Research to Support Wilderness Stewardship Planning at Olympic National Park

Park Studies Laboratory
Rubenstein School of Environment and Natural Resources
University of Vermont

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Chapter 1: Introduction

A General Management Plan (GMP) for Olympic National Park was completed in 2008 and provides overall direction for park management for the foreseeable future. Moreover, the GMP allows formulation of more specific plans, including a wilderness stewardship plan. A wilderness stewardship plan is especially important at Olympic as approximately 95 percent of the park is designated wilderness under the provisions of the 1964 Wilderness Act. This wilderness planning effort should be informed by a program of research, including information from and about wilderness visitors.

This report describes a study at Olympic National Park designed to help support formulation of a wilderness stewardship plan. The study was guided by the National Park Service's Visitor Experience and Resource Protection framework, a management-by-objectives approach that requires 1) formulation of management objectives and associated indicators and standards of quality for the wilderness experience, 2) monitoring of indicator variables, and 3) management actions designed to maintain standards of quality (National Park Service 1997; Manning 2001; Manning 2007). The study was designed to support all three elements of this framework by identifying potential indicators and standards of quality of the wilderness experience, using these indicator variables as the focus of a monitoring program, and measuring attitudes of wilderness visitors toward alternative management practices. In addition, baseline data were collected on the characteristics of wilderness visitors and wilderness use.

This report is divided into four chapters and two appendices. This chapter briefly describes the context and objectives of the study. Chapter 2 outlines study methods. Chapter 3 presents study findings organized by indicators and standards of quality, attitudes toward management, and visitor characteristics. Chapter 4 presents a summary of study findings and study conclusions and recommendations. Appendices A and B include survey questionnaires and study photographs.

Chapter 2: Study Methods

The primary study method was a series of surveys of representative samples of wilderness visitors. Design of the surveys began in the summer, 2011 with a site visit to the park and meetings with park staff. Based on identification of wilderness issues, draft questionnaires were developed for review by park staff. After several rounds of comments and revisions, the study questionnaires were submitted to the National Park Service Social Science Program and subsequently to the federal Office of Management and Budget for approval. Approval was received in June, 2012.

Separate but similar questionnaires were developed and administered to day and overnight visitors to the wilderness portion of the park. Sampling was conducted on 60 days from July to mid-September, 2012 at 32 wilderness trailheads. These trailheads were categorized by park staff as either 1) low or 2) high use for 3) day and 4) overnight visitors. The sampling plan was designed to try to achieve a minimum sample size for each of these four categories. Each of the 32 wilderness trailheads was surveyed at least twice, once during the week and once on a weekend. Survey attendants were stationed at assigned trailheads throughout the sampling season and approached wilderness visitors as they completed their hikes. If groups agreed to participate, all persons in the group over 18 years of age were asked to complete a questionnaire. Visitors completed the questionnaire on-site and returned the completed questionnaire to the survey attendant.

Several batteries of questions addressed crowding-related standards of quality and some of these questions employed a series of visual simulations (Manning and Freimund 2004; Manning 2007; Manning 2011). These visual simulations presented a range of use densities at wilderness attraction sites and along trails. Visitors were presented these visual simulations on poster boards staffed by survey attendants and were asked a series of questions that evaluated the acceptability (and other dimensions) of the range of use levels.

Table 1 shows the number of completed questionnaires for overnight and day users in high and low use areas in the wilderness. The overall response rate for the study was 50.4% and this yielded a total of 1019 completed questionnaires. The number of completed questionnaires from visitors in low use areas was quite low, especially in the case of overnight visitors.

Table 1. Completed questionnaires

Visitor Group	Completed Questionnaires	Response Rate
Day Visitors – Low Use	138	55.9%
Day Visitors – High Use	556	47.6%
Overnight Visitors – Low Use	31	78.6%
Overnight Visitors – High Use	294	50.2%
All Visitors	1019	50.4%

Chapter 3: Study Findings

Indicators of Quality

As noted in Chapter 1, indicators of quality are measureable, manageable variables that help define the quality of the visitor experience. Several batteries of questions were asked that explored potential indicators of quality of the wilderness experience. Respondents were asked to report the degree to which several categories of issues – signing and camp areas, trails and water crossings, visitor use management, and sights and sounds – added to or detracted from the quality of the wilderness experience (Table 2). Seeing/hearing chainsaws or other motorized equipment and seeing trees damaged by campers detracted the most from overnight visitors' experiences. Seeing/hearing people using electronic devices and seeing/hearing motorboats also detracted from the wilderness experiences of overnight visitors. Seeing directional signs inside the wilderness at trail junctions and crossing streams on a footlog added the most to overnight visitors' experiences.

Day visitors (Table 3) rated seeing/hearing chainsaws or other motorized equipment and seeing trees damaged by campers as detracting the most from their wilderness experience. Seeing/hearing people using electronic devices and seeing/hearing aircraft also detracted from the wilderness experience of day visitors. Seeing directional signs inside the wilderness at trail junctions, crossing streams on a footlog, and seeing historic buildings added the most to day visitors' experiences. Seeing park staff working in wilderness, and crossing streams on a wood bridge also added to the wilderness experience of day visitors.

When averaged across both day and overnight users (Table 4), respondents reported seeing trees damaged by campers and seeing/hearing chainsaws or other motorized equipment as detracting the most from their wilderness experience. Seeing/hearing people using electronic devices also detracted from their wilderness experience. Seeing directional signs inside the wilderness at trail junctions and crossing streams on a footlog added the most to respondents' wilderness experiences. Crossing streams on a wood bridge, seeing historic buildings, and seeing park staff working in wilderness also equally added to the wilderness experience.

Table 2. Question 6: Indicate the extent to which each of the following would add or detract from the quality of your wilderness experience in Olympic National Park.

	Effect on WILDERNESS experience							
	Would Detract			No	Would Add			
Overnight Visitors	A Lot		A Little	Effect	A Little		A Lot	
	-3	-2	-1	0	+1	+2	+3	Mean
Signs and camp areas								
Seeing directional signs inside the wilderness at trail junctions	1.3	2.8	8.2	23.6	26.1	17.9	20.1	1.05
Seeing signs identifying landscape features or destinations in the wilderness (e.g., lakes, cabins, mountain passes)	5.9	8.1	13.8	20.0	29.7	13.1	90.6	0.4
Seeing wilderness boundary marker signs	4.1	5.0	11.3	38.8	22.5	11.6	6.9	0.3
Seeing well defined campsites in the wilderness	6.3	12.3	14.8	24.0	21.8	12.3	8.5	0.1
Seeing a lot of bare ground around campsites	7.7	23.1	23.7	20.9	5.7	6.3	2.5	-1.0
Presence of bear wires in campsites for hanging food	5.3	5.6	10.0	30.4	17.2	15.0	16.3	0.6
Trails and Water Crossings								
Fording (wading) streams	3.8	4.4	10.8	35.9	21.6	17.5	6.0	0.4
Crossing streams on a footlog (downed log with handrail)	0.3	0.9	3.1	25.5	34.0	23.0	13.2	1.1
Crossing streams on wood bridge	1.3	2.2	8.8	31.5	29.0	17.7	9.5	0.8
Crossing streams on steel bridge	19.9	18.0	21.5	20.5	12.0	3.8	4.4	-0.8
Traveling cross-country/off-trail	3.8	2.9	7.7	29.5	23.1	14.7	18.3	0.8
Presence of downed logs across trails	6.0	9.4	27.4	35.8	11.3	6.6	3.5	-0.3
Visitor Use Management								
Not being allowed to have a campfire in specific areas	9.1	12.3	17.9	36.2	8.5	8.2	7.9	-0.2
Overnight permit requirement	5.4	6.6	13.9	38.2	14.5	9.5	12.0	0.3
Being required to camp at designated sites	13.8	10.9	23.8	28.4	9.1	7.8	6.3	-0.4
Paying a fee to access park trailheads	12.5	8.4	14.1	40.9	10.9	4.4	8.8	-0.2
Presence of privies/toilets	5.0	5.3	11.6	27.0	26.0	12.2	12.9	0.5
Seeing areas closed for restoration	3.4	3.4	13.8	42.0	15.7	9.4	12.2	0.4

Sights and Sounds								
Seeing/hearing aircraft	23.9	23.6	30.2	20.4	1.9	0.0	0.0	-1.5
Seeing/hearing people using electronic devices (e.g., cell phones, GPS, etc.)	40.4	19.2	18.9	20.2	0.6	0.3	0.3	-1.8
Seeing/hearing chainsaws or other motorized equipment	50.6	22.6	14.5	11.0	0.9	0.3	0.0	-2.1
Seeing wildlife with radio collars, ear tags, or other markings	7.9	12.9	22.1	49.8	4.1	1.3	1.9	-0.6
Encountering a wilderness ranger	1.9	3.8	6.9	44.2	19.9	14.2	9.1	0.6
Seeing/hearing motor boats on the coast	32.1	20.8	24.2	19.8	2.20	0.6	0.3	-1.6
Seeing user-created paths around campsites	6.9	12.6	24.2	44.0	9.1	2.5	0.6	-0.5
Seeing trees damaged by campers	41.2	28.6	20.1	8.8	0.6	0.3	0.3	-2.0
Seeing pack stock animals	14.2	16.5	25.0	38.3	2.8	2.5	0.6	-0.9
Seeing evidence of pack stock animal use	18.6	17.6	26.1	32.4	2.2	2.2	0.9	-1.1
Seeing shelters (three-sided structures)	5.4	8.9	23.4	49.2	14.2	5.7	3.2	-0.2
Seeing historic buildings (e.g., cabins)	1.9	4.1	5.7	28.5	29.1	17.4	13.3	0.8
Seeing research equipment (e.g., weather stations)	2.2	5.1	15.6	53.0	15.2	5.1	3.8	0.0
Seeing park staff spraying exotic, invasive plants	5.1	8.5	20.6	42.4	12.0	5.7	5.7	-0.1
Seeing park staff engaged in research and monitoring activities	0.6	1.6	6.0	40.6	25.2	13.8	12.3	0.8
Seeing park staff working in wilderness	0.3	0.6	2.8	43.4	23.6	15.7	13.5	0.9

Table 3. Question 6 (continued): Indicate the extent to which each of the following would add or detract from the quality of your wilderness experience in Olympic National Park.

	Effect on WILDERNESS experience							
	Would Detract			No	Would Add			
Day Visitors	A Lot		A Little	Effect	A Little		A Lot	
	-3	-2	-1	0	+1	+2	+3	Mean
Signs and camp areas								
Seeing directional signs inside the wilderness at trail junctions	1.5	2.5	6.7	25.6	21.7	20.6	21.4	1.1
Seeing signs identifying landscape features or destinations in the wilderness (e.g., lakes, cabins, mountain passes)	3.4	5.0	10.9	21.1	29.1	19.5	11.1	0.7
Seeing wilderness boundary marker signs	2.5	4.3	10.0	39.5	25.0	11.5	7.2	0.4
Seeing well defined campsites in the wilderness	5.5	8.2	15.6	34.2	18.5	12.4	5.7	0.1
Seeing a lot of bare ground around campsites	19.8	17.5	18.0	33.4	6.4	3.4	1.5	-0.9
Presence of bear wires in campsites for hanging food	4.8	6.4	10.3	40.5	17.6	10.6	9.8	0.3
Trails and Water Crossings								
Fording (wading) streams	4.0	6.4	11.1	33.0	25.3	12.8	7.5	0.4
Crossing streams on a footlog (downed log with handrail)	1.3	2.1	4.2	21.4	31.5	25.0	14.4	1.1
Crossing streams on wood bridge	0.6	2.4	5.8	26.9	26.2	23.4	14.7	1.0
Crossing streams on steel bridge	12.3	14.8	21.9	27.3	10.9	8.1	4.6	-0.5
Traveling cross-country/off-trail	4.1	5.1	10.3	41.1	17.6	12.0	9.8	0.4
Presence of downed logs across trails	4.7	10.7	21.6	40.8	12.2	6.6	3.5	-0.2
Visitor Use Management								
Not being allowed to have a campfire in specific areas	4.9	7.0	14.3	47.9	9.4	8.5	8.0	.0.1
Overnight permit requirement	5.8	4.3	11.7	47.2	12.2	9.8	9.1	0.2
Being required to camp at designated sites	5.5	7.3	14.3	36.4	15.2	11.0	10.1	0.2
Paying a fee to access park trailheads	17.0	9.8	18.5	36.8	9.0	4.4	4.4	-0.6
Presence of privies/toilets	4.0	5.0	10.2	26.2	27.7	15.8	11.1	0.6
Seeing areas closed for restoration	3.4	4.0	11.4	45.0	16.6	10.3	9.2	0.4
Sights and Sounds								

Seeing/hearing aircraft	26.0	26.0	27.2	19.9	0.6	0.0	0.3	-1.6
Seeing/hearing people using electronic devices (e.g., cell phones, GPS, etc.)	37.9	21.9	21.8	17.9	0.0	0.4	0.0	-1.8
Seeing/hearing chainsaws or other motorized equipment	48.1	24.1	16.8	9.2	0.9	0.6	0.1	-2.1
Seeing wildlife with radio collars, ear tags, or other markings	10.4	10.3	20.4	51.0	4.5	1.8	1.5	-0.6
Encountering a wilderness ranger	2.1	1.5	3.8	39.8	26.5	16.6	9.8	0.8
Seeing/hearing motor boats on the coast	24.8	19.1	28.5	25.4	1.3	0.4	0.4	-1.4
Seeing user-created paths around campsites	7.5	11.8	23.2	47.8	5.5	2.8	1.3	-0.5
Seeing trees damaged by campers	48.1	27.3	15.0	7.7	0.7	0.6	0.4	-2.1
Seeing pack stock animals	8.0	13.4	18.8	50.1	6.2	1.9	1.5	-0.6
Seeing evidence of pack stock animal use	13.4	14.9	24.5	42.8	3.3	0.7	0.4	-0.9
Seeing shelters (three-sided structures)	4.2	3.7	14.5	50.4	18.7	6.0	2.5	0.4
Seeing historic buildings (e.g., cabins)	1.2	1.0	3.3	31.1	25.9	24.2	13.4	1.1
Seeing research equipment (e.g., weather stations)	2.2	3.1	9.6	60.4	14.3	7.3	3.0	0.2
Seeing park staff spraying exotic, invasive plants	9.8	8.6	14.6	47.5	9.1	5.3	5.1	-0.3
Seeing park staff engaged in research and monitoring activities	1.6	0.3	3.4	44.6	23.6	13.7	12.8	0.8
Seeing park staff working in wilderness	0.9	0.7	1.6	40.0	24.1	16.8	15.8	1.0

Table 4. Question 6 (continued): Indicate the extent to which each of the following would add or detract from the quality of your wilderness experience in Olympic National Park.

	Effect on WILDERNESS experience							
	Would Detract			No	Would Add			
All Visitors	A Lot		A Little	Effect	A Little		A Lot	
	-3	-2	-1	0	+1	+2	+3	Mean
Signs and camp areas								
Seeing directional signs inside the wilderness at trail junctions	1.4	2.6	7.1	24.9	23.1	19.7	21.0	1.1
Seeing signs identifying landscape features or destinations in the wilderness (e.g., lakes, cabins, mountain passes)	4.2	6.0	11.8	20.7	29.3	17.4	10.5	0.6
Seeing wilderness boundary marker signs	3.0	4.6	10.4	39.2	24.2	11.5	7.1	0.4
Seeing well defined campsites in the wilderness	5.8	9.5	15.4	30.9	19.5	12.3	6.6	0.1
Seeing a lot of bare ground around campsites	19.1	19.3	19.8	29.4	6.2	4.4	1.8	-1.0
Presence of bear wires in campsites for hanging food	4.9	6.2	10.2	37.3	17.5	12.0	11.9	0.4
Trails and Water Crossings								
Fording (wading) streams	3.9	5.8	11.0	34.0	24.1	14.3	7.0	0.4
Crossing streams on a footlog (downed log with handrail)	1.0	1.7	3.9	22.7	32.3	24.4	14.0	1.1
Crossing streams on wood bridge	0.8	2.3	6.8	28.4	27.1	21.5	13.0	1.0
Crossing streams on steel bridge	14.7	15.9	21.7	25.1	11.3	6.7	4.6	-0.6
Traveling cross-country/off-trail	4.0	4.4	9.4	37.3	19.4	12.9	12.6	0.5
Presence of downed logs across trails	5.1	10.3	23.5	39.2	11.9	6.6	3.5	-0.2
Visitor Use Management								
Not being allowed to have a campfire in specific areas	6.3	8.7	15.5	44.1	9.1	8.4	8.0	0.0
Overnight permit requirement	5.7	5.0	12.4	44.3	12.9	9.7	10.0	0.2
Being required to camp at designated sites	8.2	8.5	17.4	33.8	13.2	10.0	8.9	0.0
Paying a fee to access park trailheads	15.6	9.3	17.1	38.2	9.6	4.4	5.8	-0.5
Presence of privies/toilets	4.3	5.1	10.7	26.4	27.1	14.7	11.7	0.6
Seeing areas closed for restoration	3.4	3.8	12.2	44.1	16.3	10.0	10.2	0.4
Sights and Sounds								
Seeing/hearing aircraft	25.3	25.2	28.2	20.1	1.0	0.0	0.2	-1.5

Seeing/hearing people using electronic devices (e.g., cell phones, GPS, etc.)	38.7	21.1	20.9	18.6	0.2	0.4	0.1	-1.8
Seeing/hearing chainsaws or other motorized equipment	48.9	23.7	16.1	9.8	0.9	0.5	0.1	-2.1
Seeing wildlife with radio collars, ear tags, or other markings	9.6	11.1	21.0	50.7	4.4	1.6	1.6	-0.6
Encountering a wilderness ranger	2.0	2.2	4.8	41.2	24.4	15.8	9.6	0.7
Seeing/hearing motor boats on the coast	27.1	19.7	27.1	23.6	1.6	0.5	0.4	-1.4
Seeing user-created paths around campsites	7.3	12.0	23.6	46.6	6.7	2.7	1.1	-0.5
Seeing trees damaged by campers	45.9	27.7	16.6	8.1	0.7	0.5	0.4	-2.1
Seeing pack stock animals	10.0	14.3	20.8	46.4	5.2	2.1	1.2	-0.7
Seeing evidence of pack stock animal use	15.0	15.7	25.0	39.5	2.9	1.2	0.6	-0.9
Seeing shelters (three-sided structures)	4.6	5.4	17.3	46.9	17.2	5.9	2.7	-0.1
Seeing historic buildings (e.g., cabins)	1.4	2.0	4.0	30.2	26.9	22.0	13.3	1.0
Seeing research equipment (e.g., weather stations)	2.2	3.8	11.5	58.1	14.6	6.6	3.2	0.1
Seeing park staff spraying exotic, invasive plants	8.3	8.6	16.5	45.9	10.0	5.5	5.3	-0.2
Seeing park staff engaged in research and monitoring activities	1.3	0.7	4.2	43.3	24.1	13.7	12.6	0.8
Seeing park staff working in wilderness	0.7	0.7	2.0	41.1	23.9	16.5	15.1	1.0

Standards of Quality for Wilderness Trail Encounters

As noted in Chapter 1, standards of quality define the minimum acceptable condition of indicator variables. This study addressed standards of quality for several crowding-related issues. The first issue was the number of hikers encountered per day along wilderness trails. Respondents were first asked to rate the acceptability of a range of hikers encountered per day along wilderness trails ("acceptability"). Acceptability was measured using a nine-point Likert-type scale ranging from (-4) "Very Unacceptable" to (4) "Very Acceptable". Zero represented the middle of this scale or margin of acceptability. The second question in the series asked respondents to report the number of hikers they would prefer to encounter ("preference"). The third question asked visitors to report the number of hikers they could encounter per day before they would no longer hike the wilderness trails that they used that day ("displacement"). Respondents were given the opportunity to indicate that, "they would continue to hike those wilderness trails regardless of the number of hikers they would encounter." The fourth question asked visitors to report the maximum number of hikers encountered they think the National Park Service should allow on the wilderness trails they used on the day they were contacted, or the point at which visitor use should be restricted ("management action"). Respondents were given the opportunity to indicate that the number of hikers should not be restricted. The fifth question asked respondents to report the approximate number of hikers they encountered on wilderness trails on the day they were contacted ("typically seen").

Acceptability

Figure 1 traces average acceptability ratings for the range of hikers encountered per day along wilderness trails. Overnight visitors indicated that seeing more than 19.9 hikers per day on wilderness trails would be unacceptable, while day visitors indicated seeing more than 25.2 other hikers per day would be unacceptable. When averaged together to include all visitors, respondents reported that encountering more than 23.1 hikers per day on wilderness trails would be unacceptable.

Preference

Table 5 reports the number of hikers that wilderness visitors would prefer to encounter. The average number of preferred encounters for overnight visitors was 12.4 hikers per day, compared to 13.4 hikers per day for day visitors. The average number of preferred encounters for all visitors was 13.1 per day.

Displacement

Table 6 reports the number of hikers per day that would cause respondents to be displaced from the trails they were using. Overnight visitors reported an average maximum of 103.7 hikers per day compared to 86.4 hikers for day visitors. Just over a quarter of overnight visitors (25.3%) reported that they would continue to hike wilderness trails regardless of the number of hikers encountered, compared to 37.5% of day visitors.

Management Action

Table 7 reports the maximum number of encounters visitors feel the National Park Service should allow. Overnight visitors reported an average maximum of 62.3 hikers per day compared to 120.4 hikers per day for day visitors. Nearly half (43.4%) of overnight visitors thought that the number of hikers on wilderness trails should not be restricted, compared to 74.4% of day users.

Typically Seen

Table 8 reports the number of hikers seen per day on wilderness trails. The average estimated number of hikers encountered was 19.7 for overnight visitors and 23.2 for day visitors.

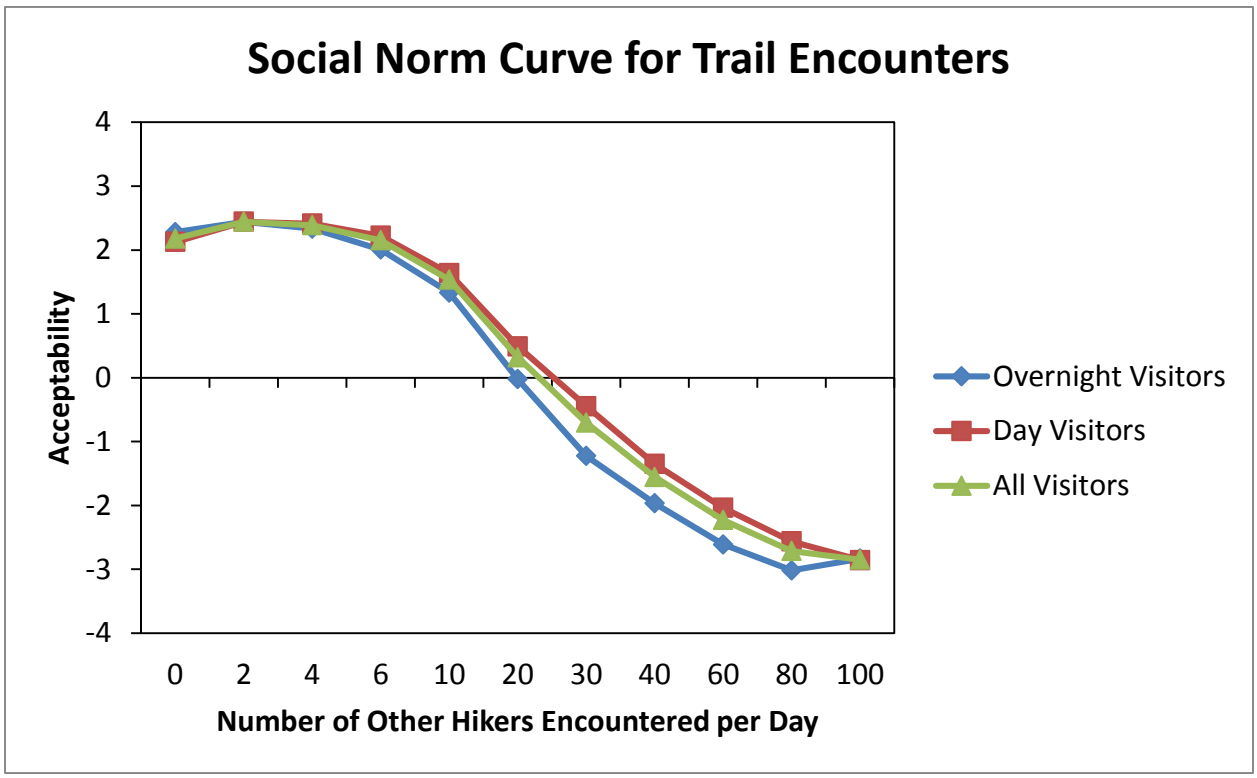
Respondents were also asked to estimate the total amount of time they spent hiking on the day they were contacted for this study(Table 9). The average amount of time overnight visitors spent hiking was 4.3 hours, compared to 3 hours for day visitors.

Summary Table

The study findings described above are summarized in Table 10. In all cases – all visitors and day and overnight visitors – visitors reported encountering, on average fewer people than the maximum acceptable number, the maximum the National Park Service should allow, and the

number of people that would cause respondents to be displaced from these areas of the wilderness. However, all visitors reported, on average, encountering more people than they preferred.

Figure 1. Question 7a: We would like to know how many hikers per day you think it is acceptable to see on the wilderness trails you hiked today without feeling too crowded. Please rate the acceptability of encountering each of the following numbers of hikers per day on the wilderness trails you used today. A rating of "-4" means the number of hikers encountered per day is highly unacceptable, and a rating of "+4" means the number of hikers encountered per day is highly acceptable.



Margin of Acceptability:

Overnight visitors = 19.9 encounters
Day visitors = 25.2 encounters
All visitors = 23.1 encounters

Table 5. Question 7b: What is the number of hikers per day that you would prefer to encounter along the wilderness trails you hiked today?

	Overnight Visitors	Day Visitors	All Visitors
0	12.3	10.9	11.4
1	0.7	0.3	0.5
2	3.2	2.5	2.7
3	2.1	1.3	1.6
4	5.3	4.2	4.6
5	4.3	7.6	6.5
6	9.1	9.3	9.2
7	0.0	1.3	0.9
8	2.8	3.7	3.4
9	0.4	0.5	0.5
10 to 15	37.2	32.5	34.0
16 to 20	11.9	13.3	12.9
21 to 40	7.7	8.4	8.2
More than 40	3.2	4.0	3.8
N	285	594	879
Mean	12.4	13.4	13.1
Median	10.0	10.0	10.0

Table 6. Question 7c: What is the maximum number of hikers you think you could encounter per day before you would no longer hike the wilderness trails that you used today?

	Overnight Visitors	Day Visitors	All Visitors
10 and under	2.2	2.7	2.6
11 to 20	11.5	9.6	10.2
21 to 30	13.8	11.2	12.0
31 to 40	11.2	8.0	9.1
41 to 50	9.3	9.7	9.6
51 to 75	9.9	4.9	6.5
76 to 100	12.5	10.6	11.2
More than 100	4.2	5.8	5.3
I would continue to hike these wilderness trails regardless of the number of hikers I encountered.	25.3	37.5	33.6
N	312	659	971
Mean	103.7	86.4	92.7
Median	40.0	40.0	40.0

Table 7. Question 7d: What is the maximum number of hikers encountered per day that you think the National Park Service should allow on the wilderness trails you used today?

	Overnight Visitors	Day Visitors	All Visitors
10 and under	4.4	0.6	1.9
11 to 20	7.1	1.5	3.3
21 to 30	7.1	4.7	5.5
31 to 40	5.7	2.1	3.3
41 to 50	8.4	4.5	5.8
51 to 75	8.1	1.3	3.5
76 to 100	11.8	6.0	7.9
More than 100	4.0	4.9	4.6
The number of hikers on these wilderness trails should not be restricted.	43.4	74.4	64.3
N	297	616	913
Mean	62.3	120.4	90.5
Median	50.0	50.0	50.0

Table 8. Question 7e: What is the approximate number of hikers you encountered today on these wilderness trails?

	Overnight Visitors	Day Visitors	All Visitors
0 to 5	9.2	8.3	8.6
6 to 10	22.2	24.8	23.9
11 to 20	40.6	32.3	35.0
21 to 30	17.1	14.7	15.5
31 to 40	4.8	9.2	7.8
41 to 50	3.5	5.8	5.0
51 to 75	1.3	1.6	1.5
76 to 100	1.0	3.0	2.3
More than 100	0.3	0.3	0.3
N	315	638	953
Mean	19.7	23.2	22.0
Median	18.0	20.0	20.0

Table 9. Question 7f: Approximately how much time did you spend hiking on these wilderness trails today?

	Overnight Visitors	Day Visitors	All Visitors
Less than 1 hour	2.8	5.2	4.4
1 to <2 hours	11.0	17.7	15.5
2 to <4 hours	37.5	44.1	42.0
4 to <6 hours	28.4	25.7	26.6
6-8 hours	13.9	6.8	9.1
More than 8 hours	6.3	0.5	2.4
N	317	657	974
Mean	4.3	3.0	3.4
Median	3.0	3.0	3.0

Table 10. Question 7: Summary Table

	Overnight Visitors	Day Visitors	All Visitors
Acceptability	19.9	25.2	23.1
Preference	12.4	13.4	13.1
Displacement	103.7	86.4	92.7
Management action	62.3	120.4	90.5
Typically seen	19.7	23.2	22.0
Hours hiked	4.3	3.0	3.4

Standards of Quality for Attraction Sites

Visitors were asked to evaluate a range of use levels that could be experienced while visiting an attraction site within the Olympic National Park wilderness. Several series of visual simulations were used to illustrate a range of use levels, and three different contexts were used for these visual simulations to represent the park's three primary environmental settings: coast, rainforest, and high country.

Coast Setting – Shi Shi Beach

One set of study photographs depicting a range of use levels was developed for a section of Shi Shi Beach, a popular attraction site in the coastal area of the park. The first photograph showed no people at Shi Shi Beach, the second had 3, the third had 6, the fourth had 9 and the last had 12 people. (These photographs are shown in Appendix B.) Respondents were asked a battery of evaluative questions about the series of photographs. Respondents were first asked to rate the acceptability of each study photograph showing a range of visitor use levels ("acceptability"). Acceptability was measured using a nine-point Likert-type scale ranging from (-4) "Very Unacceptable" to (4) "Very Acceptable". Zero represented the middle of this scale or margin of acceptability. The second question in the series asked respondents to report the photograph that showed the use level they would prefer to see ("preference"). The third question asked visitors to report the photograph showing the condition that would be so unacceptable that they would no longer visit the area ("displacement"). Respondents were given the opportunity to indicate that "none of the photographs are so unacceptable that I would no longer visit this area." The fourth question asked visitors to report the photograph representing the highest level of visitor use they thought the National Park Service should allow, or the point at which visitor use should be restricted ("management action"). Respondents were given the opportunity to indicate that none of the photographs showed a high enough level of visitor use to restrict use or that use should not be restricted at all. The fifth question asked respondents to report the photograph that best represented the level of use they typically saw that day ("typically seen").

Acceptability

Figure 2 traces average acceptability ratings for the range of use levels represented in the study photographs. Study findings for all visitors combined suggest that increasing numbers of people are found to be increasingly unacceptable, and that the overall mean acceptability ratings fall out of the acceptable range and into the unacceptable range at 9.5 people at one time (Figure 2). Overnight visitors reported that the mean acceptability ratings fall out of the acceptable range and into the unacceptable range at 8.2 people at one time. Day visitors reported that the mean acceptability ratings fall out of the acceptable range and into the unacceptable range at 10.6 people at one time.

Preference

Overall, visitors reported that they would prefer to see an average of 2.8 people at one time (Table 11). Overnight visitors reported they would prefer to see an average of 2.4 people at one time. Day visitors reported that they would prefer to see an average of 3.1 people at one time.

Displacement

Overall, visitors reported that an average of 10.0 people would be so unacceptable that they would no longer visit the area (Table 12). Overnight visitors reported that 9.7 people at one time would be so unacceptable that they would no longer visit the area. Day visitors reported that an average of 10.3 people at one time would be so unacceptable that they would no longer visit the area. Nearly two-thirds of visitors (62.2%) reported that none of the photographs were so unacceptable that they would no longer visit the area.

Management Action

Overall, visitors reported that the National Park Service should allow an average of up to 7.9 people at one time before use should be restricted (Table 13). Overnight visitors reported that the National Park Service should allow an average of up to 7.4 people at one time before use should be restricted. Day visitors reported that the National Park Service should allow an average of 8.6 people at one time before use should be restricted. About one-third of visitors (34.1%)

reported that none of the photographs showed a high enough number of people to restrict visitor use and 34.4% reported that visitor use should not be restricted.

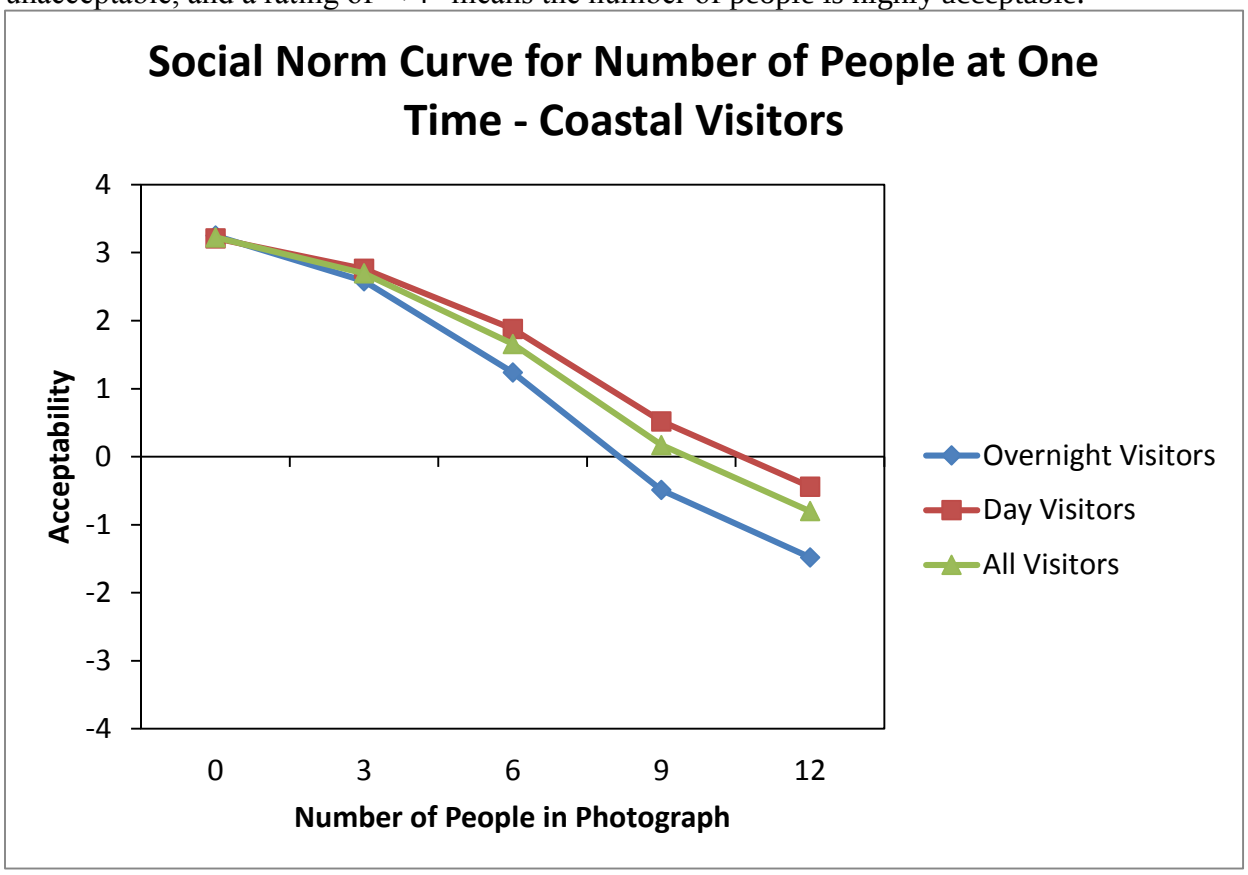
Typically Seen

Overall, visitors reported that they typically saw an average of 5.7 people at one time at attraction sites on the day they were contacted for this study (Table 14). Overnight visitors reported seeing an average of 4.9 people at one time at attraction sites on the day they were contacted. Day visitors reported seeing an average of 6.2 people at one time at attraction sites on the day they were contacted.

Summary Table

The study findings described above are summarized in Table 15. In all cases – all visitors and day and overnight visitors – visitors reported seeing, on average, fewer people than the maximum acceptable number, the maximum the National Park Service should allow, and the number of people that would cause respondents to be displaced from these areas of the wilderness. However, all visitors reported, on average, seeing more people than they preferred.

Figure 2. Question 8a: Visitors often stop and visit selected "attraction sites" (e.g., waterfalls) in the wilderness. We would like to know how many people you think could visit a wilderness attraction site without you feeling too crowded. To help judge this, we have a series of photographs that show different numbers of people at an attraction site in the wilderness of Olympic National Park. Please rate each photograph by indicating how acceptable you find it based on the number of people shown. A rating of "-4" means the number of people is highly unacceptable, and a rating of "+4" means the number of people is highly acceptable.



Margin of Acceptability:

Overnight visitors = 8.2 People
Day visitors = 10.6 People
All visitors = 9.5 People

Table 11. Question 8b: Which photograph shows the number of people you would prefer to see while visiting a wilderness attraction site?

	Overnight Visitors	Day Visitors	All Visitors
Photo 1 (0 People)	51.3	38.8	43.3
Photo 2 (3 People)	28.2	34.0	31.9
Photo 3 (6 People)	15.4	17.0	16.4
Photo 4 (9 People)	0.9	5.8	4.0
Photo 5 (12 People)	4.3	4.4	4.3
N	117	206	323
Mean	2.4	3.1	2.8
Median	0.0	3.0	3.0

Table 12. Question 8: Which photograph shows the number of people that would be so unacceptable that you would no longer visit this wilderness attraction site? If none of the photographs represent this condition, you may indicate that.

	Overnight Visitors	Day Visitors	All Visitors
Photo 1 (0 People)	3.3	0.5	1.5
Photo 2 (3 People)	0.8	1.4	1.2
Photo 3 (6 People)	3.3	1.4	2.1
Photo 4 (9 People)	19.8	6.9	11.5
Photo 5 (12 People)	28.1	17.9	21.5
None of the photographs are so unacceptable that I would no longer visit this wilderness attraction site	44.6	72.0	62.2
N	121	218	339
Mean	9.7	10.3	10.0
Median	12.0	12.0	12.0

Table 13. Question 8d: Which photograph shows the highest number of people you think the National Park Service should allow to visit this wilderness attraction site? In other words, at what point should people be restricted from visiting this site? If you think use should not be restricted at any point represented in the photographs, or not restricted at all, you may indicate that.

	Overnight Visitors	Day Visitors	All Visitors
Photo 1 (0 People)	0.0	0.0	0.0
Photo 2 (3 People)	8.3	0.0	3.0
Photo 3 (6 People)	20.0	9.7	13.4
Photo 4 (9 People)	12.5	4.1	7.1
Photo 5 (12 People)	10.0	6.9	8.0
None of the photographs show a high enough number of people to restrict people from visiting this wilderness attraction site	21.7	41.0	34.1
The number of people visiting this wilderness attraction site should not be restricted	27.5	38.2	34.4
N	120	217	337
Mean	7.4	8.6	7.9
Median	6.0	9.0	6.0

Table 14. Question 8e: Which photograph looks most like the number of people you typically saw while visiting wilderness attraction sites on this trip?

	Overnight Visitors	Day Visitors	All Visitors
Photo 1 (0 People)	5.9	3.0	4.0
Photo 2 (3 People)	47.1	30.2	36.4
Photo 3 (6 People)	28.6	37.1	34.0
Photo 4 (9 People)	15.1	15.8	15.6
Photo 5 (12 People)	3.4	13.9	10.0
N	119	202	321
Mean	4.9	6.2	5.7
Median	3.0	6.0	6.0

Table 15. Summary Table

	Overnight Visitors	Day Visitors	All Visitors
Acceptability	8.2	10.6	9.5
Preference	2.4	3.1	2.8
Displacement	9.7	10.3	10.0
Management action	7.4	8.6	7.9
Typically seen	4.9	6.2	5.7

Rainforest Setting – Sol Duc Falls

Two sets of study photographs depicting a range of use levels were developed for Sol Duc Falls, a popular attraction site in the rainforest area of the park. (These photographs are shown in Appendix B.) The two series of photographs were used to depict different ranges of use levels for areas considered "low use" and areas considered "high use" by park staff. The photographs for low use areas showed a range of use levels from 0 to 15 people in three-person increments. The six photographs for high use areas showed a range of use levels from 0 to 30 people in six-person increments.

For each series of photographs, respondents were asked a battery of evaluative questions. Respondents were first asked to rate the acceptability of each study photograph showing increasing levels of visitor use ("acceptability"). Acceptability was measured using a nine-point Likert-type scale ranging from (-4) "Very Unacceptable" to (4) "Very Acceptable". Zero represented the middle of this scale or margin of acceptability. The second question in the series asked respondents to report the photograph that showed the use level they would prefer to see ("preference"). The third question asked visitors to report the photograph showing the condition that would be so unacceptable that they would no longer visit the area ("displacement"). Respondents were given the opportunity to indicate that, "none of the photographs are so unacceptable that I would no longer visit this area." The fourth question asked visitors to report the photograph representing the highest level of visitor use they thought the National Park Service should allow, or the point at which visitor use should be restricted ("management action"). Respondents were given the opportunity to indicate that none of the photographs showed a high enough level of visitor use to restrict use or that use should not be restricted at all. The fifth question asked respondents to report the photograph that best represented the level of use they typically saw that day ("typically seen").

Acceptability

In low use areas, study findings for all visitors combined suggest that increasing numbers of people are found to be increasingly unacceptable, and that the overall mean acceptability ratings fall out of the acceptable range and into the unacceptable range at 13.9 people at one time

(Figure 3). Overnight visitors in low use areas reported that the range of visitor used depicted in the photographs never left the acceptable range (though it closely approached this condition). It should be noted that the sample size for overnight visitors in low use areas was very small. For day visitors in low use areas, mean acceptability ratings falls out of the acceptable range and into the unacceptable range at 13.3 people at one time.

In high use areas, study findings for all visitors combined suggest that increasing numbers of people are found to be increasingly unacceptable, and that the overall mean acceptability ratings fall out of the acceptable range and into the unacceptable range at 20.0 people at one time (Figure 4). For overnight visitors in high use areas, mean acceptability ratings fall out of the acceptable range and into the unacceptable range at 19.8 people at one time. Day visitors in high use areas reported that mean acceptability ratings fall out of the acceptable range and into the unacceptable range at 20.1 people at one time.

Preference

Overall, visitors in low use areas reported that they would prefer to see an average of 3.7 people at one time (Table 16). Overnight visitors in low use areas reported they would prefer to see an average of 4.2 people at one time. Day visitors in low use areas reported that they would prefer to see an average of 3.3 people at one time.

Overall, visitors in high use areas reported that they would prefer to see an average of 5.8 people at one time (Table 16). Overnight visitors to high use areas reported they would prefer to see an average of 5.5 people at one time. Day visitors to high use areas reported that they would prefer to see an average of 5.9 people at one time.

Displacement

Overall, visitors in low use areas reported that an average of 11.3 people would be so unacceptable that they would no longer visit the area (Table 17). Overnight visitors in low use areas reported that 7.7 people at one time would be so unacceptable that they would no longer visit the area. Day visitors in low use areas reported that an average of 13.0 people at one time

would be so unacceptable that they would no longer visit the area. More than half of visitors (57.7%) in low use areas reported that none of the photographs were so unacceptable that they would no longer visit the area.

Overall, visitors in high use areas reported that an average of 25.3 people at one time would be so unacceptable that they would no longer visit the area (Table 17). Overnight visitors in high use areas reported that 23.9 people at one time would be so unacceptable that they would no longer visit the area. Day visitors in high use areas reported that an average of 25.8 people at one time would be so unacceptable that they would no longer visit the area. Nearly half of visitors (47.8%) in high use areas reported that none of the photographs were so unacceptable that they would no longer visit the area.

Management Action

Overall, visitors in low use areas reported that the National Park Service should allow an average of 9.2 people at one time before use should be restricted (Table 18). Overnight visitors in low use areas reported that the National Park Service should allow an average of 7.0 people at one time before use should be restricted. Day visitors in low use areas reported that the National Park Service should allow an average of 9.8 people at one time before use should be restricted. Nearly a third of all visitors (31.5%) in low use areas reported that none of the photographs showed a high enough number of people to restrict visitor use and 42.6% reported that visitor use should not be restricted.

Overall, visitors in high use areas reported that the National Park Service should allow an average of 20.2 people at one time before use should be restricted (Table 18). Overnight visitors in high use areas reported that the National Park Service should allow an average of 18.0 people at one time before use should be restricted. Day visitors in high use areas reported that the National Park Service should allow an average of 21.2 people at one time before use should be restricted. Nearly a quarter of all visitors (23.2%) in high use areas reported that none of the photographs showed a high enough number of people to restrict visitor use and 40.7% reported that visitor use should not be restricted.

Typically Seen

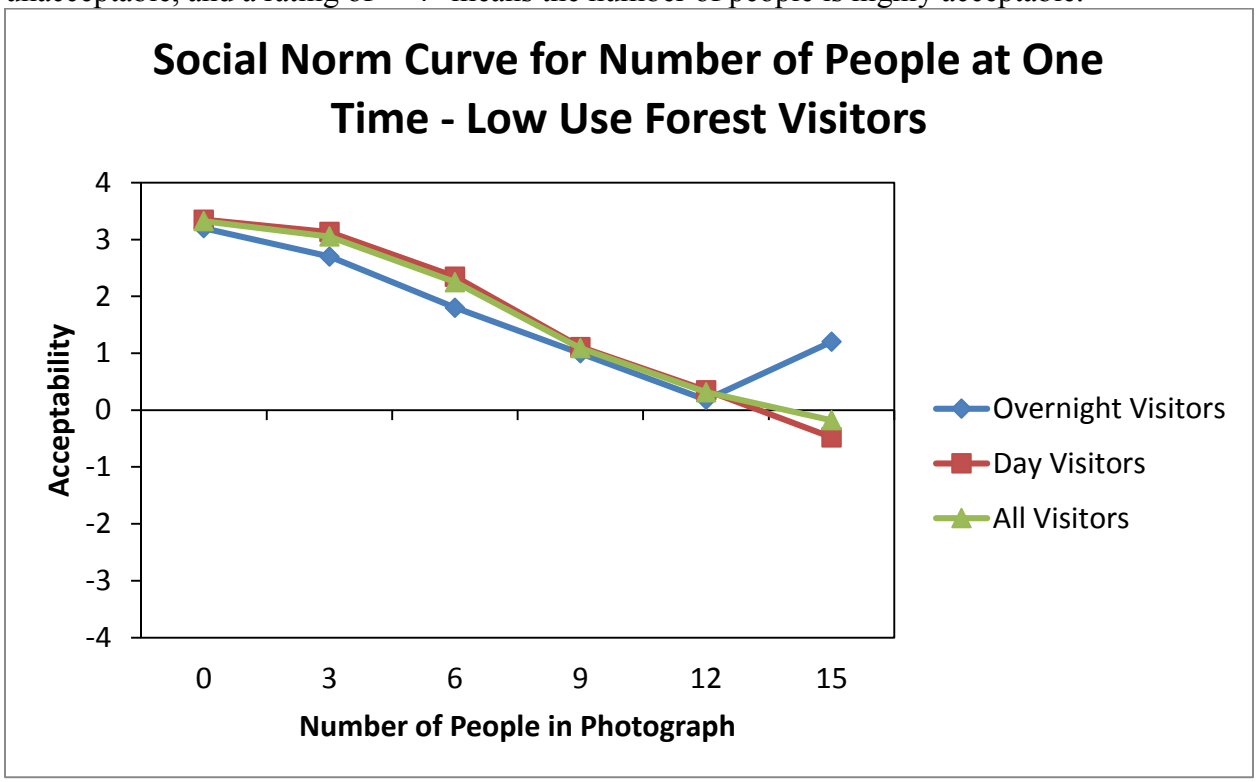
Overall, visitors in low use areas reported that they typically saw an average of 4.9 people at one time at attraction sites on the day they were contacted for this study (Table 19). Overnight visitors in low use areas reported seeing an average of 8.1 people at one time on the day they were contacted. Day visitors in low use areas reported seeing an average of 4.1 people at one time on the day they were contacted.

Overall, visitors in high use areas reported that they typically saw an average of 9.8 people at one time at attraction sites on the day they were contacted for this study (Table 19). Overnight visitors in high use areas reported seeing an average of 7.3 people at one time on the day they were contacted. Day visitors in high use areas reported seeing an average of 10.6 people at one time on the day they were contacted.

Summary Table

Study findings on crowding-related standards of quality at wilderness attractions sites described above are summarized in Table 20. In all cases – all visitors in both low and high use areas and day and overnight visitors in low and high use areas – reported seeing substantially fewer people than the maximum acceptable number, the maximum the National Park Service should allow, and the number of people that causes respondents to be displaced from these areas of the wilderness. However, all visitors reported seeing more people than they preferred.

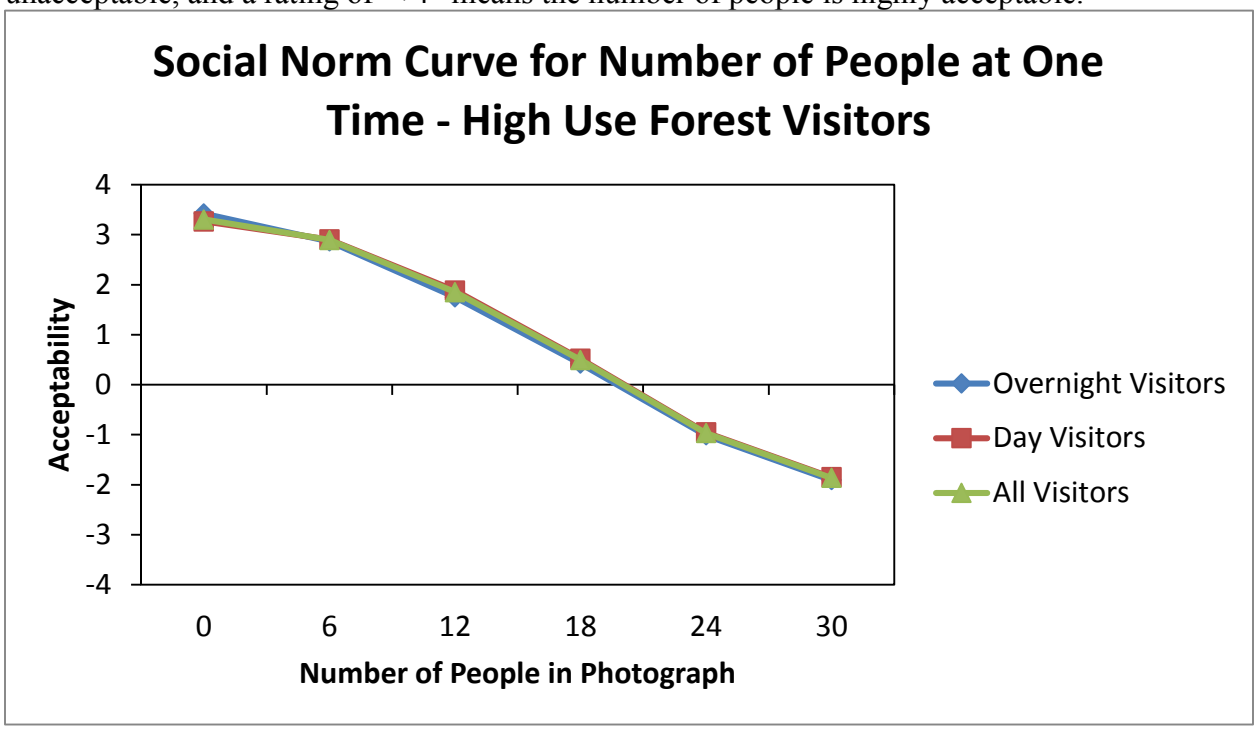
Figures 3. Question 8a: Visitors often stop and visit selected "attraction sites" (e.g., waterfalls) in the wilderness. We would like to know how many people you think could visit a wilderness attraction site without you feeling too crowded. To help judge this, we have a series of photographs that show different numbers of people at an attraction site in the wilderness of Olympic National Park. Please rate each photograph by indicating how acceptable you find it based on the number of people shown. A rating of "-4" means the number of people is highly unacceptable, and a rating of "+4" means the number of people is highly acceptable.



Margin of Acceptability:

Overnight Visitors = Undetermined
Day Visitors = 13.3 People
All Visitors = 13.9

Figures 4. Question 8a: Visitors often stop and visit selected "attraction sites" (e.g., waterfalls) in the wilderness. We would like to know how many people you think could visit a wilderness attraction site without you feeling too crowded. To help judge this, we have a series of photographs that show different numbers of people at an attraction site in the wilderness of Olympic National Park. Please rate each photograph by indicating how acceptable you find it based on the number of people shown. A rating of "-4" means the number of people is highly unacceptable, and a rating of "+4" means the number of people is highly acceptable.



Margin of Acceptability:

Overnight Visitors = 19.8 People
Day Visitors = 20.1
All Visitors = 20.0

Table 16. Question 8b: Which photograph shows the number of people you would prefer to see while visiting a wilderness attraction site?

	Overnight Visitors		Day Visitors		All Visitors	
Photo Number	Low Use	High Use	Low Use	High Use	Low Use	High Use
1	20.0	46.4	42.9	43.1	40.4	43.9
2	0.0	29.9	31.0	31.5	27.7	31.1
3	40.0	14.4	16.7	14.2	19.1	14.3
4	20.0	6.2	0.0	8.1	2.1	7.7
5	0.0	2.1	2.4	1.4	2.1	1.5
6	20.0	1.0	7.1	1.7	8.5	1.5
N	5	97	42	295	47	392
Mean	4.2	5.5	3.3	5.9	3.7	5.8
Median	6.0	6.0	3.0	6.0	3.0	6.0

Table 17. Question 8c: Which photograph shows the number of people that would be so unacceptable that you would no longer visit this wilderness attraction site? If none of the photographs represent this condition, you may indicate that.

	Overnight Visitors		**Day Visitors**		**All Visitors**	
Photo Number	Low Use	High Use	Low Use	High Use	Low Use	High Use
1	30.0	0.0	0.0	1.3	5.8	1.0
2	0.0	1.0	0.0	0.3	0.0	0.5
3	0.0	5.1	2.4	1.3	1.9	2.2
4	10.0	11.2	2.4	6.8	3.8	7.8
5	0.0	14.3	11.9	10.6	9.6	11.5
6	30.0	23.5	19.0	31.0	21.2	29.2
None of the photographs are so unacceptable that I would no longer visit this wilderness attraction site	30.0	44.9	64.3	48.7	57.7	47.8
N	10	98	42	310	52	408
Mean	7.7	23.9	13.0	25.8	11.3	25.3
Median	9.0	24.0	15.0	30.0	13.5	30.0

Table 18. Question 8d: Which photograph shows the highest number of people you think the National Park Service should allow to visit this wilderness attraction site? In other words, at what point should people be restricted from visiting this site? If you think use should not be restricted at any point represented in the photographs, or not restricted at all, you may indicate that.

	Overnight Visitors		**Day Visitors**		**All Visitors**	
Photo Number	Low Use	High Use	Low Use	High Use	Low Use	High Use
1	0.0	2.1	0.0	0.0	0.0	0.5
2	9.1	4.2	0.0	1.3	1.9	2.0
3	0.0	9.4	4.7	4.5	3.7	5.7
4	18.2	14.6	11.6	10.7	13.0	11.6
5	0.0	11.5	7.0	7.1	5.6	8.1
6	0.0	6.2	2.3	8.7	1.9	8.1
None of the photographs show a high enough number of people to restrict people from visiting this wilderness attraction site	0.0	12.5	39.5	26.5	31.5	23.2
The number of people visiting this wilderness attraction site should not be restricted	72.7	39.6	34.9	41.1	42.6	40.7
N	11	96	43	309	54	405
Mean	7.0	18.0	9.8	21.2	9.2	20.2
Median	9.0	18.0	9.0	18.0	9.0	18.0

Table 19. Question 8e: Which photograph looks most like the number of people you typically saw while visiting wilderness attraction sites on this trip?

	Overnight Visitors		**Day Visitors**		**All Visitors**	
Photo Number	Low Use	High Use	Low Use	High Use	Low Use	High Use
1	0.0	28.4	41.0	16.4	32.7	19.4
2	10.0	38.9	15.4	33.2	14.3	34.6
3	10.0	20.0	25.6	21.6	22.4	21.2
4	80.0	7.4	5.1	18.5	20.4	15.8
5	0.0	5.3	10.3	5.8	8.2	5.7
6	0.0	0.0	2.6	4.5	2.0	3.4
N	10	95	39	292	49	387
Mean	8.1	7.3	4.1	10.6	4.9	9.8
Median	9.0	6.0	3.0	12.0	6.0	6.0

Table 20. Question 8: Summary Table

	Overnight Visitors		Day Visitors		All Visitors	
	Low Use	High Use	Low Use	High Use	Low Use	High Use
Acceptability	--	19.8	13.3	20.1	13.9	20.0
Preference	4.2	5.5	3.3	5.9	3.7	5.8
Displacement	7.7	23.9	13.0	25.8	11.3	25.3
Management action	7.0	18.0	9.8	21.2	9.2	20.2
Typically seen	8.1	7.3	4.1	10.6	4.9	9.8

High Country Setting – Klahhane Ridge

Study photographs depicting a range of use levels was developed for a section of trail on Klahhane Ridge, a popular attraction site in the high country area of the park. (These photographs are shown in Appendix B.) The series of photographs was used to depict a range of use levels in high country areas of the park. The photographs showed a range of use levels from 0 to 20 people in four-person increments.*

Respondents were asked a battery of evaluative questions about the series of photographs. Respondents were first asked to rate the acceptability of each study photograph showing increasing levels of visitor use ("acceptability"). Acceptability was measured using a nine-point Likert-type scale ranging from (-4) "Very Unacceptable" to (4) "Very Acceptable". Zero represented the middle of this scale or margin of acceptability. The second question in the series asked respondents to report the photograph that showed the use level they would prefer to see ("preference"). The third question asked visitors to report the photograph showing the condition that would be so unacceptable that they would no longer visit the area ("displacement"). Respondents were given the opportunity to indicate that, "none of the photographs are so unacceptable that I would no longer visit this area." The fourth question asked visitors to report the photograph representing the highest level of visitor use they thought the National Park Service should allow, or the point at which visitor use should be restricted ("management action"). Respondents were given the opportunity to indicate that none of the photographs showed a high enough level of visitor use to restrict use or that use should not be restricted at all. The fifth question asked respondents to report the photograph that best represented the level of use they typically saw that day ("typically seen").

Acceptability

Study findings for all visitors combined suggest that increasing numbers of people are found to be increasingly unacceptable, and that the overall mean acceptability ratings fall out of the acceptable range and into the unacceptable range at 9.7 people at one time (Figure 5). Overnight visitors reported that the mean acceptability ratings fall out of the acceptable range and into the

unacceptable range at 8.9 people at one time. For day visitors, the mean acceptability ratings fall out of the acceptable range and into the unacceptable range at 11.3 people at one time.

Preference

Overall, visitors reported that they would prefer to see an average of 3.1 people at one time (Table 21). Overnight visitors reported they would prefer to see an average of 3.1 people at one time. Day visitors reported that they would prefer to see an average of 3.2 people at one time.

Displacement

Overall, visitors reported that an average of 15.4 people would be so unacceptable that they would no longer visit the area (Table 22). Overnight visitors reported that 15.6 people at one time would be so unacceptable that they would no longer visit the area. Day visitors in low use areas reported that an average of 15.1 people at one time would be so unacceptable that they would no longer visit the area. Nearly a quarter of all visitors (24.2%) reported that none of the photographs were so unacceptable that they would no longer visit the area.

Management Action

Overall, visitors reported that the National Park Service should allow an average of 12.2 people at one time before use should be restricted (Table 23). Overnight visitors reported that the National Park Service should allow an average of 11.8 people at one time before use should be restricted. Day visitors reported that the National Park Service should allow an average of 12.8 people at one time before use should be restricted. Less than one in ten visitors (6.8%) reported that none of the photographs showed a high enough number of people to restrict visitor use and 30.8% reported that visitor use should not be restricted.

Typically Seen

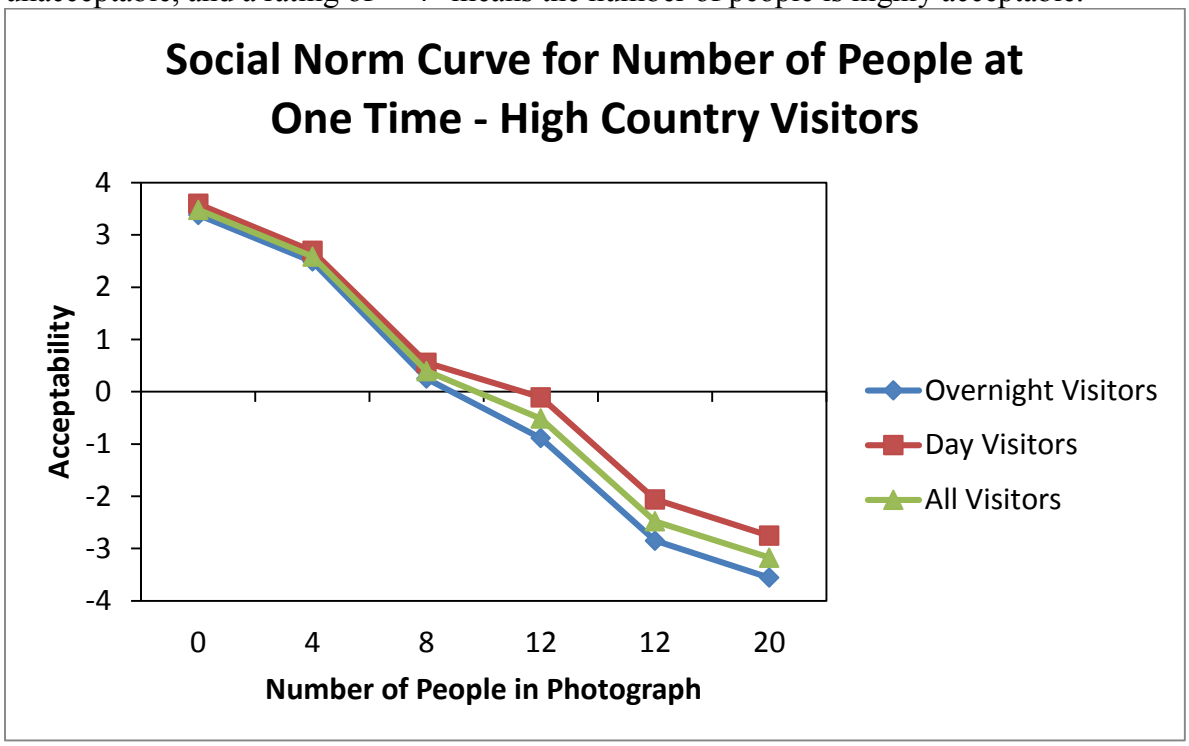
Overall, visitors reported that they typically saw an average of 4.1 people at one time at attraction sites on the day they were contacted for this study (Table 24). Overnight visitors reported seeing an average of 4.2 people at one time at attraction sites on the day they were

contacted. Day visitors reported seeing an average of 3.9 people at one time at attraction sites on the day they were contacted.

Summary Table

Study findings on crowding-related standards of quality at wilderness attraction sites described above are summarized in Table 25. In all cases – all visitors and day and overnight visitors – reported seeing fewer people than the maximum acceptable number, the maximum the National Park Service should allow, and the number of people that causes respondents to be displaced from these areas of the wilderness. However, all visitors reported seeing slightly more people than they preferred.

Figure 5. Question 8a. Visitors often stop and visit selected "attraction sites" (e.g., waterfalls) in the wilderness. We would like to know how many people you think could visit a wilderness attraction site without you feeling too crowded. To help judge this, we have a series of photographs that show different numbers of people at an attraction site in the wilderness of Olympic National Park. Please rate each photograph by indicating how acceptable you find it based on the number of people shown. A rating of "-4" means the number of people is highly unacceptable, and a rating of "+4" means the number of people is highly acceptable.



Margin of Acceptability:

Overnight Visitors = 8.9 People
Day Visitors = 11.3 People
All Visitors = 9.7 People

Table 21. Question 8b: Which photograph shows the number of people you would prefer to see while visiting a wilderness attraction site?

	Overnight Visitors	Day Visitors	All Visitors
Photo 1 (0 People)	41.1	50.0	45.1
Photo 2 (4 People)	43.8	38.3	41.4
Photo 3 (8 People)	12.3	3.3	8.6
Photo 4 (12 People)	2.7	1.7	2.3
Photo 5 (12 People)	0.0	3.3	1.5
Photo 6 (20 People)	0.0	3.3	1.5
N	73	60	133
Mean	3.1	3.2	3.1
Median	4.0	0.0	4.0

Table 22. Question 8c: Which photograph shows the number of people that would be so unacceptable that you would no longer visit this wilderness attraction site? If none of the photographs represent this condition, you may indicate that.

	Overnight Visitors	Day Visitors	All Visitors
Photo 1 (0 People)	0.0	3.3	1.5
Photo 2 (4 People)	0.0	0.0	0.0
Photo 3 (8 People)	14.1	9.8	12.1
Photo 4 (12 People)	9.9	6.6	8.3
Photo 5 (12 People)	29.6	23.0	26.5
Photo 6 (20 People)	29.6	24.6	27.3
None of the photographs are so unacceptable that I would no longer visit this wilderness attraction site	16.9	32.8	24.2
N	71	61	132
Mean	15.6	15.1	15.4
Median	12.0	12.0	12.0

Table 23. Question 8d: Which photograph shows the highest number of people you think the National Park Service should allow to visit this wilderness attraction site? In other words, at what point should people be restricted from visiting this site? If you think use should not be restricted at any point represented in the photographs, or not restricted at all, you may indicate that.

	Overnight Visitors	Day Visitors	All Visitors
Photo 1 (0 People)	1.4	0.0	0.8
Photo 2 (4 People)	6.9	4.9	6.0
Photo 3 (8 People)	12.5	9.8	11.3
Photo 4 (12 People)	27.8	19.7	24.1
Photo 5 (12 People)	15.3	8.2	12.0
Photo 6 (20 People)	5.6	11.5	8.3
None of the photographs show a high enough number of people to restrict people from visiting this wilderness attraction site	6.9	6.6	6.8
The number of people visiting this wilderness attraction site should not be restricted	23.6	39.3	30.8
N	72	61	133
Mean	11.8	12.8	12.2
Median	12.0	12.0	12.0

Table 24. Question 8e: Which photograph looks most like the number of people you typically saw while visiting wilderness attraction sites on this trip?

	Overnight Visitors	Day Visitors	All Visitors
Photo 1 (0 People)	25.0	27.4	26.1
Photo 2 (4 People)	52.8	56.5	54.5
Photo 3 (8 People)	16.7	8.1	12.7
Photo 4 (12 People)	2.8	6.5	4.5
Photo 5 (12 People)	2.8	1.6	2.2
Photo 6 (20 People)	0.0	0.0	0.0
N	72	62	134
Mean	4.2	3.9	4.1
Median	4.0	2.0	4.0

Table 25. Summary Table

	Overnight Visitors	Day Visitors	All Visitors
Acceptability	8.9	11.3	9.7
Preference	3.1	3.2	3.1
Displacement	15.6	15.1	15.4
Management action	11.8	12.8	12.2
Typically seen	4.2	3.9	4.1

Standards of Quality for Wilderness Camping

To assess crowding-related standards of quality for wilderness camping, overnight visitors were asked to evaluate a range of other groups camped within sight and sound of them each night in the wilderness area of the park. The range of use levels varied from no other groups within sight and sound up to six groups. Respondents were first asked to rate the acceptability of the number of other groups ("acceptability"). Acceptability was measured using a nine-point Likert-type scale ranging from (-4) "Very Unacceptable" to (4) "Very Acceptable". Zero represented the middle of this scale or margin of acceptability. The second question in the series asked respondents to report the number of other groups camped within sight and sound of them they would prefer ("preference"). The third question asked visitors to report the number of groups that they could camp within sight and sound of each night before they would no longer camp in that area ("displacement"). Respondents were given the opportunity to indicate that, "they would continue to camp in the area regardless of the number of other groups camped within sight and sound of them." The fourth question asked visitors to report the maximum number of groups that they think the National Park Service should allow to camp within sight and sound of them, or the point at which visitor use should be restricted ("management action"). Respondents were given the opportunity to indicate that the number of groups should not be restricted. The fifth question asked respondents to report the average number of other groups camped within sight and sound of them on their trip in the wilderness of Olympic National Park ("typically seen").

Acceptability

Study findings suggest that increasing numbers of groups are found to be increasingly unacceptable, and that mean acceptability ratings fall out of the acceptable range and into the unacceptable range at 3.3 groups (Figure 6).

Preference

Overnight visitors reported that they would prefer to see an average of 1.4 groups camped within sight and sound of them each night (Table 26).

Displacement

Overnight visitors reported that an average of 4.2 groups camped within sight and sound would be so unacceptable that they would no longer camp in the area (Table 27). About a fifth of visitors (21.1%) reported that they would continue to camp in the area regardless of the number of other groups camped within sight and sound of them.

Management Action

Overnight visitors reported that the National Park Service should allow an average of 4.0 groups to camp within sight and sound of them before use should be restricted (Table 28). Nearly a quarter of visitors (22.6%) reported that reported that the number of groups should not be restricted.

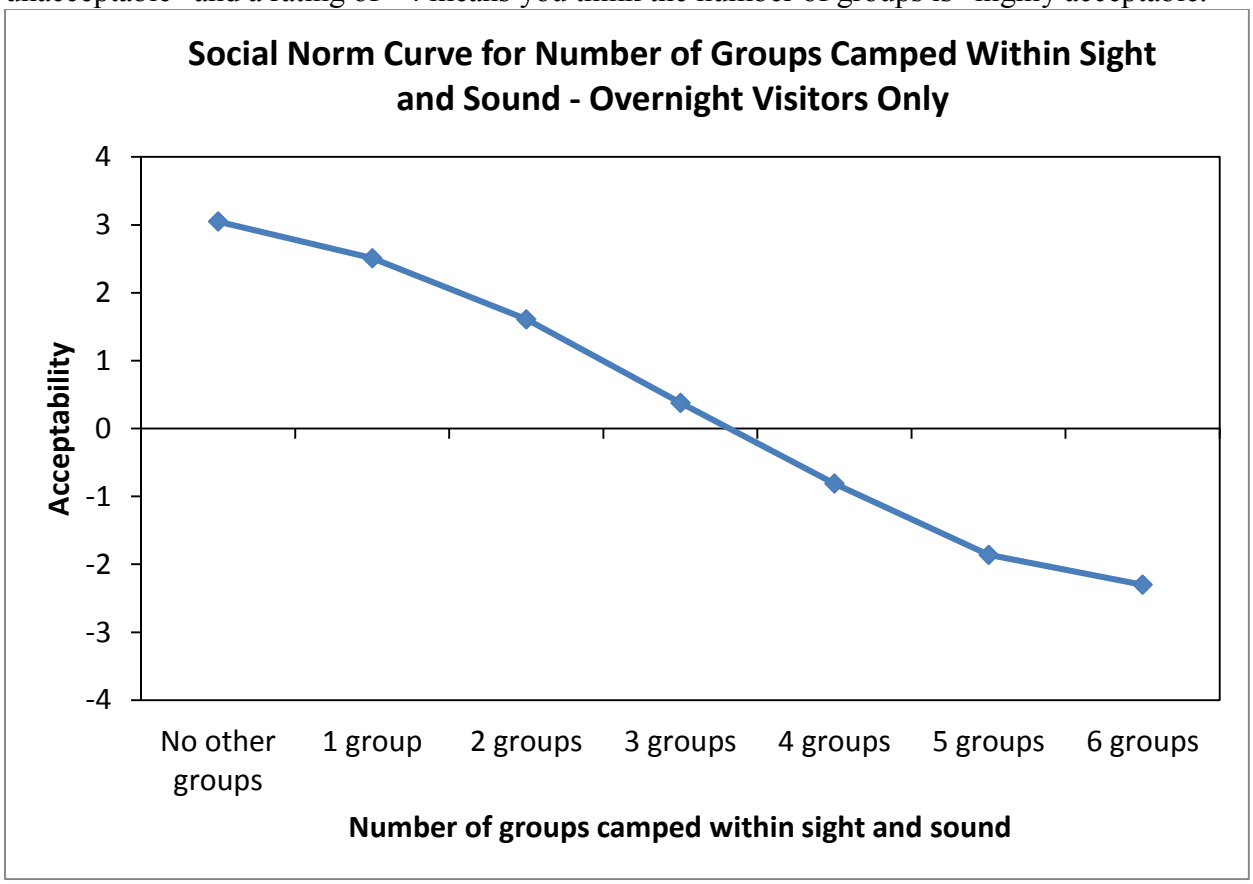
Typically Seen

Overnight visitors reported that they typically saw an average of 1.8 other groups camped within sight and sound of them while on their trip (Table 29).

Summary Table

Study findings on standards of quality for the number of groups camped within sight and sound are summarized in Table 30. Overnight visitors reported fewer groups camped within sight and sound of them than the maximum acceptable number, the maximum the National Park Service should allow, and the number of people that causes respondents to be displaced from these areas of the wilderness. However, overnight visitors reported slightly more groups than they preferred.

Figure 6. Question 9a: Overnight Visitors. We would like to know how many groups (1 to 6 people) you think it would be acceptable to have camp within sight and sound of you each night in the wilderness of Olympic National Park. Please indicate how acceptable you think the following numbers of groups are. A rating of -4 means you think the number of groups is "highly unacceptable" and a rating of +4 means you think the number of groups is "highly acceptable."



Margin of Acceptability = 3.3 groups

Table 26. Question 9b: Overnight Visitors. What is the number of other groups that you would prefer to have camp within sight and sound of you each night in the wilderness of Olympic National Park?

	Overnight Visitors
No other groups	36.1
1 group	26.1
2 groups	21.4
3 groups	9.7
4 groups	3.3
5 groups	0.7
6 groups	1.3
7 groups	0.3
More than 7 groups	1.0
N	299
Mean	1.4
Median	1.0

Table 27. Question 9c: Overnight Visitors. What is the maximum number of groups that you could camp within sight and sound of you each night in the wilderness of Olympic National Park before you would no longer camp in this area?

	Overnight Visitors
No other groups	0.3
1 group	5.6
2 groups	14.1
3 groups	17.1
4 groups	12.8
5 groups	12.2
6 groups	9.5
7 groups	0.3
More than 7 groups	7.0
I would continue to camp here regardless of the number of other groups camped within sight and sound of me	21.1
N	304
Mean	4.2
Median	4.0

Table 28. Question 9d: Overnight Visitors. What is the maximum number of groups that you think the National Park Service should allow to camp within sight and sound of you each night in the wilderness of Olympic National Park? In other words, at what point do you think visitors should be restricted from camping in this area?

	Overnight Visitors
No other groups	0.7
1 group	6.7
2 groups	7.7
3 groups	20.5
4 groups	16.2
5 groups	10.4
6 groups	10.1
7 groups	0.0
More than 7 groups	5.1
The number of groups should not be restricted	22.6
N	297
Mean	4.0
Median	4.0

Table 29. Question 9e: Overnight Visitors. What is the average number of other groups camped within sight and sound of you on this trip in the wilderness of Olympic National Park?

	Overnight Visitors
No other groups	23.5
1 group	22.1
2 groups	27.5
3 groups	14.6
4 groups	8.5
5 groups	1.7
6 groups	0.3
7 groups	0.3
More than 7 groups	1.4
N	294
Mean	1.8
Median	2.0

Table 30. Question 9 Summary Table

	Overnight Visitors
Acceptability	3.3
Preference	1.4
Displacement	4.2
Management action	4.0
Typically seen	1.8

Perceived Crowding

Visitors were asked to indicate how crowded they felt while visiting the wilderness of Olympic National Park. A 9-point crowding scale (1=”Not at all crowded,” 9=”Extremely crowded”) was used to elicit responses to this question. On average, all visitors felt “not crowded” to “slightly crowded (mean crowding score = 2.4). Overnight and day visitors reported similar levels of perceived crowding; 2.6 and 2.4 respectively. (Table 31).

Table 31. Question 10: Overnight Visitors/Question 9: Day Visitors. How crowded did you feel on this visit to the wilderness of Olympic National Park?

	Overnight Visitors	**Day Visitors**	**All Visitors**
1 – Not at all crowded	24.5	31.6	28.9
2 – Not crowded	37.6	37.3	36.8
3 – Slightly crowded	15.1	12.5	13.1
4 – A little crowded	7.4	8.8	8.2
5 – Somewhat crowded	6.0	3.1	3.9
6 – Moderately crowded	7.4	5.2	5.8
7 – Very crowded	1.0	1.1	1.0
8 – Highly crowded	1.0	0.5	0.6
9 – Extremely crowded	0.0	0.0	0.0
N	298	649	963
Mean	2.6	2.4	2.4
Median	2.0	2.0	2.0

Attitudes toward Management

Visitors were asked their opinion about the appropriate balance between providing visitor access to the wilderness and providing opportunities for solitude (Table 32). Most visitors indicated that they thought the National Park Service should strike a balance between allowing unrestricted access to the wilderness and managing for solitude. A majority of all visitors (55%) indicated that they felt the wilderness should be managed for solitude along a few wilderness trails, but the majority of trails in the wilderness should have no use limits. Similar percentages of overnight visitors (53.8%) and day visitors (55.6%) held this opinion.

Respondents were asked about their familiarity with the legal definition of wilderness (Table 33). A majority of all visitors (57.2%) indicated that they knew a little or a lot about the legal definition of wilderness. A similar percentage of overnight visitors (60.7%), and day visitors (55.6%) indicated that they knew a little or a lot about the legal definition of wilderness. Findings from this question indicate that while a majority of visitors do know something about the legal definition of wilderness, many visitors know nothing or very little about it.

Visitors were asked to indicate the extent to which they support or oppose a range of management actions in the wilderness. Overall, visitors tended support more management actions in the wilderness that they opposed (Table 36). The management actions most strongly supported by all visitors included "provide opportunities to obtain wilderness permits online", "limit the number of reserved permits available to commercial operators", "restrict stock camping to designated stock camps", "close some trails to stock", "place toilets in high use areas", "revegetate impacted areas", and "require canisters for food storage in wildlife problem areas". A majority of all visitors opposed "prohibiting campfires throughout the entire wilderness" and "placement of no bridges or footlogs over some water crossings on high use, maintained trails". Overnight visitors and day visitors generally supported and opposed the same management actions (Tables 34 and 35).

Respondents were asked to indicate the degree to which they agreed or disagreed with several statements about research in the wilderness portion of Olympic National Park (Table 37). A

majority of all visitors supported all of the statements about research in the wilderness area of the park. The following statements were most strongly supported: “research should be allowed in wilderness”, “it is acceptable to tag animals (e.g., place collars on elk) for research purposes”, “it is acceptable to use colored tape to mark locations for research purposes”, and “it is acceptable to place installations (e.g., weather recorders) for research purposes”. Visitors were less supportive of using helicopters for research purposes in the wilderness area of the park. Overnight visitors and day visitors were very similar in their responses to these statements.

Table 32. Question 11: Overnight Visitors/Question 10: Day Visitors. National Park Service managers must find an appropriate balance between allowing people to visit the wilderness and providing opportunities for solitude. In your opinion, which of the four following options strikes the best balance for the wilderness of Olympic National Park?

	Overnight Visitors	**Day Visitors**	**All Visitors**
Do not restrict use to manage for solitude anywhere in the wilderness, even if use is heavy.	11.9	27.0	22.2
Manage for *solitude along a few wilderness trails*. The number of people allowed to use these few trails will be limited, but the majority of trails will have no use limits.	53.8	55.6	55.0
Manage for *solitude on most wilderness trails*, by limiting the number of people using these trails. A few trails will have unrestricted use. Use levels will be increased and high on these trails.	31.0	16.1	20.9
Manage for *solitude everywhere* in wilderness, even though this may mean that use will be restricted and people will be turned away.	3.3	1.3	1.9
N	303	640	943

Table 33. Question 12: Overnight Visitors/Question 11: Day Visitors. How familiar are you with the legal definition of wilderness?

	Overnight Visitors	**Day Visitors**	**All Visitors**
I have no idea -- I didn’t even know there was a legal definition of wilderness.	11.1	13.0	12.4
I have heard of wilderness areas, but I don’t know anything about the legal definition of wilderness.	28.2	31.3	30.3
I know a little bit about what the legal definition of wilderness is.	39.7	40.2	40.0

I think I know a lot about the legal definition of wilderness.	21.0	15.4	17.2
N	305	629	934

Table 34. Question 13: Overnight Visitors/Question 12: Day Visitors. Please indicate the extent to which you oppose or support the following wilderness management actions.

	Strongly Oppose	Oppose	No Opinion	Support	Strongly Support	Mean
Overnight Visitors	-2	-1	0	1	2	
Trails and Campsites						
Close overused campsites	5.8	19.6	15.1	34.3	25.3	0.5
Prohibit campfires at areas with little down wood	5.8	9.7	13.2	37.7	33.5	0.8
Prohibit campfires throughout entire wilderness	26.2	36.7	14.4	11.8	10.9	-0.6
Restrict group camping (greater than 6 people) to designated group camps	7.6	10.5	12.4	33.3	36.2	0.8
Place no bridges or footlogs over some water crossings on high use, maintained trails	14.0	38.4	28.6	14.5	4.4	-0.4
Place no bridges or footlogs over some water crossings on low use, maintained trails	9.2	26.7	33.0	24.8	6.3	-0.1
Visitor Use Management						
Assign parties to specific campsites	16.9	32.6	17.6	24.0	8.9	-0.3
Provide reservations for areas with limits on overnight camping	4.5	7.7	15.4	48.4	24.0	0.8
Require visitors to obtain wilderness permits at Wilderness Information Centers	3.5	9.5	16.5	38.4	32.1	0.9
Provide opportunity to obtain wilderness permits online	3.5	3.8	7.7	31.9	53.0	1.3
Limit number of overnight visitors in specific high use areas	4.1	7.0	13.1	36.9	38.9	1.0
Limit number of day use visitors in specific high use areas	9.6	19.2	28.5	24.7	17.9	0.2
Limit number of overnight visitor throughout entire wilderness	10.6	24.2	21.9	0.0	10.6	-0.2
Limit party size for day users	10.9	27.3	25.4	21.2	15.1	0.0
Make cross-country party size smaller than trail travel party size	7.2	12.1	44.6	24.4	11.7	0.2
Require all overnight users to watch pre-trip leave-no-trace video	23.6	26.8	19.8	19.5	10.2	-0.3
Collect overnight wilderness fees to help fund wilderness projects	5.8	7.4	20.5	35.6	30.8	0.8
Limit number of reserved permits available to commercial operators	4.8	3.2	19.0	30.3	42.6	1.0
Stock Use						
Restrict stock camping to designated stock camps	2.2	2.6	20.8	27.8	46.6	1.1
Close some trails to stock	2.2	2.9	24.4	26.9	43.6	1.0
Close subalpine areas to stock camping	3.9	3.9	32.5	23.5	36.3	0.9
Facilities and Services						
Place toilets in high use areas	1.6	4.8	9.6	46.3	37.7	1.1
Provide specialty bags for carrying out personal human waste	8.3	15.9	25.5	36.0	14.3	0.3
Require use of specialty bags for carrying out personal human waste	16.3	21.1	23.6	25.2	13.7	0.0
Resource Management						
Revegetate impacted areas	1.9	2.2	7.0	44.1	44.7	1.3

Require canisters for food storage in wildlife problem areas	2.2	5.4	11.8	35.4	45.2	1.2
Require canisters for food storage throughout entire wilderness	8.3	22.0	27.7	21.3	20.7	0.2
Leave cross-country routes and unofficial trails off published maps	13.4	19.8	25.2	24.0	17.6	0.1

Table 35. Question 13: Overnight Visitors/Question 12: Day Visitors. Please indicate the extent to which you oppose or support the following wilderness management actions.

	Strongly Oppose	Oppose	No Opinion	Support	Strongly Support	Mean
Day Visitors	-2	-1	0	1	2	
Trails and Campsites						
Close overused campsites	9.5	21.1	25.3	28.9	15.2	0.2
Prohibit campfires at areas with little down wood	5.3	12.4	24.1	33.0	25.2	0.6
Prohibit campfires throughout entire wilderness	19.0	34.8	24.2	12.5	9.5	-0.4
Restrict group camping (greater than 6 people) to designated group camps	6.2	10.8	17.5	36.5	28.9	0.7
Place no bridges or footlogs over some water crossings on high use, maintained trails	22.9	37.7	23.8	12.6	3.1	-0.7
Place no bridges or footlogs over some water crossings on low use, maintained trails	14.6	28.0	32.8	19.5	5.1	-0.3
Visitor Use Management						
Assign parties to specific campsites	13.0	21.0	27.2	29.4	9.4	0.0
Provide reservations for areas with limits on overnight camping	6.7	6.7	16.3	48.3	22.0	0.7
Require visitors to obtain wilderness permits at Wilderness Information Centers	6.7	9.0	23.8	37.9	22.6	0.6
Provide opportunity to obtain wilderness permits online	2.6	2.8	14.1	38.0	42.4	1.2
Limit number of overnight visitors in specific high use areas	3.7	5.6	17.9	42.7	30.0	0.9
Limit number of day use visitors in specific high use areas	11.7	21.2	26.2	28.5	12.5	0.1
Limit number of overnight visitor throughout entire wilderness	13.2	17.6	34.4	24.8	10.0	0.1
Limit party size for day users	16.4	25.4	29.0	22.1	7.2	-0.2
Make cross-country party size smaller than trail travel party size	8.5	8.5	55.2	20.3	7.4	0.1
Require all overnight users to watch pre-trip leave-no-trace video	16.3	19.8	28.1	25.0	10.7	-0.1
Collect overnight wilderness fees to help fund wilderness projects	7.0	5.3	22.7	43.6	21.3	0.7
Limit number of reserved permits available to commercial operators	4.2	3.9	20.2	33.5	38.2	1.0
Stock Use						
Restrict stock camping to designated stock camps	1.7	3.1	28.8	32.1	34.3	0.9
Close some trails to stock	1.9	2.8	29.8	29.5	35.9	1.0
Close subalpine areas to stock camping	2.2	5.8	46.4	18.9	26.7	0.6
Facilities and Services						
Place toilets in high use areas	1.7	4.1	11.9	45.5	36.9	1.1
Provide specialty bags for carrying out personal human waste	4.7	9.2	30.6	39.0	16.5	0.5

Require use of specialty bags for carrying out personal human waste	8.3	16.0	29.5	30.1	16.0	0.3
Resource Management						
Revegetate impacted areas	0.8	1.6	12.7	43.3	41.7	1.2
Require canisters for food storage in wildlife problem areas	2.5	2.5	12.9	40.4	41.7	1.2
Require canisters for food storage throughout entire wilderness	5.3	11.7	36.3	27.1	19.6	0.4
Leave cross-country routes and unofficial trails off published maps	9.3	20.6	37.6	19.7	12.9	0.1

Table 36. Question 13: Overnight Visitors/Question 12: Day Visitors (continued). Please indicate the extent to which you oppose or support the following wilderness management actions.

	Strongly Oppose	Oppose	No Opinion	Support	Strongly Support	Mean
All Visitors	-2	-1	0	1	2	
Trails and Campsites						
Close overused campsites	8.3	20.6	22.0	30.6	18.5	0.3
Prohibit campfires at areas with little down wood	5.5	11.5	20.5	34.6	27.9	0.7
Prohibit campfires throughout entire wilderness	21.4	35.4	21.0	12.3	9.9	-0.5
Restrict group camping (greater than 6 people) to designated group camps	6.7	10.7	15.8	35.5	31.3	0.7
Place no bridges or footlogs over some water crossings on high use, maintained trails	20.0	38.0	25.3	13.2	3.5	-0.6
Place no bridges or footlogs over some water crossings on low use, maintained trails	12.8	27.6	32.8	21.2	5.5	-0.2
Visitor Use Management						
Assign parties to specific campsites	14.3	24.8	24.1	27.6	9.2	-0.1
Provide reservations for areas with limits on overnight camping	6.0	7.0	16.0	48.3	22.7	0.8
Require visitors to obtain wilderness permits at Wilderness Information Centers	5.6	9.2	21.4	38.1	25.7	0.7
Provide opportunity to obtain wilderness permits online	2.9	3.1	12.0	36.1	45.9	1.2
Limit number of overnight visitors in specific high use areas	3.9	6.1	16.3	40.8	32.9	0.9
Limit number of day use visitors in specific high use areas	11.0	20.5	26.9	27.3	14.3	0.1
Limit number of overnight visitor throughout entire wilderness	12.4	19.7	33.8	23.8	10.2	0.0
Limit party size for day users	14.6	26.0	27.8	21.8	9.8	-0.1
Make cross-country party size smaller than trail travel party size	8.1	9.7	51.8	21.7	8.8	0.1
Require all overnight users to watch pre-trip leave-no-trace video	18.7	22.1	25.4	23.2	10.6	-0.2
Collect overnight wilderness fees to help fund wilderness projects	6.6	6.0	22.0	41.0	24.4	0.7
Limit number of reserved permits available to commercial operators	4.4	3.7	19.8	32.5	39.6	1.0
Stock Use						
Restrict stock camping to designated stock camps	1.9	3.0	26.1	30.7	38.4	1.0
Close some trails to stock	2.0	2.8	28.0	28.7	38.5	1.0
Close subalpine areas to stock camping	2.8	5.2	41.8	20.4	29.8	0.7
Facilities and Services						

Place toilets in high use areas	1.7	4.3	11.1	45.8	37.1	1.1
Provide specialty bags for carrying out personal human waste	5.9	11.4	28.9	38.0	15.8	0.5
Require use of specialty bags for carrying out personal human waste	10.9	17.7	27.6	28.5	15.3	0.2
Resource Management1.3						
Revegetate impacted areas1.2	1.2	1.8	10.8	43.5	42.7	1.3
Require canisters for food storage in wildlife problem areas	2.4	3.5	12.5	38.5	42.9	1.2
Require canisters for food storage throughout entire wilderness	6.3	15.1	33.5	25.2	19.9	0.4
Leave cross-country routes and unofficial trails off published maps	10.6	20.3	33.5	21.1	14.4	0.1

Table 37. Question 14: Overnight Visitors/Question 13: Day Visitors. Research is frequently conducted in the wilderness of Olympic National Park. Please indicate the extent to which you agree or disagree with the following statements about research in the wilderness portion of the park.

Research Activity	Strongly disagree -2	Disagree -1	No Opinion 0	Agree 1	Strongly agree 2	Mean
Overnight Visitors						
Research should be allowed in wilderness	0.0	0.3	5.8	37.1	56.9	1.5
It's acceptable to tag animals (e.g., place collars on elk) for research purposes	1.6	4.8	12.5	42.3	38.8	1.1
It's acceptable to use colored tape to mark locations for research purposes	1.6	6.4	16.6	41.9	33.5	1.0
It's acceptable to place installations (e.g., weather recorders) for research purposes	1.0	3.8	19.2	40.1	35.9	1.0
It's acceptable to use helicopters for research purposes	9.3	15.7	21.2	33.3	20.5	0.4
Day Visitors						
Research should be allowed in wilderness	0.2	0.5	10.7	40.7	48.0	1.4
It's acceptable to tag animals (e.g., place collars on elk) for research purposes	1.6	5.2	14.8	45.1	33.3	1.0
It's acceptable to use colored tape to mark locations for research purposes	1.7	8.0	17.1	44.7	28.5	0.9
It's acceptable to place installations (e.g., weather recorders) for research purposes	0.6	4.4	16.6	47.6	30.8	1.0
It's acceptable to use helicopters for research purposes	8.8	16.5	25.3	34.5	14.9	0.3
All Visitors						
Research should be allowed in wilderness	0.1	0.4	9.1	39.5	50.9	1.4
It's acceptable to tag animals (e.g., place collars on elk) for research purposes	1.6	5.1	14.0	44.2	35.1	1.1
It's acceptable to use colored tape to mark locations for research purposes	1.7	7.5	17.0	43.7	30.1	0.9
It's acceptable to place installations (e.g., weather recorders) for research purposes	0.7	4.2	17.4	45.1	32.5	1.0
It's acceptable to use helicopters for research purposes	9.0	16.2	23.9	34.1	16.8	0.3

Wilderness Visitors and Visitor Use Patterns

Several questions addressed selected trip characteristics including time spent in the wilderness, group usage, whether or not a wilderness permit was obtained, the purpose of the trip, and whether or not pack stock were used. Day visitors spent an average of 3.5 hours in the wilderness with the majority of visitors (71.7%) spending between 2 and 6 hours (Table 38). Overnight visitors spent an average of 2.1 nights in the wilderness, with the majority of visitors (74%) spending 1 or 2 nights (Table 39). The average group sizes of day and overnight visitors were similar and the overall average group size was around 3 people (Table 40). Of overnight visitors, the vast majority (96%) obtained a wilderness permit for their trips (Table 41).

Visitors were asked to indicate all of their purposes for going on this wilderness trip (Table 42).The most common purposes for both day and overnight visitors for going on their wilderness trips were to enjoy the scenery (86.5% and 89.2%, respectively), to experience the wilderness (85.54% and 78.2%), and be with family and/or friends (70.5% and 62.2%) (Tables 42 and 43). Camping out was an important purpose for overnight visitors. Visitors were also asked to report their most important purpose for this wilderness trip (Table 44). The most important purpose of day visitor wilderness trips was to experience the wilderness (25.5%), and the most important purpose of overnight visitor wilderness trips was the be with family and/or friends (36.5%) (Table 44).

No overnight visitors participating in this study were travelling with pack stock animals; however, 1 day visitor reported that he/she was travelling on horseback (Tables 45 and 46).

Both overnight and day visitors were asked to indicate their experience in the wilderness of Olympic National Park and wilderness areas in general. The vast majority of all visitors (93.5%) had been to a wilderness area before this trip (Table 47). Of those that have been on previous wilderness trips, 40% of all visitors reported going on 2-5 wilderness trips per year (Table 48). All visitors have visited, on average, 15 wilderness areas other than the wilderness of Olympic National Park (Table 49). More than two-thirds of all visitors (69.3%) reported visiting the

wilderness of Olympic National Park at least one other time. Finally, both overnight visitors and day visitors have traveled to the wilderness of Olympic National Park about 16 times (Table 50).

The average age of all visitors was approximately 42 years old; day visitors tended to be older than overnight visitors (35.5 years versus 44.7 years) (Table 51). Slightly more male visitors completed the questionnaire than female visitors (54% versus 46%) (Table 52); the majority of overnight respondents were male (63.2%) while an equal number of day visitors were male and female. The vast majority of overnight visitors reported Washington as their state of residence (70.9) compared to 54.6% of day visitors (Table 53). Nearly all respondents in this study identified as not Hispanic or Latino. Of those who were not Hispanic or Latino, the majority of overnight visitors and day visitors identified as White (78.5% and 87.0%, respectively), and 7.4% of overnight visitors identified themselves as Asian (Table 54). Nearly three quarters of both overnight visitors and day visitors reported having a four year college degree or higher (74% and 73.3%, respectively) (Table 55).

Table 38. Question 1: Day Visitors. How many hours did you spend in the wilderness?

	Day Visitors
Less than 1 hour	1.5
1 to <2 hours	15.4
2 to <4 hours	41.2
4 to <6 hours	30.5
6-8 hours	9.2
More than 8 hours	2.1
N	655
Mean	3.5
Median	3.0

Table 39. Question 1: Overnight Visitors. How many nights did you spend in the wilderness?

	Overnight Visitors
1 night	33.6
2 nights	40.4
3 nights	17.6
4 nights	3.7
5 nights	2.2
6 nights	0.6
7 or more nights	1.5
Mean	2.1
Median	2.0

Table 40. Question 2: How many people (including yourself) are in your group?

	Overnight Visitors	Day Visitors	All Visitors
1	9.3	9.6	9.5
2	44.0	52.8	50.0
3	13.9	12.4	12.9
4	17.3	12.5	14.0
5	3.7	4.4	4.2
6	3.1	3.8	3.6
More than 6	8.6	4.5	6.0
N	323	688	1011
Mean	3.4	3.0	3.1
Median	2.0	2.0	2.0

Table 41. Question 22: Overnight Visitors/Question 21: Day Visitors. Did you or any member of your group obtain a wilderness permit for your current visit to the wilderness of Olympic National Park?

	Overnight Visitors	Day Visitors	All Visitors
Yes	96.0	16.9	42.0
No	3.3	78.6	54.8
I don't know	0.7	4.5	3.3
N	300	646	946

Table 42. Question 4a: What were the purposes for going on this wilderness trip?

	Overnight Visitors	Day Visitors	All Visitors
Photography	43.1	56.6	52.3
Camp out	92.3	11.1	37.0
Observe wildflowers	39.1	41.8	40.9
Observe wildlife	64.3	57.3	59.6
Physical challenge	60.0	46.3	50.6
Fishing	6.8	2.2	3.6
Horseback riding	0.6	0.1	0.3
Get out of the city	60.0	48.7	52.3
Get away from normal routine	58.8	57.1	57.6
Be with family/friends	70.5	62.2	64.9
Experience wilderness	85.5	78.2	80.6
Enjoy the scenery	86.5	89.2	88.3
Climbing	12.3	6.1	8.0
Experience solitude	50.2	36.3	40.7

See Pacific Ocean	28.6	34.3	32.5
Group outing	19.1	12.2	14.4
Other	13.2	13.3	13.2
N	325	694	1019

Table 43. Question 4a: "Other" purposes for going on this wilderness trip.

	Overnight Visitors	**Day Visitors**	**All Visitors**
Backpacking/hiking	11.6	18.5	16.3
Be with family and friends	0.0	4.4	3.0
Birding	0.0	1.1	0.7
Birthday/anniversary	4.7	3.3	3.7
Enjoyment	11.6	6.5	8.1
Exercise	0.0	5.4	3.7
First Camping Trip	2.3	0.0	0.7
Fresh air	0.0	2.2	1.5
Geology	2.3	0.0	0.7
Marmot survey	11.6	0.0	3.7
Miscellaneous	25.6	25.0	25.2
Organized trip	7.0	6.5	6.7
Pacific Ocean activities (surfing, swimming, tide pools, fishing)	16.3	7.6	10.4
Relaxation	7.0	6.5	6.7
Scenery	0.0	1.1	0.7
Visit the area	0.0	12.0	8.1
N	43	92	135

Table 44. Question 4b: What was the most important purpose of this wilderness trip?

	Overnight Visitors	**Day Visitors**	**All Visitors**
Photography	2.4	3.9	3.4
Camp out	5.9	1.2	2.7
Observe wildflowers	0.7	0.8	0.8
Observe wildlife	1.0	2.9	2.3
Physical challenge	2.1	3.9	3.3
Fishing	3.5	0.0	1.1
Get out of the city	3.8	2.9	3.2
Get away from normal routine	21.9	8.2	12.7
Be with family/friends	36.5	15.8	22.5
Experience wilderness	8.3	25.5	19.9
Enjoy the scenery	1.0	21.8	15.1
Climbing	5.2	0.0	1.7
Experience solitude	0.3	2.5	1.8

See Pacific Ocean	2.8	3.5	3.3
Group outing	4.2	0.8	1.9
Other	0.3	6.2	4.3
N	288	595	883

Table 45. Question 5a: Did you travel into the wilderness with pack stock animals?

	Overnight Visitors	Day Visitors	All Visitors
Yes	0.0	0.1	0.1
No	100.0	99.9	99.9
N	316	670	986

Table 46. Question 5b: What type of stock animals did you use?

	Overnight Visitors	Day Visitors	All Visitors
Horse	0.0	100.0	100.0
Mule	0.0	0.0	0.0
Burro	0.0	0.0	0.0
Llama	0.0	0.0	0.0
Other	0.0	0.0	0.0
N	0	1	1

Table 47. Question 15: Overnight Visitors/Question 14: Day Visitors. Have you ever been to a wilderness area before this trip?

	Overnight Visitors	Day Visitors	All Visitors
Yes	91.4	94.5	93.5
No	8.6	5.5	6.5
N	315	649	964

Table 48. Question 16: Overnight Visitors/Question 15: Day Visitors. Since your first wilderness trip, about how often have you gone on wilderness trips (including this and other wildernesses)?

	Overnight Visitors	Day Visitors	All Visitors
Less than once a year	1.1	13.1	10.7
Once a year	1.5	21.8	20.8
2-5 times a year	44.4	38.4	40.0
6-10 times a year	23.0	13.6	13.9
More than 10 times a year	29.9	13.2	14.5
N	287	597	884

Table 49. Question 17: Overnight Visitors/Question 16: Day Visitors. About how many other wilderness areas, besides this wilderness, have you visited?

	Overnight Visitors	Day Visitors	All Visitors
0	1.1	0.4	0.6
1	1.5	3.5	2.8
2	7.3	5.5	6.1
3	13.8	10.2	11.4
4	10.3	7.7	8.5
5	13.0	11.7	12.1
6	6.9	6.4	6.6
7	1.9	1.6	1.7
8	1.1	3.5	2.7
9	0.8	0.2	0.4
10	12.3	18.5	16.5
11-15	6.5	6.7	7.8
16-20	6.9	10.6	9.3
21-25	3.4	2.6	2.8
More than 25	9.7	11	10.2
N	261	547	808
Mean	15.6	15.8	15.7
Median	6.0	8.0	8.0

Table 50. Question 18: Overnight Visitors/Question 17: Day Visitors. About how many times have you been to the wilderness of Olympic National Park?

	Overnight Visitors	Day Visitors	All Visitors
1	26.7	32.8	30.7
2	13.3	15.0	14.4
3	8.1	8.7	8.5
4	4.9	5.9	5.6
5	6.3	4.5	5.1
6	2.5	2.4	2.4
7	1.1	0.9	1.0
8	0.7	0.7	0.7
9	0.0	0.0	0.0
10	6.0	7.6	7.0
11-15	3.9	3.0	3.3
16-20	8.8	5.2	6.4
21-25	1.8	1.7	1.7
26-30	4.7	1.7	2.6
31-40	2.3	1.5	1.6
41-50	4.3	3.7	3.8
More than 50	5.7	4.8	4.5
N	285	539	824

Mean	16.0	16.8	16.6
Median	4.0	3.0	3.0

Table 51. Question 19: Overnight Visitors/Question 18: Day Visitors. What is your age?

	Overnight Visitors	**Day Visitors**	**All Visitors**
Under 20	3.5	3.1	3.0
20 to 29	40.7	19.3	26.4
30 to 39	21.6	16.7	18.5
40 to 49	15.0	17.4	16.7
50 to 59	14.6	24.6	21.6
60 to 69	4.0	14.6	10.9
70 and over	0.5	4.3	2.8
N	316	654	970
Mean	35.5	44.7	41.7

Table 52. Question 21: Overnight Visitors/Question 20: Day Visitors. Are you male or female?

	Overnight Visitors	**Day Visitors**	**All Visitors**
Male	63.2	49.6	54.0
Female	36.8	50.4	46.0
N	310	647	957

Table 53. Question 20: Overnight Visitors/Question 19: Day Visitors. State of Residence.

	Overnight Visitors	**Day Visitors**	**All Visitors**
Alaska	0.7	0.0	0.2
Alabama	0.7	0.0	0.2
Arkansas	0.0	0.3	0.2
Arizona	0.0	1.0	0.7
California	5.2	4.4	4.7
Colorado	1.6	3.0	2.5
District of Columbia	0.0	0.3	0.2
Delaware	0.3	0.0	0.1
Florida	0.0	2.5	1.7
Georgia	0.7	1.0	0.9
Hawaii	0.0	0.2	0.1
Iowa	0.3	0.3	0.3
Idaho	1.3	0.3	0.7
Illinois	2.0	2.0	2.0
Indiana	0.0	0.8	0.6
Kansas	0.7	0.2	0.3
Kentucky	0.0	0.3	0.2
Massachusetts	0.3	2.0	1.4
Maryland	0.0	0.5	0.3

Michigan	0.7	1.0	0.9
Minnesota	1.0	2.0	1.7
Missouri	1.0	0.7	0.8
Montana	2.0	0.7	1.1
North Carolina	0.3	2.0	1.4
Nebraska	0.0	0.5	0.3
North Dakota	0.3	0.0	0.1
New Hampshire	0.7	0.2	0.3
New Mexico	0.0	0.3	0.2
Nevada	0.0	0.8	0.6
New York	0.7	2.7	2.0
Ohio	0.0	1.2	0.8
Oregon	5.9	5.2	5.4
Pennsylvania	0.3	0.8	0.7
South Carolina	0.0	0.5	0.3
South Dakota	0.0	0.5	0.3
Tennessee	0.0	1.2	0.8
Texas	1.0	2.3	1.9
Utah	0.7	1.0	0.9
Virginia	0.0	0.5	0.3
Vermont	0.3	0.5	0.4
Washington	70.9	54.6	60.1
Wisconsin	0.7	1.5	1.2
N	306	597	903

Table 54. Question 23: Overnight Visitors/Question 22: Day Visitors. In what ethnicity and race would you place yourself?

Ethnicity	**Overnight Visitors**	**Day Visitors**	**All Visitors**
Hispanic or Latino	8.8	4.2	5.7
Not Hispanic or Latino	91.2	95.8	94.3
N	252	694	946
Race			
American Indian or Alaska Native	2.2	1.0	1.4
Asian	7.4	3.3	4.6
Black or African American	0.3	1.0	0.8
Native Hawaiian or other Pacific Islander	5.8	0.3	2.1
White	78.5	87.0	84.3
N	325	694	1019

Table 55. Question 24: Overnight Visitors/Question 23: Day Visitors. What is the highest level of formal education you have completed?

	Overnight Visitors	Day Visitors	All Visitors
Less than high school	1.6	0.2	0.6
Some high school	1.3	1.0	1.1
High school graduate	5.5	4.2	4.6
Vocational/trade school certificate	1.3	2.4	2.0
Some college	5.5	10.7	9.0
Two-year college degree	10.7	8.3	9.1
Four-year college degree	42.7	37.4	39.2
Master's degree	22.5	25.3	24.4
Ph.D., M.D., J.D., or equivalent	8.8	10.6	10.0
N	307	625	932

Chapter 4: Summary, Conclusions, and Recommendations

This chapter summarizes the study and presents a series of conclusions and recommendations based on study findings. The goal of the study was to help inform development of a wilderness stewardship plan for the wilderness portion of Olympic National Park. More specifically, information was obtained on characteristics of wilderness visitors and visitor use patterns, indicators of quality, standards of quality, and attitudes toward management. Principal study methods included surveys of 1019 wilderness visitors representing two types of wilderness users: 1) overnight visitors and, 2) day visitors. The survey was administered to a representative sample of visitors at 32 wilderness trailheads representing both low and high use areas in coastal, rainforest, and high country portions of the park. The survey achieved an average response rate of 50.4%.

A summary of principal study findings from the visitor surveys is as follows:

1. Visitors are characterized by the following information:
    A. The average age of all visitors was approximately 42 years old; day visitors tended to be older than overnight visitors (44.7 years versus 35.5 years).
    B. Slightly more male visitors completed the questionnaire than female visitors (54% versus 46%); the majority of overnight respondents were male (63.2%) while an equal number of day visitors were male or female.
    C. A large majority of overnight visitors reported Washington as their state of residence (70.9) compared to 54.6% of day visitors
    D. Visitors are highly educated, with a majority of visitors in all sampling groups attaining a college degree or beyond.
    E. The vast majority of visitors indicate that they are not Hispanic or Latino (91.2% to 95.8%) and identify themselves as white (78.5% to 87.0%).
2. Visitor use is characterized by the following information:
    A. Day visitors spent an average of 3.5 hours in the wilderness.
    B. Overnight visitors spent an average of 2.1 nights in the wilderness.

C. Overall average group size was around 3 people and was similar for overnight and day visitors.

D. The vast majority of overnight hikers (96%) obtained a wilderness permit for their trip.

E. The most common purposes for both day and overnight visitors for going on their wilderness trips were to enjoy the scenery (86.5% and 89.2%, respectively), to experience the wilderness (85.54% and 78.2%), and be with family and/or friends (70.5% and 62.2%).

F. Both overnight and day visitors were asked to indicate their experience use history in the wilderness of Olympic National Park and wilderness areas in general. The vast majority of all visitors (93.5%) had been to a wilderness area before this trip. More than two-thirds of all visitors (69.3%) reported visiting the wilderness of Olympic National Park at least one other time. Respondents have visited the wilderness of Olympic National Park about 16 times previously.

3. Several batteries of questions were asked that explored potential indicators of qualities. Respondents were asked to indicate how several elements of signs and campground areas, trail and water crossings, visitor use management, and sights and sounds added to or detracted from their wilderness experience. Day and overnight users (Table 3), reported that seeing trees damaged by campers and seeing/hearing chainsaws or other motorized equipment detracted the most from their wilderness experience. Seeing/hearing people using electronic devices also detracted from their wilderness experience. Seeing directional signs inside the wilderness at trail junctions and crossing streams on a footlog added the most to respondents' wilderness experiences. Crossing streams on a wood bridge, seeing historic buildings, and seeing park staff working in wilderness also equally added to the wilderness experience.

4. Several batteries of questions were used to identify potential standards of quality for wilderness trail encounters, the number of visitors seen at attraction sites in three contexts (coast, rainforest and high country), and wilderness camping. Crowding has been found to be an important indicator and standard of quality in outdoor recreation, particularly in wilderness areas (Manning 2011), and the Wilderness Act states that wilderness areas are to be managed for "opportunities for solitude." Some of the survey questions used series of

visual simulations to portray a range of visitor use levels, and respondents were asked to render judgments about these photographs using a number of evaluative questions. Other questions used verbal descriptions of a range of use levels. For each of the study sites and each type of visitors (overnight and day visitors), a range of potential standards of quality were identified. Standards of quality ranged from what respondents would prefer to experience to the conditions that were so crowded that respondents would no longer visit the study sites. This range of potential standards of quality for each study site and type of group are presented in the tables and figures in Chapter III. Respondents were also asked to report the conditions that looked most like the conditions they experienced on the day the survey was administered. Generally, visitors reported seeing fewer people than the maximum acceptable number, the maximum the National Park Service should allow, and the number of people that causes respondents to be displaced from these areas of the wilderness. However, all visitors reported seeing slightly more visitors than they preferred.

5. Visitors reported relatively low levels of perceived crowding and this is consistent with the fact that they generally saw only a few more people on the trail, at attraction sites, and at campsites than they prefer to see, and fewer people than the maximum number acceptable.
6. Visitors were asked their opinion about the appropriate balance between providing visitor access to the wilderness and providing opportunities for solitude (Table 31). Most visitors indicated that they thought the National Park Service should strike a balance between allowing unrestricted access to the wilderness and managing for solitude.
7. A majority of visitors know something about the legal definition of wilderness, however many visitors know nothing or very little about it.
8. Visitors were asked to indicate the extent to which they support or oppose a range of management actions in the wilderness. Overall, visitors tended support more management actions in the wilderness that they opposed. The management actions most strongly supported by all visitors included “provide opportunities to obtain wilderness permits online”, “limit the number of reserved permits available to commercial operators”, “restrict stock camping to designated stock camps”, “close some trails to stock”, “place toilets in high use areas”, “revegetate impacted areas”, and “require canisters for food storage in wildlife problem areas”. A majority of all visitors opposed “prohibiting campfires throughout the

entire wilderness" and "placement of no bridges or footlogs over some water crossings on high use, maintained trails".

9. Respondents were asked to indicate the degree to which they agreed or disagreed with several statements about research in the wilderness portion of Olympic National Park. A majority of visitors supported all of the statements about research in the wilderness area of the park, however visitors were somewhat less supportive of the use of helicopters for research purposes in the wilderness area of the park.

These study findings lead to several conclusions and recommendations.

1. The number encounters on wilderness trails, the number of people at one time at attraction sites, and the number of groups camping within sight and sound of each other in the wilderness of Olympic National Park may be good indicators of quality of the visitor experience. Respondents were able to specify the use levels they preferred, find minimally acceptable, and that would cause them to be displaced from the site. This provides park managers with a range of possible standards of quality. Selecting a standard close to the preferred condition will result in a very high quality experience, but is likely to deny access to many potential wilderness visitors. Selecting a standard of quality close to the management action or displacement condition will allow access to many wilderness visitors, but may result in a low quality wilderness experience. It should be noted that the management action standard of quality explicitly asked respondents to make a tradeoff between access to the wilderness and a high quality wilderness experience. Thus, this is a manifestation of a pragmatic solution to the inherent issue of use versus protection of the quality of the visitor experience. It should also be noted that the management action standards of quality reported are substantially underestimated. This is because respondents were given the option of reporting that either "None of the photographs show a high enough number of people to restrict people from visiting the wilderness attraction site" or "The number of people visiting this wilderness attraction site should not be restricted," and many respondents – in some cases a majority – chose one of these response options. Similarly, the displacement standard of quality is also underestimated because this question included a

response option “None of the photographs are so unacceptable that I would no longer visit this wilderness attraction site”, and a substantial number of respondents chose this option.

2. It may be wise to select standards of quality across this range of potential standards as this would maintain a very high quality experience in some areas/zones and would also contribute to a range or spectrum of visitor experiences in the wilderness portion of the park. This would be in keeping with the Recreation Opportunity Spectrum, a framework used widely in park and wilderness management, which emphasizes providing visitors a range of recreation opportunities (Manning 2011).
3. Once standards of quality have been formulated for the maximum number of wilderness trail encounters, people at one time at attraction sites, and number of groups camped within sight and sound of each other, these indicators should be monitored to ensure that standards of quality are maintained. This might be accomplished in two ways. First, periodic surveys of visitors can be conducted. These surveys may use the visual simulations developed for this study, and ask visitors to report which photograph looks most like the use level they typically saw while visiting the wilderness. Second, direct counts of the number of encounters, the number of people at one time, and the number of groups camped within sight and sound of each other could be periodically conducted by park staff.
4. Management should take action if and when monitoring suggests that a standard of quality is violated or is in danger of being violated. Management alternatives are wide ranging and include four basic strategies – limit use, reduce the impact of use, increase the supply of wilderness opportunities, and harden the resource base – and a number of management practices, such as information programs, permit systems, and rules and regulations (Manning and Anderson 2012). Tables 34-36 report visitor attitudes toward selected management practices and this information should be taken into account when considering management alternatives.
5. Visitors reported that some of the most important purposes for their wilderness trips included being with family and friends, experiencing the wilderness, and enjoyment of the scenery. While most visitors are generally unaware of the potential environmental impacts of outdoor recreation, the scientific and professional literature suggests that these impacts can be substantial and occur under even light levels of use (Hammitt and Cole, 1998; Marion and

Leung, 2001). It is recommended that the park assess these impacts and formulate indicators and standards of quality for important natural resources.

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Appendix A: Study Questionnaires

OLYMPIC NATIONAL PARK WILDERNESS VISITOR SURVEY

Overnight Users (high use areas)

ID: _____ DATE:_____

GROUP ID: _____ PHOTOS:_____ TRAIL:_____

Paperwork Reduction Act Statement: The National Park Service is authorized by 16 U.S.C. 1a-7 to collect this information. We will use this information to understand the quality of visitor experiences in the park, visitor characteristics and use patterns. This information will be incorporated into the park's efforts to prepare a Wilderness Stewardship Plan. Your responses are voluntary and completely anonymous. A Federal agency may not conduct or sponsor and you are not required to respond to, a collection of information unless it displays a currently valid OMB Control Number and expiration date.

BURDEN ESTIMATE STATEMENT: We estimate that it will take an average of 15 minutes to complete this questionnaire. Please direct any comments that you have concern this collection to Jennifer Chenoweth, Wilderness Planning Specialist, Olympic National Park Port Angeles, WA 98362; Jennifer_chenoweth@nps.gov (email).

OMB CONTROL NUMBER 1024-0224
Expiration Date: 8/31/2014

OLYMPIC NATIONAL PARK WILDERNESS VISITOR SURVEY

Olympic National Park is preparing a Wilderness Stewardship Plan for the park. You are being asked to participate in this survey because you are using the **wilderness** portion of the park. Most of Olympic National Park (about 95%) has been designated **wilderness** which means that the area should be managed to retain its natural character and provide visitors a high quality **wilderness** experience, including opportunities for solitude. Your participation in this survey will help the National Park Service prepare a plan that meets the needs of visitors like you. Thank you for your help.

I. WILDERNESS TRIP CHARACTERISTICS

This section of the questionnaire asks about your trip in the wilderness of Olympic National Park on the day you were contacted about this survey.

1. How many nights did you spend in the wilderness? _____

2. How many people (including yourself) are in your group? _____

3. What was your primary destination on this trip? _____

4a. What were the purposes for going on this wilderness trip? *(Mark all that apply.)*

○ Photography
○ Camp out
○ Observe wildflowers
○ Observe wildlife
○ Physical challenge
○ Fishing
○ Horseback riding
○ Get out of the city
○ Get away from normal routine
○ Be with family/friends
○ Experience wilderness
○ Enjoy the scenery
○ Climbing
○ Experience solitude
○ See Pacific Ocean
○ Group outing
○ Other (Please specify:_____)

b. Please circle the most important purpose of this wilderness trip.

5a. Did you travel into the wilderness with pack stock animals?
○ Yes
○ No *(Skip to question 6.)*

b. What type of stock animals did you use? *(Mark all that apply.)*
○ Horse
○ Mule
○ Burro
○ Llama
○ Other (Please specify:_____)

II. THE WILDERNESS EXPERIENCE

This section of the questionnaire asks for your thoughts and opinions about a wilderness experience at Olympic National Park.

6. Indicate the extent to which each of the following would add or detract from the quality of your wilderness experience in Olympic National Park. (*Circle one number for each item*.)

	Effect on WILDERNESS experience						
	Would Detract			No	Would Add		
Item:	A Lot	A Little		Effect	A Little		A Lot
Signs and camp areas							
Seeing directional signs inside the wilderness at trail junctions	-3	-2	-1	0	+1	+2	+3
Seeing signs identifying landscape features or destinations in the wilderness (e.g., lakes, cabins, mountain passes)	-3	-2	-1	0	+1	+2	+3
Seeing wilderness boundary marker signs	-3	-2	-1	0	+1	+2	+3
Seeing well defined campsites in the wilderness	-3	-2	-1	0	+1	+2	+3
Seeing a lot of bare ground around campsites	-3	-2	-1	0	+1	+2	+3
Presence of bear wires in campsites for hanging food	-3	-2	-1	0	+1	+2	+3
Trails and Water Crossings							
Fording (wading) streams	-3	-2	-1	0	+1	+2	+3
Crossing streams on a footlog (downed log with handrail)	-3	-2	-1	0	+1	+2	+3
Crossing streams on wood bridge	-3	-2	-1	0	+1	+2	+3
Crossing streams on steel bridge	-3	-2	-1	0	+1	+2	+3
Traveling cross-country/off-trail	-3	-2	-1	0	+1	+2	+3
Presence of downed logs across trails	-3	-2	-1	0	+1	+2	+3
Visitor Use Management							
Not being allowed to have a campfire in specific areas	-3	-2	-1	0	+1	+2	+3
Overnight permit requirement	-3	-2	-1	0	+1	+2	+3
Being required to camp at designated sites	-3	-2	-1	0	+1	+2	+3
Paying a fee to access park trailheads	-3	-2	-1	0	+1	+2	+3
Presence of privies/toilets	-3	-2	-1	0	+1	+2	+3
Seeing areas closed for restoration	-3	-2	-1	0	+1	+2	+3

Item:	Effect on WILDERNESS experience						
	Would Detract			No	Would Add		
	A Lot	A Little		Effect	A Little		A Lot
Sights and Sounds							
Seeing/hearing aircraft	-3	-2	-1	0	+1	+2	+3
Seeing/hearing people using electronic devices (e.g., cell phones, GPS, etc.)	-3	-2	-1	0	+1	+2	+3
Seeing/hearing chainsaws or other motorized equipment	-3	-2	-1	0	+1	+2	+3
Seeing wildlife with radio collars, ear tags, or other markings	-3	-2	-1	0	+1	+2	+3
Encountering a wilderness ranger	-3	-2	-1	0	+1	+2	+3
Seeing/hearing motor boats on the coast	-3	-2	-1	0	+1	+2	+3
Seeing user-created paths around campsites	-3	-2	-1	0	+1	+2	+3
Seeing trees damaged by campers	-3	-2	-1	0	+1	+2	+3
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Seeing evidence of pack stock animal use	-3	-2	-1	0	+1	+2	+3
Seeing shelters (three-sided structures)	-3	-2	-1	0	+1	+2	+3
Seeing historic buildings (e.g., cabins)	-3	-2	-1	0	+1	+2	+3
Seeing research equipment (e.g., weather stations)	-3	-2	-1	0	+1	+2	+3
Seeing park staff spraying exotic, invasive plants	-3	-2	-1	0	+1	+2	+3
Seeing park staff engaged in research and monitoring activities	-3	-2	-1	0	+1	+2	+3
Seeing park staff working in wilderness	-3	-2	-1	0	+1	+2	+3

III. WILDERNESS SOLITUDE

This section of the questionnaire asks about the meaning and importance of solitude in the wilderness of Olympic National Park.

7a. We would like to know how many hikers per day you think it is acceptable to see on the wilderness trails you hiked today without feeling too crowded. Please rate the acceptability of encountering each of the following numbers of hikers per day on the wilderness trails you used today. A rating of "-4" means the number of hikers encountered per day is highly unacceptable, and a rating of "+4" means the number of hikers encountered per day is highly acceptable. *(Circle one rating for each of the numbers of other hikers encountered per day.)*

Number of hikers encountered per day on wilderness trails	Highly	Very	Moderately Unacceptable	Slightly	Neutral	Slightly	Moderately Acceptable	Very	Highly
No other hikers	-4	-3	-2	-1	0	+1	+2	+3	+4
2 other hikers	-4	-3	-2	-1	0	+1	+2	+3	+4
4 other hikers	-4	-3	-2	-1	0	+1	+2	+3	+4
6 other hikers	-4	-3	-2	-1	0	+1	+2	+3	+4
10 other hikers	-4	-3	-2	-1	0	+1	+2	+3	+4
20 other hikers	-4	-3	-2	-1	0	+1	+2	+3	+4
30 other hikers	-4	-3	-2	-1	0	+1	+2	+3	+4
40 other hikers	-4	-3	-2	-1	0	+1	+2	+3	+4
60 other hikers	-4	-3	-2	-1	0	+1	+2	+3	+4
80 other hikers	-4	-3	-2	-1	0	+1	+2	+3	+4
100 or more other hikers	-4	-3	-2	-1	0	+1	+2	+3	+4

b. What is the number of hikers per day that you would prefer to encounter along the wilderness trails you hiked today?

Preferred number of hikers encountered per day: _____

c. What is the maximum number of hikers you think you could encounter per day before you would no longer hike the wilderness trails that you used today? If you would continue to hike these trails regardless of the number of hikers, you may indicate that.

Maximum number of hikers encountered per day
before you would no longer use these wilderness trails: _____

OR

□ I would continue to hike these wilderness trails regardless of the number of hikers I encountered.

d. What is the maximum number of hikers encountered per day that you think the National Park Service should allow on the wilderness trails you used today? In other words, at what point do you think visitors should be restricted from hiking these trails? If you think the number of hikers on these wilderness trails should not be restricted, you may indicate that.

Maximum number of hikers encountered per day that should be allowed on these wilderness trails: _____

OR

□ The number of hikers on these wilderness trails should not be restricted.

e. What is the approximate number of hikers you encountered today on these wilderness trails?

Approximate number of hikers encountered: _____

f. Approximately how much time did you spend hiking on these wilderness trails today?

Length of hike: _____ (hours and/or minutes).

8a. Visitors often stop and visit selected "attraction sites" (e.g., waterfalls) in the wilderness. We would like to know how many people you think could visit a wilderness attraction site without you feeling too crowded. To help judge this, we have a series of photographs that show different numbers of people at an attraction site in the wilderness of Olympic National Park. Please rate each photograph by indicating how acceptable you find it based on the number of people shown. A rating of "-4" means the number of people is highly unacceptable, and a rating of "+4" means the number of people is highly acceptable. *(Circle one number for each photograph.)*

	Highly	Very	Moderately	Slightly	Neutral	Slightly	Moderately	Very	Highly
		Unacceptable					Acceptable		
Photo 1…..	-4	-3	-2	-1	0	+1	+2	+3	+4
Photo 2…..	-4	-3	-2	-1	0	+1	+2	+3	+4
Photo 3…..	-4	-3	-2	-1	0	+1	+2	+3	+4
Photo 4…..	-4	-3	-2	-1	0	+1	+2	+3	+4
Photo 5…..	-4	-3	-2	-1	0	+1	+2	+3	+4
Photo 6…..	-4	-3	-2	-1	0	+1	+2	+3	+4

b. Which photograph shows the number of people you would prefer to see while visiting a wilderness attraction site?

Photo number:_____

c. Which photograph shows the number of people that would be so unacceptable that you would no longer visit this wilderness attraction site? If none of the photographs represent this condition, you may indicate that.

Photo number: _____

OR

□ None of the photographs are so unacceptable that I would no longer visit this wilderness attraction site.

d. Which photograph shows the highest number of people you think the National Park Service should allow to visit this wilderness attraction site? In other words, at what point should people be restricted from visiting this site? If you think use should not be restricted at any point represented in the photographs, or not restricted at all, you may indicate that.

Photo number: _____

OR

□ None of the photographs show a high enough number of people to restrict people from visiting this wilderness attraction site.

OR

□ The number of people visiting this wilderness attraction site should not be restricted.

e. Which photograph looks most like the number of people you typically saw while visiting wilderness attraction sites on this trip?

Photo number: _____

9a. We would like to know how many groups (1 to 6 people) you think it would be acceptable to have camp within sight and sound of you each night in the wilderness of Olympic National Park. Please indicate how acceptable you think the following numbers of groups are. A rating of -4 means you think the number of groups is "highly unacceptable" and a rating of +4 means you think the number of groups is "highly acceptable." *(Circle one number for each number of groups.)*

Number of groups camped within sight and sound per night	Highly	Very	Moderately Unacceptable	Slightly	Neutral	Slightly	Moderately Acceptable	Very	Highly
No other groups	-4	-3	-2	-1	0	+1	+2	+3	+4
1 group	-4	-3	-2	-1	0	+1	+2	+3	+4
2 groups	-4	-3	-2	-1	0	+1	+2	+3	+4
3 groups	-4	-3	-2	-1	0	+1	+2	+3	+4
4 groups	-4	-3	-2	-1	0	+1	+2	+3	+4
5 groups	-4	-3	-2	-1	0	+1	+2	+3	+4
6 groups	-4	-3	-2	-1	0	+1	+2	+3	+4

b. What is the number of other groups (1 to 6 people) that you would prefer to have camp within sight and sound of you each night in the wilderness of Olympic National Park?

Preferred number of other groups camped within sight and sound: _____

c. What is the maximum number of groups (1 to 6 people) you think could camp within sight and sound of you each night in the wilderness of Olympic National Park before you would no longer camp in this area? If you would continue to camp here regardless of the number of other groups, you may indicate that.

Maximum number of other groups camped within sight and sound of you in the wilderness before you would no longer camp here: _____

OR

□ I would continue to camp here regardless of the number of other groups camped within sight and sound of me.

d. What is the maximum number of groups (1 to 6 people) that you think the National Park Service should allow to camp within sight and sound of you each night in the wilderness of Olympic National Park? In other words, at what point do you think visitors should be restricted from camping in this area? If you think the number of groups should not be restricted, you may indicate that.

Maximum number of groups that should be allowed to camp within sight and sound: _____

OR

□ The number of groups should not be restricted.

e. What is the average number of other groups camped within sight and sound of you on this trip in the wilderness of Olympic National Park?

Average number of other groups camped within sight and sound: _____

10. How crowded did you feel on this visit to the wilderness of Olympic National Park? (*Circle one number*.)

Not at all crowded	Not crowded	Slightly crowded	A little crowded	Somewhat crowded	Moderately crowded	Very crowded	Highly crowded	Extremely crowded
1	2	3	4	5	6	7	8	9

11. National Park Service managers must find an appropriate balance between allowing people to visit the wilderness and providing opportunities for solitude. In your opinion, which of the four following options strikes the best balance for the wilderness of Olympic National Park? (*Mark one*.)

○ *Do not restrict use to manage for solitude* anywhere in the wilderness, even if use is heavy.
○ Manage for *solitude along a few wilderness trails*. The number of people allowed to use these few trails will be limited, but the majority of trails will have no use limits.
○ Manage for *solitude on most wilderness trails*, by limiting the number of people using these trails. A few trails will have unrestricted use. Use levels will be increased and high on these trails.
○ Manage for *solitude everywhere* in wilderness, even though this may mean that use will be restricted and people will be turned away.

IV. WILDERNESS MANAGEMENT

This section of the questionnaire asks for your opinions about wilderness management.

12. How familiar are you with the legal definition of wilderness? (*Mark one*.)
○ I have no idea -- I didn't even know there was a legal definition of wilderness.
○ I have heard of wilderness areas, but I don't know anything about the legal definition of wilderness.
○ I know a little bit about what the legal definition of wilderness is.
○ I think I know a lot about the legal definition of wilderness.

13. Please indicate the extent to which you oppose or support the following wilderness management actions. (*Circle one number for each item*.)

	Strongly Oppose	Oppose	No Opinion	Support	Strongly Support
Trails and Campsites					
Close overused campsites	-2	-1	0	1	2
Prohibit campfires at areas with little down wood	-2	-1	0	1	2
Prohibit campfires throughout entire wilderness	-2	-1	0	1	2
Restrict group camping (greater than 6 people) to designated group camps	-2	-1	0	1	2
Place no bridges or footlogs over some water crossings on high use, maintained trails	-2	-1	0	1	2
Place no bridges or footlogs over some water crossings on low use, maintained trails	-2	-1	0	1	2
Visitor Use Management					
Assign parties to specific campsites	-2	-1	0	1	2
Provide reservations for areas with limits on overnight camping	-2	-1	0	1	2
Require visitors to obtain wilderness permits at Wilderness Information Centers	-2	-1	0	1	2
Provide opportunity to obtain wilderness permits online	-2	-1	0	1	2
Limit number of overnight visitors in specific high use areas	-2	-1	0	1	2
Limit number of day use visitors in specific high use areas	-2	-1	0	1	2
Limit number of overnight visitor throughout entire wilderness	-2	-1	0	1	2
Limit party size for day users	-2	-1	0	1	2
Make cross-country party size smaller than trail travel party size	-2	-1	0	1	2
Require all overnight users to watch pre-trip leave-no-trace video	-2	-1	0	1	2
Collect overnight wilderness fees to help fund wilderness projects	-2	-1	0	1	2
Limit number of reserved permits available to commercial operators	-2	-1	0	1	2
Stock Use					
Restrict stock camping to designated stock camps	-2	-1	0	1	2
Close some trails to stock	-2	-1	0	1	2
Close subalpine areas to stock camping	-2	-1	0	1	2

	Strongly Oppose	Oppose	No Opinion	Support	Strongly Support
Facilities and Services					
Place toilets in high use areas	-2	-1	0	1	2
Provide specialty bags for carrying out personal human waste	-2	-1	0	1	2
Require use of specialty bags for carrying out personal human waste	-2	-1	0	1	2
Resource Management					
Revegetate impacted areas	-2	-1	0	1	2
Require canisters for food storage in wildlife problem areas	-2	-1	0	1	2
Require canisters for food storage throughout entire wilderness	-2	-1	0	1	2
Leave cross-country routes and unofficial trails off published maps	-2	-1	0	1	2

14. Research is frequently conducted in the wilderness of Olympic National Park. Please indicate the extent to which you agree or disagree with the following statements about research in the wilderness portion of the park. (*Circle one number for each item*.)

Research Activity	Strongly disagree	Disagree	No Opinion	Agree	Strongly agree
Research should be allowed in wilderness	-2	-1	0	1	2
It's acceptable to tag animals (e.g., place collars on elk) for research purposes	-2	-1	0	1	2
It's acceptable to use colored tape to mark locations for research purposes	-2	-1	0	1	2
It's acceptable to place installations (e.g., weather recorders) for research purposes	-2	-1	0	1	2
It's acceptable to use helicopters for research purposes	-2	-1	0	1	2

V. WILDERNESS VISITOR CHARACTERISTICS

This section of the questionnaire asks about you and your use of wilderness.

15. Have you ever been to a wilderness area before this trip? (*Mark one*.)

○ No. (*Skip to question 18 .)*
○ Yes.

16. Since your first wilderness trip, about how often have you gone on wilderness trips (including this and other wildernesses)? (*Mark one*.)

○ Less than once a year
○ Once a year
○ 2-5 times a year
○ 6-10 times a year
○ More than 10 times a year

17. About how many other wilderness areas, besides this wilderness, have you visited?

Number of other wilderness areas: _____

18. About how many times have you been to the wilderness of Olympic National Park?

Number of times: _____

19. What is your age? _____

20. What is your zip code? _____

21. Are you ___ male or ___ female? (*Mark one*.)

22. Did you or any member of your group obtain a wilderness permit for your current visit to the wilderness of Olympic National Park? (*Mark one*.)

○ Yes
○ No
○ I don't know

23. In what ethnicity and race would you place yourself? (*Circle one number for ethnicity and race*.)

Ethnicity:

1 HISPANIC OR LATINO
2 NOT HISPANIC OR LATINO

Race: (*Circle one or more*)

1 AMERICAN INDIAN OR ALASKA NATIVE
2 ASIAN
3 BLACK OR AFRICAN AMERICAN
4 NATIVE HAWAIIAN OR OTHER PACIFIC ISLANDER
5 WHITE

24. What is the highest level of formal education you have completed? *(Please mark only one.)*

○ Less than high school
○ Some high school
○ High school graduate
○ Vocational/trade school certificate
○ Some college
○ Two-year college degree
○ Four-year college degree
○ Masters Degree
○ Ph.D., M.D., J.D., or equivalent

THANK YOU FOR YOUR PARTICIPATION

OLYMPIC NATIONAL PARK WILDERNESS VISITOR SURVEY

Overnight Visitors (low use areas)

ID: _____ DATE:_____

GROUP ID: _____ PHOTOS:_____ TRAIL:_____

Paperwork Reduction Act Statement: The National Park Service is authorized by 16 U.S.C. 1a-7 to collect this information. We will use this information to understand the quality of visitor experiences in the park, visitor characteristics and use patterns. This information will be incorporated into the park's efforts to prepare a Wilderness Stewardship Plan. Your responses are voluntary and completely anonymous. A Federal agency may not conduct or sponsor and you are not required to respond to, a collection of information unless it displays a currently valid OMB Control Number and expiration date.

BURDEN ESTIMATE STATEMENT: We estimate that it will take an average of 15 minutes to complete this questionnaire. Please direct any comments that you have concern this collection to Jennifer Chenoweth, Wilderness Planning Specialist, Olympic National Park Port Angeles, WA 98362; Jennifer_chenoweth@nps.gov (email).

OMB CONTROL NUMBER 1024-0224
Expiration Date: 8/31/2014

OLYMPIC NATIONAL PARK WILDERNESS VISITOR SURVEY

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I. WILDERNESS TRIP CHARACTERISTICS

This section of the questionnaire asks about your trip in the wilderness of Olympic National Park on the day you were contacted about this survey.

1. How many nights did you spend in the wilderness? _____

2. How many people (including yourself) are in your group? _____

3. What was your primary destination on this trip? _____

4a. What were the purposes for going on this wilderness trip? *(Mark all that apply.)*

○ Photography
○ Camp out
○ Observe wildflowers
○ Observe wildlife
○ Physical challenge
○ Fishing
○ Horseback riding
○ Get out of the city
○ Get away from normal routine
○ Be with family/friends
○ Experience wilderness
○ Enjoy the scenery
○ Climbing
○ Experience solitude
○ See Pacific Ocean
○ Group outing

○ Other (Please specify:_____)

b. Please circle the most important purpose of this wilderness trip.

5a. Did you travel into the wilderness with pack stock animals?

○ Yes

○ No *(Skip to question 6.)*

b. What type of stock animals did you use? *(Mark all that apply.)*

○ Horse

○ Mule

○ Burro

○ Llama

○ Other (Please specify:_____)

6. Indicate the extent to which each of the following would add or detract from the quality of your wilderness experience in Olympic National Park. (*Circle one number for each item*.)

	Effect on WILDERNESS experience						
	Would Detract			No	Would Add		
Item:	A Lot	A Little		Effect	A Little		A Lot
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Seeing a lot of bare ground around campsites	-3	-2	-1	0	+1	+2	+3
Presence of bear wires in campsites for hanging food	-3	-2	-1	0	+1	+2	+3
Trails and Water Crossings							
Fording (wading) streams	-3	-2	-1	0	+1	+2	+3
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Visitor Use Management							
Not being allowed to have a campfire in specific areas	-3	-2	-1	0	+1	+2	+3

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Encountering a wilderness ranger	-3	-2	-1	0	+1	+2	+3
Seeing/hearing motor boats on the coast	-3	-2	-1	0	+1	+2	+3
Seeing user-created paths around campsites	-3	-2	-1	0	+1	+2	+3
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Seeing historic buildings (e.g., cabins)	-3	-2	-1	0	+1	+2	+3
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Seeing park staff spraying exotic, invasive plants	-3	-2	-1	0	+1	+2	+3
Seeing park staff engaged in research and monitoring activities	-3	-2	-1	0	+1	+2	+3
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This section of the questionnaire asks about the meaning and importance of solitude in the wilderness of Olympic National Park.

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Number of hikers encountered per day on wilderness trails	Highly	Very	Moderately Unacceptable	Slightly	Neutral	Slightly	Moderately Acceptable	Very	Highly
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4 other hikers	-4	-3	-2	-1	0	+1	+2	+3	+4
6 other hikers	-4	-3	-2	-1	0	+1	+2	+3	+4
10 other hikers	-4	-3	-2	-1	0	+1	+2	+3	+4
20 other hikers	-4	-3	-2	-1	0	+1	+2	+3	+4
30 other hikers	-4	-3	-2	-1	0	+1	+2	+3	+4
40 other hikers	-4	-3	-2	-1	0	+1	+2	+3	+4
60 other hikers	-4	-3	-2	-1	0	+1	+2	+3	+4
80 or more other hikers	-4	-3	-2	-1	0	+1	+2	+3	+4

b. What is the number of hikers per day that you would prefer to encounter along the wilderness trails you hiked today?

Preferred number of hikers encountered per day: _____

c. What is the maximum number of hikers you think you could encounter per day before you would no longer hike the wilderness trails that you used today? If you would continue to hike these trails regardless of the number of hikers, you may indicate that.

Maximum number of hikers encountered per day
before you would no longer use these wilderness trails: _____

OR

□ I would continue to hike these wilderness trails regardless of the number of hikers I encountered.

d. What is the maximum number of hikers encountered per day that you think the National Park Service should allow on the wilderness trails you used today? In other words, at what point do you think visitors should be restricted from hiking these trails? If you think the number of hikers on these wilderness trails should not be restricted, you may indicate that.

Maximum number of hikers encountered per day that should be allowed on these wilderness trails: _____

OR

□ The number of hikers on these wilderness trails should not be restricted.

e. What is the approximate number of hikers you encountered today on these wilderness trails?

Approximate number of hikers encountered: _____

f. Approximately how much time did you spend hiking on these wilderness trails today?

Length of hike: _____ (hours and/or minutes).

8a. Visitors often stop and visit selected "attraction sites" (e.g., waterfalls) in the wilderness. We would like to know how many people you think could visit a wilderness attraction site without you feeling too crowded. To help judge this, we have a series of photographs that show different numbers of people at an attraction site in the wilderness of Olympic National Park. Please rate each photograph by indicating how acceptable you find it based on the number of people shown. A rating of "-4" means the number of people is highly unacceptable, and a rating of "+4" means the number of people is highly acceptable. *(Circle one number for each photograph.)*

	Highly	Very	Moderately	Slightly	Neutral	Slightly	Moderately	Very	Highly
		Unacceptable					Acceptable		
Photo 1…..	-4	-3	-2	-1	0	+1	+2	+3	+4
Photo 2…..	-4	-3	-2	-1	0	+1	+2	+3	+4
Photo 3…..	-4	-3	-2	-1	0	+1	+2	+3	+4
Photo 4…..	-4	-3	-2	-1	0	+1	+2	+3	+4
Photo 5…..	-4	-3	-2	-1	0	+1	+2	+3	+4
Photo 6…..	-4	-3	-2	-1	0	+1	+2	+3	+4

b. Which photograph shows the number of people you would prefer to see while visiting a wilderness attraction site?

Photo number:_____

c. Which photograph shows the number of people that would be so unacceptable that you would no longer visit this wilderness attraction site? If none of the photographs represent this condition, you may indicate that.

Photo number: _____

OR

□ None of the photographs are so unacceptable that I would no longer visit this wilderness attraction site.

f. Which photograph shows the highest number of people you think the National Park Service should allow to visit this wilderness attraction site? In other words, at what point should people be restricted from visiting this site? If you think use should not be restricted at any point represented in the photographs, or not restricted at all, you may indicate that.

Photo number: _____

OR

□ None of the photographs show a high enough number of people to restrict people from visiting this wilderness attraction site.

OR

□ The number of people visiting this wilderness attraction site should not be restricted.

g. Which photograph looks most like the number of people you typically saw while visiting wilderness attraction sites on this trip?

Photo number: _____

9a. We would like to know how many groups (1 to 6 people) you think it would be acceptable to have camp within sight and sound of you each night in the wilderness of Olympic National Park. Please indicate how acceptable you think the following numbers of groups are. A rating of -4 means you think the number of groups is "highly unacceptable" and a rating of +4 means you think the number of groups is "highly acceptable." *(Circle one number for each number of groups.)*

Number of groups camped within sight and sound per night	Highly	Very	Moderately Unacceptable	Slightly	Neutral	Slightly	Moderately Acceptable	Very	Highly
No other groups	-4	-3	-2	-1	0	+1	+2	+3	+4
1 group	-4	-3	-2	-1	0	+1	+2	+3	+4
2 groups	-4	-3	-2	-1	0	+1	+2	+3	+4
3 groups	-4	-3	-2	-1	0	+1	+2	+3	+4
4 groups	-4	-3	-2	-1	0	+1	+2	+3	+4
5 groups	-4	-3	-2	-1	0	+1	+2	+3	+4
6 groups	-4	-3	-2	-1	0	+1	+2	+3	+4

b. What is the number of other groups (1 to 6 people) that you would prefer to have camp within sight and sound of you each night in the wilderness of Olympic National Park?

Preferred number of other groups camped within sight and sound: _____

c. What is the maximum number of groups (1 to 6 people) you think could camp within sight and sound of you each night in the wilderness of Olympic National Park before you would no longer camp in this area? If you would continue to camp here regardless of the number of other groups, you may indicate that.

Maximum number of other groups camped within sight and sound of you in the wilderness before you would no longer camp here: _____

OR

□ I would continue to camp here regardless of the number of other groups camped within sight and sound of me.

d. What is the maximum number of groups (1 to 6 people) that you think the National Park Service should allow to camp within sight and sound of you each night in the wilderness of Olympic National Park? In other words, at what point do you think visitors should be restricted from camping in this area? If you think the number of groups should not be restricted, you may indicate that.

Maximum number of groups that should be allowed to camp within sight and sound: _____

OR

□ The number of groups should not be restricted.

e. What is the average number of other groups camped within sight and sound of you on this trip in the wilderness of Olympic National Park?

Average number of other groups camped within sight and sound: _____

10. How crowded did you feel on this visit to the wilderness of Olympic National Park? (*Circle one number*.)

Not at all crowded	Not crowded	Slightly crowded	A little crowded	Somewhat crowded	Moderately crowded	Very crowded	Highly crowded	Extremely crowded
1	2	3	4	5	6	7	8	9

11. National Park Service managers must find an appropriate balance between allowing people to visit the wilderness and providing opportunities for solitude. In your opinion, which of the four following options strikes the best balance for the wilderness of Olympic National Park? (*Mark one*.)

- ○ *Do not restrict use to manage for solitude* anywhere in the wilderness, even if use is heavy.
- ○ Manage for *solitude along a few wilderness trails*. The number of people allowed to use these few trails will be limited, but the majority of trails will have no use limits.
- ○ Manage for *solitude on most wilderness trails*, by limiting the number of people using these trails. A few trails will have unrestricted use. Use levels will be increased and high on these trails.
- ○ Manage for *solitude everywhere* in wilderness, even though this may mean that use will be restricted and people will be turned away.

IV. WILDERNESS MANAGEMENT

This section of the questionnaire asks for your opinions about wilderness management.

12. How familiar are you with the legal definition of wilderness? (*Mark one*.)

- ○ I have no idea -- I didn't even know there was a legal definition of wilderness.
- ○ I have heard of wilderness areas, but I don't know anything about the legal definition of wilderness.
- ○ I know a little bit about what the legal definition of wilderness is.
- ○ I think I know a lot about the legal definition of wilderness.

13. Please indicate the extent to which you oppose or support the following wilderness management actions. (*Circle one number for each item.*)

	Strongly Oppose	Oppose	No Opinion	Support	Strongly Support
Trails and Campsites					
Close overused campsites	-2	-1	0	1	2
Prohibit campfires at areas with little down wood	-2	-1	0	1	2
Prohibit campfires throughout entire wilderness	-2	-1	0	1	2
Restrict group camping (greater than 6 people) to designated group camps	-2	-1	0	1	2
Place no bridges or footlogs over some water crossings on high use, maintained trails	-2	-1	0	1	2
Place no bridges or footlogs over some water crossings on low use, maintained trails	-2	-1	0	1	2

Visitor Use Management					
Assign parties to specific campsites	-2	-1	0	1	2
Provide reservations for areas with limits on overnight camping	-2	-1	0	1	2
Require visitors to obtain wilderness permits at Wilderness Information Centers	-2	-1	0	1	2
Provide opportunity to obtain wilderness permits online	-2	-1	0	1	2
Limit number of overnight visitors in specific high use areas	-2	-1	0	1	2
Limit number of day use visitors in specific high use areas	-2	-1	0	1	2
Limit number of overnight visitor throughout entire wilderness	-2	-1	0	1	2
Limit party size for day users	-2	-1	0	1	2
Make cross-country party size smaller than trail travel party size	-2	-1	0	1	2
Require all overnight users to watch pre-trip leave-no-trace video	-2	-1	0	1	2
Collect overnight wilderness fees to help fund wilderness projects	-2	-1	0	1	2
Limit number of reserved permits available to commercial operators	-2	-1	0	1	2

Stock Use					
Restrict stock camping to designated stock camps	-2	-1	0	1	2
Close some trails to stock	-2	-1	0	1	2
Close subalpine areas to stock camping	-2	-1	0	1	2

	Strongly Oppose	Oppose	No Opinion	Support	Strongly Support
Facilities and Services					
Place toilets in high use areas	-2	-1	0	1	2
Provide specialty bags for carrying out personal human waste	-2	-1	0	1	2
Require use of specialty bags for carrying out personal human waste	-2	-1	0	1	2
Resource Management					
Revegetate impacted areas	-2	-1	0	1	2
Require canisters for food storage in wildlife problem areas	-2	-1	0	1	2
Require canisters for food storage throughout entire wilderness	-2	-1	0	1	2
Leave cross-country routes and unofficial trails off published maps	-2	-1	0	1	2

14. Research is frequently conducted in the wilderness of Olympic National Park. Please indicate the extent to which you agree or disagree with the following statements about research in the wilderness portion of the park. (*Circle one number for each item*.)

Research Activity	Strongly disagree	Disagree	No Opinion	Agree	Strongly agree
Research should be allowed in wilderness	-2	-1	0	1	2
It's acceptable to tag animals (e.g., place collars on elk) for research purposes	-2	-1	0	1	2

It's acceptable to use colored tape to mark locations for research purposes	-2	-1	0	1	2
It's acceptable to place installations (e.g., weather recorders) for research purposes	-2	-1	0	1	2
It's acceptable to use helicopters for research purposes	-2	-1	0	1	2

V. WILDERNESS VISITOR CHARACTERISTICS

This section of the questionnaire asks about you and your use of wilderness.

15. Have you ever been to a wilderness area before this trip? (*Mark one*.)

○ No. (*Skip to question 18 .)*
○ Yes.

16. Since your first wilderness trip, about how often have you gone on wilderness trips (including this and other wildernesses)? (*Mark one*.)

○ Less than once a year
○ Once a year
○ 2-5 times a year
○ 6-10 times a year
○ More than 10 times a year

17. About how many other wilderness areas, besides this wilderness, have you visited?

Number of other wilderness areas: _____

18. About how many times have you been to the wilderness of Olympic National Park?

Number of times: _____

19. What is your age? _____

20. What is your zip code? _____

21. Are you ___ male or ___ female? (*Mark one*.)

22. Did you or any member of your group obtain a wilderness permit for your current visit to the wilderness of Olympic National Park? (*Mark one*.)

○ Yes

○ No
○ I don't know

23. In what ethnicity and race would you place yourself? (*Circle one number for ethnicity and race*.)

Ethnicity:

1 HISPANIC OR LATINO

2 NOT HISPANIC OR LATINO

Race: (*Circle one or more*)

1 AMERICAN INDIAN OR ALASKA NATIVE

2 ASIAN

3 BLACK OR AFRICAN AMERICAN

4 NATIVE HAWAIIAN OR OTHER PACIFIC ISLANDER

5 WHITE

24. What is the highest level of formal education you have completed? *(Please mark only one.)*

○ Less than high school
○ Some high school
○ High school graduate
○ Vocational/trade school certificate
○ Some college
○ Two-year college degree
○ Four-year college degree
○ Masters Degree
○ Ph.D., M.D., J.D., or equivalent

THANK YOU FOR YOUR PARTICIPATION

OLYMPIC NATIONAL PARK WILDERNESS VISITOR SURVEY

Day Visitors

ID: _____ DATE:_____

GROUP ID: _____ PHOTOS:_____ TRAIL:_____

Paperwork Reduction Act Statement: The National Park Service is authorized by 16 U.S.C. 1a-7 to collect this information. We will use this information to understand the quality of visitor experiences in the park, visitor characteristics and use patterns. This information will be incorporated into the park's efforts to prepare a Wilderness Stewardship Plan. Your responses are voluntary and completely anonymous. A Federal agency may not conduct or sponsor and you are not required to respond to, a collection of information unless it displays a currently valid OMB Control Number and expiration date.

BURDEN ESTIMATE STATEMENT: We estimate that it will take an average of 15 minutes to complete this questionnaire. Please direct any comments that you have concern this collection to Jennifer Chenoweth, Wilderness Planning Specialist, Olympic National Park Port Angeles, WA 98362; Jennifer_chenoweth@nps.gov (email).

OMB CONTROL NUMBER 1024-0224
Expiration Date: 8/31/2014

OLYMPIC NATIONAL PARK WILDERNESS VISITOR SURVEY

Olympic National Park is preparing a Wilderness Stewardship Plan for the park. You are being asked to participate in this survey because you are using the **wilderness** portion of the park. Most of Olympic National Park (about 95%) has been designated **wilderness** which means that the area should be managed to retain its natural character and provide visitors a high quality **wilderness** experience, including opportunities for solitude. Your participation in this survey will help the National Park Service prepare a plan that meets the needs of visitors like you. Thank you for your help.

I. WILDERNESS TRIP CHARACTERISTICS

This section of the questionnaire asks about your trip in the wilderness of Olympic National Park on the day you were contacted about this survey.

1. How many hours did you spend in the wilderness? _____

2. How many people (including yourself) are in your group? _____

3. What was your primary destination on this trip? _____

4a. What were the purposes for going on this wilderness trip? *(Mark all that apply.)*

○ Photography
○ Camp out
○ Observe wildflowers
○ Observe wildlife
○ Physical challenge
○ Fishing
○ Horseback riding
○ Get out of the city
○ Get away from normal routine
○ Be with family/friends
○ Experience wilderness
○ Enjoy the scenery
○ Climbing
○ Experience solitude
○ See Pacific Ocean
○ Group outing
○ Other (Please specify:_____)

b. Please circle the most important purpose of this wilderness trip.

5a. Did you travel into the wilderness with pack stock animals?
○ Yes
○ No *(Skip to question 6.)*

b. What type of stock animals did you use? *(Mark all that apply.)*
○ Horse
○ Mule
○ Burro
○ Llama
○ Other (Please specify:_____)

II. THE WILDERNESS EXPERIENCE

This section of the questionnaire asks for your thoughts and opinions about a wilderness experience at Olympic National Park.

6. Indicate the extent to which each of the following would add or detract from the quality of your wilderness experience in Olympic National Park. (*Circle one number for each item*.)

	Effect on WILDERNESS experience						
	Would Detract			No	Would Add		
Item:	A Lot	A Little		Effect	A Little		A Lot
Signs and camp areas							
Seeing directional signs inside the wilderness at trail junctions	-3	-2	-1	0	+1	+2	+3
Seeing signs identifying landscape features or destinations in the wilderness (e.g., lakes, cabins, mountain passes)	-3	-2	-1	0	+1	+2	+3
Seeing wilderness boundary marker signs	-3	-2	-1	0	+1	+2	+3
Seeing well defined campsites in the wilderness	-3	-2	-1	0	+1	+2	+3
Seeing a lot of bare ground around campsites	-3	-2	-1	0	+1	+2	+3
Presence of bear wires in campsites for hanging food	-3	-2	-1	0	+1	+2	+3
Trails and Water Crossings							
Fording (wading) streams	-3	-2	-1	0	+1	+2	+3
Crossing streams on a footlog (downed log with handrail)	-3	-2	-1	0	+1	+2	+3
Crossing streams on wood bridge	-3	-2	-1	0	+1	+2	+3
Crossing streams on steel bridge	-3	-2	-1	0	+1	+2	+3
Traveling cross-country/off-trail	-3	-2	-1	0	+1	+2	+3
Presence of downed logs across trails	-3	-2	-1	0	+1	+2	+3
Visitor Use Management							
Not being allowed to have a campfire in specific areas	-3	-2	-1	0	+1	+2	+3
Overnight permit requirement	-3	-2	-1	0	+1	+2	+3
Being required to camp at designated sites	-3	-2	-1	0	+1	+2	+3
Paying a fee to access park trailheads	-3	-2	-1	0	+1	+2	+3
Presence of privies/toilets	-3	-2	-1	0	+1	+2	+3
Seeing areas closed for restoration	-3	-2	-1	0	+1	+2	+3

	Effect on WILDERNESS experience						
	Would Detract			No	Would Add		
Item:	A Lot	A Little		Effect	A Little		A Lot
Sights and Sounds							
Seeing/hearing aircraft	-3	-2	-1	0	+1	+2	+3
Seeing/hearing people using electronic devices (e.g., cell phones, GPS, etc.)	-3	-2	-1	0	+1	+2	+3
Seeing/hearing chainsaws or other motorized equipment	-3	-2	-1	0	+1	+2	+3
Seeing wildlife with radio collars, ear tags, or other markings	-3	-2	-1	0	+1	+2	+3
Encountering a wilderness ranger	-3	-2	-1	0	+1	+2	+3
Seeing/hearing motor boats on the coast	-3	-2	-1	0	+1	+2	+3
Seeing user-created paths around campsites	-3	-2	-1	0	+1	+2	+3
Seeing trees damaged by campers	-3	-2	-1	0	+1	+2	+3
Seeing pack stock animals	-3	-2	-1	0	+1	+2	+3
Seeing evidence of pack stock animal use	-3	-2	-1	0	+1	+2	+3
Seeing shelters (three-sided structures)	-3	-2	-1	0	+1	+2	+3
Seeing historic buildings (e.g., cabins)	-3	-2	-1	0	+1	+2	+3
Seeing research equipment (e.g., weather stations)	-3	-2	-1	0	+1	+2	+3
Seeing park staff spraying exotic, invasive plants	-3	-2	-1	0	+1	+2	+3
Seeing park staff engaged in research and monitoring activities	-3	-2	-1	0	+1	+2	+3
Seeing park staff working in wilderness	-3	-2	-1	0	+1	+2	+3

III. WILDERNESS SOLITUDE

This section of the questionnaire asks about the meaning and importance of solitude in the wilderness of Olympic National Park.

7a. We would like to know how many hikers per day you think it is acceptable to see on the wilderness trails you hiked today without feeling too crowded. Please rate the acceptability of encountering each of the following numbers of hikers per day on the wilderness trails you used today. A rating of "-4" means the number of hikers encountered per day is highly unacceptable, and a rating of "+4" means the number of hikers encountered per day is highly acceptable. *(Circle one rating for each of the numbers of other hikers encountered per day.)*

Number of hikers encountered per day on wilderness trails	Highly Unacceptable	Very Unacceptable	Moderately Unacceptable	Slightly Unacceptable	Neutral	Slightly Acceptable	Moderately Acceptable	Very Acceptable	Highly Acceptable
No other hikers	-4	-3	-2	-1	0	+1	+2	+3	+4
2 other hikers	-4	-3	-2	-1	0	+1	+2	+3	+4
4 other hikers	-4	-3	-2	-1	0	+1	+2	+3	+4
6 other hikers	-4	-3	-2	-1	0	+1	+2	+3	+4
10 other hikers	-4	-3	-2	-1	0	+1	+2	+3	+4
20 other hikers	-4	-3	-2	-1	0	+1	+2	+3	+4
30 other hikers	-4	-3	-2	-1	0	+1	+2	+3	+4
40 other hikers	-4	-3	-2	-1	0	+1	+2	+3	+4
60 other hikers	-4	-3	-2	-1	0	+1	+2	+3	+4
80 other hikers	-4	-3	-2	-1	0	+1	+2	+3	+4
100 or more other hikers	-4	-3	-2	-1	0	+1	+2	+3	+4

b. What is the number of hikers per day that you would <u>prefer</u> to encounter along the wilderness trails you hiked today?

Preferred number of hikers encountered per day: _____

c. What is the maximum number of hikers you think you could encounter per day before you would no longer hike the wilderness trails that you used today? If you would continue to hike these trails regardless of the number of hikers, you may indicate that.

Maximum number of hikers encountered per day
before you would no longer use these wilderness trails: _____

OR

□ I would continue to hike these wilderness trails regardless of the number of hikers I encountered.

d. What is the maximum number of hikers encountered per day that you think the National Park Service should allow on the wilderness trails you used today? In other words, at what point do you think visitors should be restricted from hiking these trails? If you think the number of hikers on these wilderness trails should not be restricted, you may indicate that.

Maximum number of hikers encountered per day that should be allowed on these wilderness trails: _____

OR

□ The number of hikers on these wilderness trails should not be restricted.

e. What is the approximate number of hikers you encountered today on these wilderness trails?

Approximate number of hikers encountered: _____

f. Approximately how much time did you spend hiking on these wilderness trails today?

Length of hike: _____ (hours and/or minutes).

8a. Visitors often stop and visit selected "attraction sites" (e.g., waterfalls) in the wilderness. We would like to know how many people you think could visit a wilderness attraction site without you feeling too crowded. To help judge this, we have a series of photographs that show different numbers of people at an attraction site in the wilderness of Olympic National Park. Please rate each photograph by indicating how acceptable you find it based on the number of people shown. A rating of "-4" means the number of people is highly unacceptable, and a rating of "+4" means the number of people is highly acceptable. *(Circle one number for each photograph.)*

	Highly	Very	Moderately	Slightly	Neutral	Slightly	Moderately	Very	Highly
		Unacceptable					Acceptable		
Photo 1…..	-4	-3	-2	-1	0	+1	+2	+3	+4
Photo 2…..	-4	-3	-2	-1	0	+1	+2	+3	+4
Photo 3…..	-4	-3	-2	-1	0	+1	+2	+3	+4
Photo 4…..	-4	-3	-2	-1	0	+1	+2	+3	+4
Photo 5…..	-4	-3	-2	-1	0	+1	+2	+3	+4
Photo 6…..	-4	-3	-2	-1	0	+1	+2	+3	+4

b. Which photograph shows the number of people you would prefer to see while visiting a wilderness attraction site?

Photo number:_____

c. Which photograph shows the number of people that would be so unacceptable that you would no longer visit this wilderness attraction site? If none of the photographs represent this condition, you may indicate that.

Photo number: _____

OR

□ None of the photographs are so unacceptable that I would no longer visit this wilderness attraction site.

h. Which photograph shows the highest number of people you think the National Park Service should allow to visit this wilderness attraction site? In other words, at what point should people be restricted from visiting this site? If you think use should not be restricted at any point represented in the photographs, or not restricted at all, you may indicate that.

Photo number: _____

OR

□ None of the photographs show a high enough number of people to restrict people from visiting this wilderness attraction site.

OR

□ The number of people visiting this wilderness attraction site should not be restricted.

i. Which photograph looks most like the number of people you typically saw while visiting wilderness attraction sites on this trip?

Photo number: _____

9. How crowded did you feel on this visit to the wilderness of Olympic National Park? (*Circle one number*.)

Not at all crowded	Not crowded	Slightly crowded	A little crowded	Somewhat crowded	Moderately crowded	Very crowded	Highly crowded	Extremely crowded
1	2	3	4	5	6	7	8	9

10. National Park Service managers must find an appropriate balance between allowing people to visit the wilderness and providing opportunities for solitude. In your opinion, which of the four following options strikes the best balance for the wilderness of Olympic National Park? (*Mark one*.)

- ○ *Do not restrict use to manage for solitude* anywhere in the wilderness, even if use is heavy.
- ○ Manage for *solitude along a few wilderness trails*. The number of people allowed to use these few trails will be limited, but the majority of trails will have no use limits.
- ○ Manage for *solitude on most wilderness trails*, by limiting the number of people using these trails. A few trails will have unrestricted use. Use levels will be increased and high on these trails.
- ○ Manage for *solitude everywhere* in wilderness, even though this may mean that use will be restricted and people will be turned away.

IV. WILDERNESS MANAGEMENT

This section of the questionnaire asks for your opinions about wilderness management.

11. How familiar are you with the legal definition of wilderness? (*Mark one*.)
    - ○ I have no idea -- I didn't even know there was a legal definition of wilderness.
    - ○ I have heard of wilderness areas, but I don't know anything about the legal definition of wilderness.
    - ○ I know a little bit about what the legal definition of wilderness is.
    - ○ I think I know a lot about the legal definition of wilderness.

12. Please indicate the extent to which you oppose or support the following wilderness management actions. (*Circle one number for each item*.)

	Strongly Oppose	Oppose	No Opinion	Support	Strongly Support
Trails and Campsites					
Close overused campsites	-2	-1	0	1	2
Prohibit campfires at areas with little down wood	-2	-1	0	1	2
Prohibit campfires throughout entire wilderness	-2	-1	0	1	2
Restrict group camping (greater than 6 people) to designated group camps	-2	-1	0	1	2
Place no bridges or footlogs over some water crossings on high use, maintained trails	-2	-1	0	1	2
Place no bridges or footlogs over some water crossings on low use, maintained trails	-2	-1	0	1	2
Visitor Use Management					
Assign parties to specific campsites	-2	-1	0	1	2
Provide reservations for areas with limits on overnight camping	-2	-1	0	1	2
Require visitors to obtain wilderness permits at Wilderness Information Centers	-2	-1	0	1	2
Provide opportunity to obtain wilderness permits online	-2	-1	0	1	2
Limit number of overnight visitors in specific high use areas	-2	-1	0	1	2
Limit number of day use visitors in specific high use areas	-2	-1	0	1	2
Limit number of overnight visitor throughout entire wilderness	-2	-1	0	1	2
Limit party size for day users	-2	-1	0	1	2
Make cross-country party size smaller than trail travel party size	-2	-1	0	1	2
Require all overnight users to watch pre-trip leave-no-trace video	-2	-1	0	1	2
Collect overnight wilderness fees to help fund wilderness projects	-2	-1	0	1	2
Limit number of reserved permits available to commercial operators	-2	-1	0	1	2

	Strongly Oppose	Oppose	No Opinion	Support	Strongly Support
Stock Use					
Restrict stock camping to designated stock camps	-2	-1	0	1	2
Close some trails to stock	-2	-1	0	1	2
Close subalpine areas to stock camping	-2	-1	0	1	2
Facilities and Services					
Place toilets in high use areas	-2	-1	0	1	2
Provide specialty bags for carrying out personal human waste	-2	-1	0	1	2
Require use of specialty bags for carrying out personal human waste	-2	-1	0	1	2
Resource Management					
Revegetate impacted areas	-2	-1	0	1	2
Require canisters for food storage in wildlife problem areas	-2	-1	0	1	2
Require canisters for food storage throughout entire wilderness	-2	-1	0	1	2
Leave cross-country routes and unofficial trails off published maps	-2	-1	0	1	2

13. Research is frequently conducted in the wilderness of Olympic National Park. Please indicate the extent to which you agree or disagree with the following statements about research in the wilderness portion of the park. (*Circle one number for each item*.)

Research Activity	Strongly disagree	Disagree	No Opinion	Agree	Strongly agree
Research should be allowed in wilderness	-2	-1	0	1	2
It's acceptable to tag animals (e.g., place collars on elk) for research purposes	-2	-1	0	1	2
It's acceptable to use colored tape to mark locations for research purposes	-2	-1	0	1	2
It's acceptable to place installations (e.g., weather recorders) for research purposes	-2	-1	0	1	2
It's acceptable to use helicopters for research purposes	-2	-1	0	1	2

V. WILDERNESS VISITOR CHARACTERISTICS

This section of the questionnaire asks about you and your use of wilderness.

14. Have you ever been to a wilderness area before this trip? (*Mark one*.)
○ No (*Skip to question 18 .)*
○ Yes

15. Since your first wilderness trip, about how often have you gone on wilderness trips (including this and other wildernesses)? (*Mark one*.)
○ Less than once a year
○ Once a year
○ 2-5 times a year
○ 6-10 times a year
○ More than 10 times a year

16. About how many other wilderness areas, besides this wilderness, have you visited?

Number of other wilderness areas: _____

17. About how many times have you been to the wilderness of Olympic National Park?

Number of times: _____

18. What is your age? _____

19. What is your zip code? _____

20. Are you ___ male or ___ female? (*Mark one*.)

21. Did you or any member of your group obtain a wilderness permit for your current visit to the wilderness of Olympic National Park? (*Mark one*.)

○ Yes
○ No
○ I don't know

22. In what ethnicity and race would you place yourself? (*Circle one number for ethnicity*)
Ethnicity:
1 HISPANIC OR LATINO
2 NOT HISPANIC OR LATINO
Race: (*Circle one or more*)
1 AMERICAN INDIAN OR ALASKA NATIVE
2 ASIAN
3 BLACK OR AFRICAN AMERICAN
4 NATIVE HAWAIIAN OR OTHER PACIFIC ISLANDER
5 WHITE

23. What is the highest level of formal education you have completed? *(Please mark only one.)*

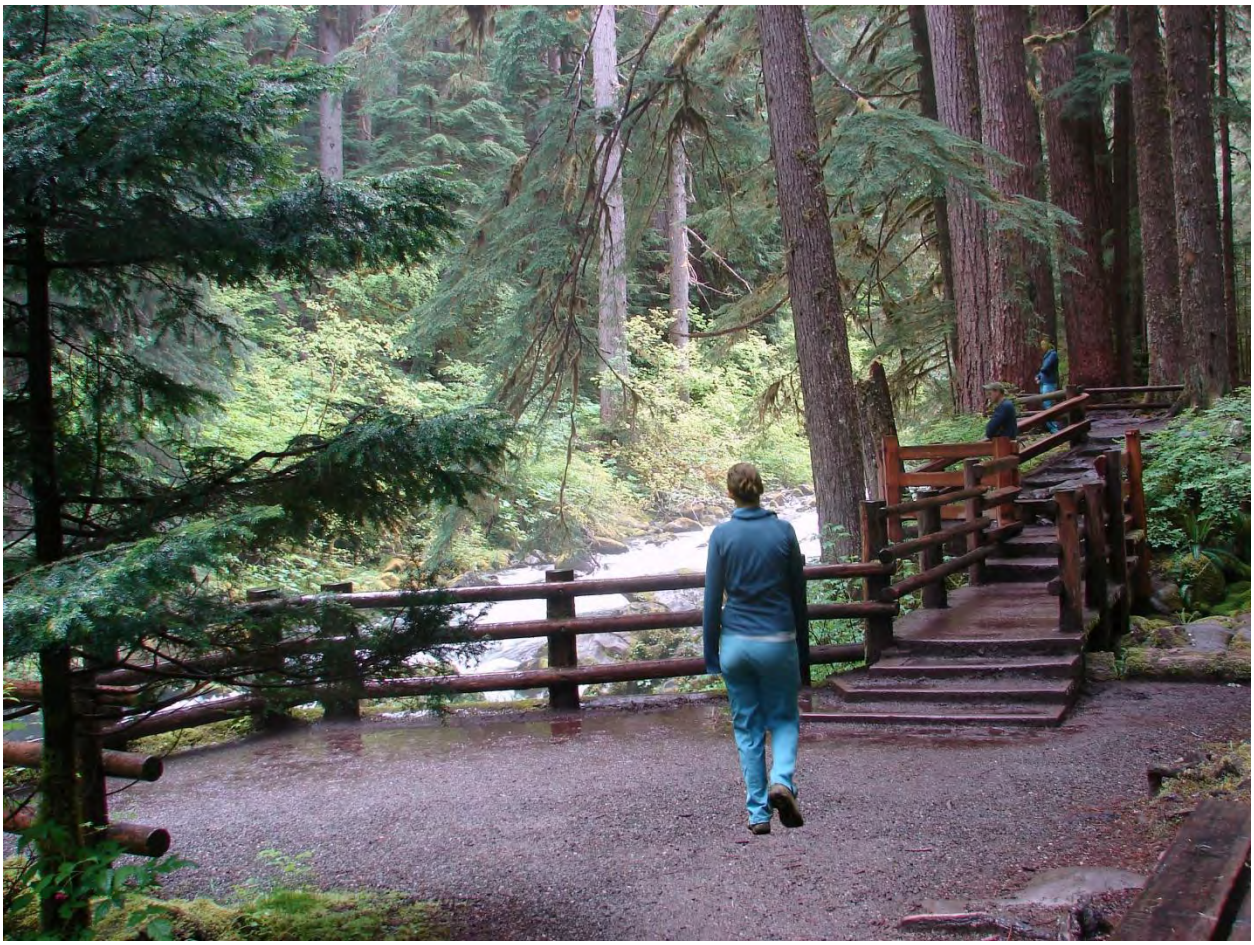
○ Less than high school
○ Some high school
○ High school graduate
○ Vocational/trade school certificate
○ Some college
○ Two-year college degree
○ Four-year college degree
○ Masters Degree
○ Ph.D., M.D., J.D., or equivalent

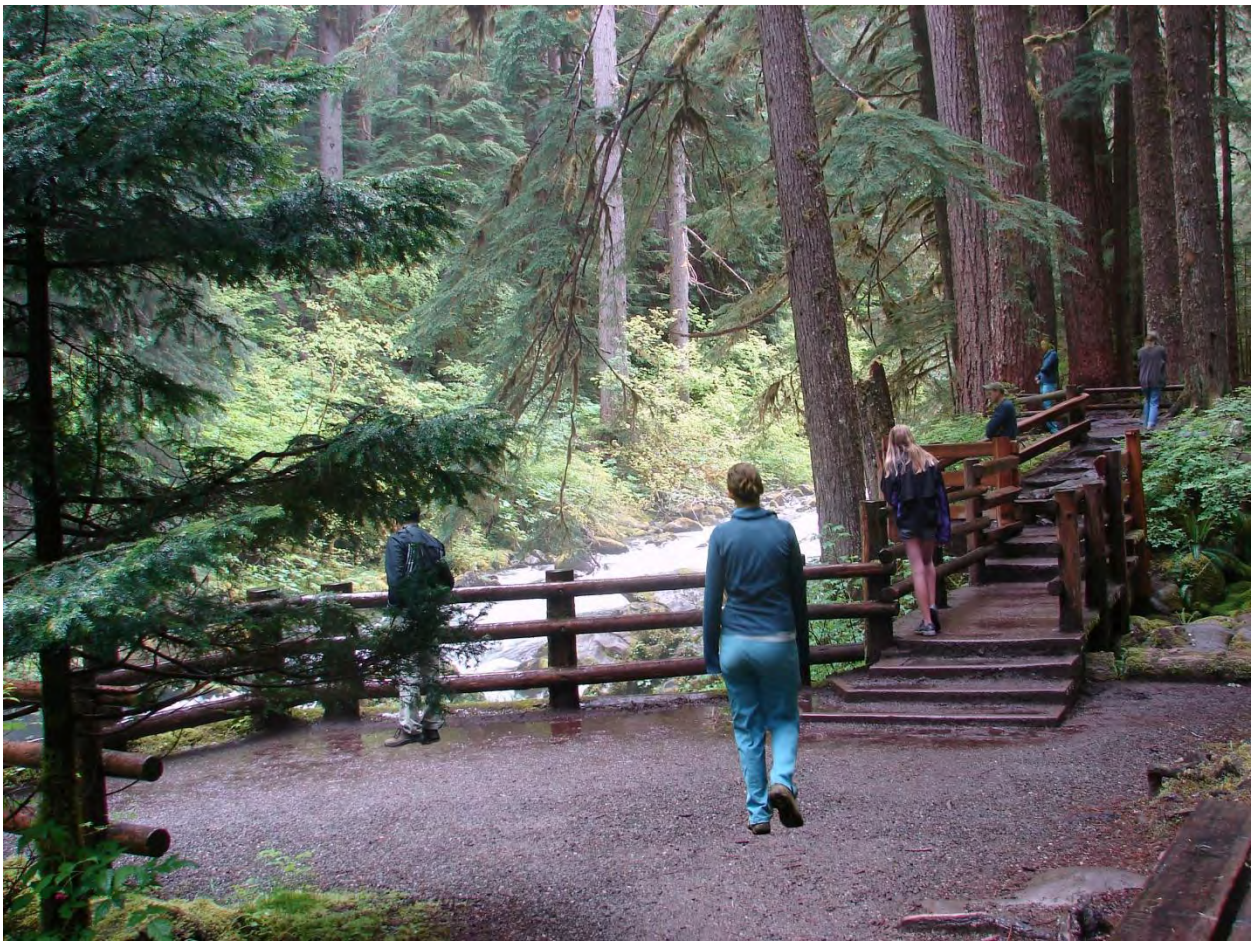
THANK YOU FOR YOUR PARTICIPATION

Appendix B: Study Photographs

Coastal Setting

Rainforest Setting – Low Use





Rainforest Setting – High Use

High Country Setting