skateboarders	2.4%
Smokers	2.4%
n = 42	

Mail Questionnaire Results

A detailed mail questionnaire was sent to those who provided contact information on the on-site questionnaire. A copy of the mail survey is in Appendix B. The mail survey had three main sections of question types: Willamette River and nearby lands, Willamette River Greenway, and demographic questions. Results for each of these sections are provided below for all study sites. The margin of error for single variable responses should be less than 7% at a 95% confidence level when all mail survey questionnaire responses (222) are considered.

Appendices D and E contain results for individual study sites for questions with single responses and questions with multiple responses, respectively. Data reliability is limited for the mail survey responses for survey sites with a low number of responses. Sites with fewer than 20 responses will have a margin of error between 23-37% at a 95% confidence level and results should be carefully considered in light of the low response. Assuming a 95% confidence level, sites with at least 20 responses will have margins of error no greater than 19-21% and sites with at least 40 responses will margins of error no greater than 14%.

Willamette River and Nearby Lands

Overall Impression of the Willamette River

Respondents were asked to give their overall impression of the Willamette River (Table 14). The majority reported either a highly favorable (67%) or favorable (30.8%) impression. Less than one percent reported an unfavorable impression.

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Table 14. Overall impression of the Willamette River	
Highly Favorable	67.0%
Favorable, nice to have in my community	30.8%
Don't really care about it one way or another	1.4%
Unfavorable, not nice to have in my community	0.9%
n = 221	

Respondents were asked to rate the change in recreational experience quality that they had experienced in recent years (Table 15). Nearly 32% reported that their experience was getting somewhat better and about 10% said getting much better. About 21% indicated that their experience was getting worse to some degree.

Table 15. Quality change of recreational experiences on the Willamette River in recent years	
Getting Much Worse	5.9%
Getting Somewhat Worse	14.9%
Not Changing	27.1%
Getting Somewhat Better	31.7%
Getting Much Better	9.5%
Don't Know	10.9%
n = 221	

Focus for Managing Public Lands

When asked to indicate the most important focus for managing public lands along the Willamette, the majority of respondents (61.8%) indicated that all provided categories should be considered (Table 16). Nearly 28% reported that conservation of natural resources should be the most important focus and just over four percent chose recreation opportunities.

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A balance of all choices	61.8%
Conservation	27.3%
Recreation opportunities	4.1%
Other	2.7%
Natural Scenery	2.3%
Protection from flooding	1.8%
n = 220	0.0%

Satisfaction with Level of Use

Respondents were asked whether they used the Willamette River and adjoining public lands as much as they wanted to, or whether they wanted to use them more (Table 17). Nearly two-thirds (66.4%) reported satisfaction with their use levels while the remainder reported wanting more use.

Used as wanted	66.4%
Wanted more	33.6%
n = 217	

Reasons Preventing Willamette River Use

Respondents who indicated wanting to use the Willamette River and adjoining lands more were prompted to answer a list of follow-up questions that offered potential reasons for use limitations (Table 18). The pollution in the Willamette River and lack of publicly-owned lands for access to the river were among the strongest responses in the “Very Important” category. Transportation issues, proximity, and familiarity with available resources or activity skills were cited as not being important by a majority of respondents.

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	Very Important	Important	Somewhat Important	Not Important	n
River is dirty/polluted	47.6%	21.9%	20.0%	10.5%	105
Not enough publicly-owned lands to access river	22.9%	19.0%	25.7%	32.4%	105
Facilities poorly kept/maintained	15.7%	19.6%	30.4%	34.3%	102
Admission fees charged	14.4%	10.6%	25.0%	50.0%	104
Facilities overcrowded on weekends	11.0%	19.0%	32.0%	38.0%	100
Recreation areas are far from where I/we live	9.6%	10.6%	26.0%	53.8%	104
No facilities	7.0%	18.0%	26.0%	49.0%	100
Don't know what's available to do there	6.9%	15.8%	20.8%	56.4%	101
Need to learn how to do the activity of interest	6.9%	10.9%	20.8%	61.4%	101
No public transportation to parks	5.0%	5.9%	10.9%	78.2%	101
Don't have a car or truck	3.0%	3.0%	6.9%	87.1%	101
Other					23

Respondents who indicated that they used the Willamette River as much as they wanted to were asked to rate the severity of potential problems on public lands (Table 19). Almost all respondents chose to complete this question regardless of their reported use level. The most often cited considerations in the “Big Problem” category was access to shoreline, excessive motorized boat speed or wakes, litter, and lack of restrooms. Litter and shoreline access were among the most often cited concerns in the “Moderate Problem” category.

Table 19. Severity of problems on public lands					
	Big Problem	Moderate Problem	Slight Problem	Not a Problem	N
a. Litter around the park or river	12.4%	28.4%	45.3%	13.9%	201
b. Inconsiderate behavior by other users	8.0%	18.4%	40.8%	32.8%	201
c. Lack of restrooms	10.4%	15.9%	34.8%	38.8%	201
d. Difficulty in finding a picnic table	4.6%	10.7%	23.9%	60.9%	197
e. Difficulty in finding a campsite	6.9%	16.5%	15.4%	61.2%	188
f. Not enough access to shoreline	13.1%	20.6%	27.1%	39.2%	199
g. Noise from motorized boats	9.0%	17.0%	30.5%	43.5%	200
h. Excessive motorized boat speed or wakes	12.5%	17.5%	26.5%	43.5%	200
i. Fear for personal safety	3.5%	13.6%	24.7%	58.1%	198
j. Crowding of hiking trails, parks, and other recreational facilities	1.5%	8.0%	32.0%	58.5%	200
k. Vandalism	6.9%	16.8%	40.6%	35.6%	202
l. Dogs off leash	7.5%	8.0%	32.8%	51.7%	201
m. Traffic congestion on roads along, or leading to, the river	4.5%	8.0%	31.5%	56.0%	200
n. Alcohol and drug use along the river	7.0%	14.0%	36.5%	42.5%	200
o. Other					27

Satisfaction with Park Facilities and Services

Respondents were asked to rate their satisfaction with services and facilities at parks and recreation areas along the Willamette River (Table 20). In general, respondents reported being either “Very Satisfied” or “Satisfied” with the majority of services and activities they were asked to rate. One notable exception to this general level of satisfaction was for swimming opportunities. Over 42% of respondents voiced some degree of dissatisfaction with swimming availability.

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	Very Satisfied	Satisfied	Somewhat Dissatisfied	Very Dissatisfied	Don't Know	n
a. Restroom facilities	15.1%	53.4%	17.8%	7.8%	5.9%	219
b. Boat launches	27.3%	37.5%	7.9%	4.2%	23.1%	216
c. Picnic facilities	23.9%	52.8%	10.6%	1.8%	11.0%	218
d. Camping facilities	11.1%	31.5%	13.4%	3.2%	40.7%	216
e. Walking/hiking/jogging/biking trails	41.1%	39.3%	9.1%	3.7%	6.8%	219
f. Horseback riding opportunities	6.0%	9.3%	3.2%	1.4%	80.1%	216
g. Swimming opportunities	11.9%	17.0%	25.2%	17.0%	28.9%	218
h. Motorized boating opportunities	22.9%	22.0%	4.7%	2.3%	48.1%	214
i. Non-motorized boating opportunities	24.1%	37.0%	8.8%	4.6%	25.5%	216
j. Nature programs	13.1%	21.5%	9.8%	2.8%	52.8%	214
k. Historical programs	9.8%	22.9%	7.9%	2.3%	57.0%	214
l. Overall quality of recreational experience	29.8%	61.0%	7.8%	0.9%	0.5%	218

Respondents were asked to rate the importance of Willamette River features (Table 21). Among the choices given, clean water was a dominant choice (83.2%) among those in the extremely important category, followed by scenic beauty (66.4%), natural resources (51.6%), and public river access (43.6%). The latter three categories were also the most often chosen as being quite important.

	Extremely Important	Quite Important	Important	Somewhat Important	Not Important	n
a. Clean water	83.2%	12.3%	3.2%	1.4%	0.0%	220
b. Scenic beauty	66.4%	25.0%	8.2%	0.5%	0.0%	220
c. Public river access	43.6%	25.0%	21.4%	7.3%	2.7%	220
d. Natural resources	51.6%	28.3%	12.3%	5.5%	2.3%	219
e. Historic resources	24.3%	21.6%	29.4%	16.1%	8.7%	218
f. Cultural resources	21.9%	22.8%	28.4%	17.2%	9.8%	215
g. Flooding potential	29.2%	25.9%	22.7%	13.9%	8.3%	216

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Survey participants were asked whether certain facility additions or improvements would encourage their use of parks and recreation areas along the Willamette River (Table 22).

Walking/Biking trails, river views, and restrooms were the most often cited responses.

	Yes	Maybe	No	n
Restrooms	40.6%	30.0%	29.5%	217
Boat launches	28.6%	24.4%	47.0%	217
Picnic facilities	33.6%	38.2%	28.1%	217
Lights	27.8%	30.1%	42.1%	216
Sport facilities	19.2%	29.9%	50.9%	214
Walking/Biking trails	65.0%	26.3%	8.8%	217
Swimming beaches	22.0%	47.0%	31.1%	164
Fishing from bank or dock	33.0%	24.7%	42.3%	215
Views of river	55.8%	32.6%	11.6%	215
Interpretive Information	29.0%	41.5%	29.5%	217
Facility guides/maps	35.8%	42.0%	22.2%	212
Other				12

Frequency of Activity Participation

Survey respondents were asked to indicate their frequency of use for the Willamette River and lands along the river for specific recreational activities (Table 23). Scenic enjoyment, enjoying peace and quiet, walking for pleasure, and nature/wildlife observations were the most common activities.

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	Often	Sometimes	Seldom	Never	n
a. Scenic driving	20.1%	36.1%	24.7%	19.2%	219
b. Walking for pleasure and hiking	46.1%	35.2%	16.9%	1.8%	219
c. Jogging, running, or walking for exercise	37.9%	28.8%	22.8%	10.5%	219
d. Bike riding	22.2%	33.8%	22.7%	21.3%	216
e. Exercising dog(s)	26.6%	15.1%	13.8%	44.5%	218
f. Scenic enjoyment	54.6%	32.1%	10.6%	2.8%	218
g. Enjoying the peace and quiet	51.1%	33.8%	11.9%	3.2%	219
h. Nature/wildlife observation	43.8%	29.7%	17.8%	8.7%	219
i. Bird watching	29.2%	25.6%	21.5%	23.7%	219
j. Picnicking	9.2%	40.4%	33.9%	16.5%	218
k. Camping in improved area	5.5%	14.2%	25.1%	55.3%	219
l. Camping in unimproved area	4.1%	12.3%	18.7%	64.8%	219
m. Boat-in camping	5.0%	10.6%	14.7%	69.7%	218
n. Fishing from a boat	8.3%	14.3%	18.4%	59.0%	217
o. Fishing from shore or pier	10.6%	15.1%	20.6%	53.7%	218
p. Swimming	6.0%	24.0%	23.0%	47.0%	217
q. Relaxing/tanning on a beach	7.4%	22.1%	28.1%	42.4%	217
r. Frisbee golf	3.7%	7.9%	15.7%	72.7%	216
s. Historical education	3.7%	19.4%	26.4%	50.5%	216
t. Environmental education	6.0%	23.4%	30.7%	39.9%	218
u. Photography	9.7%	33.2%	25.3%	31.8%	217
v. Horseback riding	0.5%	2.8%	5.1%	91.7%	217
w. Operating a personal watercraft (jet ski)	1.9%	5.6%	3.7%	88.9%	216
x. Boating (motorized)	11.5%	13.4%	13.4%	61.8%	217
y. Water skiing	4.6%	6.0%	10.6%	78.8%	217
z. Sailing	1.8%	5.1%	8.8%	84.3%	217
aa. Windsurfing	0.9%	2.8%	4.2%	92.1%	216
bb. Floating on an inner tube	5.1%	10.2%	21.9%	62.8%	215
cc. Canoeing	6.5%	20.8%	24.5%	48.1%	216
dd. Kayaking	7.4%	15.3%	16.2%	61.1%	216
ee. Rafting	5.0%	16.1%	18.3%	60.6%	218
ff. Drift boating	2.8%	11.6%	11.6%	74.1%	216
gg. Hunting/trapping	2.8%	5.6%	4.2%	87.4%	214
hh. Community events/festivals	13.0%	45.4%	24.5%	17.1%	216
ii. Other					8

Survey respondents were asked to respond to a crowding scale in relation to different areas along the Willamette River and to their season of most frequent use (Table 24). Crowding

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percentages ranged from 56-77%. The entire range of crowding percentages reported in the mail questionnaire is greater than those reported in the on-site questionnaire results. One explanation for this result is that the mail questionnaire asked respondents to consider the season that they most often come to the Willamette River. For many people, this period probably coincides with the times of greatest general use. Another explanation may be that experiences during crowded conditions may be more annoying and, hence, more memorable than those that occurred under other conditions.

Area	%	n
a. Parks along the river	72.0%	214
b. The Willamette River waterway	67.9%	184
c. River access areas	69.0%	200
d. Campgrounds	76.8%	112
e. Day-Use (picnic) areas	76.6%	188
f. Walking/hiking/jogging/biking trails	63.0%	200
g. Access roads	56.1%	198

Respondents were asked to rank the relative importance of funding improvements for public lands and facilities along the Willamette River (Table 25). Funding programs to improve water quality, controlling new residential developments along or near the river, acquiring land for natural resource protection, and creating speed zones for recreational boats were rated as the three highest priorities.

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	Very Important	Somewhat Important	Not Important	Don't Know	n
a. More land for recreation	33.5%	47.9%	15.8%	2.8%	215
b. More land for natural resource protection	50.0%	33.3%	12.5%	4.2%	216
c. Developed boat landings	13.8%	28.6%	49.8%	7.8%	217
d. More camping facilities in park areas	11.6%	33.3%	41.7%	13.4%	216
e. More primitive camping areas along river	13.8%	36.7%	36.7%	12.8%	218
f. Law and behavior enforcement	30.3%	50.5%	15.1%	4.1%	218
g. More litter and trash clean up	35.5%	54.4%	7.8%	2.3%	217
h. More trails	29.0%	50.2%	14.7%	6.0%	217
i. More land for new trails	33.3%	42.1%	17.1%	7.4%	216
j. Routine upkeep of trails	33.6%	51.2%	9.2%	6.0%	217
k. Fix deteriorated trails	34.1%	50.7%	7.4%	7.8%	217
l. Landscaping along trails	14.4%	36.6%	40.7%	8.3%	216
m. New trails for competitive events	9.8%	23.3%	53.5%	13.5%	215
n. Repairing major facility damage	31.6%	50.7%	10.7%	7.0%	215
o. More parking areas	9.7%	42.4%	41.0%	6.9%	217
p. Education	18.0%	46.1%	26.7%	9.2%	217
p. Information, maps, signs	20.3%	58.5%	18.0%	3.2%	217
r. Interpretive information	17.3%	49.5%	27.1%	6.1%	214
s. Preserve historic resources and provide interpretation	25.5%	50.9%	18.5%	5.1%	216
t. Children's playground areas	19.7%	45.1%	30.0%	5.2%	213
u. More picnic areas along or near the river	21.4%	46.7%	26.2%	5.7%	210
v. Creating speed zones for recreational boats on river	41.9%	34.6%	14.3%	9.2%	217
w. Control new residential developments along or near river	55.8%	29.5%	9.7%	5.1%	217
x. New programs to improve water quality	75.5%	19.4%	3.2%	1.9%	216
y. Other					13

Willamette River Greenway

A second section of the mail survey asked respondents to consider the public lands that border the Willamette River, sometimes also referred to as greenways. A definition of a greenway was provided: “Greenways are typically defined as a corridor of open space that can vary greatly in scale, from narrow ribbons of green that run through urban, suburban, and rural areas, to wide corridors that incorporate diverse natural, cultural, and scenic features. A greenway network protects natural, cultural, and scenic resources, provides recreational benefits, enhances the natural beauty and the quality of life in neighborhoods and communities, and stimulates economic development opportunities.”

Greenway Benefits

Survey respondents were asked to assign a relative importance to a list of potential benefits that could be provided by a Willamette River greenway (Table 26). Making communities a better place to live, connecting communities with natural corridors and trails, and improving community image were judged to be the most important benefits.

	Very Important	Somewhat Important	Not Important	Don't Know	n
a. Improve community image	45.0%	40.4%	10.6%	4.1%	218
b. Attract new businesses	22.1%	35.9%	34.6%	7.4%	217
c. Keep existing businesses	25.8%	47.5%	18.9%	7.8%	217
d. Attract new residents	15.6%	28.4%	48.2%	7.8%	218
e. Keep residents from moving away	23.0%	36.9%	32.7%	7.4%	217
f. Attract tourists	23.0%	44.2%	27.6%	5.1%	217
g. Be a vacation destination	19.8%	40.1%	34.1%	6.0%	217
h. Help the local economy	39.4%	44.0%	12.0%	4.6%	216
i. Make your community a better place to live	67.3%	27.6%	2.8%	2.3%	217
j. Improve property values	31.7%	39.4%	23.9%	5.0%	218
l. Connecting communities all along the river with natural corridors and trails	50.0%	36.7%	9.2%	4.1%	218
m. Other					7

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Survey participants were asked to indicate their support for types of land purchases of private lands that are adjacent to existing greenway public lands in order to increase public use areas (Table 27). Respondents most strongly supported purchasing lands for natural area protection, followed by lands for scenic protection, and then for establishing connectivity between existing public lands.

	Very Supportive	Somewhat Supportive	Not Supportive	Don't Know	n
a. Land purchases for natural area protection	61.0%	27.1%	9.2%	2.8%	218
b. Land purchases for increasing recreation areas	32.6%	49.5%	14.7%	3.2%	218
c. Land purchases for connecting existing public properties	44.7%	38.2%	11.5%	5.5%	217
d. Land purchases for scenic protection	52.3%	36.2%	7.8%	3.7%	218
e. Land purchases for historic resource protection	32.7%	45.6%	16.1%	5.5%	217

Respondents were asked to indicate their support level for potential funding sources that could be used to expand greenway parklands along the Willamette River (Table 28). The strongest support was for using lottery dollars. The second strongest support was for park user fees.

	Very Supportive	Somewhat Supportive	Not Supportive	Don't Know	n
a. Park user fees	26.7%	39.6%	33.6%	0.0%	217
b. Lottery dollars (from Park and Salmon Fund)	68.7%	22.6%	6.5%	2.3%	217
c. Property taxes	17.6%	37.5%	41.7%	3.2%	216
d. Income taxes	16.4%	32.7%	45.8%	5.1%	214
e. Other					20

Demographics

A final section of the mail questionnaire asked respondents to indicate their gender, education level, age, income, and household composition (Table 29).

Gender and Age

About 37% were female (average age 43) and 63% of respondents were male (average age 47).

	Percent	Average age
Female	37.3%	43
Male	62.7%	47
n = 217		

Education

Thirty-two percent of respondents had attended college, 31.1% had earned a Bachelor's degree, 29.2% a graduate degree, and the rest had attended or graduated from high school (Table 30).

Some College	32.0%
Bachelor's Degree	31.1%
Graduate Degree	29.2%
High School Grad	6.8%
Some High School	0.9%
n = 219	

Income

Reported income levels were relatively evenly split among the income categories provided on the questionnaire (Table 31). The largest percentage of respondents in any one category was in the \$60,000-69,000 range (15.9%).

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Table 31. Total household income before taxes	
Under \$10,000	4.2%
\$10,000-19,999	7.9%
\$20,000-29,999	7.5%
\$30,000-39,999	11.2%
\$40,000-49,999	7.9%
\$50,000-59,999	9.3%
\$60,000-69,999	15.9%
\$70,000-79,999	7.9%
\$80,000-89,999	7.0%
\$90,000-99,999	8.9%
More than \$100,000	12.1%
n = 214	

Household Demographics

Respondents were asked to indicate the composition of their household by checking all descriptions that applied to their household (Table 32). The largest percentage was for two adult wage earners (47.5%), followed by one adult wage earner (32.7%), and children (30.9%).

Table 32. Household demographics							
Children	High School Students	College Students	One adult wage earner	Two adult wage earners	Single head of household	Retired adults	Person with disability
30.9%	9.3%	16.1%	32.7%	47.5%	6.9%	21.2%	6.5%
n 217	216	217	217	217	217	217	217