

# Port of Port Angeles

## 2012 Economic Impact Study FINAL REPORT

PREPARED FOR

**Port of Port Angeles**

PREPARED BY

**BST Associates**  
**PO Box 82388**  
**Kenmore, WA 98028**  
**(425) 486-7722**  
**bstassoc@seanet.com**



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# Executive Summary

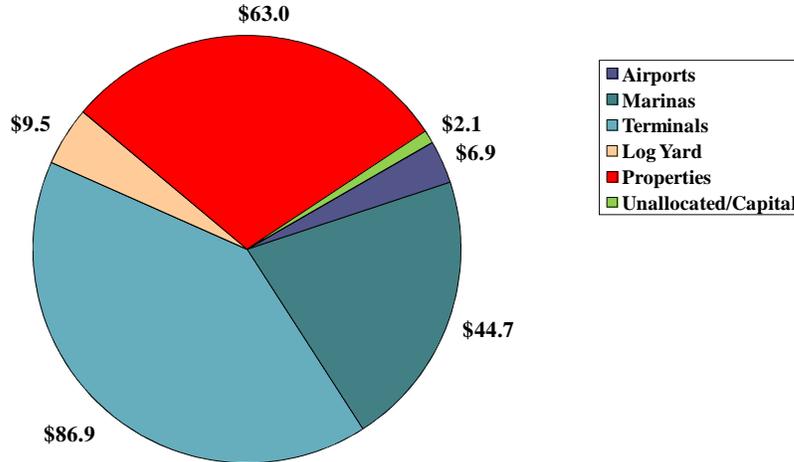
## Summary of Impacts

The Port of Port Angeles retained BST Associates to estimate the economic impact generated in calendar year 2012 by the Port and its tenants operating on Port of Port Angeles property (which includes two airports, two marinas, three primary marine terminals, several small piers, a log yard and approximately 110 commercial and industrial properties). The purpose of this study is to document how investments by the Port make an impact in the local community in Clallam County.<sup>1</sup>

### Direct Business Revenue

The Port and its tenants generate extensive economic activity in Clallam County and throughout Washington State. As shown in Figure 1, the Port and its tenants generated approximately \$213.1 million in direct business revenue in 2012 (i.e., sales of goods and services). The Port and its tenants/customers at the marine terminals generated \$86.9 million, followed by \$63.0 million in revenue at commercial and industrial properties, \$44.7 million at the marinas, \$9.5 million at the log yard, \$6.9 million at the airports and \$2.1 million in unallocated and capital expenses.

**Figure 1 – Direct Business Revenues from the Port of Port Angeles & Tenants (\$millions)**



Source: BST Associates

### Income

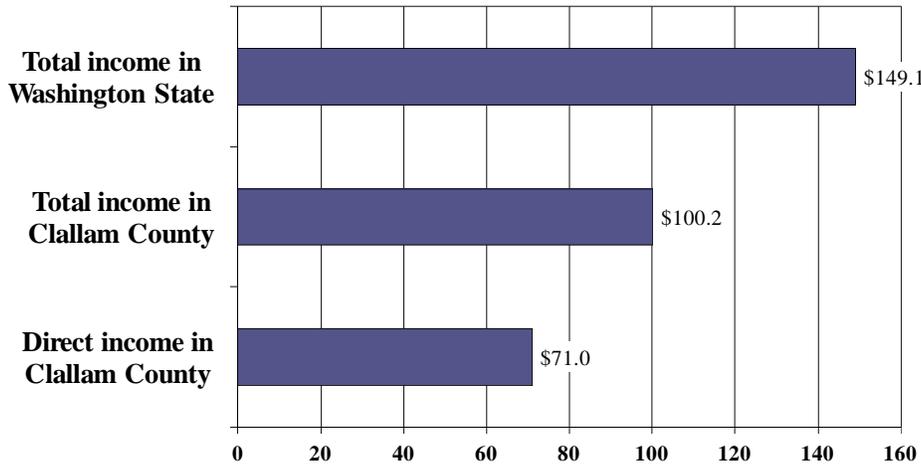
The Port and its tenants generated direct income at Port facilities of \$71.0 million in 2012 (i.e., wages, salaries and benefits for employees and proprietors). These jobs were relatively high paying, averaging \$35,000 (approximately \$16.80 per hour), which is equivalent to the county-wide average for covered employment. A subset of port jobs (located primarily at the

<sup>1</sup> Please refer to the methodology for a definition of direct, indirect and induced effects.

Boat Haven and marine terminals, representing approximately 28 percent of all jobs) had an average compensation of more than \$46,000 (35 percent above the countywide average).

Including direct, indirect and induced impacts, the Port and its tenants generated \$100.2 million in income in Clallam County and \$149.1 million in Washington State in 2012 as result of its own and its tenant’s activity.

**Figure 2 - Income Generated by the Port of Port Angeles and its Tenants in 2012 (\$Mil)**

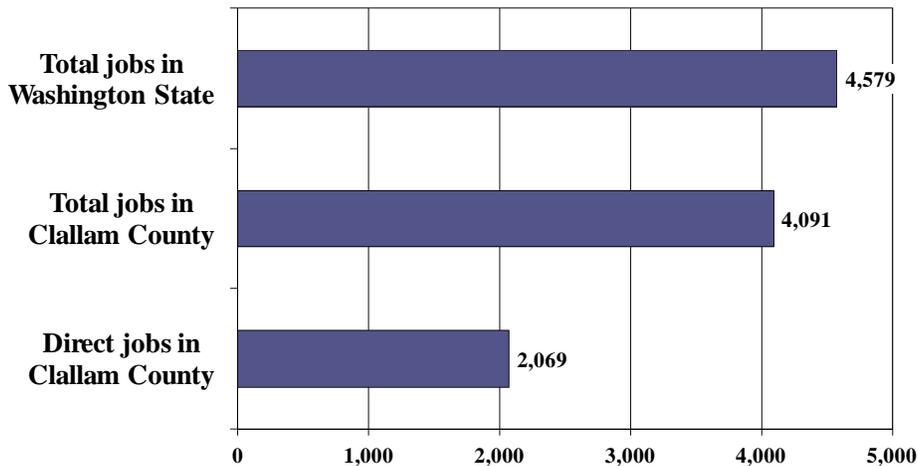


Source: BST Associates

**Employment**

As shown in Figure 3, the Port of Port Angeles generated an estimated 2,069 direct jobs in 2012 as a result of its own and its tenant’s activity. Including direct, indirect and induced impacts, the Port and its tenants generated 4,091 jobs in Clallam County and 4,579 jobs in Washington State in 2012.

**Figure 3 – Jobs Generated by the Port of Port Angeles and its Tenants in 2012**



Source: BST Associates

The Port of Port Angeles and its tenants generated the following number of direct jobs in 2012 by line of business or activity center:

- Airports (including William R Fairchild International Airport and Sekiu General Aviation Airport) generated 86 jobs,
- Marinas (including Port Angeles Boat Haven, John Wayne Marina, the Boat Yard and the Boat Ramp) generated 421 jobs,
- Marine Terminal (including cargo operations, topside repair operations, and boat building/repair) generated 924 jobs,
- Log Yard generated 88 jobs,
- Rental Properties (including rental properties at the Port’s industrial parks) generated 524 jobs and,
- 26 jobs were associated with unallocated administrative activity and capital projects.

In addition to the direct jobs generated by the Port and its tenants, there are also related jobs, which include jobs that are created indirectly by activities of the Port, including:

- Jobs created at the Carlsborg Industrial Park (which was developed by the Port in years 1985 through 1995 and then sold to private firms),
- Jobs assisted by industrial revenue bonds flowing through the Port such as issuance of \$40 million of non-recourse revenue bonds on behalf of Daishowa America (now owned by Nippon Paper Industries USA) and \$2.5 million on behalf of Admiral Marine Works for a Travelift (now used by Platypus Marine).
- Jobs that are related to Port activities such as exporters, importers and firms that rely on services provided at Port facilities but are not tenants.
- There were approximately 650 of these related jobs.

Including all Port jobs, the Port of Port Angeles accounted for approximately 13 percent of the jobs<sup>2</sup> in Clallam County. This result is comparable with the combined results of economic impact studies for selected mid-sized ports in Washington State (Bellingham, Longview, Olympia and Vancouver).

### ***Taxes & Financial Position***

The Port and its tenants generated state and local taxes of \$14.1 million in 2012. In 2012 the Port collected \$1,357,871 in property taxes and \$175,040 in other taxes (timber taxes and leasehold excise tax share). For every tax dollar collected by the Port, \$46 was generated in direct and indirect income by the Port and its private industry partners. In terms of jobs created, for every \$375 collected in taxes by the Port, one job in Clallam County was created by the Port and its private industry partners. This result is comparable with results at other mid-sized Washington State ports.

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<sup>2</sup> As reported by Woods & Poole, there were an estimated 35,671 jobs in Clallam County, including employees and self-employed persons.

The Port carries assets with a book value (original cost less depreciation) of \$48 million at the end of 2012, up \$8 million over the value in 2006.

**Comparative Results**

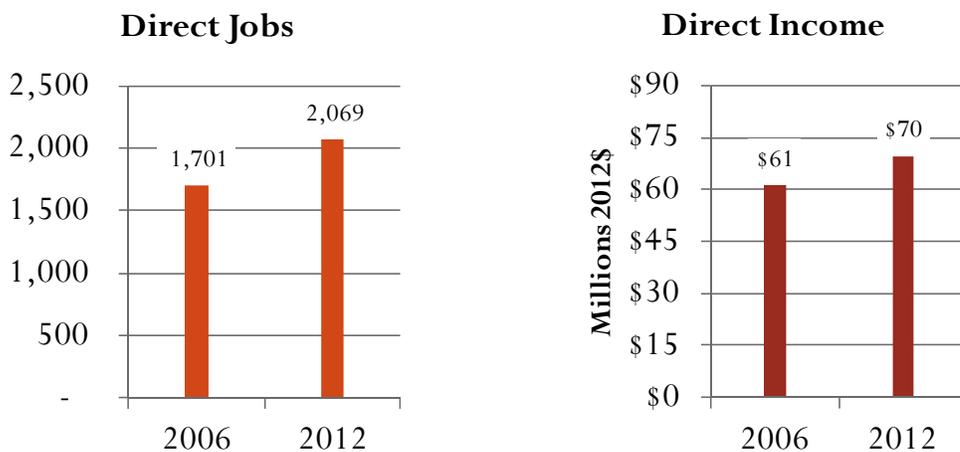
BST Associates prepared an economic impact study for calendar year 2006. The comparative results of the 2006 and 2012 studies are summarized in this section.

It should be noted that there were several methodological changes since the 2006 study that should be considered when evaluating the comparative estimates. Most notably, a more detailed treatment of economic contributions commercial fishing, transient moorage and the passenger expenditures associated with the Black Ball Ferry Line was undertaken in 2012. In addition, a more detailed assessment of proprietor’s income was also undertaken in 2012 based upon IMPLAN model results.

In addition, the activity levels at each line of business changed markedly from 2006 to 2012, which had an effect on the economic impacts. Between 2006 and 2012, the Port lost tenants such as Kply, which was a major employer. However, these losses were offset by gains in log exports, among other activities. The activity trends for each line of business are described in greater detail in the findings.

With these caveats in mind, the estimated impacts changed as follows from 2006 to 2012. Direct business revenue declined by 2 percent from 2006 to 2012. Direct employee compensation increased by 16 percent. However, as noted above, much of this increase was due to the re-estimates of proprietor’s income and the more detailed treatment of employee compensation in commercial fishing, transient moorage and the Black Ball Ferry Line. The number of direct jobs (which include full and part-time jobs) increased by 22. See Figure 4.

**Figure 4 – Jobs Generated by the Port of Port Angeles and its Tenants in 2012**



Source: BST Associates

Controlling for the changes in methodology, there was no growth in the number of direct jobs and direct income (employee compensation and proprietors income) declined by 6 percent between the 2006 and 2012 results. Port performance exceeded county-wide performance between 2006 and 2012, in which:<sup>3</sup>

- Non-farm employment declined by 7.2% from 24,180 employees in 2006 to 22,400 employees in 2012.
- Earnings by place of work declined by 6.5% from \$1.4 billion in 2006 (adjusted for inflation to 2012 dollars) to \$1.3 billion in 2012.

In 2012, the Port allocated the impact of selected firms that were previously associated with rental properties to other lines of business (marine terminal, marinas et al). This change in methodology significantly changed results by line of business. As a result, comparisons of the impacts by line of business from 2006 and 2012 are not presented in this report.

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<sup>3</sup> Source: Washington State Clallam County Profile for 2014.

## Technical Report

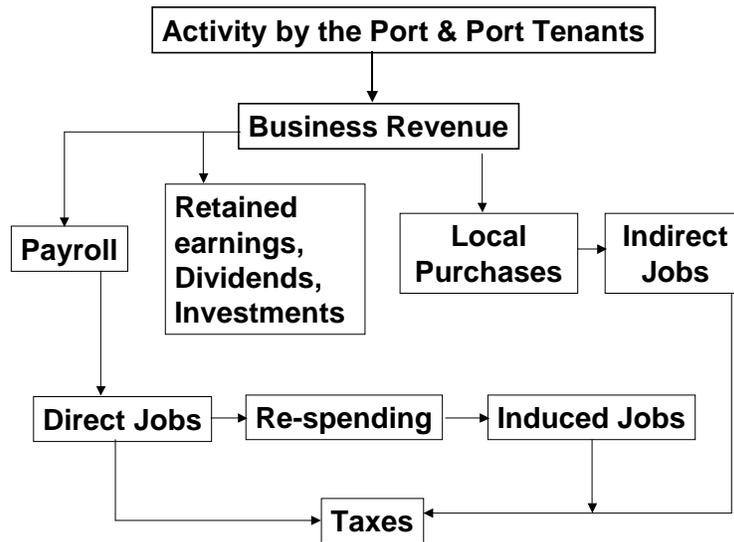
The Port of Port Angeles retained BST Associates to estimate the economic impact generated by the Port and its tenants operating at the airports, marinas, marine terminals, and properties during calendar year 2012.

This chapter provides a summary of the methodology and results of the Port of Port Angeles Economic Impact Study.

## Methodology

The flow of economic activities is described in Figure 5. Economic activity generated by the Port and its tenants creates business revenues, which in turn, creates spending on payrolls for people working directly for the firm, retained earnings/dividends/investments and local purchases of supplies, materials, and outside labor. The local purchases by firms create indirect jobs. Payroll for direct employees creates additional expenditures, which creates induced jobs. Finally, income associated with direct, indirect and induced activity generates state and local taxes.

Figure 5 – Flow of Impacts



The process for estimating economic impacts included a survey/interview process and review of secondary data to identify direct impacts and used the IMPLAN model for Clallam County and Washington State to estimate total impacts.

### Survey Process

The initial step of the economic impact study was to document the direct impacts of the Port of Port Angeles by line of business.

With significant assistance from Port staff, tenants and users of each of the Port’s lines of businesses were identified and contacted. Surveys were mailed to 751 individuals and businesses. With 145 surveys returned, the overall mail survey had a response rate of 19%. One of the reasons for the high participation rate was the promise of strict confidentiality. The surveys were returned to BST Associates with a promise that no individual results would be divulged without the respondent’s direct permission and that results would be presented in an aggregate form.

**Table 1 – Summary Response to Mailed Surveys**

<b>Daily Return</b>	<b>Sent</b>	<b>Returned</b>	<b>Percent Returned</b>
Airport Hangar 11S	14	2	14.3%
Airport Hangar CLM	41	14	34.1%
Business Airport	9	3	33.3%
Business Boat Haven	79	8	10.1%
Business Boatyard	16	6	37.5%
Business Log Yard	4	3	75.0%
Business Marine Terminal	8	2	25.0%
Business Rental Property	32	14	43.8%
Marina Tenants BH	332	54	16.3%
Marina Tenants JW	208	37	17.8%
Private Hangars	5	1	20.0%
Marina Business JW	3	1	33.3%
<b>Total</b>	<b>751</b>	<b>145</b>	<b>19.3%</b>

Source: Port of Port Angeles, BST Associates

In addition, BST Associates contacted 35 firms in-person or by telephone to further understand their economic activities at the Port of Port Angeles.

BST Associates also utilized port records (expenditures by line of business, capital budgets and other available records) as well as data from Dun & Bradstreet, the Washington State Department of Revenue and the Washington State Employment Security Department in order to further identify the direct impacts from construction and operations, including:

- Revenue/sales,
- Payroll/Income,
- Employment, and
- Taxes.

***Estimation of Total Impacts***

Based upon the direct impacts, BST Associates estimated the indirect and induced impacts using the IMPLAN model<sup>4</sup>, which estimates the multiplier effects of inter-industry purchases. Indirect impacts refer to expenditures by the user/tenant on outside goods and

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<sup>4</sup> Please see appendix for additional information on the Implan model.

services. Induced impacts refer to purchases based on the employment earnings from direct and indirect economic activities. As wages are paid out, workers' families spend their income on a wide array of goods and services, much of which are supplied by the local economy.

Total impacts incorporate the sum of direct, indirect, and induced impacts. It is important to note that these effects are limited for any region because of spending "leakages" at each round of inter-industry and household purchases. That is, the goods and services required at each stage are partly purchased from outside the study area, thus reducing the total supplies provided locally. The IMPLAN model is designed to calculate the multiplier effects of the designated regions: Clallam County, and Washington State.

## Findings

This section summarizes the findings of the economic impact study.

### Airport

As a vital part of Clallam County’s development, aviation connects the Olympic Peninsula to the rest of the world, providing an efficient and important alternative to ground transportation. The Port of Port Angeles owns and operates two airports in Clallam County: William R. Fairchild International Airport in Port Angeles and Sekiu Airport in the Sekiu/Clallam Bay area on the west end of the Olympic Peninsula.

Fairchild International serves both private and commercial aircraft, providing passenger and cargo transportation, emergency services, disaster response and recreational activities. The airport has over 800 acres of property, with 690 in aeronautical use (110 acres is an industrial park). Its 6,350 foot primary runway is operated with an Instrument Landing System (ILS) and can handle twin-turboprop aircraft and medium-size business jets. Private businesses provide charter and maintenance services. Hangars, sheds and tie downs for private planes are available.

**Figure 6 – Air Operations at William R Fairchild International Airport**



Fairchild International Airport is viewed as a necessity by several of the businesses operating at Port properties. Its economic benefits include:

- Economic development officials point out that connectivity (via air service) with other regions (both national and international) is critical in attracting businesses to relocate as well as to retain those that are already located in Port Angeles,

- Major manufacturers (like Westport Shipyards) have prospective clients arriving in Port Angeles by air to view their products,
- Realtors indicate that land development throughout the County is facilitated by potential buyers use of the airport<sup>5</sup>,
- The airports also help facilitate numerous key community services such as medical evacuations, emergency fire and disaster responses, and mercy flights, among other community benefits.
- The airport is also a center for freight and mail delivery (FedEx and UPS).

The Port is planning improvements at Fairchild Airport to meet the demands of its users, including general aviation, a growing number of corporate jets and commercial passenger and freight services.

The Port of Port Angeles also owns and operates the Sekiu Airport. Sekiu Airport serves the west end of Clallam County and provides access to the more remote areas of the Olympic Peninsula. Significantly smaller than Fairchild International, it has a 2,100-foot lighted runway with a visual approach indicator. It is about a mile from the small, picturesque town of Sekiu, located on the west side of Clallam Bay. The airport is a favorite of those who travel to the Peninsula for outdoor recreation. This airport has nine hangar tenants but no other business activity.

**Figure 7 – Air Operations at Sekiu Airport**



The economic activity associated with the airports consists of activity by:

- Airplane operators (local and non-local),
- Fixed base operator or FBOs (i.e., Rite Bros. Aviation),

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<sup>5</sup> This study does not estimate the amount of real estate development occurring in the County that is linked with air travel. However, according to knowledgeable realtors, it is substantial.

- Businesses that are located within the airport area. There are 8 businesses that operate on Airport property at the airport and are considered airport dependent; there are also 14 businesses/agencies that are located at the airport but are included in the rental property line of business),<sup>6</sup> and,
- Port of Port Angeles airport operation staff.

BST Associates estimates that the Port of Port Angeles airport generated the following economic activity in 2012:

- Direct Impacts
  - Jobs – 86 jobs<sup>7</sup>
  - Income - \$2.8 million
  - Business revenue - \$6.9 million
- Total Impacts in Clallam County
  - Jobs – 173 jobs
  - Income - \$4.4 million
- Total Impacts in Washington State
  - Jobs – 183 jobs
  - Income - \$6.0 million

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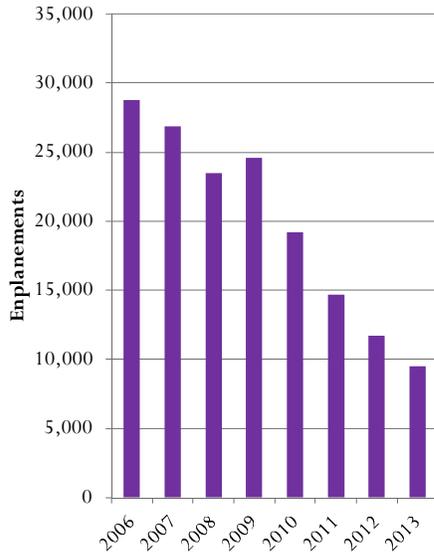
<sup>6</sup> There are 14 tenants with 383 direct employees and \$50 million in direct business revenues that are located at the airport but are not dependent on the airport. The economic impact for these entities is included in the rental property line of business.

<sup>7</sup> The Washington State Division of Aeronautics estimated that William R Fairchild Airport generated 198 direct and 341 total jobs in 2009. This estimate may have included some jobs allocated to the rental property line of business.

*Comparative Results – Activity Levels*

A brief comparison of the economic contributions in 2006 and 2012 is presented in this section.

**Figure 8 – Airport Activity (Number of Enplanements)**



Activity at the airport has declined significantly from nearly 29,000 enplanements in 2006 to 9,535 enplanements in 2013, a loss of approximately 67 percent of the volume in 2006.

This loss occurred due to the lingering effects of the recession. The continued loss of enplanements during the recovery period is a cause for concern by the Port and community.

*Source: Port of Port Angeles*

## *Marinas*

The Port of Port Angeles operates and maintains two major marinas on the shores of the Strait of Juan de Fuca. Access to water-based recreational activities is very important to the residents of Clallam County. There are only two other smaller marinas located at the far east end of Clallam County (the Makah Tribe owns the Port of Neah Bay and the Quileute Tribe owns the Quileute Marina near Forks).

The Boat Haven is sheltered inside Port Angeles Harbor and provides easy access to the Strait of Juan de Fuca and to Victoria, BC. It is a convenient place for boaters to stop for provisioning since it is a short walk to town. It is located on 16.1 acres and has moorage space for more than 440 commercial and recreational boats (32 slips are limited to small boats due to tides), including 46 boat houses. Slips range from 24 to 50 feet and up to 164 feet broadside. Services at the Boat Haven include moorage, floats, a two lane launch ramp, a fuel dock with gas and diesel, nearby restaurants, restrooms, showers, sanitary pump-outs, nearby restaurants, electricity, refueling, and a boat yard with haulout facilities, including a travel lift and a marine ways. Private firms provide boat maintenance; there are 10 to 12 shipwrights working independently at the marina. Other local marine services at the Haven include welding, mechanics, hydraulic services, fiberglass and wood repair, and painting. There were approximately 2,200 boat/nights by visiting boats in 2012. The Port Angeles Yacht Club has a facility next to the marina that can be rented through the Yacht Club.

The Port undertook a major redevelopment of the Boat Haven in 2008 to replace aged facilities and infrastructure in the east and center sections, to meet the needs of existing and future users.

**Figure 9 – Boat Haven**



The John Wayne Marina is located on Sequim Bay, in the eastern part of Clallam County. It has been recognized as one of the best small recreational marinas on the West Coast.

Originally owned by the family of movie star John Wayne, the Port developed the marina in the 1980's. There are 300 permanent and 22 transient moorages for vessels up to 50', with

room to expand up to 355 spaces. Services at the marina include moorage floats, a two lane launch ramp, a fuel dock with gas and diesel, sanitary pump-out, laundry, restrooms, showers, restaurant, two public park and picnic areas, and a walking promenade around the facility. The main building has a large public meeting room that is used for social events, weddings, conferences, banquets and service club meetings. It is available for rent and can be booked through the harbormaster. The main building also houses a general store and the clubroom of the Sequim Bay Yacht Club.

The Port enhanced John Wayne Marina in 2007 with the reintroduction of the only waterfront café/restaurant in Sequim.

**Figure 10 – John Wayne Marina**



The economic activity associated with the marinas consists of activity by:

- Boat operators (permanent and transient moorage, usage of the boat yard and boaters that use the Port boat launch ramp),
- Businesses that are located within the marina area (i.e., there are 26 individuals and/or businesses that operate at the marinas and related areas), and,
- Port of Port Angeles marina operations staff and agents.

BST Associates estimates that the marinas generated the following economic activity in 2012:

- Direct Impacts
  - Jobs – 421 jobs
  - Income - \$16.2 million
  - Business revenue - \$44.7 million
- Total Impacts in Clallam County
  - Jobs – 815 jobs
  - Income - \$22.6 million

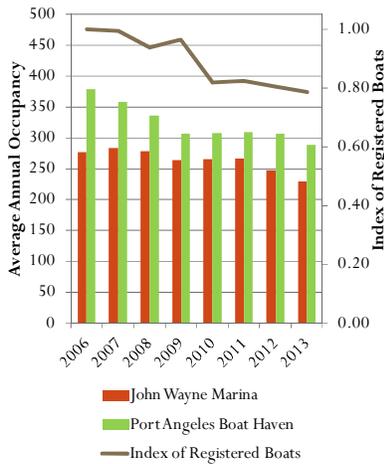
- Total Impacts in Washington State
  - Jobs – 855 jobs
  - Income - \$29.8 million

*Comparative Results – Activity Levels*

A brief comparison of the economic contributions in 2006 and 2012 is presented in this section.

**Permanent Tenants**

**Figure 11 – Marina Activity (Number of Permanent Tenants)**



The average annual occupancy at both marinas has declined at both marinas:<sup>8</sup>

- Port Angeles Boat Haven is down from 378 permanent tenants in 2006 to 289 permanent tenants in 2013, a loss of 24 percent, in both commercial and recreational tenants. The 2008 reconfiguration of the marina resulted in a net decline of 20 slips and 28 boat houses. The 30 foot slips and boat houses decreased to allow for an increase in 50 foot slips. Although fewer slips are available, the moorage revenue for larger slips has helped to offset the decline in the number of tenants
- John Wayne Marina is down from 277 permanent tenants in 2006 to 230 permanent tenants in 2013, a

loss of 17 percent.

The combined decline is minus 21 percent, which tracks closely with the decline in the number of registered boats in Clallam County (estimated at minus 22 percent). The downward trend in boat registrations is impacting all counties in Washington State.

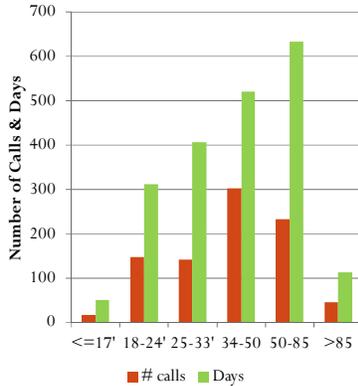
Source: Port of Port Angeles

<sup>8</sup> This is calculated as number of boats not lineal feet of moorage.

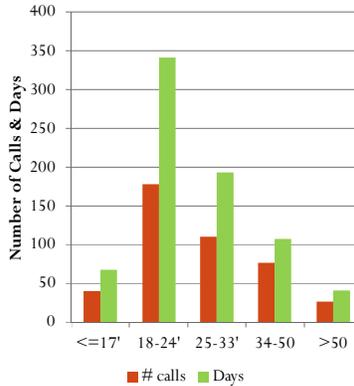
**Transient Tenants**

**Figure 12 – Marina Activity (Number of Transient Tenants in 2012)**

**Port Angeles Boat Haven**



**John Wayne Marina**



Transient moorage at the Port included:

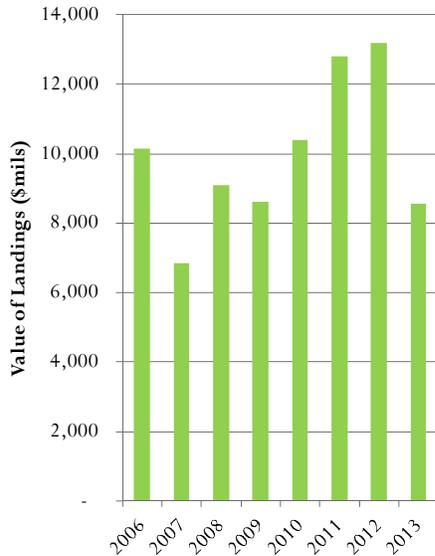
- Port Angeles Boat Haven had 886 guest boats with around 2,000 days of transient moorage. Boats over 50 feet accounted for 31% of calls and 37% of days.
- John Wayne Marina accounted for 433 guest

boats with 750 days of transient moorage. Boats over 50 feet accounted for 6% of calls and 5% of days. The average visiting boat was 28 feet long.

Source: Port of Port Angeles

**Commercial Fishing**

**Figure 13 – Marina Activity (Value of Commercial Fish Landings in Clallam County)**



Commercial fish landings (defined as the value of fish landed paid to fishermen) increased from \$10.1 million in 2006 to \$13.4 million in 2012 then fell to \$8.6 million in 2013. Areas accounting for the landings included:<sup>9</sup>

- Neah Bay at approximately 66 percent of the county landings (by value)
- La Push at 26 percent
- Port Angeles/Sequim at 8 percent

Most of the processing occurs in Port Angeles. There are 26 commercial fishing boats at the Port Angeles Boat Haven.

Source: Washington State Department of Fish and Wildlife

<sup>9</sup> The value of landings does not include some species of fish/shellfish that are regulated by the Department of Natural Resources.

Commercial tenants (including the marinas and the boat yard) generated about 63 percent of direct jobs consisting of activities by commercial fishermen, other commercial vessel operators and upland business tenants.

Recreational tenants generated around 38 percent of jobs at the marinas, consisting mainly of permanent and transient moorage.

### ***Marine Terminals***

On the waterfront, the Port administers and maintains three primary marine terminals, where the Port provides equipment, cargo services and facilities for loading of breakbulk cargos (forest products) and specialty cargos onto barges and large ocean going vessels. The Marine Terminal also accommodates large and small vessels undergoing repairs and alterations and offers general lay-berthing.

The Port of Port Angeles’s Marine Terminal complex is located on the waterfront in the center of Port Angeles. The Marine Terminal complex includes three deep-water marine terminals (T-1, T-2 and T-3) that offer the ability to accommodate a wide variety of vessels and to handle and store forest products and heavy-lift project cargo. One of the terminals is used for ferry service and other marine related activities. The Marine Terminal complex hosts firms engaged in boat building and topside ship repair.

Terminal 1 is a secured terminal that is regulated under the Maritime Transportation Security Act (MTSA) and the U.S. Coast Guard and offers berthing to vessels up to 1,200 feet and 125,000 deadweight tons. It has tie-up bollards, an open apron, and is 950 feet long with remote dolphins. Services on site include 480 volt and 1800 amp power service, potable water, phones, lights, garbage, fuel, lubes, bunkering, stores, cranes and environmental services. This terminal can accommodate large vessels undergoing repair and is frequently used by the oil tankers that carry crude oil from Alaska to refineries in Anacortes, Cherry Point and Tacoma. Handling equipment includes light-duty cranes and forklifts.

**Figure 14 –Port Angeles Marine Terminal – Topside Repair**



Terminal 2 is the ferry terminal and is operated by Black Ball Ferry Line. It is a secured terminal regulated under the Maritime Transportation Security Act (MTSA) and the U.S. Coast Guard. The main dock structure is 550 feet long with a walkway and remote dolphins extending an additional 150 feet. Black Ball Ferry Line provides ferry service on the M/V COHO to Victoria, British Columbia and is near the Port Angeles International Gateway Plaza, which consists of a multi-modal facility, public plaza, visitor center, park and ride and parking facility in downtown Port Angeles, serves as the downtown hub for transit buses, taxis, bicyclists, pedestrians, ferry passengers, and tourists.

Terminal 3 (“T” Pier) is a secured terminal regulated under the Maritime Transportation Security Act (MTSA) and the U.S. Coast Guard. Terminal 3 is the main cargo loading terminal. It is 445 feet long with an open apron, and is supported by a five acre back-up storage yard. It offers the same services and handling equipment as Terminal 1. This terminal is used for loading forest products and cargo bound for both domestic and international destinations. “T” Pier can accommodate the loading from both the water and pier, and functions as the Port’s heavy lift pier for project cargos. It accommodates cranes up to 200 tons. Three log stackers are available for log loading operations.

Terminal 4, which is 180 feet long, is partially leased to High Tides Seafoods Inc, a fish processor.

Terminal 5, which is 348 feet long and has supporting uplands of three acres, is an unimproved facility that is occasionally used for the transfer of chips and wood fiber. It would require substantial improvements for future use as a barge loading facility.

Terminal 6, which is leased to Lakeside Industries, is an unimproved barge slip facility that is occasionally used for the transfer of aggregate rock. There are minimal uplands available at this site. There is also a pier structure that is not usable but has mitigation value.

Terminal 7, which is 410 feet long, has not been used since 2000. It would require substantial improvements for future use. The supporting uplands of eleven acres are currently used by the Port’s log yard operations.

Travel Lift Pier is designed to support the two existing marine Travelifts on the waterfront which currently supports a ship repair services company (Platypus Marine’s 300 ton Travelift) and a yacht builder (Westport Shipyard’s 500 ton Travelift).

Westport Shipyard, which is recognized as one of the largest megayacht builders in the world, produces its flagship product (the 164-foot tri-deck cruising yacht) in Port Angeles. Other Port tenants, Washington Marine and Straits Marine (which have recently merged into Vigor Alaska-Port Angeles) have built a strong reputation for providing topside repair for commercial vessels. Arrow Marine and others provide marine logistics, chandlery and other support services for the marine industry.

Platypus Marine is a full-service ship yard that builds, repairs and maintains commercial, recreational and military vessels.

The forest industry in Clallam County views the Port facilities as critical to their operations. Logs are shipped via Port facilities to both local and distant mills as well as to export markets overseas. Approximately 265 million board feet of timber was harvested in Clallam County in 2012. Of this total, approximately 85 million board feet (32 percent of total) moved via Port terminals or log yard.

The economic activity associated with the Marine Terminal consists of activity by:

- Businesses using Port facilities (manufacturers, service repair firms, retailers, and wholesalers, et al),
- Transportation firms (ferries and trucking firms),

- Terminal handling and vessel loading/unloading services (stevedores, longshoremen, log scalers, et al), and,
- Port of Port Angeles marine terminal operations staff.

BST Associates estimates that the Marine Terminal generated the following economic activity in 2012:

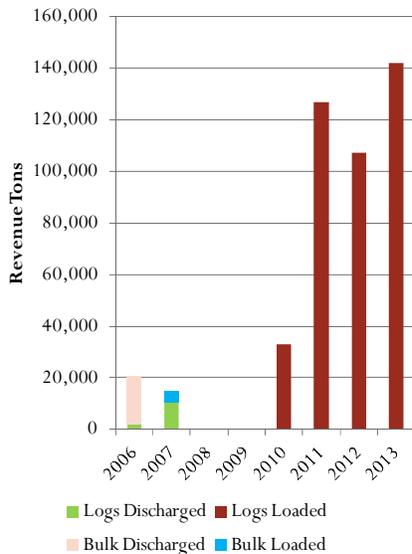
- Direct Impacts
  - Jobs – 924 jobs
  - Income - \$29.9 million
  - Business revenue - \$86.9 million
- Total Impacts in Clallam County
  - Jobs – 1,767 jobs
  - Income - \$42.9 million
- Total Impacts in Washington State
  - Jobs – 2,185 jobs
  - Income - \$74.0 million

*Comparative Results – Activity Levels*

A brief comparison of the economic contributions in 2006 and 2012 is presented in this section.

**Marine Cargo Trends**

**Figure 15 – Marine Terminal Activity (Number of Revenue Tons)**



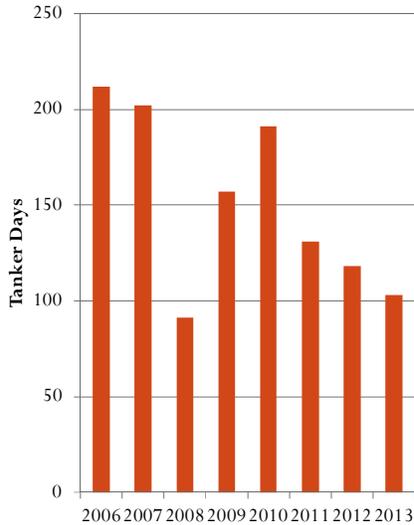
The Port of Port Angeles experienced a strong upsurge of cargo activity with recommencement of log exports after a loss of cargo during 2008 and 2009. Most of the logs are exported to China.

In prior years, the Port loaded and unloaded bulks (aggregates inbound and chips outbound). In addition, logs were received and shipped by raft and/or barge for domestic mills.

Source: Pacific Maritime Association

**Tanker Days at Berth**

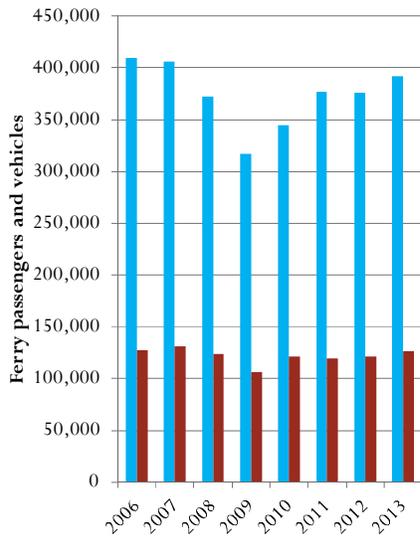
**Figure 16 – Marine Terminal Activity (Number of Tanker Days for Topside Repair)**



The number of days that tankers berthed at the Port terminals has declined from 212 days in 2006 to 103 days in 2013. The vessels associated with the Trans-Alaska Pipeline decreased due to a decrease in production in the north slope area and a decommissioning of ships per the Oil Pollution Act of 1990 (OPA 90).

Source: Port of Port Angeles

**Figure 17 – Marine Terminal Activity (Black Ball Ferry Passengers and Vehicles)**

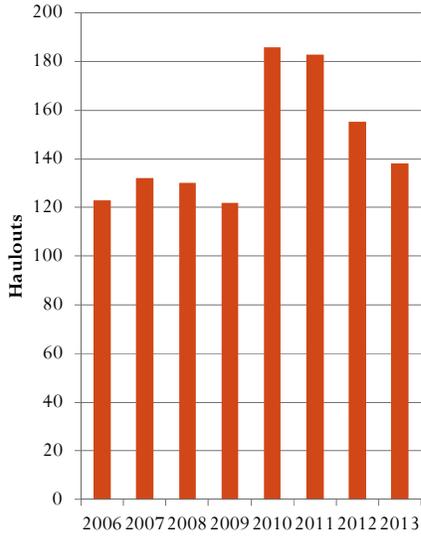


Black Ball Ferry traffic declined from around 410,000 passengers in 2006 to a low of 316,000 passengers in 2009 (due to the recession) but has rebounded to nearly 392,000 passengers in 2013.

Steady growth has also occurred for vehicles using the ferry after 2009.

Source: Black Ball Ferry Line

**Figure 18 – Travelift Haulouts**



The Travelift is used by both Platypus Marine and Westport Shipyard.

The number of haulouts (counted separately as an in and an out) has remained above 120 from 2006 to 2013 or approximately 60+ round trips per year.

The number of haulouts peaked in 2010 at 186 and stood at 138 in 2013.

*Source: Port of Port Angeles*

**Log Yard**

The Port of Port Angeles owns and operates a log yard near the marine terminals. The yard is used by local mill operators to receive logs by water or by truck. It is also used by log exporters, both moving across the Port of Port Angeles dock as well as by container through the Ports of Tacoma and Seattle for export overseas on container ships.

**Figure 19 –Port Angeles Log Yard**



The economic activity associated with the Log Yard consists of activity by:

- Log activity from harvest to log yard
- Transportation firms (trucking firms), and,
- Port of Port Angeles marine terminal operations staff.

BST Associates estimates that the Marine Terminal generated the following economic activity in 2012:

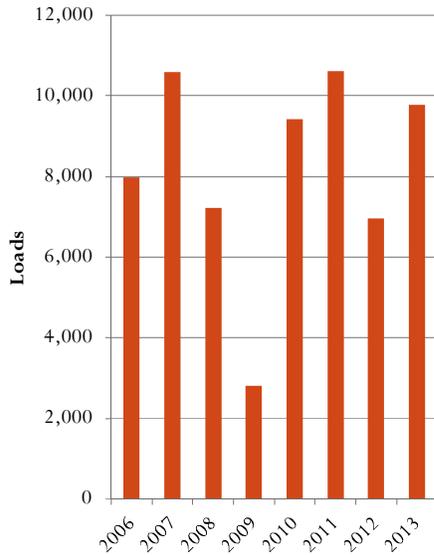
- Direct Impacts
  - Jobs – 88 jobs
  - Income - \$3.9 million
  - Business revenue - \$9.5 million
- Total Impacts in Clallam County
  - Jobs – 177 jobs
  - Income - \$5.3 million
- Total Impacts in Washington State
  - Jobs – 188 jobs
  - Income - \$7.3 million

*Comparative Results – Activity Levels*

A brief comparison of the economic contributions in 2006 and 2012 is presented in this section.

Log Yard Trends

**Figure 20 – Log Yard Activity (loads)**



Log yard loads<sup>10</sup> declined from around 8,000 loads in 2006 to around 7,000 loads in 2012 but increased to nearly 10,000 loads in 2013. The significant drop in 2009 was due to the precipitous drop in the U.S. housing market and the lack of new home starts.

Approximately 13 percent of logs exported via Port Angeles came through log yard in 2012.

Around 5.3 million board feet of logs were placed in containers (1,060 containers) in Port Angeles at the log yard, and then trucked to the ports of Tacoma and Seattle for export.

*Source: Port of Port Angeles*

<sup>10</sup> A truck load of logs averages 3,200 to 6,000 board feet.

***Rental Properties***

The Port of Port Angeles owns and operates a number of commercial and industrial properties, covering a broad range of uses and amenities. The development of these properties has been guided by the Port’s strategic vision to support and expand economic opportunity in Clallam County. The Port’s facilities include the Composites Manufacturing Campus, the North Industrial Park, a mix of other properties and selected properties on the waterfront that are not dependent on Marine Terminal or Marina functions. As an example, Terminal 4 is leased to a fish processor and is included in the rental properties line of business instead of Marine Terminal.

The Composites Manufacturing Campus consists of 22-acres, 14 acres of existing composite manufacturers, and 6.5 acres of new expansion space, the remaining acres are undeveloped. The current composite companies lease 193,000 square feet of working space in 5 buildings. The expansion consists of two 25,000-square-foot buildings, of which one is occupied, and a third pad for composites facilities, dedicated to both hot and cold manufacturing processes. Shovel-ready, build-to-suit opportunities are available. This expansion continues the Port’s long track record of supporting aerospace composites company tenants, yacht builders, and alternative energy firms by creating more space in which they can grow. This is a ground-floor opportunity to be a part of a dynamic and growing collaboration.

The Port Angeles Airport Industrial Park is a modern, fully developed facility on 110 acres adjoining the main runway of the William R. Fairchild International Airport. The site includes paved streets with curbs and gutters, access to city water, sanitary sewer and underground power service, and telephone and fiber optic lines.

**Figure 21 – Port of Port Angeles Industrial Parks**



**Composites Manufacturing Campus**



**North Industrial Park**

The economic activity associated with Property consists of activity by:

- Businesses located on Port property (retailers, wholesalers, manufacturers et al including all or a portion of the activity at Westport Shipyard, Inc., Angeles Composite Technologies, Inc., High Tide Seafoods, Clallam County Juvenile Service, Murreys Olympic Disposal, Magna Force, Clallam Transit System, Olympic Education Service, and CBP Air & Marine, among others), and,
- Port of Port Angeles real estate staff.

BST Associates estimates that the Rental Property line of business generated the following economic activity in 2012:

- Direct Impacts
  - Jobs – 524 jobs<sup>11</sup>
  - Income - \$16.8 million
  - Business revenue - \$63.0 million
- Total Impacts in Clallam County
  - Jobs – 1,112 jobs
  - Income - \$23.3 million
- Total Impacts in Washington State
  - Jobs – 1,122 jobs
  - Income - \$29.8 million

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<sup>11</sup> There are 14 tenants with 383 direct employees and \$50 million in direct business revenues that are located at the airport but are not dependent on the airport. The economic impact for these entities is included in the property line of business.

*Impacts from Unallocated Administrative Activity and Capital Projects*

The final category, which includes administrative charges that are not allocated to a specific line of business and capital activities undertaken by the Port in 2012, had the following impacts:

- Direct Impacts
  - Jobs – 26 jobs
  - Income - \$1.3 million
  - Revenues - \$2.1 million
- Total Impacts in Clallam County
  - Jobs – 47 jobs
  - Income - \$1.8 million
- Total Impacts in Washington State
  - Jobs – 47 jobs
  - Income - \$2.1 million

## Appendix

### Description of Implan Model

Minnesota IMPLAN Group, Inc. or MIG, Inc was founded in 1993 by Scott Lindall and Doug Olson as an outgrowth of their work at the University of Minnesota starting in 1984. This developmental work closely involved the U.S. Forest Service's Land Management Planning Unit in Fort Collins, and Dr. Wilbur Maki at the University of Minnesota.

In 1993, Scott and Doug entered into a technology transfer agreement with the University of Minnesota that allowed them to form the company. At first, MIG, Inc. focused on database development and provided data that could be used in the Forest Service version of the software. In 1995 MIG, Inc. took on the task of writing a new version of the IMPLAN software from scratch. This new version extended the previous Forest Service version by creating an entirely new modeling system that included creating Social Accounting Matrices (SAMs) – an extension of input-output accounts, and resulting SAM multipliers. Version 2 became available in May of 1999.

Input-output accounting describes commodity flows from producers to intermediate and final consumers. The total industry purchases of commodities, services, employment compensation, value added, and imports are equal to the value of the commodities produced.

Purchases for final use (final demand) drive the model. Industries produce goods and services for final demand and purchase goods and services from other producers. These other producers, in turn, purchase goods and services. This buying of goods and services (indirect purchases) continues until leakages from the region (imports and value added) stop the cycle.

These indirect and induced effects (the effects of household spending) can be mathematically derived. The derivation is called the Leontief inverse. The resulting sets of multipliers describe the change of output for each and every regional industry caused by a one dollar change in final demand for any given industry.

Creating regional input-output models require a tremendous amount of data. The costs of surveying industries within each region to derive a list of commodity purchases (production functions) are prohibitive.

IMPLAN was developed as a cost-effective means to develop regional input-output models. The IMPLAN accounts closely follow the accounting conventions used in the "Input-Output Study of the U.S. Economy" by the Bureau of Economic Analysis (1980) and the rectangular format recommended by the United Nations.

The IMPLAN system was designed to serve three functions: 1) data retrieval, 2) data reduction and model development, and 3) impact analysis. Comprehensive and detailed data coverage of the entire U.S. by county, and the ability to incorporate user-supplied data at each stage of the model building process, provides a high degree of flexibility both in terms of geographic coverage and model formulation.

The IMPLAN database, created by MIG, Inc., consists of two major parts: 1) a national-level technology matrix and 2) estimates of sectorial activity for final demand, final payments,

industry output and employment for each county in the U.S. along with state and national totals. New databases are developed annually by MIG, Inc.

IMPLAN easily allows the user to do the following:

- Develop his/her own multiplier tables;
- Develop a complete set of SAM (Social Accounting Matrix) accounts;
- Change any component of the system, production functions, trade flows, or database;
- Generate type I, II, or any true SAM multiplier internalizing household, government, and/or investment activities
- Create custom impact analysis by entering final demand changes;
- Obtain any report in the system to examine the model's assumptions and calculations.

There are two components to the IMPLAN system, the software and databases. The databases provide all information to create regional IMPLAN models. The software performs the calculations and provides an interface for the user to make final demand changes.

#### IMPLAN SOFTWARE

MIG developed the current version of IMPLAN Professional® version 2.0 in 1999. It is a Windows based software package that performs the calculations necessary to create the predictive model. The software reads the database, creates the complete set of social accounting matrices (SAM), the I/O accounts, and derives the predictive multipliers. The software also enables the use to make changes to the data, the trade flows, or technology. It also enables the user to make final demand changes which results in the impact assessment.

There are more than 1,500 users of the Implan model, including:

- Federal Government (Agricultural Statistics Service, Animal & Plant Health Inspection Service, Appalachian Regional Commission, Argonne National Laboratory, Army Corp of Engineers, Bureau of Economic Analysis, Bureau of Land Management, Bureau of Reclamation, Economic Research Services, Environmental Protection Agency and Federal Reserve Bank, among others)
- State Government (Several departments in Washington State including Dept of Community Develop, Dept of Ecology, Dept of Health, Dept of Revenue, Dept of Transportation, and Office of Insurance Commissioner, among several others in other states)
- Colleges and universities (Eastern Washington University, Washington State University among others) as well as others in the private sector.