

# ***Economic Linkages and Impact Analysis for the Oregon Sea Grant-Operated Visitor Center at the Hatfield Marine Science Center***

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(Photo by Tiffany Woods)

Bruce Sorte, Extension Economist  
Department of Applied Economics  
Oregon State University



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*One of the most popular exhibits at the Hatfield Marine Science Center's Visitor Center is the giant Pacific octopus.  
(Photo by Pat Kight)*

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## Summary

Using data from two types of surveys and the IMPLAN (IMPact analysis for PLANning) input-output model, we estimated the annual economic contributions of Oregon Sea Grant's Visitor Center at Oregon State University's (OSU) Hatfield Marine Science Center (HMSC) in Newport. The Visitor Center attracts approximately 150,000 visitors a year, almost all of them from outside Lincoln County. The Center does not require an admission fee and provides an experience that is unique on the Oregon coast.

Thirty-nine percent of visitors surveyed indicated that half or more of their reason for coming to the Oregon coast was to visit the Visitor Center. Coincidentally, averaging the 131 visitors' responses, 39 percent of their reason for visiting Lincoln County was to visit the Visitor Center.

The Visitor Center is supported primarily with federal and OSU funds, with some donations from visitors. The total annual cost to operate the Visitor Center is \$460,000 in 2017 dollars. As estimated in this report, that \$460,000 generates more than 10 times as much in economic effects, with \$5.4 million in income, \$9.7 million in sales, and 133 jobs for Lincoln County. Statewide, the Visitor Center generates \$7.6 million in income, \$13.2 million in sales, and 156 jobs.

These estimates should be useful for at least the next few years. In our anonymous survey, unlike most tourism studies, we asked survey participants to estimate how important the Visitor Center was in their decisions to travel to the Oregon coast. At every point where we were uncertain about visitors' spending, we chose the conservative approach (e.g., excluding any economic effects for the 11,000 students and adults who visit each year as part of their school classes).



*The Visitor Center's touch tanks contain sea stars and sea urchins. (Photo courtesy of HMSC)*

## Introduction

Oregon Sea Grant is a statewide program that was designated in 1971 as one of the first four programs from the National Oceanic and Atmospheric Administration (NOAA) Sea Grant Program, which was created by President Johnson and Congress in 1966.<sup>1</sup> It is administered by OSU but serves all of Oregon. Oregon Sea Grant's 149 scientists, staff, and students (including program personnel and those supported on competitive projects) in 11 Oregon locations focus their research and outreach efforts on strengthening Oregon's marine resources. While the greatest impacts of Oregon Sea Grant are the discoveries it makes, the education it provides (particularly for and about the fishing industry and marine resources), and the students it inspires, these are longer-term contributions and stretch our methods to measure their monetary and nonmonetary impacts. We can, however, estimate the economic contributions of some of the parts of Oregon Sea Grant's programs.

One of those is the HMSC Visitor Center in Newport, Oregon. The Visitor Center's easiest economic effects to estimate are its operational expenditures for personnel, supplies, and equipment. Almost all of Oregon Sea Grant's funding for the Visitor Center comes from federal and state governments, so those operating expenditures are considered exports from Lincoln County, and those funded by the federal government are exports from Oregon to the rest of the U.S. Those exports bring "new money" into Lincoln County and Oregon.

Next we can consider the expenditures made in Lincoln County and Oregon by visitors to the Visitor Center. There is a substantial literature on the economic effects of bringing new people to a region to spend their time and money, and maybe eventually relocate their businesses and homes. For an individual place or service like the Visitor Center, if we know how many people visit the Center, how many days they stay in the area, to what extent their trip can be attributed to their desire to visit the Visitor Center, and how much they spend and on what in the region, we can estimate the economic effects of the Visitor Center.

In this report, we describe how we calculated those key variables, and then, using an input-output model (IMPLAN), summarize how both Visitor Center operating expenditures and Visitor Center attendees' expenditures may affect the Lincoln County and Oregon economies. Operating expenditures for personnel, supplies, and equipment, and the typical tourism expenditures for food services, accommodations, and retail items, extend or are linked to most of the other business and public service sectors in Lincoln County and Oregon. The IMPLAN model projects those linkages to provide a complete estimate of the direct expenditures and their multiplied effects throughout the economies.

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<sup>1</sup> Oregon Sea Grant, *About Us – A Brief History*. <http://seagrant.oregonstate.edu/about/brief-history>



First, however, we need to provide the reader with key terms that will be used in the analysis. It is also important to remember that these estimates, though well informed, are still estimates. Please study the definitions for “Output” and “Value-added portion of sales” carefully. Value-added is a subset representing the local value that is added to products and services beyond the purchased inputs from outside each business or agency. Therefore, the reader needs to avoid adding the output and value-added estimates together. The model is linear and therefore can be made more or less conservative by simply altering the multiplier. If you think we have underestimated, you can simply multiply by the factor by which you believe we have been too conservative. The same thing works in the opposite direction.

While we go to quite some effort in this report to explain and delineate the differences between economic linkages (or footprint) and economic impacts, the differences are not clear cut. Many economists and development professionals subscribe to an export-based theory of development, which credits economic growth to the goods and services traded or exported outside an economy to bring in new money.

What we do not know is whether a person who lives in Oregon and wanted to visit the Visitor Center (an

## Key Terms\*

**Full- and part-time jobs:** The estimate of total employment by industry in IMPLAN is equivalent to the annual average of monthly jobs in that industry. This is the same definition used by other national databases. Estimates of employment should be interpreted as counting either full-time or part-time jobs as a whole job.

**Output:** The market value of all goods and services sold by an industry, or expenditures made by a public agency like Oregon Sea Grant, shown in 2017 dollars. It includes other operating income and inventory.

**Value-added portion of sales:** This is the total output of an industry, minus the cost of intermediate inputs that are purchased from other industries. All values are 2017 dollars.

**Direct effects:** The estimated size and output of Visitor Center operating expenditures and the first round of tourism expenditures, such as paying for a motel room.

**Indirect effects:** The inter-industry or supplier effects. This is the value of output that comes from other sectors within the region to support the production of the direct effects.

**Induced effects:** These are household expenditures made by Oregon Sea Grant employees, household expenditures made by owners and employees of Oregon Sea Grant suppliers, expenditures by suppliers of the suppliers, and so on through all economically linked expenditures to the Visitor Center.

**Total effects:** These values include the direct effect, indirect effect, and induced effects.

**Multipliers:** This report uses multipliers calculated by dividing the total effect by the direct effect. The model treats household expenditures as driven by the production within the direct effects. Thus, these multipliers provide a complete estimate of the economic effects by including not only the additional economic activity generated within other industries (Type I multipliers) by the direct expenditures, but also the economic activity generated by households with labor income.

**Economic linkages:** Economic linkages, or economic activities, are the estimates of the total contribution of output, jobs, and the value-added portion of sales that result from the Visitor Center, both from and within study areas – Lincoln County and Oregon economies, and the new money that the Visitor Center has brought in from outside the study areas.

**Economic Footprint:** Another way of describing the economic linkages or economic reach of the Visitor Center.

**Exports:** The portion of economic activities caused by the Visitor Center that is exported out of the study area and brings new money into Lincoln County or Oregon.

**Economic Impacts:** All the economic effects that result from the exports caused by the Visitor Center.

**Total Economic Effects:** These effects are the sum of the total effects from Visitor Center operating expenditures and visitor spending due to the Visitor Center attracting visitors to Lincoln County and Oregon.

\* Sorte, Bruce, Mallory Rahe, and Paul Lewin. 2016. *Agriculture, food, forestry and fishing in the NW U.S.: An Economic Analysis*. Oregon State University Extension Service. [Mallory.Rahe@oregonstate.edu](mailto:Mallory.Rahe@oregonstate.edu)

economic linkage), and was unable to do so because the Visitor Center reduced hours of operation, would still visit Lincoln County or some other place still in Oregon. Or would the person decide to spend a weekend in the Puget Sound area, or stay home and shop online, thereby “leaking” those expenditures out of the Oregon economy.

While an expenditure by a person residing in Lincoln County or Oregon related to the Visitor Center may not be an export, it may provide just as much economic impact as an export by avoiding a leakage of money out of the local economy to buy an import such as tourism in Puget Sound or a shirt from a distant catalog store. This is called import substitution.



*This exhibit at the Visitor Center gives a step-by-step look at what it takes to ship ornamental fish from Brazil's Rio Negro River to the United States. (Photo by Tiffany Woods)*

## Methods

Expenditures used in this analysis for the employee, supplies, and equipment costs to operate the Visitor Center were the most recent, actual full-year costs from the 2015/2016 Oregon State University fiscal year that extends from July 1 to June 30. Sector 493 Museums, historical sites, zoos, and parks in the IMPLAN 536 sector model, which we purchased from IMPLAN Group LLC with its most current 2015 dataset, most closely approximates the spending of the Visitor Center. We edited the sector in both the Lincoln County and Oregon models to remove the private-sector for-profit components like proprietor income, and matched the proportions of the employee-compensation and supplies spending at the Visitor Center. The operating expenditures were run through the model; the results are below, in Tables 1–3.

As noted above, to estimate the economic effects of visitors to the Visitor Center, we needed to know the attendance, length of stay in the region, to what extent people’s trips to Lincoln County could be attributed to the Visitor Center, and how much they spent.

The Visitor Center uses a laser-beam counter to determine attendance on a daily basis. We had data from 1995 through 2016. We used the data from 2015, which was very close to the average and mean of the last five years and was from the same period as the Dean Runyan Associates and IMPLAN datasets. Attendance is significantly higher during school vacations for K–12 students. We separated the attendance data between those people who attended during school breaks and those who attended when school was in session. The Visitor Center will be open 288 days during 2017, which is a typical year. When school is in session, the Visitor Center is open from Thursday through Sunday, and seven days a week during school breaks. We counted the three summer months and two weeks during the school year, to reach an estimate of 106 days for student breaks and 182 days for when school is in session. The total annual attendance at the Visitor Center during 2015 was 150,157. When 11,000 student visitors who primarily did not shop for retail or food during their visits are subtracted, the number of people who attended and were likely to have an economic effect was 139,157. A few classes of students did have food brought to the Visitor Center by local vendors, and some of them stopped at fast-food restaurants; we did not have a reliable estimate of those expenditures. The 139,157 figure was divided between the 60,871 visitors attending when school was in session and 78,286 when schools were not in session.

To determine day visitors’ length of stay, attribution, and spending in Lincoln County, we surveyed visitors to the Visitor Center on a day during spring break – March 28, 2017 – using an individual written survey with 68 participants, and on a weekend day – April 15, 2017 – when school was in session with 63 participants, using a fast-response, dot-type survey. The responses reflected different lengths of stay and levels of spending; however, their proportions were consistent between the two surveys. Copies of the surveys are included in the Appendix.

In addition to our surveys, we had the benefit of Dr. Bill Hanshumaker's (Oregon Sea Grant) extensive demographic surveying in 2010/2011 to check the reasonableness of our results.

Dean Runyan Associates has estimated travel spending and its economic effects for the Oregon Tourism Commission for many years, and provides data back to 1992 with statewide, regional, and county-level data.<sup>2</sup> We used their most currently available data from 2015 for overnight visitor spending in Lincoln County. They also provided statewide estimates of day visitor spending, which we could use for our day visitor estimates of economic effects in Oregon. However, they do not provide county-level spending estimates for day visitors because people who visit for the day tend to spend throughout their trip in a number of places. We used our survey data for Lincoln County estimates of day visitor spending.

The attribution factors, or estimates of the extent to which people's visits to the region were based on their interest in visiting the Visitor Center, came from our surveys. Those factors ranged from 21 percent, for people who stayed at least one night in a private home, to 50 percent, for day visitors during school break. For the school-break visitors, we used the specific estimates by category of visitor from the written surveys. A rough estimate is that about 39 percent of the reason people visit Lincoln County and the Visitor Center can be attributed to the Visitor Center. Adding this attribution factor is a conservative approach that is not often used in these types of studies. Using the attribution factor avoids a great deal of the double-and-more counting, as places and events each take full credit for visits. Visitors have a complex mix of reasons for travelling. Places like the Visitor Center can be credited with providing one of the highlights to a trip that may make the difference between travelling and staying at home, but rarely can the entire reason for a trip be attributed to a specific place or event.

For the individual written surveys, although all responses were anonymous, we could match or cross tab each person's response on one question to their responses on other questions. For example, we could compare distance traveled, which affects amount spent, with how much the respondent attributed the reason for the trip to the Visitor Center or the number of days stayed with the respondent's estimate of attribution. The written survey participants also had a full range of percentages (0–100) over which they could attribute their visit to the Visitor Center. This allowed us to closely match attribution factors to categories of visitor. Interestingly, even though the fast-response dot survey respondents were limited to ranges of percentages or expenditures, the results were very similar to those of the written survey data.

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<sup>2</sup> Dean Runyan Associates. 2016. *Oregon Travel Impacts 1992–2015p*. 833 S.W. 11th Avenue, Suite 920, Portland, OR 97205. 503-226-2973. [www.deanrunyan.com](http://www.deanrunyan.com).



## Results

This section provides estimates for the economic effects of the Visitor Center operating expenditures and the spending of people who visited the Visitor Center. It estimates those effects for two study areas: Lincoln County, and all of Oregon. We distinguish between the economic effects of spending by people who live within the study areas, and spending such as federal funding for operations or spending by visitors who live outside the study areas, which brings in “new money” and which we call *exports*. We use the terms *linkages* and *activity* for expenditures made by study-area residents, and *impact* for funding agencies or people from outside the study areas.

### *Operating Expenditures*

Oregon Sea Grant’s programs located at the Visitor Center spend \$2.2 million for operating expenses, and 98.5 percent of the funding for those expenditures is from Oregon State University or federal funding from outside Lincoln County. This new money is a net gain to the county. Forty-six percent of those funds are from the federal government. Expenditures to operate the Visitor Center are 20 percent of the total expenditures by Oregon Sea Grant in Lincoln County. Table 1 shows the economic effects of all the linkages to those Visitor Center operating expenditures. Since essentially all the funding for operations comes from outside the county, in Table 1 the economic linkages and export impacts are the same.

**Table 1: Economic Linkages and Export Impacts for Visitor Center Operations in Lincoln County**

<i>Type of Effect</i>	<i>Employment Full &amp; Part-time Jobs</i>	<i>Total Value Added (\$)</i>	<i>Output (\$)</i>
<b>Direct</b>	9	317,549	460,000
<b>Indirect</b>	1	52,855	96,474
<b>Induced</b>	2	97,876	177,194
<b>Total</b>	<b>12</b>	<b>468,280</b>	<b>733,668</b>
<b>Multiplier</b>	<b>1.4</b>	<b>1.5</b>	<b>1.6</b>

Table 2 shows the economic linkages to Visitor Center operating expenditures within Oregon. The Visitor Center operating expenditures (direct effects) are the same as in Table 1; however, in Table 2 they have been run through the Oregon input-output economic model rather than the Lincoln County model. Since the Oregon economy is larger and has more different types of businesses than the Lincoln County economy, more of the operating purchases can be made

from Oregon businesses than from Lincoln County businesses. This increases the indirect, induced, and total effects and multipliers for Oregon compared to Lincoln County.

**Table 2: Economic Linkages to Visitor Center Operations in Oregon**

<i>Type of Effect</i>	<i>Employment Full &amp; Part-time Jobs</i>	<i>Total Value Added (\$)</i>	<i>Output (\$)</i>
<b>Direct</b>	9	317,549	460,000
<b>Indirect</b>	2	84,705	139,969
<b>Induced</b>	3	164,441	288,261
<b>Total</b>	<b>14</b>	<b>566,695</b>	<b>888,230</b>
<b>Multiplier</b>	<b>1.6</b>	<b>1.8</b>	<b>1.9</b>

As described in the Key Terms sidebar (page 5), economic impacts are all the economic effects that result from the exports generated by the Visitor Center. In reference to operating expenditures, these are the economic impacts related to funding received from outside Oregon. Twenty-one percent of the funding for Visitor Center operations comes from the federal government or from outside Oregon, and that portion is treated as an export. Table 3 is a summary of the export impacts of Visitor Center expenditures for Oregon. The \* next to the employment multiplier is to note that part-time jobs are calculated in the model as percentages and then rounded up. The calculations for export-related jobs produced part-time jobs with small percentages, yet when rounded up produced a higher multiplier for exports than economic activity. The jobs multiplier for Tables 2 and 3 are both 1.6, and that adjustment has been made in the tables.

**Table 3: Export Impacts of Visitor Center Operations in Oregon**

<i>Type of Effect</i>	<i>Employment Full &amp; Part-time Jobs</i>	<i>Total Value Added (\$)</i>	<i>Output (\$)</i>
<b>Direct</b>	2	66,685	96,600
<b>Indirect</b>	1	11,100	20,260
<b>Induced</b>	1	20,554	37,211
<b>Total</b>	4	98,339	154,070
<b>Multiplier</b>	<b>1.6*</b>	<b>1.5</b>	<b>1.6</b>

### *Visitor Spending*

As discussed above in the methods section and, even more specifically, for our visitor spending calculations, total attendance and Dean Runyan Associates' estimates of visitor spending for Lincoln County and day travel to the beach in Oregon were from 2015. We allocated attendance to visitor categories (e.g., staying in a motel and spending two nights) and adjusted for attribution based on our two 2017 surveys. Then we used IMPLAN to adjust the model's estimates, which were based on 2015 dollars, to current 2017 dollars. When the results of our two surveys are combined, 95 percent of the visitors to the Visitor Center are from outside Lincoln County. Table 4 summarizes the responses from the two surveys. Again, the economic linkages and the export impacts for Lincoln County from visitors to the Visitor Center are essentially the same; they are shown in Table 5.



*An aquarist cleans one of the tanks at the Visitor Center. (Photo by Vanessa Cholewczynski)*

**Table 4: Summary of Responses to the Surveys**

<b>Answer</b>	<b>Percentage</b>
<b>Lincoln County resident</b>	5%
<b>Oregon resident from outside Lincoln County</b>	67%
<b>Outside Oregon</b>	28%
<b>Day visitors</b>	30%
<b>Overnight visitors:</b>	70%
<i>Hotel, motel, or rented home</i>	64%
<i>Private home</i>	14%
<i>Campground or other</i>	22%
<b>Portion of reason for travelling to Lincoln County attributable to the Visitor Center</b>	39%
<b>People who visit the Visitor Center once or more times per year</b>	40%
<b>Most interested in learning about or doing at the Visitor Center:</b>	
<i>Interacting with animals and exhibits</i>	40%
<i>Ocean, fish, beaches, and animals research</i>	37%
<i>Natural history</i>	11%
<i>Talks, demonstrations, or events</i>	8%
<i>Bookstore, or what is new at the Visitor Center</i>	4%



**Table 5: Economic Linkages and Export Impacts for Visitor Spending in Lincoln County**

<i>Type of Effect</i>	<i>Employment Full &amp; Part-time Jobs</i>	<i>Value Added (\$)</i>	<i>Output (\$)</i>
<b>Direct</b>	95	3,360,313	6,066,909
<b>Indirect</b>	12	738,293	1,388,741
<b>Induced</b>	14	853,367	1,518,804
<b>Total</b>	<b>121</b>	<b>4,951,972</b>	<b>8,974,454</b>
<b>Multiplier</b>	<b>1.3</b>	<b>1.5</b>	<b>1.5</b>

Statewide, the visitor spending economic linkages are greater than they are for Lincoln County because all the day-only visitor expenditures – when they are travelling to and from the Visitor Center via a number of counties – and their spending in Lincoln County are included in the direct effects. For the Lincoln County estimates, only the visitor spending in Lincoln County is included in the direct effects. In the Oregon estimates, the indirect and induced effects from both Lincoln and other counties reach beyond Lincoln County to other Oregon counties, as well. Those greater indirect and induced effects have an even stronger effect than the increased direct spending, thereby increasing the multipliers. The Oregon economic effects and multipliers are summarized in Table 6. NOTE: The Oregon economic effects include Lincoln County economic effects, so Tables 5 and 6 should not be added together.

**Table 6: Economic Linkages for Visitor Spending in Oregon**

<i>Type of Effect</i>	<i>Employment Full &amp; Part-time Jobs</i>	<i>Value Added (\$)</i>	<i>Output (\$)</i>
<b>Direct</b>	101	3,691,274	6,530,090
<b>Indirect</b>	17	1,594,109	2,766,241
<b>Induced</b>	24	1,783,492	3,048,538
<b>Total</b>	<b>142</b>	<b>7,068,875</b>	<b>12,344,870</b>
<b>Multiplier</b>	<b>1.4</b>	<b>1.9</b>	<b>1.9</b>

Approximately 28 percent of the visitors to the Visitor Center are from outside Oregon. The IMPLAN model is linear, so 28 percent of the effects in Table 6 are shown in Table 7, and represent the export impact of visitor spending for Oregon. In effect, Oregon is exporting visitor

or tourism experiences when nonresidents of Oregon visit the state, and Table 7 reflects the portion of those exports attributable to the Visitor Center – and the multiplied impacts of that spending. Here again, the economic impacts are a subset or portion of the economic linkages, so Tables 6 and 7 should not be added together.

**Table 7: Economic Impacts for Nonresident Spending in Oregon**

<i>Type of Effect</i>	<i>Employment Full &amp; Part-time Jobs</i>	<i>Value Added (\$)</i>	<i>Output (\$)</i>
<b>Direct</b>	28	1,033,557	1,828,425
<b>Indirect</b>	5	446,350	774,548
<b>Induced</b>	7	499,378	853,591
<b>Total</b>	<b>40</b>	<b>1,979,285</b>	<b>3,456,564</b>
<b>Multiplier</b>	<b>1.4</b>	<b>1.9</b>	<b>1.9</b>

#### *Total Economic Effects*

The economic footprint includes all the economic linkages and reflects the reach economically of the Visitor Center. The Visitor Center’s economic footprint in Lincoln County is shown in Table 8 and in Oregon in Table 9. The major portion of economic effects of the Visitor Center comes from the direct effects. The Visitor Center’s major expenditures are for salaries and wages so people can provide services to create the exhibits, construct the exhibits, maintain the exhibits, and help visitors interpret the exhibits. The Visitor Center, like most educational services, does not require as many inputs that are goods or contracted services as some other businesses, so the indirect (supplier) effects are more modest, resulting in a lower multiplier. The type of inputs needed for the exhibits and to operate the Visitor Center, such as sophisticated equipment or utilities, are only partially produced or not produced at all in Lincoln County. They are more likely to be produced somewhere in Oregon – thus the indirect effects – and all the multipliers are higher when the study area is extended from Lincoln County to all of Oregon. The induced effects are larger than the indirect effects and more typical of high-value industries. As Visitor Center employees spend their salaries and wages on a year-round basis, and those places where they make their expenditures pay their employees, who in turn spend their income, the induced effects are created – and grow.

**Table 8: Economic Linkages for Visitor Center Operations and Visitor Center Visitors' Spending in Lincoln County**

<i>Type of Effect</i>	<i>Employment Full &amp; Part-time Jobs</i>	<i>Value Added (\$)</i>	<i>Output (\$)</i>
Direct	104	3,677,862	6,526,908
Indirect	13	791,148	1,485,215
Induced	16	951,243	1,695,998
<b>Total</b>	<b>133</b>	<b>5,420,253</b>	<b>9,708,121</b>
<b>Multiplier</b>	<b>1.3</b>	<b>1.5</b>	<b>1.5</b>

**Table 9: Economic Linkages for Visitor Center Operations and Visitor Center Visitors' Spending in Oregon**

<i>Type of Effect</i>	<i>Employment Full &amp; Part-time Jobs</i>	<i>Value Added (\$)</i>	<i>Output (\$)</i>
Direct	110	4,008,823	6,990,090
Indirect	19	1,678,814	2,906,210
Induced	27	1,947,934	3,336,799
<b>Total</b>	<b>156</b>	<b>7,635,571</b>	<b>13,233,099</b>
<b>Multiplier</b>	<b>1.4</b>	<b>1.9</b>	<b>1.9</b>

While the Visitor Center's economic footprint is a small percentage of the total Lincoln County and Oregon economies, it is important to consider the effort and expense to which cities and states go to attract or retain businesses or agencies that provide between 100 and 200 jobs and \$5.4 to \$7.6 million in income (value added).

## Considerations

The Oregon Sea Grant Visitor Center provides significant economic impacts to Lincoln County and economic contributions to Oregon. The Visitor Center has collaborated with other places, especially the Oregon Coast Aquarium, to avoid competition and offer different, though complementary, experiences.

Very few investments for economic development initiatives can produce a return of more than 10 times the investment. The Visitor Center exceeds that return, and its primary purpose is educational, with economic development as an indirect benefit. If the activities of the Visitor Center are disrupted in a negative way, the economy of Lincoln County can be expected to contract and the Oregon economy to also be diminished, though to a smaller degree than Lincoln County's. On the other hand, the Visitor Center may be operating at capacity, and a feasibility study of ways to extend the days of operation and expand the facility might yield even more economic impacts to Lincoln County and Oregon.

One area that we could not adequately estimate in this study was the contribution of the 131 trained and 61 active Visitor Center volunteers and the critical role they play in the operation of the Visitor Center. No doubt the more than 10X economic leverage factor of operating expenditures to economic contributions owes a great deal to the volunteers. As this report has made apparent so far, we estimate economic effects from how spending works its way through study-area economies like Lincoln County or Oregon. Since volunteers do not receive payment for their services, which could be spent in the local economy, estimating their economic impacts is not possible with our methodology. If a significant portion of the volunteers came to Lincoln County from outside the county or Oregon, we could treat their expenditures while "visiting" as volunteers the same way we treat tourism spending. However, most of the volunteers' primary residences are in Lincoln County. Another part of volunteering that is too subjective to accurately measure, though very real, is the extent to which having volunteer opportunities causes people to relocate to places like Lincoln County and stay there, especially after they retire. Even though we cannot estimate the economic impacts of volunteers in this analysis, their contribution is significant. Without the volunteers and new funding to replace them with paid staff, the program's scope would need to be reduced, thereby reducing the visitor impacts.

Another important economic consideration that is difficult to measure, even with our efforts to quantify attribution, is the extent to which the Visitor Center makes Lincoln County and Oregon special, or distinguishes it from other places that people are considering visiting or living. Successful businesses work very hard to distinguish their products or services from the competition, and places like the Visitor Center contribute to the competitive edge that Lincoln County and Oregon have in attracting not only tourists but also students, scientists, and other scholars.



At the beginning of this report, we noted that the major impacts of the Visitor Center are the long-term effects that people's, especially students', visits have on their understanding of marine resources and processes and their professional development. It may be helpful, though quite difficult, to survey adult visitors to the Visitor Center who may have visited as children, to determine any effects they can relate back to those earlier visits.



*Wildlife artist Ram Papish finishes a mural at the Visitor Center. The mural features two donated walrus tusks protruding from a three-dimensional, papier maché walrus head that seamlessly transitions into an acrylic painting. (Photo by Tiffany Woods)*

## Appendix – Survey Instruments

### *Individual Written Survey*

Please help the Oregon Sea Grant Program estimate how this Visitor Center affects the local economy and what you hope you will find when you come. This survey is being conducted for research purposes. We would appreciate individual adult visitors or one adult from visiting families or groups to complete this brief survey. Your participation is completely voluntary and please do not include your name or any personal information. Answer only the questions that you are comfortable answering. Fill- in your best estimate or if multiple choices are provided, check the one best answer. If you need more information to interpret a question please ask one of us. If you have further questions please contact the Principal Investigator Bruce Sorte and/or the OSU Research Office Institutional Review Board as noted below. The results of the survey and the analysis to which the results contribute will be available by June 1, 2017 at <http://seagrants.oregonstate.edu/>.

Thank you very much,

Bruce Sorte  
Oregon State University Extension Economist  
Applied Economics  
213 Ballard Extension Hall  
Corvallis, OR 97331-2140  
[bruce.sorte@oregonstate.edu](mailto:bruce.sorte@oregonstate.edu)  
541.737.140

Research Office - IRB  
Oregon State University  
A312 Kerr Administration  
Corvallis, OR 97331  
[irb@oregonstate.edu](mailto:irb@oregonstate.edu)  
541.737.3467

1. How far from your primary residence did you travel for this visit? \_\_\_\_\_
2. To what extent was your decision to visit the Newport/Waldport/Lincoln City area base on your visit to this Visitors Center (0-100%)? \_\_\_\_\_
3. How many days will you be in the Newport/Waldport/Lincoln City area during this visit? Please count each calendar day. \_\_\_\_\_
4. If you are staying overnight what type of lodging have you chosen?  
Hotel/motel/short term rented home \_\_\_\_\_  
Private home including second home \_\_\_\_\_  
Other including campground \_\_\_\_\_
5. If you are visiting the Newport/Waldport/Lincoln City area just today approximately how much will you spend for prepared food (does not include groceries) per person in your group? \_\_\_\_\_
6. If you are visiting the Newport/Waldport/Lincoln City area just today approximately how much will you spend for retail including gasoline and grocery purchases per person in your group? \_\_\_\_\_
7. How many times have you visited the Hatfield Marine Science Center Visitor Center in the last five years including today? \_\_\_\_\_
8. Please rank between 1 and 5 (1 as the highest) what you are most interested learning about or doing at the Visitor Center today?  
Ocean, fish, beaches, animals, etc. research \_\_\_\_\_  
Natural history of the ocean and shore \_\_\_\_\_  
Interact with the animals, fish and exhibits \_\_\_\_\_  
The visitor center, the bookstore and what is new here \_\_\_\_\_  
Attend a talk, demonstration or other event \_\_\_\_\_

Thanks again!!

### ***Fast Response Dot Survey***

Please place a dot next to the one best answer for each question. If you need more information to interpret a question please ask one of us. If you have further questions please contact the Principal Investigator Bruce Sorte and/or the OSU Research Office Institutional Review Board as noted below. The results of the survey and the analysis to which the results contribute will be available by June 1, 2017 at <http://seagrant.oregonstate.edu/>.

Thank you very much,

Bruce Sorte  
Oregon State University Extension Economist  
Applied Economics  
213 Ballard Extension Hall  
Corvallis, OR 97331  
[bruce.sorte@oregonstate.edu](mailto:bruce.sorte@oregonstate.edu)  
541.737.1403

Research Office - IRB  
Oregon State University  
A312 Kerr Administration  
Corvallis, OR 97331-2140  
[irb@oregonstate.edu](mailto:irb@oregonstate.edu)  
541.737.3467

#### **1. Where is your primary residence?**

Within Lincoln County \_\_\_\_\_  
Outside Lincoln County yet still in Oregon \_\_\_\_\_  
Outside Oregon \_\_\_\_\_

#### **2. To what extent was your decision to visit the Newport/Waldport/Lincoln City area based on your visit to this Visitors Center?**

100% \_\_\_\_\_  
75% \_\_\_\_\_  
50% \_\_\_\_\_  
25% or less \_\_\_\_\_

#### **3. How many days will you be in the Newport/Waldport/Lincoln City area during this visit? Please include today and count each calendar day.**

One \_\_\_\_\_  
Two \_\_\_\_\_  
Three \_\_\_\_\_  
Four or more \_\_\_\_\_

#### **4. If you are staying overnight what type of lodging have you chosen?**

Hotel/motel/short term rented home \_\_\_\_\_  
Private home including second home \_\_\_\_\_  
Other including campground \_\_\_\_\_

#### **5. If you are visiting the Newport/Waldport/Lincoln City area just today approximately how much will you spend for prepared food (does not include groceries) per person in your group?**

\$0 \_\_\_\_\_  
\$1-\$10 \_\_\_\_\_  
\$11-20 \_\_\_\_\_  
More than \$20 \_\_\_\_\_

**6. If you are visiting the Newport/Waldport/Lincoln City area just today approximately how much will you spend for retail including gasoline and grocery purchases per person in your group?**

\$0 \_\_\_\_\_

\$1-10 \_\_\_\_\_

\$11-20 \_\_\_\_\_

More than \$20 \_\_\_\_\_

**7. How many times have you visited the Hatfield Marine Science Center Visitor Center in the last five years including today?**

More than once per year on average \_\_\_\_\_

About once per year \_\_\_\_\_

Less than once per year \_\_\_\_\_

Once \_\_\_\_\_

**8. What are you most interested learning about or doing at the Visitor Center today? Please just choose one.**

Ocean, fish, beaches, animals, etc. research \_\_\_\_\_

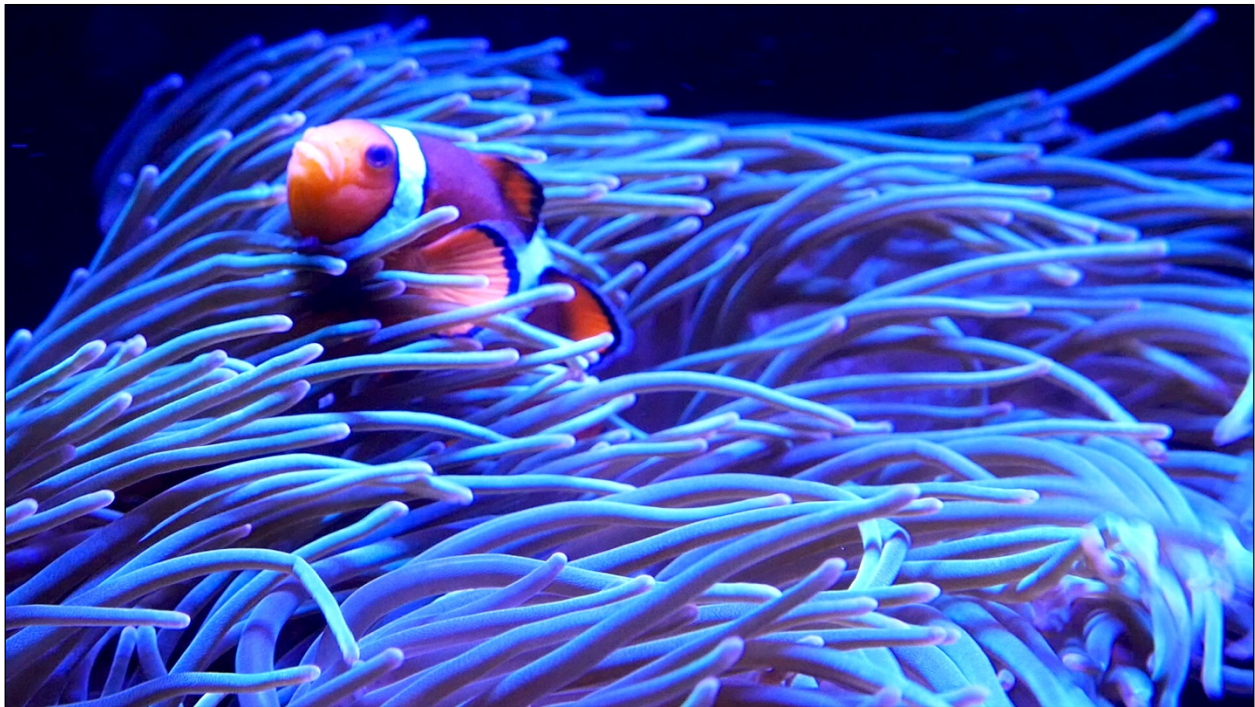
Natural history of the ocean and shore \_\_\_\_\_

Interact with the animals, fish and exhibits \_\_\_\_\_

The visitor center, the bookstore and what is new here \_\_\_\_\_

Attend a talk, demonstration or other event \_\_\_\_\_

**Thanks again!!**



*Anemones and clown fish are among the animals in the tropical display tank at the Visitor Center. (Photo by Vanessa Cholewczynski)*