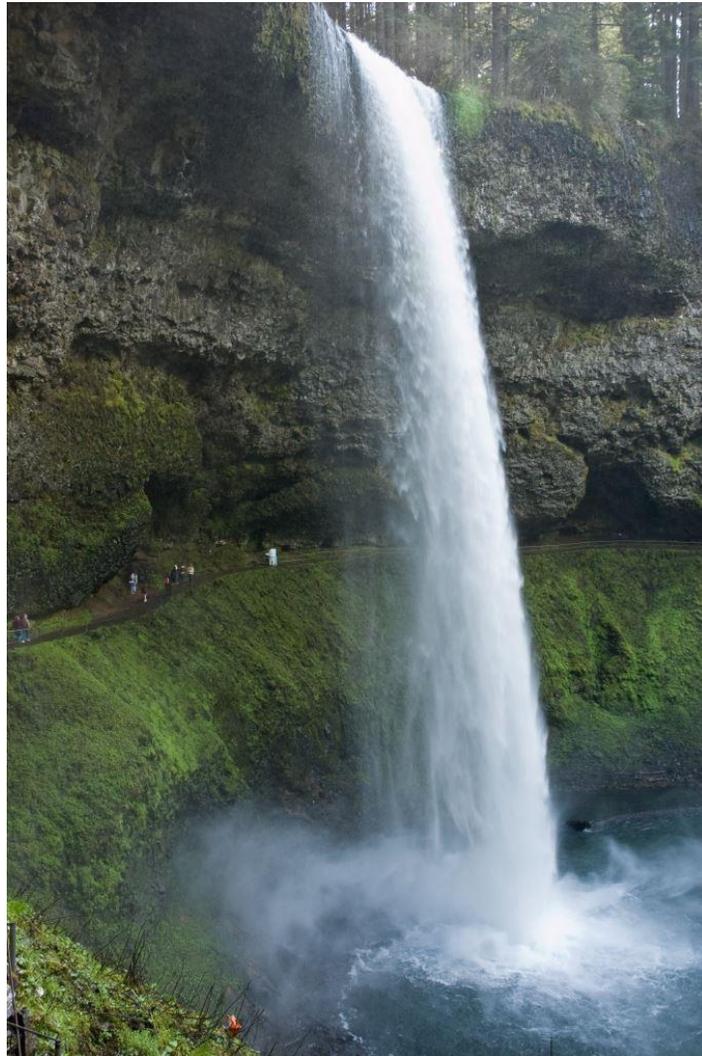


Spending and Economic Activity from Recreation at Selected Valleys
Region Oregon State Park Properties, 2014 update



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Cover photo: South Falls, Silver Falls State Park

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Executive summary

The spending of visitors to Oregon State Parks properties generates economic activity in the communities located around those properties. We use a survey of visitors to Oregon State Parks properties located in the Valleys Region to estimate the average trip spending of visitors. We then combine those estimates of average spending with estimates of the number of recreation visits and an economic model to quantify the magnitude of local economic activity generated from Oregon State Parks visitor spending.

The average trip spending of visitors ranges from about \$26 per party per trip for local residents on day trips to nearly \$263 per party per trip for non-local residents on overnight trips away from home. On average, most local area expenses are for gasoline, groceries, and purchases in restaurants/bars. The reported 2.6 million visits to sampled Oregon State Parks properties in the Willamette District yield about \$81 million in visitor spending in local communities. Non-local residents account for about \$65 million of that spending.

The economies of local communities are bolstered by the total spending from visitors and from the “chain reaction” of economic activity that results when those businesses and their employees also spend money in the local community. That chain reaction is also referred to as the “multiplier effect.” For the Willamette District sampled properties, spending in the local areas around Oregon State Parks properties generates about \$53 million in total sales, about 717 full-time equivalent jobs, and generates total labor income of \$29 million. Counting only the spending of non-local visitors, the economic impact of visitor spending within the Willamette District amounts to total sales of \$67 million, about 587 full-time equivalent jobs, and \$24 million in labor income.

The average spending of visitors to Oregon State Parks properties described in this report was found to be fairly similar to the spending we previously estimated for visitors to Oregon State Parks properties along the Oregon Coast. Non-local visitors to Oregon State Parks properties in the Valleys Region Willamette District appear to spend a little more than non-local visitors to Columbia Gorge Management Unit properties. Lower levels of spending by Oregon State Parks visitors in the Columbia Gorge Management Unit likely traces to the presence of fewer opportunities for spending (e.g., traditional tourism businesses). The spending of local day visitors to Valleys Region Willamette District properties is lower than that found for the Gorge properties in a previous analysis. Regardless of difference across management area boundaries, the economic activity resulting from recreation at State Parks’ properties is substantial and important to the local economies around those properties.

Introduction

The properties of the Oregon State Parks system provide a valuable recreation resource for residents of, and visitors to, Oregon. Additionally, the towns and cities around Oregon State Parks properties benefit economically from government spending for property operations and from the spending of visitors recreating at Oregon State Parks facilities. In many cases, the economic activity generated from recreation visitors is an integral component of local economies. This report describes the spending, and associated economic activity, of recreation visitors to Oregon State Parks Properties within a portion of the Valleys Region.

More than 4,000 completed surveys were collected from visitors sampled at properties in 2013. A portion of those surveys are used in this analysis (see Appendix). Day use areas of properties were sampled via on-site visitor surveys. Overnight use areas (i.e., campgrounds) were sampled through an online survey of visitors using the Oregon State Parks reservation system. The survey was designed to measure visit and visitor characteristics, visitor satisfaction, and visitor trip spending in the local area around the recreation property. The questions used to elicit local recreation trip spending were consistent with those used in the USDA Forest Service recreation monitoring program (Zarnoch et al. 2011).

Measuring how the spending of recreation visitors affects the economies of local communities requires 1) an estimate of total recreation visitation within different trip types, 2) an estimate of the average spending of recreation visitors engaged in different trip types, and 3) a model of the local economy.

Box 1—Oregon State Parks properties sampled in 2013

Valleys Region

Willamette District

Detroit Lake SP
Fort Yamhill SHA
Luckiamute Landing SNA
Maud Williamson SRS
Sarah Helmick SRS
Silver Falls SP
Thompson's Mills SHS
Willamette Mission SP

Portland District

L.L. Stub Stewart SP
Molalla River SP
Koberg Beach SRS

Average trip spending

Spending averages were estimated using data collected from visitors to all of the properties sampled in 2013. Survey respondents reported trip expenditures made by their entire travel party within 30 miles of the visited facility. Trip expenses were reported within 10 expenditure categories, such as spending for hotels/motels/B&Bs, campground fees, restaurants, and gas and oil. Because they were interviewed in the middle of the trip, respondents interviewed in day use areas were asked to report expenses already made as well as anticipated expenses. Expenses at home in preparation for the trip and expenditures traveling to, but beyond 30 miles of the property, were not reported. The visitor spending reported here does not represent spending for equipment, gear, or other durable goods that might be used for recreation.

Our goal is to estimate spending averages for meaningful groups of visitors. In developing the approach to grouping visitors, we recognize that visitor spending is mostly influenced by the type of recreation trip taken (day or overnight) and whether the individual lives in the immediate area of the recreation destination (White and Stynes 2008). In general, the recreation activity of the trip has little influence over trip spending once the type of trip is taken into account. In our approach, we have grouped visitors into five distinct types of trips to Oregon State Parks:

- **Non-local day trips:** non-local residents on day trips to the area,
- **Non-local overnight:** non-local residents staying overnight at the property or in the area,
- **Local day trips:** local residents on day trips to the area,
- **Local overnight:** local residents staying overnight at the property or in the area,
- **Non-primary:** visits where recreating at the property is not the primary reason for the trip away from home.

Local residents were identified as those who travelled 30 miles or less from home to reach the facility. Visitors were classified as overnight visitors if they reported a night spent away from home in the local area, reported local expenses on lodging or camping, or claimed to be participating in camping at the property. Visitors not classified as overnight were classified as day visitors. In some cases, an individual may be on an overnight trip away from home but on only a day trip to the local area. Those individuals are classified as “day” visitors. Finally, visitors were classified as non-primary visitors if their stated reason for traveling away from home was something other than recreation or if the property was not the main recreation destination. In some analyses, it is desirable to exclude the recreation trip spending of non-primary visitors. Note that for the Valleys Region Willamette District, about 90% of non-primary visits are associated with non-locals.

The spending averages developed for year 2013 are based on a sample of 2,458 visitors. Average trip spending for parties recreating at Oregon State Parks Valleys Region Willamette District properties ranges from about \$26 for those parties on local day trips to about \$263 per trip for non-local parties on overnight trips to the area (Table 1). The Molalla River State Park

was also sampled this year but there were insufficient data to estimate spending specifically for that property. The spending of visitors at Molalla River State Park is not statistically different from, and can be represented by, figures shown in Table 1. Sample sizes were large enough at L.L. Stub Stewart State Park to estimate average spending for that property individually. Visitors to L.L. Stub Stewart spend about \$34 per party per trip when completing day trips about \$209 per party per trip when on overnight trips (Table 2). Koberg Beach State Park is in Oregon State Parks Columbia River Gorge Management Unit. The spending of recreation visitors in those Management Units were reported in a previous report (see White and Goodding 2013).

The spending of recreation visitors is a reflection of the types of goods and services one needs to recreate. Food, gasoline, and lodging typically comprise the majority of recreation visitor expenses during recreation day trips. Day visitors make most of their expenditure to purchase food and gasoline (tables 1 and 2). For overnight visitors, lodging and camping fees, gasoline, and food account for nearly all of recreation spending. The spending of recreation visitors will have the greatest impact to those businesses that directly sell those goods and services to consumers. Other businesses will benefit indirectly by selling supplies to those business directly engaging recreationists.

Table 1—Average spending of visitors to Oregon State Parks Valleys Region, Willamette District, \$ per party per trip

Spending categories	Non-local Day	Non-local OVN	Local Day	Local OVN	Non-primary
Lodging	0.00	56.14	0.00	20.80	30.37
Camping	0.00	33.81	0.00	33.46	16.96
Restaurant	12.79	49.91	5.36	17.61	25.00
Groceries	12.04	57.54	6.66	49.74	24.97
Gasoline	20.33	38.79	9.11	25.64	26.18
Entry Fees	5.76	14.32	3.05	9.15	5.03
Recreation & entertainment	3.61	7.55	0.40	5.97	2.26
Souvenirs and other expenses	<u>1.88</u>	<u>4.78</u>	<u>1.03</u>	<u>7.33</u>	<u>6.51</u>
Total	56.41	262.84	25.61	169.69	137.28
N	198	569	307	61	352
Std. Dev. Of Total	73	243	39	144	183

Table 2—Average spending of visitors to L.L. Stub Stewart State Park, \$ per party per trip

Spending categories	Non-local Day	Non-local OVN	Local Day	Local OVN	Non-primary
Lodging	0	14.06	0	11.2	14.51
Camping	0	62.64	0	49.5	45.56
Restaurant	10.49	17.16	9.45	11.81	38.02
Groceries	4.94	56.82	4.44	57.78	43.88
Gasoline	12.7	40.04	11.95	27.44	51.77
Entry Fees	5.61	13.48	4.87	9.16	7.78
Recreation & entertainment	0.38	2.44	0.79	4.72	5.8
Souvenirs and other expenses	<u>0.06</u>	<u>2.4</u>	<u>0.39</u>	<u>3.87</u>	<u>15.05</u>
Total	34.17	209.03	31.90	175.47	222.37
N	82	255	127	108	103
Std. Dev. Of					
Total	27	167	29	113	233

Economic contribution of Oregon State Parks visitors

Spending by recreation visitors for the purchase of goods (e.g., souvenirs) and services (e.g., restaurant meals or guided trips) creates economic activity in the communities around Oregon State Park properties. To provide a good or service to a visitor, a business typically must hire employees and buy goods and services (e.g., fuel) from other businesses in the local area. Additionally, the employees of businesses serving visitors use their income to make their own household purchases in town. This “chain reaction” of economic activity in local communities resulting from visitor spending is quantified by a metric referred to as an “economic multiplier.” The economic activity resulting from the initial spending by visitors is referred to as the “direct effect;” the activity associated with businesses and employees interacting because of visitor spending are “secondary effects.” The combination of direct and secondary effects is referred to as the “total effects.”

There are several important considerations for interpreting the estimates of the economic contribution of visits to Oregon State Parks. First, in traditional economic impact analysis, the spending of those who live within the impact area of the park (within 30 miles—local residents) would be excluded from the analysis because their spending does not represent “new” money to the region. Because we have included the spending of locals, we refer to this analysis as an economic contribution analysis. Second, we have included only a portion of the spending of those visits where the stated reason for the trip away from home was something other than visiting the Oregon State Parks property (e.g., business, visiting friends and relatives, recreating elsewhere). Economic contribution or impact analyses attempt to estimate the economic activity

associated strictly with the presence of the recreation site. Because the recreation facility did not cause the trip away from home in those “non-primary” visits, much of the spending by those individuals cannot be attributed strictly to the property. We have applied the average spending of local resident day visitors to those visits where the trip was caused by something other than recreating at the property. Local resident day visitor spending is considered a conservative estimate of the additional cost of recreating at the property for someone who is already in the local area.

We characterize the economic contribution of recreation visitor spending in terms of business sales, full- and part-time jobs, labor income, and value added. We also report the full-time equivalent jobs for the direct effects.

- **Sales** are the sales of firms within the region associated with visitor spending.
- **Jobs** are the number of jobs in the region supported by the visitor spending. Job estimates include part time and seasonal positions.
- **Personal income** includes wage and salary income, proprietor’s income and employee benefits.
- **Value added** is a commonly used measure of the contribution of an industry or region to gross national or gross state product. Value added is personal income plus rents and profits, plus indirect business taxes. As the name implies, it is the “value added” by the region to the final good or service being produced. Value added can also be defined as the final price of the good or service minus the costs of all of the non-labor inputs to production.

For some types of purchases (e.g., gasoline, sporting goods, and souvenirs) only the retail and wholesale margin portions of visitor expenditures will accrue to the local economy. For those purchases, the expenditure associated with the cost of producing the product (e.g., refining gasoline) immediately “leaks” out of the region because that product (refined gasoline) is not made within the region. The “capture rate” describes what portion of total spending results in direct sales of products and services produced in the region. In this analysis, regional capture rates are 64% to 69%.

Property-level reporting

Property-level economic contribution and impact estimates are desirable for a variety of local management purposes. In 2013, only a portion of the Oregon State Parks properties within the Valleys Region underwent visitor sampling. We assume the average spending of visitors and the distribution of trip types is relatively stable across similar types of properties. For example, the average spending of local day visitors at one property is likely similar to the average spending of local day visitors at a similar nearby property. The distribution of trip types is more likely to differ meaningfully between properties. We have tried to account for likely differences in trip type by developing separate trip type distributions for day-use-only and day and overnight use properties. We control for differences across all properties related to the presence of a campground within the property. The transferability of trip-type distribution may be limited for

sites such as waysides and small facilities used primarily as intermediate stops on recreation trips.

Property-level economic contribution and impact estimates represent the economic activity generated in the local communities around the individual properties (Table 3). Results for individual properties can be summed to represent an estimate of the regional totals. Economic activity generated in communities around properties is reported both in terms of economic contribution and economic impact. The economic impact results are computed based only on the spending of non-local visitors. The magnitude of economic activity generated around individual properties is influenced by the amount of recreation use at the property and the presence of a campground.

Table 3—Property-level economic activity generated from recreation visitor trip spending in 2013

Property	Day visits	Overnight visits	Spending (\$000s)	Spending—non-locals (\$000s)	Economic contribution				Economic impact (non-local visitors only)				
					Direct FTE jobs	All Jobs	Labor income (\$000s)	Value added (\$000s)	Direct FTE jobs	All Jobs	Labor income (\$000s)	Value added (\$000s)	
Portland District													
Koberg Beach	240,000	0	7,956	4,592	68	103	2,506	3,930	40	60	1,452	2,265	
Molalla River	246,968	0	5,833	1,770	47	73	2,014	2,883	14	22	613	868	
L.L. Stub Stewart	72,196	51,935	6,050	4,215	48	73	2,614	3,709	33	51	1,836	2,610	
Willamette District													
Cascadia	62,708	6,658	2,276	1,382	20	29	705	1,061	13	18	442	677	
Thompson's Mills	5,195	0	112	69	1	1	33	49	1	1	21	31	
North Santiam	70,096	1,832	1,985	1,034	17	25	714	1,060	9	14	384	581	
Detroit Lake	96,032	83,021	13,646	13,449	124	189	5,161	7,914	122	186	5,092	7,812	
Silver Falls	991,936	72,184	48,374	41,796	431	648	17,926	27,048	377	566	15,611	23,658	
Willamette Mission	291,800	1,261	7,631	3,722	65	97	2,733	4,039	33	50	1,378	2,076	
Ft. Yamhill	45,276	0	1,070	900	10	14	266	421	8	12	224	357	
Luckiamute Landing	160,836	0	2,810	860	23	34	690	1,054	8	11	216	340	
Sarah Helmick	62,612	0	1,241	485	11	15	305	472	4	6	121	187	
Maud Williamson	82,128	0	1,831	1,384	16	22	514	755	12	17	390	574	
Willamette District	1,868,619	164,956	80,976	65,081	717	1,074	29,047	43,873	587	881	23,879	36,293	

Willamette District summary

According to Oregon State Parks' figures, properties in the Willamette District sampled in 2013 received over 2.64 million recreation visits in 2013. Information from visitor surveys was used to determine the types of recreation trips taken to Oregon State Parks properties (Table 4). In the Willamette District, the majority of visits are non-local overnight visits. The majority of those visitors are camping in the developed campgrounds of the Oregon State Parks properties. Local day and non-primary visits are the second and third most common types of visit.

Table 4—Trip-type distribution of visits to Oregon State Parks properties, Willamette District sample, 2013

Non-local Day	Non-local Overnight	Local Day	Local Overnight	Non-primary	Sum
13%	37%	21%	8%	21%	100%

Economic contribution of Willamette District recreation

Collectively, the direct spending of visitors to Oregon State Parks properties in the Willamette District sampled in 2013 supports about 863 full and part time jobs, \$21 million in labor income, and \$30 million in value added (Table 5). Converted to full-time equivalents, the direct spending of visitors at Willamette District properties supports 717 full-time equivalent jobs. The secondary activity generated from visitor spending increases sales by about \$22 million, supports an additional 212 full and part-time jobs, and \$8 million in additional income.

Table 5—Economic contribution to local communities from Oregon State Parks visitor spending, Willamette District, 2013

Sector/Spending category	Sales \$000's	Jobs	Labor Income \$000's	Value Added \$000's
Direct Effects				
Motel, hotel cabin or B&B	10,809	121	2,268	4,919
Camping fees	7,226	93	2,255	3,406
Restaurants & bars	15,337	281	6,067	8,197
Admissions & fees	5,948	124	2,932	3,921
Recreation & entertainment	2,534	52	1,261	1,678
Grocery stores	4,721	97	2,827	3,109
Gas stations	4,096	69	2,248	2,877
Other retail	1,063	19	614	841
Wholesale trade	1,117	6	420	711
Local production of goods	280	1	40	51
Total Direct Effects	53,131	863	20,932	29,710
Secondary effects	22,132	212	8,114	14,160
Total Effects	75,263	1,075	29,046	43,870
Multiplier	1.42	1.25	1.39	1.48

Note: Figures may differ slightly from those shown in Table 3 because of rounding.

Economic impacts of Willamette District recreation

The primary difference between economic contribution and economic impact analyses is the inclusion of spending by local residents in the former analysis. Economic impact analysis attempts to quantify the economic activity generated from “new” money brought to the region. Economic impact analysis attempts to quantify the amount of economic activity that would be lost to the region were the attraction not present. In this analysis, we include the non-primary visits that are associated with non-locals. As in all other analyses, we apply the average spending of day visitors already in the area to non-primary visits. The economic impact of Willamette District visitation results is about \$44 million in direct sales, 704 full and part-time jobs, and about \$17 million in labor income (Table 6). Converted to full-time equivalents, the economic impact of the direct spending of visitors at Willamette District properties supports 587 full-time equivalent jobs. Secondary economic activity from non-local visitor spending generates an additional \$18 million in sales and supports an additional 178 full and part-time jobs.

Table 6— Economic impact to local communities from Oregon State Parks visitor spending, Willamette District, 2013

Effect	Sales \$000's	Jobs	Labor Income \$000's	Value Added \$000's
Total Direct Effects	44,021	704	17,026	24,392
Secondary Effects	18,597	178	6,849	11,896
Total Effects	62,617	881	23,874	36,288

Note: Figures may differ slightly from those shown in Table 3 because of rounding.

Study limitations

This analysis incorporates a large volume of data collected from a variety of Oregon State Parks properties. The estimates of average visitor spending are computed from several thousand survey responses. To estimate average visitor spending and total spending attributable to Oregon State Parks properties, we follow the framework adopted by the USDA Forest Service (White et al. 2013) and the National Park Service (Cullinane-Thomas et al. 2014). Many of the uncertainties and errors in recreation economic impact studies tend to inflate impact estimates (Stynes and White 2006). To counter that general pattern, we have adopted a conservative approach to estimating visitor spending and the attribution of visitor spending. The estimates of average spending found in this study are consistent with those reported for the USDA Forest Service and National Park Service (White et al. 2013, Cullinane-Thomas et al. 2014). The numbers of recreation visits at each property are Oregon State Parks estimates developed using established internal procedures.

In some cases, visitors may enter and exit properties multiple times in a single day during a single visit or may complete visits to a single property on consecutive days in conjunction with an overnight stay (e.g., at a hotel) in the local area. Multiple entries and exits on a given day during a single visit have the potential to inflate the estimate of the number of actual visits, and thereby the estimates of total spending, received at a property. To the extent re-entry is not corrected for in the existing visit estimates, the estimates of total spending may be inflated. The spending averages for overnight visitors represent spending in the local area during the entire trip. To the extent that some visitors might stay overnight in hotels or motels (a single trip), but enter the same property on multiple consecutive days (multiple visits), the estimate of total spending may be inflated. Re-entry to the same property on consecutive days during the same trip likely presents little issue for the properties considered here.

To estimate the economic activity in rural communities associated with Oregon State Parks visitor spending, we must rely on models of the economies of those communities. In any application, the extent to which the model is an adequate representation of reality influences the accuracy of model results. To estimate the average spending of recreation visitors, we rely on data collected from a sample of recreation visitors. We assume that the sample of recreation visitors collected in the course of this research is representative of the population of visitors to the Oregon State Parks properties that are the focus of this report.

It is not common practice to place confidence intervals on estimates of economic contribution or impact. Regardless, we are not able to do so in this case because variance estimates were not provided for Oregon State Parks visitation figures. Further, the variance patterns around the spending averages reported above do not trace though linearly to the contribution and impact estimates from the economic model. The reasonableness of the estimated economic effects is frequently judged based on the statistical confidence regarding the inputs (i.e., average visitor spending and recreation use estimates).

Expenditures by Oregon State Parks to operate and staff properties also create economic activity in local communities. We have not estimated that economic activity here. However, we do model the economic activity generated from expenditures for campground fees. The fees we estimate here are collected by Oregon State Parks as well as private campgrounds and other public campgrounds. Campground fees collected by Oregon State Parks are largely spent in the local area by the same property for campground operation. Because of how we have handled campground fees, those “operation” expenditures by Oregon State Parks are represented partially in this analysis. Because it would lead to some double counting, the economic activity results reported here should not be added directly to any estimates of economic activity developed for Oregon State Parks operations and staffing.

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Appendix—analytical methods

Data for estimating visitor spending

We adopted a variety of rules for data cleaning and exclusion in developing visitor spending averages. The rules we have adopted in this analysis are consistent with those used in estimating visitor spending for the USDA Forest Service (White et al. 2013) and National Park Service (Cullinane-Thomas et al. 2014). Survey data were excluded from this analysis if the respondent appeared to have left all spending responses blank, the spending was determined to be an outlier or a contaminant (500 cases), or the respondent failed to answer questions that allowed us to classify them as a local or non-local visitor (85 cases) (Table 7).

There were 1,454 observations where expenditures in all categories were blank. Respondents who leave all spending categories blank often do so because either 1) the respondent in fact did not have any spending and indicated that zero spending by leaving the responses blank or 2) refused to report their spending. In this analysis we have chosen to treat those who leave all expenditure categories blank as refusing to report their spending. We have excluded them from the analysis. All else being equal, this approach will increase the reported average spending. In cases where respondents provided spending figures in some categories but not others, we have filled those individual categories with zeros.

We have also adopted rules to minimize the influence of contaminant and outlier observations. Contaminants are observations that do not belong to the population or are erroneous observations. An observation that includes spending that actually occurred outside the 30-mile radius around the recreation site or an observation that misplaces the decimal point when reporting an expense (i.e., 1,000.00 dollars versus 10.00) are both examples of contaminants. An outlier is an observation that does belong to the population under study but has undue influence on the estimation of the sample mean given the size of the sample. For example, some day visitors may spend \$800 during an outdoor recreation trip, but such spending is uncommon and the vast majority of visitors spend substantially less or nothing at all (Stynes and White 2006). When sample sizes are small, outlier observations can significantly influence the estimate of the sample mean.

In these spending averages, we excluded observations under the following conditions:

- The number of nights spent away from home in the local area was greater than 30,
- The reported size of the group was greater than 10 individuals,
- Spending per day/night was greater or equal to \$500 or spending on recreation and equipment rental was greater or equal to \$500 in total,
- Cases we could not classify as local or non-local or if the respondent did not state if nights were spent in the local area.

Table 7—Cases excluded from analysis

All surveyed cases	4,497
Respondents with all spending responses missing	1,454
Outlier and contaminant cases	500
Nights spent locally > 30	6
Group size > 10	398
Spending per night \geq 500 or recreation equipment expenses \geq 500	96
Unable to classify into a visitor segment	85
Did not answer if any nights were spent locally	25
Could not classify as local or non-local	60
Cases for economic analysis	2,458

Determining trip-type distribution and average party size

Visit estimates for year 2013 were provided for individual properties by Oregon State Parks. Visits were reported separately for day use areas and overnight facilities of individual properties. In the sampling effort, visitors within day use areas were surveyed on-site via intercept sampling; visitors using overnight facilities were surveyed online using reservation records. From those separate samples of day use area and overnight visitors, we determined the shares of survey respondents completing day and overnight trips, the share of local and non-local visitors, and the share of non-primary visitors. For day-use-only properties, we distributed visits into trip types using only responses from those individuals sampled at day use properties. For properties with both day- and overnight-use areas, we apportioned day visits across trip types using the day use area sample and overnight visits across trip type using the overnight use sample. In determining the trip-type distribution, we assumed that we have a representative sample of visits to Oregon State Parks properties.

To estimate total spending, the estimates of recreation use and average visitor spending must be placed in the same units. For this study we have converted visits to party visits using estimates of average party size, within trip type. Average party size estimates were computed from collected survey data (Table 8).

Table 8—Average number of visitors per party by trip type

Area	Non-local Day	Local Day	Non-local Overnight	Local Overnight	Non-primary
Willamette District	2.2	1.8	2.0	2.2	1.8
Portland District	1.9	1.7	2.0	2.0	2.0

Response coefficients for economic analysis

Local economic effects were estimated using IMPLAN 3.1 (Minnesota Implan Group, Inc 2013). Average spending figures were deflated to 2012 dollars using Bureau of Labor Statistics price indices for the economic sectors related to visitor spending. Visitor spending was bridged to economic sectors using a customized sectoring scheme and the impact area for each property was its location county. To accommodate a range of options for completing analyses for individual properties or in aggregate, and to facilitate excluding particular trip types (e.g., visits from local residents), we used response coefficients to estimate economic activity generated from visitor spending. Response coefficients relate a given number of visits (e.g., 10,000 party visits) or amount of spending (e.g., \$1 million in spending) to the response in the local economy (tables 9-15). Response coefficients are reported below for each county represented in this study and provide the opportunity for revision of the economic contribution or impact analysis given revised visitation estimates or changes in the types of trips included (e.g., only overnight trips). To use these response coefficients with individual properties, match the property to its appropriate county-specific set of response coefficients.

Table 9—Response coefficients by trip type for Clackamas County, per 10,000 party visits in each trip type

	Non-local Day	Non-local Overnight Day	Local Day	Local Overnight	Non- primary^a
Direct Economic effects					
Sales (\$000's)	\$204	\$1,345	\$177	\$1,078	\$177
Jobs	4	20	3	16	3
FTE jobs	3	17	3	14	3
Personal Income (\$000's)	\$99	\$518	\$87	\$424	\$87
Value added (\$000's)	\$127	\$726	\$111	\$589	\$111
Total Economic Effects					
Sales (\$000's)	\$276	\$1,894	\$239	\$1,519	\$239
Jobs	4	26	4	21	4
Personal Income (\$000's)	\$124	\$730	\$109	\$594	\$109
Value added (\$000's)	\$175	\$1,090	\$153	\$882	\$153

^a We apply the average spending for local day trips to non-primary visits. Local day trip spending is a conservative estimate of the additional marginal expenses associated with visiting an Oregon State Parks property when already in the area for some other reason.

Table 10—Response coefficients by trip type for Hood River County, per 10,000 party visits in each trip type

	Non-local Day	Non-local Overnight Day	Local Day	Local Overnight	Non- primary^a
Direct Economic effects					
Sales (\$000's)	\$256	\$1,796	\$219	\$1,645	\$219
Jobs	5	29	4	24	4
FTE jobs	4	24	3	20	3
Personal Income (\$000's)	\$105	\$649	\$91	\$550	\$91
Value added (\$000's)	\$147	\$955	\$126	\$852	\$126
Total Economic Effects					
Sales (\$000's)	\$347	\$2,482	\$297	\$2,274	\$297
Jobs	6	35	5	29	5
Personal Income (\$000's)	\$131	\$857	\$114	\$744	\$114
Value added (\$000's)	\$201	\$1,368	\$173	\$1,228	\$173

^a We apply the average spending for local day trips to non-primary visits. Local day trip spending is a conservative estimate of the additional marginal expenses associated with visiting an Oregon State Parks property when already in the area for some other reason.

Table 11—Response coefficients by trip type for Linn County, per 10,000 party visits in each trip type

	Non-local Day	Non-local Overnight Day	Local Day	Local Overnight	Non- primary^a
Direct Economic effects					
Sales (\$000's)	\$309	\$1,872	\$132	\$1,096	\$132
Jobs	6	30	3	17	3
FTE jobs	5	25	2	15	2
Personal Income (\$000's)	\$138	\$662	\$59	\$420	\$59
Value added (\$000's)	\$185	\$989	\$79	\$599	\$79
Total Economic Effects					
Sales (\$000's)	\$397	\$2,426	\$170	\$1,433	\$170
Jobs	7	35	3	21	3
Personal Income (\$000's)	\$168	\$857	\$72	\$538	\$72
Value added (\$000's)	\$241	\$1,334	\$103	\$810	\$103

^a We apply the average spending for local day trips to non-primary visits. Local day trip spending is a conservative estimate of the additional marginal expenses associated with visiting an Oregon State Parks property when already in the area for some other reason.

Table 12—Response coefficients by trip type for Marion County, per 10,000 party visits in each trip type

	Non-local Day	Non-local Overnight Day	Local Day	Local Overnight	Non- primary^a
Direct Economic effects					
Sales (\$000's)	\$316	\$1,896	\$135	\$1,115	\$135
Jobs	6	29	2	17	2
FTE jobs	5	24	2	15	2
Personal Income (\$000's)	\$151	\$691	\$65	\$433	\$65
Value added (\$000's)	\$196	\$1,019	\$84	\$615	\$84
Total Economic Effects					
Sales (\$000's)	\$451	\$2,727	\$194	\$1,621	\$194
Jobs	7	37	3	22	3
Personal Income (\$000's)	\$200	\$1,001	\$86	\$622	\$86
Value added (\$000's)	\$284	\$1,551	\$122	\$941	\$122

^a We apply the average spending for local day trips to non-primary visits. Local day trip spending is a conservative estimate of the additional marginal expenses associated with visiting an Oregon State Parks property when already in the area for some other reason.

Table 13—Response coefficients by trip type for Polk County, per 10,000 party visits in each trip type

	Non-local Day	Non-local Overnight Day	Local Day	Local Overnight	Non- primary^a
Direct Economic effects					
Sales (\$000's)	\$308	\$1,866	\$131	\$1,090	\$131
Jobs	6	32	3	19	3
FTE jobs	5	27	2	16	2
Personal Income (\$000's)	\$127	\$543	\$55	\$337	\$55
Value added (\$000's)	\$177	\$903	\$76	\$539	\$76
Total Economic Effects					
Sales (\$000's)	\$371	\$2,287	\$158	\$1,347	\$158
Jobs	7	36	3	22	3
Personal Income (\$000's)	\$144	\$664	\$62	\$412	\$62
Value added (\$000's)	\$216	\$1,149	\$93	\$690	\$93

^a We apply the average spending for local day trips to non-primary visits. Local day trip spending is a conservative estimate of the additional marginal expenses associated with visiting an Oregon State Parks property when already in the area for some other reason.

Table 14—Response coefficients by trip type for Washington County, per 10,000 party visits in each trip type

	Non-local Day	Non-local Overnight Day	Local Day	Local Overnight	Non- primary^a
Direct Economic effects					
Sales (\$000's)	\$218	\$1,457	\$192	\$1,183	\$192
Jobs	4	19	3	16	3
FTE jobs	3	16	3	13	3
Personal Income (\$000's)	\$107	\$640	\$95	\$525	\$95
Value added (\$000's)	\$136	\$843	\$121	\$688	\$121
Total Economic Effects					
Sales (\$000's)	\$315	\$2,167	\$278	\$1,760	\$278
Jobs	4	25	4	20	4
Personal Income (\$000's)	\$143	\$918	\$127	\$750	\$127
Value added (\$000's)	\$200	\$1,309	\$177	\$1,066	\$177

^a We apply the average spending for local day trips to non-primary visits. Local day trip spending is a conservative estimate of the additional marginal expenses associated with visiting an Oregon State Parks property when already in the area for some other reason.

Table 15—Response coefficients by trip type for Yamhill County, per 10,000 party visits in each trip type

	Non-local Day	Non-local Overnight Day	Local Day	Local Overnight	Non- primary^a
Direct Economic effects					
Sales (\$000's)	\$312	\$1,879	\$133	\$1,102	\$133
Jobs	6	30	3	18	3
FTE jobs	5	25	2	15	2
Personal Income (\$000's)	\$133	\$699	\$58	\$428	\$58
Value added (\$000's)	\$183	\$1,021	\$79	\$609	\$79
Total Economic Effects					
Sales (\$000's)	\$379	\$2,281	\$162	\$1,347	\$162
Jobs	7	34	3	20	3
Personal Income (\$000's)	\$153	\$826	\$67	\$505	\$67
Value added (\$000's)	\$223	\$1,257	\$97	\$754	\$97

^a We apply the average spending for local day trips to non-primary visits. Local day trip spending is a conservative estimate of the additional marginal expenses associated with visiting an Oregon State Parks property when already in the area for some other reason.

