

Report of the Citizen Advisory Committee

Fuel Dock Pricing Review

Background

At the February 21, 2017, Special Joint Commission & Citizen Advisory Committee (POCAC) meeting, the Commission introduced five tasks for the POCAC, each of which was assigned to a POCAC Subcommittee.

Task #2, a **Fuel Dock Fuel Pricing Study**, was introduced by Commissioner Joe Downing. In summary, the Commission is requesting a review of the Port's process for establishing fuel prices at the new Port of Olympia Fuel Dock. A more complete statement of the study's charge can be found in *Attachment A*.

This new fuel dock is currently under construction and is expected to open for business in the early summer of 2017. With that in mind, this subcommittee has a very narrow window of time in which to conduct this review and report to the Commission. Additionally, the Port Staff has invested significant staff time in this objective.

Subcommittee

A subcommittee of the POCAC was established, which was comprised of the following POCAC members and Port Staff:

- Jim Broman (*Chair*)
- Greg Bucove
- Jerry Wilkins
- Bruce Marshall & Jeff Smith (*Staff*)

At the first meeting of the Subcommittee (*March 8, 2017*), Jim Broman was selected as the Chair of the Subcommittee.

Key Elements

1. Review central and southern Puget Sound fuel vendors' experience including both volume and pricing data.
2. Consider local demand potential.
3. Consider Port constraints and current policy.
4. Consider previous studies/surveys pertinent to this topic.

Project Background

There is significant background information about this project contained in the Swantown Marina Fuel Dock Project Report, published June 2, 2016. (*See Attachment B*)

The following items are of note:

- Over the past several decades, the number of Swantown Marina slips has increased by 28% while the number of available fuel docks in Thurston County has decreased by 50%.
- The Port has been formally petitioned to add a fuel dock (*800 petitioners*).
- The following additional benefits have been identified:
 - ✓ *The facility has the latest technology for spill protection. Using the facility reduced the need for fueling with portable fuel containers.*
 - ✓ *The facility would reduce emissions for Olympia area boater transiting to and from fuel docks which are miles away.*
 - ✓ *The facility has the latest fire protection technology*
 - ✓ *The facility is designed with ample boat tie-up space to reduce boat idling and queuing.*
 - ✓ *The facility has high-speed pumps which serve large boats and commercial boats.*
 - ✓ *The facility would help retain existing tug company in Olympia*
 - ✓ *The facility would increase tourism. Visiting overnight boats could refuel.*
 - ✓ *The facility would offer marine quality fuel for launch-ramp boats.*

Further, there is additional background information pertaining to potential "Boater Use" contained in a 2014 survey conducted by Washington State University, which was revised and updated in November of 2015. (*See Attachment C*)

The following items are of note:

- The WSU survey considered only those vessels that homeport in the downtown Olympia area, which resulted in a projected fuel usage of 390,000 gallons annually (2/3 for diesel and 1/3 for gasoline).
- The WSU survey did not consider:
 - ✓ *Approximately 3000 boats launched locally annually*
 - ✓ *Visiting boats*
 - ✓ *Boats moored elsewhere in Thurston County but outside the Olympia area*
 - ✓ *Commercial fuel sales*

All estimates/productions have been conservatively constructed and represent threshold demand.

Regional Market Data

Port of Olympia Staff have routinely surveyed 14 public and 11 private fuel docks situated in the central and southern Puget Sound region of Western Washington state. It is

worth noting that "current fuel prices" are rather volatile, sometimes changing multiple times during a single day.

Staff review of current market prices focused on non-ethanol, unleaded gasoline as well as diesel fuel. Additionally, there are many and varied fuel discount schemes in use in this region, which vary based upon the volume of fuel purchased. These discounts can be in the form of a percentage cash discount, a cost per gallon discount, or a reduced price per gallon. An example of a recent market fuel price comparison can be found in *Attachment D*.

These factors make it difficult to establish a price per gallon based solely upon current regional price listings.

Port Fuel Dock Considerations

There are several factors about the new Port Fuel Dock, which must be taken into consideration as part of this review.

1. **Debt Service.** The construction of this fuel dock is financed by the issuance of bonds (\$2.5 million), which must be repaid. The fuel price must be established to produce revenues sufficient to meet the debt payment requirements.
2. **Staffing.** Based upon the requirements of the City of Olympia Fire Department as well as Port preferences, the fuel dock will be regularly staffed with a person to dispense the fuel; i.e., no self-service dispensing. This adds expense, which in turn contributes to the pricing of the fuel.
3. **Fuel Dock Features.** For the convenience of the fuel dock customers, the project includes multiple fuel pumps, high-speed fuel pumps, dual sewage pump stations, and heavy duty commercial dock bumpers to protect boats from damage. While adding cost to the project, these features make this fuel dock one of the safest and more attractive fuel docks in the state of Washington.

Pricing Model

Embedded in the charge to the POCAC is a request for the development of a Supply and Demand Pricing Model. Both on its face and after some initial research into this approach, the Subcommittee determined that this was not feasible. This was concluded based upon limited expertise among the committee coupled with the short window of time available for research and consideration.

This model, however, may hold some interesting potential for future analysis of the Fuel Dock's performance as it relates to pricing, supply, and demand. The Committee encourages Port Staff to explore this as an analytical tool.

This model referenced here may be found in *Attachment E*.

Fuel Dock Pricing Recommendations

The Committee, within the constraints of the time available, has reviewed all this information, including the recommendation of Staff. The Staff recommendation is quite straightforward and incorporates the following elements into setting the final price:

- Wholesale purchase cost of the fuel
- Debt service
- Operating expense
- Volume discounts

After establishing the resulting fuel prices, Staff recommends monitoring/adjusting prices periodically to maintain a competitive price that is approximately in the 30th percentile of the diesel price range and the 55th percentile of the gasoline (*non-ethanol unleaded*) price range. (*In reference to Attachment D*)

The *Port of Olympia Citizens Advisory Committee* (POCAC) concurs with this recommendation.

Additional Considerations

The POCAC believes that a robust notification, advertisement, marketing and signage plan is essential for the early and sustain success of this important endeavor. The Committee encourages the Port to create and implement such a plan.

The POCAC believes that the "customer service skills" of any Fuel Dock Attendants must be a key skill set for anyone employed for these services. The Committee encourages the Port to select employees who will deliver exemplary service and foster return business.

The POCAC believes that the operation of a modern, safe fuel dock is an important component for the safety of boaters in the many vessels operating in and around the Olympia Harbor area. To further enhance safe operations throughout the various marinas, the Committee encourages the Port to take all reasonable measures to eliminate the practice of fueling vessels from portable containers.

ATTACHMENT A



PORT of OLYMPIA

Citizens Advisory Committee

Fuel Dock Supply/demand Model

Staff Lead:
Bruce Marshall, Harbor Director 360.528.8045 brucem@portolympia.com
Background:
Construct a model, using known demand patterns, of fuel dock pricing. This model will use information gathered from other fuel dock volumes, and pricing. The challenge will be to be able to identify historical pricing and volumes sold at other fuel docks throughout Puget Sound. A further challenge will be to factor out undue influences on volumes, such as heavy commercial traffic volumes at a fuel dock.
Scope of Work:
Provide the Swantown Director a table of fuel volumes and pricing collected. Then, provide a model for determining possible fuel sales volumes, based on Port's goals, and the relationship of sales volume relative to sales price (supply/demand model). What percent of sales volume is from "captive sales", i.e. people will pay a higher price, because they have nowhere else to go? Interview boaters to understand their buying patterns. Contact other Ports and private marinas for this information.
Timeline:
2 ½ months to completion.

ATTACHMENT B

SWANTOWN MARINA FUEL DOCK PROJECT

June 2, 2016

BACKGROUND

Swantown Marina was designed to include a fuel dock

When Swantown Marina was built in 1983, partial infrastructure was included in the construction for the eventual addition of a marine fueling station at the end of A-dock. The location was selected to provide convenient deep water, all weather location from which to fuel vessels up to 100 feet in length. The fuel dock portion of the dock float was widened for fueling operations and the float was strengthened. Extra pilings were installed and fuel line raceways were included in the design.

At the time, two other fuel docks were already located within the city limits of Olympia, and two additional fuel docks were located within Thurston County. Therefore, the Port decided to postpone the final installation of the remaining fuel dock infrastructure until the local market increased and the market could absorb the operation.

Number of local fuel docks decreased; local boaters increased

Since 1983, the local boating population has increased substantially. During this period, Swantown Marina built a boatyard to meet the growing demands of the boating public, and increased its number of marina slips by 28%. However, the planned fuel dock project was not completed.

In addition, over the last 30 years, the other two Olympia downtown boat fueling stations ceased operations, decreasing the number of available fuel docks in Thurston County by 50%, and leaving the hub of Thurston County's boating activities – Budd Inlet – without a fueling facility. The Olympia area is the largest market without a fuel dock in Washington State.

Boaters petition Port Commission for a fuel dock

The Port has received hundreds of requests from local, regional and visiting boaters to add a fueling dock to service Budd Inlet. In 2008, nearly 800 local citizens signed a petition and submitted it to the Port Commission asking the Port to construct and operate the long-planned fuel dock in Olympia. In support of the petition, the boaters pointed to limited dock space, insufficient water depth, long travel distances to fuel, slow pumps, the inability to fuel larger vessels locally, and generally poor environmental conditions at the remaining Thurston County fueling facilities.

Port engages in fuel dock feasibility study

In response to the petition, the Port engaged an engineering consultant to complete a Marine Fueling Station Feasibility Study. KPFF Consulting Engineers began the Feasibility Study in April 2012 and published the final document in December 2012. In the interim, staff presented an update on the project to the Commission at their public meeting on August 13, 2012. The Feasibility Study evaluated

fuel docks at four different Port-owned locations: Port Plaza, Swantown Boatworks, NorthPoint, and Swantown Marina. Two locations were eliminated from consideration for significant environmental and permitting issues, so the Study focused on evaluating the NorthPoint and Swantown Marina locations. The most feasible location identified for developing a marine fueling facility is the Swantown Marina A-dock site. As part of the feasibility evaluations, the consultants presented their findings to the community at two well-attended evening public meetings.

Commission seeks community input about fuel dock

In 2012, the Commission directed the Port of Olympia Citizens Advisory Committee to research and prepare a Port of Olympia Fuel Dock Public Participation Plan. A key recommendation of the plan was to hold well-promoted public meetings conducted by an external facilitator. The purpose of the public meetings was to present factual information about the proposed fuel dock to the community and to receive public input on the fuel dock proposal.

The public meetings occurred during the evenings of February 4, 2013, October 22, 2013, and April 8, 2015. Another meeting is scheduled for June 7, 2016. They were widely promoted and advertised and more than 100 people attended each meeting. The first meeting included a presentation on the initial Feasibility Study by KPFF Consulting Engineers. The second meeting included the updated Feasibility Study presented by the consultant and a Financial Analysis presented by the Port Staff. The meeting attendees overwhelmingly supported the Port's construction and operation of a fuel dock facility at Swantown Marina.

The Commission also received over 100 written comments and hundreds of other comments from citizens which overwhelmingly supported the Port's construction of a fuel dock at Swantown Marina.

Commission approves design and permitting funding, and requests market study

Based on the Feasibility Study, Financial Analysis and strong community support, by 2014 the Port Commission had approved a total budget of \$2,750,000 in the Port's Capital Investment Plan and commissioned a marine engineering firm to design the fueling facility and secure the necessary permits for the project.

In 2014, responding to citizens' requests for an independent volume study, the Commission asked for research about potential fuel sales volumes. The Port retained the Washington State University's Social and Economic Science Research Center to complete a marketing study to assess the viability of constructing and operating a marine fueling station at Swantown. In addition, the Port also reached out to operators of Thurston County marine fueling stations to assess their potential interest in establishing a public/private partnership with the Port for development of a fuel dock and did not receive any interested responses.

Other benefits:

The Port has identified several other benefits from the proposed fuel facility:

1. Environmental
 - a. The facility has the latest technology for spill protection. Using the facility reduced the need for fueling with portable fuel containers.
 - b. The facility would reduce emissions for Olympia area boater transiting to and from fuel docks which are miles away.
2. Safety
 - a. The facility has the latest fire protection technology
 - b. The facility is designed with ample boat tie-up space to reduce boat idling and queuing.
3. Commercial
 - a. The facility has high-speed pumps which serve large boats and commercial boats.
 - b. The facility would help retain existing tug company in Olympia
4. Community
 - a. The facility would increase tourism. Visiting overnight boats could refuel.
 - b. The facility would offer marine quality fuel for launch-ramp boats.

Business risks should be considered

Any organization building a new facility should consider the business risks associated with the project. Port staff prepared the following risk table:

Risks:		Risk Level:
Construction Price	KPFF Engineers estimated Construction costs and staff expects actual costs to be less. If costs are higher, the project may not be financially feasible.	Medium
Interest Rate	The Port has received a loan commitment which gives an indication of interest rate for this facility.	Low
Sales Volume	If the sales volume does not exceed minimum levels then the project will not be financially feasible. Marina fuel facilities in Puget Sound do not have sales volume growth. Staffs engaged WSU to survey and get the best estimate of fuel sales volume. Additionally, staff prepared alternative scenarios to understand the risks.	High
Operations	This is the risk that the operation of the facility would create unexpected costs. This risk is mitigated through insurance, policies and training.	Low

RESULTS OF THE MARKET STUDY

In 2014, the Social and Research Science Center at Washington State University completed a market study for the Port to gauge market interest and anticipated volume of fuel that would likely be sold at a new fueling facility if one were constructed at Swantown Marina. Key conclusions from the study are as follows:

- Estimated annual fuel usage for vessels that homeport in Olympia is 396,285 gallons (+ -13%).
- Estimated annual fuel sales at Swantown are estimated at 396,285 gallons (+ - 13%).
- Approximately 1/3 of fuel sales are for gasoline; 2/3 is for diesel fuel.
- Boston Harbor Marina services 50.2% of the downtown Olympia vessel's fuel demand.
- Zittel's Marina services approximately 3% of the downtown Olympia vessel's fuel demand.
- Approximately 45.2% of the Olympia fuel users purchase fuel outside Thurston County or carry fuel jugs to boats in order to fuel.
- 90% of survey respondents said they would purchase fuel at Swantown if a fueling facility was available.

The study considered only those sales to the in-water vessels that homeport in the downtown Olympia area. As a result, market demand projections do not include potential sales to other fuel users, including:

- Approximately 3000 boats launched from Swantown annually (not moored as homeport)
- Visiting boats in temporary moorage at local marinas
- Vessels that permanently berth at marinas within the county and outside of the downtown Olympia area
- Commercial fuel sales (examples include the local ship assist tug boat company, a log and towing operator, and a local marine construction firm tug and large private yachts that homeport at Swantown and travel extensively throughout the Pacific region). These commercial users have expressed support for a Port fuel dock facility and estimate fuel use of approximately 69,500 gallons annually.

REVISED MARKET STUDY

In the fall of 2015, the Port requested that the Social and Research Science Center at Washington State University (WSU) review its market study to consider comments received at the April 2015 public meeting. The primary concern raised was that boaters who did not respond to the survey are not like the boaters who did respond. These non-responding boaters may not use their boats and correspondingly will not use fuel. WSU issued a revised study to address these concerns WSU decreased their fuel sales estimate by less than 6,000 gallons in the revised study.

PORT STAFF ESTIMATE

Port staff understood public comments and prepared a separate estimate based on the Fuel Survey. The survey did have 622 boater responses (out of 1,438 boats) for a total of 200,118 gallons. Estimating that 30% of the total boats are not used ($1,438 \times 30\% = 431$) leaves 385 remaining boats that may use fuel. Those remaining 385 boats may use the median fuel sales of 120 gallons per year for an estimated total of

46,200 gallons. Adding the survey and the estimated gallons is an annual total of 246,318 gallons. See table below:

Scenario for 30% Inactive Boaters			
		Boats	Gallons
Total Boats		1,438	
Response		622	200,118
Estimate remainder		816	
Less: Unused Boat Population	(1,438 x 30%)	(431)	
Remaining Boats		385	
Multiply by Median fuel sales per boat		120	
Fuel sales per remaining population			46,200
Fuel Sales Volume where 30% are Inactive			246,318

COMPARISON OF FUEL SALES ESTIMATES

Description	Original (2009) Staff Estimate 2013	WSU Market Study 2014	WSU Market Study 2015	Port Staff Estimate 2016
Gas Sales in Gallons	75,000	159,296	157,023	78,539
Diesel Sales in Gallons	50,000	236,989	233,636	167,779
Totals:	125,000	396,285	390,659	246,318

Capital Investment Policy

In 2015, the Port Commission adopted implemented a Capital Investment Policy so that it would have a framework for making major capital investments (see attached). Capital Project Evaluation provides a basis for when an evaluation is prepared, the methodology, the measurements and the acceptance criteria. The Port used the following metrics to evaluate the crane:

- Net Present Value discounts future cash flows by the Port's "hurdle rate"¹ and compares that amount to the cost of the investment.
- Internal Rate of Return is the interest rate at which the present value of the cash flows equals the cost of the investment. A project's internal rate of return should be higher than the Port's "hurdle rate" to be accepted.

Since both of these metrics consider the time value of money, they are considered to be the best way to measure the return of a multi-year project or investment.

Financial Analysis

The financial viability of the fuel dock (investment) depends on two factors: (1) future cash flows; and (2) the required investment. The Port's financial analysis begins with assumptions, then estimates new

¹ "Hurdle rate" is a minimum rate of return on a project or investment required by the Port. In capital budgeting, projects are evaluated either by discounting future cash flows to the present by the hurdle rate, so as to ascertain the net present value of the project, or by computing the internal rate of return (IRR) on the project and comparing this to the hurdle rate. If the IRR exceeds the hurdle rate, the project could go ahead.

revenues and expenses so that it may estimate cash flows from the fuel dock (investment). The metrics compare these incremental cash flows to the cost of the investment.

Assumptions:

1. Borrowing cost estimated at 4.25% for a 30 year term loan from a local bank. The loan is based upon the full faith and credit of the Port.
2. Annual inflation rate 1.8% for revenue rates and expenses
3. Beginning gross margin per gallon is based on a survey of Puget Sound Ports Marina Fuel Docks
4. Consider five beginning volume scenarios shown in the table below
5. Fuel sales volumes grow at $\frac{1}{2}$ of 1% annually subject a maximum based on the total slips in the Olympia area.
6. Fuel Volumes exclude:
 - a. Visiting boaters
 - b. Boats on trailers
 - c. Commercial boats
 - d. Moored Boats in Thurston County which are outside of the Olympia area
7. Annual operating and maintenance expense begins at \$89,600
 - a. 1 additional full-time employee
 - b. 1 additional summer-hire employee
8. The total cost of the fuel dock is \$2,518,000
9. The Port has a grant of \$425,000 which may be used to pay for project costs so that the net cost is \$2,093,000.
10. The fuel dock has an estimated useful life of 30 years
11. Discount ("hurdle rate") rate of 6.0% used in the calculation of Net Present Value

Three steps are involved in evaluating an investment:

1. Estimate the relevant cash flows.
2. Calculate the investment's economic worth.
3. Compare the investment's economic worth to the Port's acceptance criteria.

Evaluate Multiple Scenarios:

Since the future may be different than we imagine or estimate, the Port prepared five scenarios comprised of one investment cost scenario and five beginning volume scenarios. The volume scenarios grew the volume of business over time.

Scenario	Volume
30% Inactive Boaters	246,318
Goal based on a 6% Internal Rate of Return	277,500
WSU Survey:	
Low	336,733
Most Likely	390,659
High	444,941

Metrics: Net Present Value (NPV) & Internal Rate of Return (IRR):

Scenario	Volume	Net Present Value @ 6% Discount Rate	Internal Rate of Return
30% Inactive Boaters	246,318	(\$409,000)	4.1%
Goal based on a 6% IRR	277,500	\$4,000	6.0%
WSU Survey:			
Low	336,733	\$770,000	9.2%
Most Likely	390,659	\$1,467,000	11.9%
High	444,941	\$2,168,000	14.6%

Port staff also calculated Payback Period for stakeholders that find that measure helpful. Payback Period is the number of years that the project takes to pay back the initial investment without considering the time value of money. The Payback Period ranges from 20 to 9 years for the scenarios "30% Inactive Boaters" to "WSU Survey: High" respectively.

All the scenarios shown pay for the investment, operating, maintenance and interest costs over the 30 year life of the fuel facility.

Proforma Income Statement

The Proforma Income Statement below assumes building a \$2,518,000 fuel dock with a volume scenario of 277,500 annual gallons which is the Goal based on a 6% IRR. The important thing to note is that while the project earns the desired 6% IRR, the first ten years result in a net loss. This scenario indicates that net profits may start in year 12. This lag is typical for major capital projects, where interest expense is a higher in the first ten years.

Year #	Gross Profit	Cash Expenses	Depreciation	Contribution Margin	Interest Expense	Net Project Income (Loss)
1	\$196,710	(\$89,600)	(\$69,763)	\$37,347	(\$88,948)	(\$51,600)
5	\$215,093	(\$96,039)	(\$69,763)	\$49,292	(\$82,465)	(\$33,173)
10	\$240,509	(\$104,741)	(\$69,763)	\$66,004	(\$72,687)	(\$6,683)
15	\$268,925	(\$114,233)	(\$69,763)	\$84,930	(\$60,646)	\$24,283
20	\$300,700	(\$124,584)	(\$69,763)	\$106,354	(\$45,820)	\$60,533
25	\$336,229	(\$135,873)	(\$69,763)	\$130,593	(\$27,564)	\$103,029
30	\$375,958	(\$148,186)	(\$69,763)	\$158,009	(\$5,085)	\$152,924
Totals	\$8,311,688	(\$3,495,937)	(\$2,092,885)	\$2,722,866	(\$1,649,083)	\$1,073,783

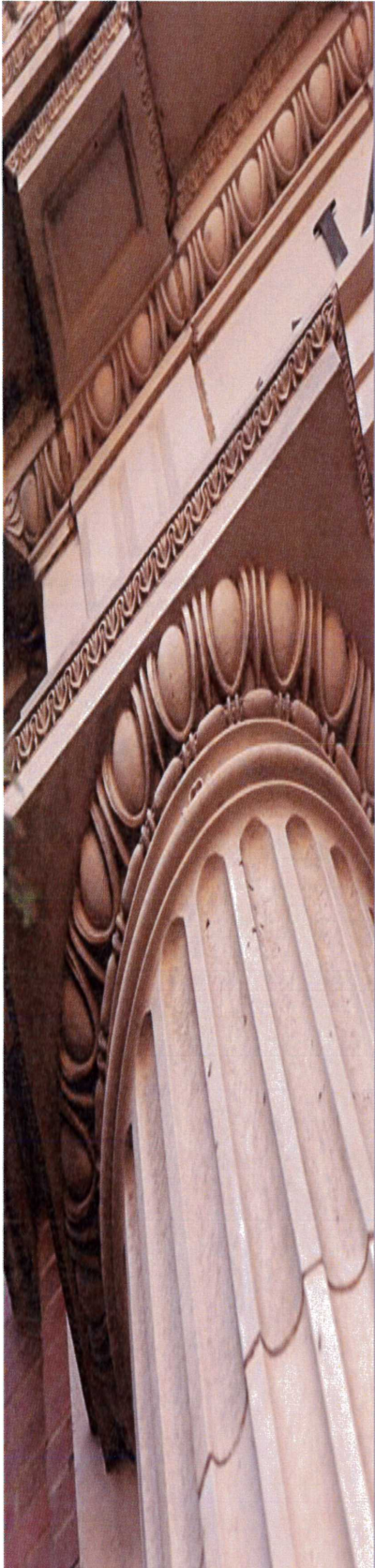
Port Financial Reporting for the Proposed Fuel Facility

Port staff plans to show the fuel facility as a separate business at Swantown Marina so that the Port and its stakeholders may understand the financial results.

Summary

The Port appreciates your participation and observations. This letter tells some of the work which was performed in the background and informs the Commission's upcoming decision to build a fuel facility. This fuel facility has business risk especially for sales volumes which may change the financial results. Experienced financial professionals prepared several financial scenarios and used financial metrics as they estimated the results. This plan shows that in several scenarios a fuel dock has a strong likelihood of meeting the Port's financial metrics as well as its goal for economic growth in Thurston County.

ATTACHMENT C



DATA REPORT 14-043

Port of Olympia Fuel Dock Survey

Summer 2014

Submitted by

Thom Allen
Study Director



Social & Economic Sciences
Research Center

WASHINGTON STATE UNIVERSITY

P.O. Box 644014 | Washington State University | Pullman, Washington 99164-4014
Telephone: (509) 335-1511 | Fax: (509) 335-0116

Contents

Project Profile.....	i
Administration.....	11
Background	11
Objectives	11
Implementation.....	12
Design	12
Returns	12
Database	12
Summary.....	13
Response Rates	13
Total Survey Error	13
Results.....	15
Reading the Data	15
Remarks File	15
Executive Summary	Error! Bookmark not defined.
Frequency Tables	16
Remarks	22
Instruments.....	31
Credits.....	33
Project Team	33
SESRC Staff	34

Project Profile

Title: Port of Olympia Fuel Dock Survey

Objectives: The Social and Economic Sciences Research Center (SESRC) implemented a postcard survey for the Port of Olympia in the summer of 2014. The survey was designed to gauge the demand of Olympia boat owners for a new fuel dock located at the Swantown Marina. The survey attempted to estimate the fuel needs of boat owners renting moorage slips at six marinas in the Olympia area and if those boat owners would actually purchase fuel at the new proposed location.

Results: 647 boat owners completed the survey from a total of 1,448 boat owners renting moorage slips at the six participating Olympia area marinas as of June, 2014, resulting in a 45% response rate. *Study Director:* Thom Allen. *Project Director:* Rose Krebill-Prather.

Methods: This survey of seven questions was designed on the back of a business reply postcard. In June 2014, the postcards, along with a letter from WSU explaining the study, were mailed in sealed envelopes to the mailing address of each boat owner. Respondents were asked to complete the survey and then drop the postcard in the mail. A followup reminder was sent to each nonrespondent in September. The survey ran from June through September, 2014.

Timeframe: June-September 2014

Contract with: Jeff Smith
Finance Director
Port of Olympia
915 Washington St. NE
Olympia, WA 98501
360-528-8040
jeffs@portolympia.com

SESRC Acronym: DOCK14

Data Report Number: 14-043

Deliverables: Data Report; Excel Data set; frequency listing; open-ended remarks file; and a copy of the final questionnaire.

1.

Executive Summary

BACKGROUND

In the summer of 2014, the Social and Economic Sciences Research Center at Washington State University was asked by the Port of Olympia to survey boat owners at six Bud Bay Inlet marinas in Olympia, Washington.

The purpose of the survey was to help the Port of Olympia:

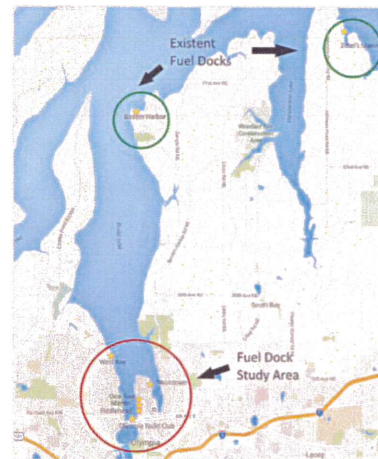
- 1) Estimate levels of opposition or support among these boat owners for the establishment of a new marine fuel dock to be located at Swantown Marina, at the north end of the city of Olympia.
- 2) Estimate the annual volume of potential marine fuel sales that could be expected should the proposed fuel dock be built.
- 3) Estimate the potential loss of marine fuel sales that could be expected for the two nearest existent fuel docks should the new proposed fuel dock be built.

STUDY POPULATION

The six marinas included in the study are: Swantown Marina and Boatworks, Fiddlehead Marina, Inc., Martin Marina, West Bay Marina, Olympia Yacht Club and One Tree Island Marina.

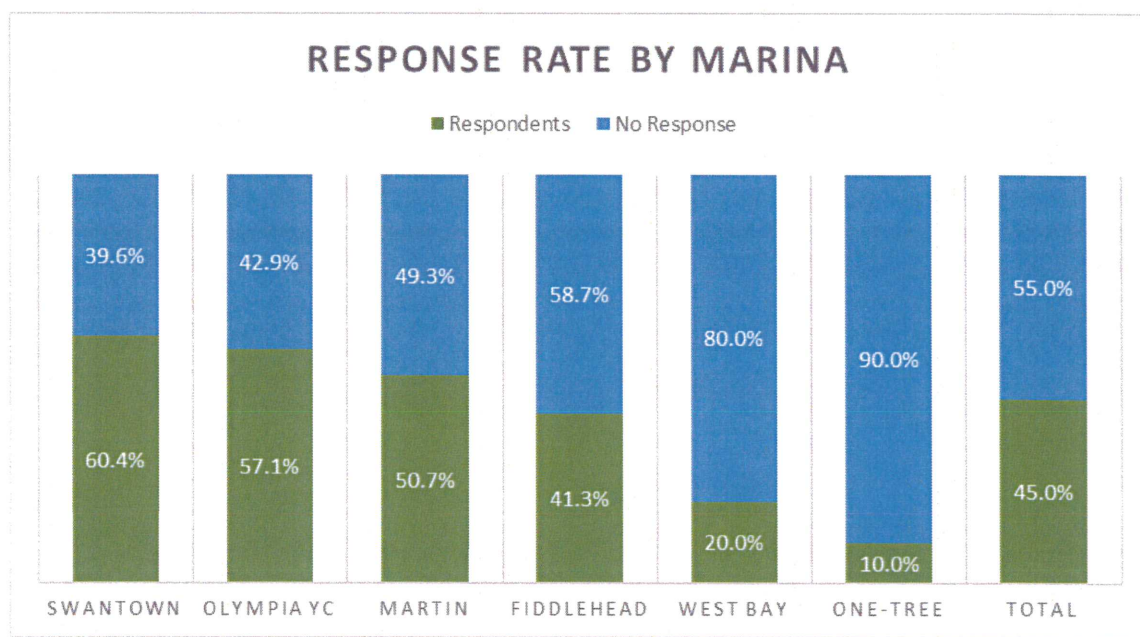
The study population are the owners of 1,438 boats moored at these six Olympia marinas during the summer of 2014.

The study did not include commercial boaters with boats moored outside of these six marinas, residential moorage in the Inlet, visiting boaters, boats normally stored on land and launched within Bud Bay Inlet or any other boats moored outside of the six marinas. This study did not attempt to enumerate the boats outside of the study population nor to estimate their fuel purchasing behaviors or potential, however, there is no reason to believe these boats would not also contribute to fuel sales at the proposed dock.



RESPONSE RATES

The SESRC mailed a seven-question postcard survey to the home addresses of all 1,438 boat owners within the study area during June and July of 2014 and responses were collected through September of that year. For further information on how these survey data were collected, please see **Section 2. Administration** and **Section 3. Implementation** of this report.



A total of 647 boat owners, or 45% of the 1,438 owners in the study population, completed the survey. Rates of response to the survey varied across the marinas and ranged from a 60.4% response at Swantown to a 10% rate of response at One Tree Island Marina.

TABLE 1. RESPONSE RATE BY MARINA			
	SURVEYS	BOATS	RESPONSE
SWANTOWN	319	528	60.4%
OLYMPIA YC	152	266	57.1%
MARTIN	36	71	50.7%
FIDDLEHEAD	57	138	41.3%
WEST BAY	79	395	20.0%
ONE-TREE	4	40	10.0%
TOTAL	647	1438	45.0%

The surveys were mailed to the home address of every boat owner in the study population. The surveys were **not** distributed at the boat docks or handed out at the marinas. Doing so would have limited the survey results to only those boat owners who visited a marina during the study period and would have strongly biased the results to reflect the opinions and behaviors of those boaters who boat more often than those who do not. Since the surveys were received in the mail at the boaters' home addresses, the survey reflects the opinions and behaviors of all boat owners at the six marinas regardless of their boat use.

NON-RESPONSE ANALYSIS

Since typically not all members of a survey population complete the survey, one major concern with survey results is its degree of accuracy, or how closely the survey matches the true value of a measurement within the entire population. There are many factors that can affect the accuracy of survey results, ranging from the completeness of the list of people being surveyed to the accuracy of the analysis used in interpreting the findings. The sum of these factors is often referred to as total survey error. For a more thorough discussion of survey error and how it relates to this survey, please see **Section 4. Response Summary** of this report.

Oftentimes the accuracy of survey data is addressed by examining known characteristics of those who complete the survey with the same characteristics of those who did not complete the survey. It is especially helpful if the characteristics examined relate to the survey subject. This type of non-response analysis is an effective way to gauge how similar or dissimilar the survey respondents are to those who did not complete the survey. If the characteristics are similar, we have more confidence the results represent the view and experiences of the entire study population. Conversely, if the characteristics differ, uncertainty is greater that the results accurately reflect the true value of what is being measured.

TABLE 2. SWANTOWN POPULATION VS SURVEY DATA					
	SWANTOWN		SURVEY		DIFF
POWER BOATS	246	42%	112	35%	-7%
SAILBOATS	334	58%	207	65%	+7%
TOTAL	580	100%	319	100%	

Swantown Marina and Boatworks provided the research team with complete statistics regarding the boat types and boat lengths for all vessels moored at the marina during the summer of 2014. According to the population data from Swantown, 42% of the boats moored there were powerboats and 58% were sailboats.

Of those returning surveys from Swantown, only 35% reported mooring a powerboat there and 65% said they owned a sailboat.

This means 7% more sailboat owners and, conversely, 7% less powerboat owners are represented in the survey data than the actual population at Swantown. According to the survey data, power boaters purchase over seven times the amount of fuel each year as sail boaters do. From these figures we can assume the Swantown fuel purchasing behavior is underestimated to some degree. See **Table 2**.

On the other hand, there were slightly more powerboats at Swantown in the 30 to 40-foot range that answered the survey than in the total boat population at the marina. Conversely, there were slightly less powerboats in the 20 to 30-foot range that answered the survey. One might expect larger power boats to use more fuel than smaller ones, and according to the survey data, the mid-sized 30-40 foot boats used 75% more fuel than the small 20-30 foot vessels. See **Table 3**.

To summarize, the survey data from Swantown Marina includes more responses from sailboat owners than powerboat owners. Of the powerboat owners, more mid-size boat owners answered the survey than owners of smaller boats. Despite these differences, the survey respondents from Swantown Marina exhibit similar boat type and size characteristics as compared to the known population. These population statistics were not available from the other five marinas so similar comparisons between survey respondents and the population could not be made.

TABLE 3. SWANTOWN BOAT SIZE AND TYPE VS SURVEY BOAT SIZE AND TYPE										
	POWER					SAIL				
	ACTUAL		SURVEY		DIFF	ACTUAL		SURVEY		DIFF
LESS THAN 20'	17	7%	7	6%	-1%	10	3%	6	3%	0%
20 UP TO 30	93	38%	29	26%	-12%	112	34%	75	36%	+3%
30 UP TO 40	67	27%	48	43%	+16%	149	45%	101	49%	+4%
40 UP TO 50	41	17%	21	19%	+2%	57	17%	24	12%	-5%
50 UP TO 60	17	7%	5	4%	-2%	6	2%	1	0%	-1%
60 UP TO 70	8	3%	1	1%	-2%	0	0%	0	0%	0%
OTHER	3	1%	1	1%	0%	0	0%	0	0%	0%
TOTAL	246	100%	112	100%		334	100%	207	100%	

FUEL PURCHASING POTENTIAL

In order to measure the potential marine fuel sales at the six Bud Bay Inlet marinas, the survey asked boat owners to estimate how many gallons of fuel they typically purchase for their boats each year. The 647 survey respondents, or 45% of the fleet, reported purchasing a total of 200,118 gallons of fuel annually. The average, or mean, annual fuel purchase per boater was reported at 322 gallons.

ANNUAL FUEL PURCHASES REPORTED BY ENTIRE 6-MARINA FLEET

■ Gas ■ Diesel ■ Both



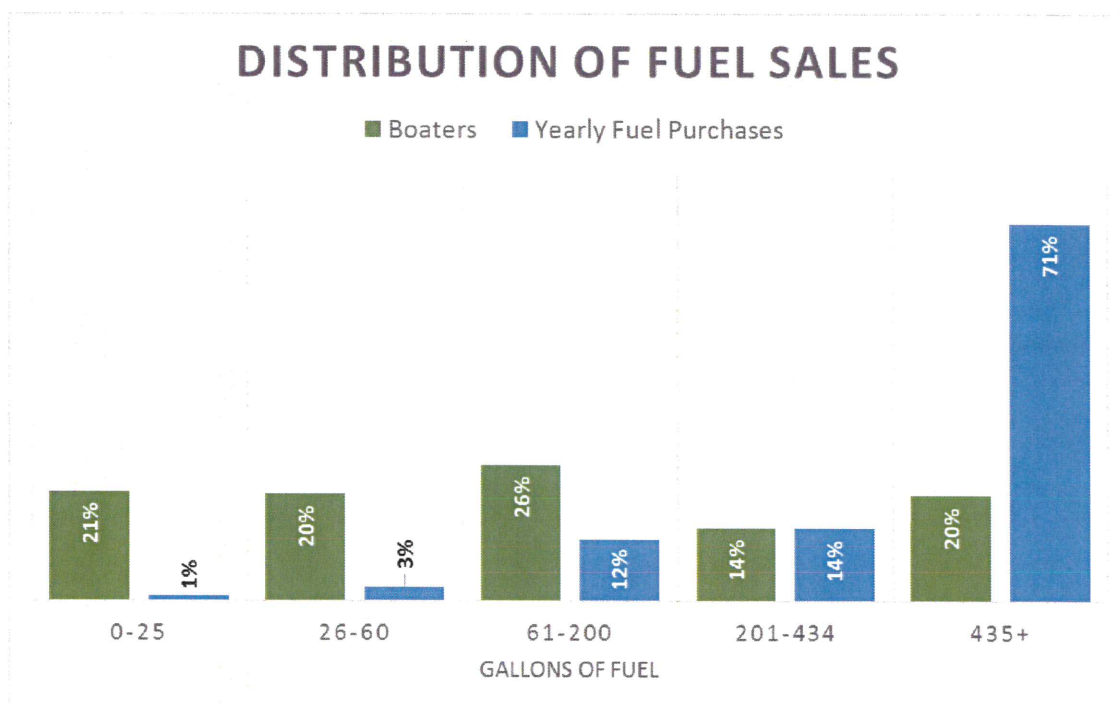
AN ANNUAL TOTAL OF 200,118 GALLONS OF PURCHASED FUEL WAS REPORTED IN THE SURVEY

These figures were met with skepticism by local boaters and those who frequent the local marinas when hearing the results presented at a Olympia town-hall meeting. Judging by the amount of boats who remain in port on any given day, this volume of fuel sales appears wildly inflated. But, this is because the distribution of those fuel sales are highly skewed toward a relatively few number of boaters who purchase a relatively large volume of fuel.

A majority, 67%, of the boaters who answered the survey, account for only 16% of annual fuel sales and typically purchase under 200 gallons of fuel each year. The boaters who buy the least amount of fuel, 25 gallons or less in a year, account for a full one-fifth of the survey respondents and purchase less than 1% of the reported volume of fuel.

For comparison one must look to the other side of the spectrum where another one-fifth of the boaters account for over 70% of the total annual fuel purchases. Indeed, 55 boaters in the survey each reported buying more than 1,000 gallons of fuel annually.

So, while the mean, or average, fuel purchase by survey respondents is 322 gallons per year per boater, the median amount is only 120 gallons. The median amount tells us exactly half of the survey respondents reported buying less than 120 gallons per year and the other half reported buying more than this amount.

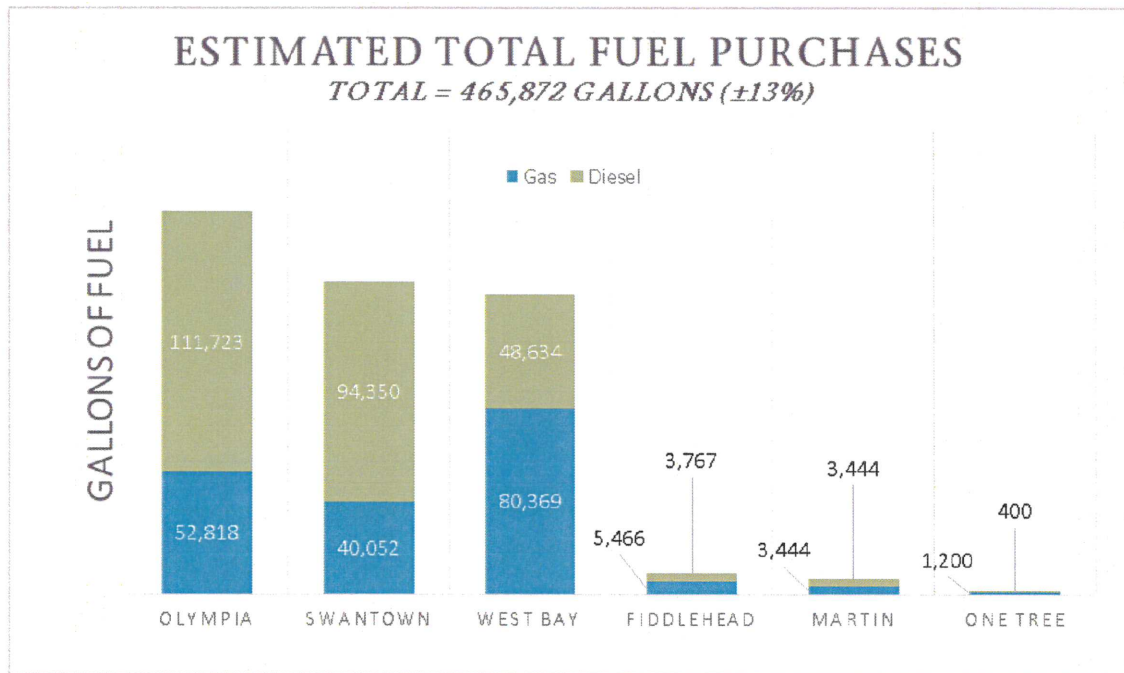


The survey also asked what type of fuel boat owners purchase, either gas, diesel or a combination of both types. In total, survey respondents reported 62% of their purchases, or 123,135 gallons per year, is diesel fuel and 32%, or 63,808 gallons, is gasoline. Another 7% of reported fuel purchases is a combination of both gas and diesel. For a breakdown of these fuel purchases by fuel type and by marina, see **Table 4** below.

TABLE 4. ANNUAL FUEL PURCHASES BY TYPE AND MARINA							
	SWANTOWN	FIDDLEHEAD	MARTIN	WEST BAY	OYC	ONE TREE	TOTAL
GAS	18,269	1,230	1,784	11,776	30,649	100	63,808
DIESEL	57,421	2,150	1,611	10,358	51,535	60	123,135
BOTH	2,710	300	0	800	9,365	0	13,175
TOTAL	78,400	3,680	3,395	22,934	91,549	160	200,118

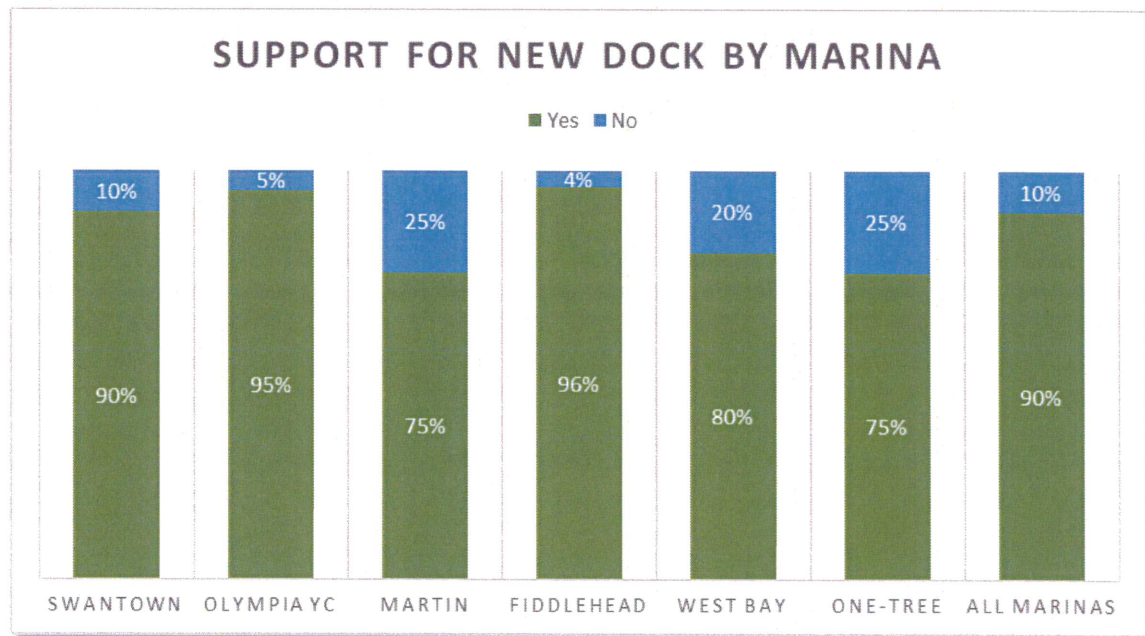
Because the non-response analysis from Swantown marina shows that our survey respondents are fairly similar to the population of boaters as a whole, these data can be extended to the entire fleet of 1,448 boats with a certain amount of confidence. Doing so results in an estimated total annual fuel purchasing potential of 465,872 gallons for the entire six-marina fleet. This estimate is produced at $\pm 13\%$ at the 95% confidence level, placing the estimate between 405,308 gallons and 526,435 gallons.

Unless the number of boats in the fleet significantly change or the fuel purchasing behavior of boat owners change, due to changes in the price of fuel, for example, this number can be considered the marine fuel purchasing potential for the six-marina fleet in Bud Bay Inlet.

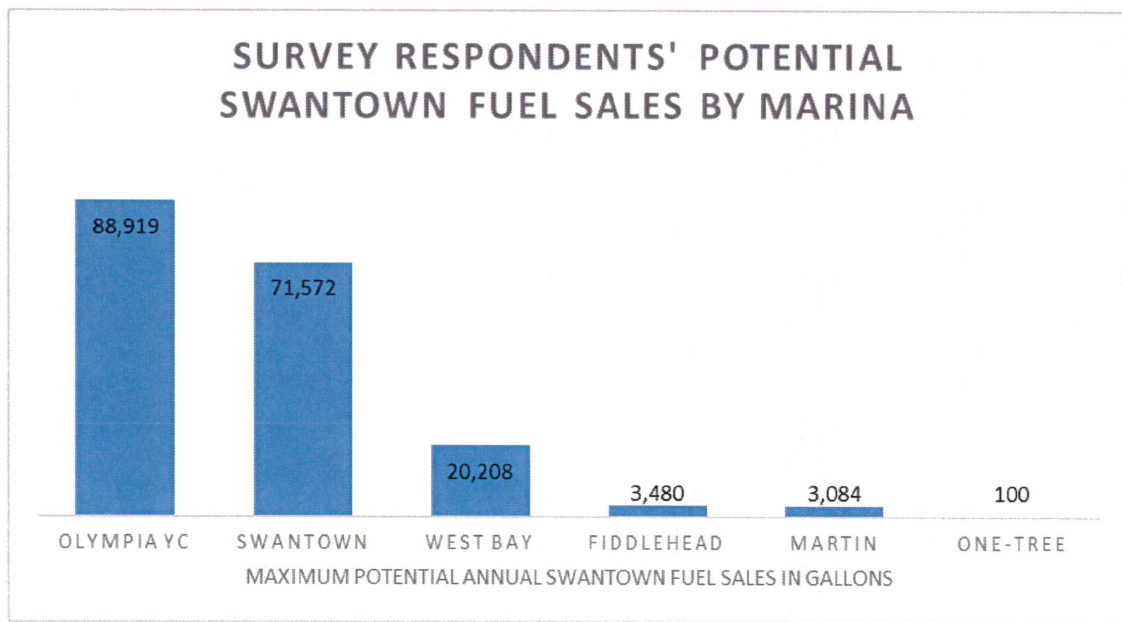


SUPPORT FOR NEW FUEL DOCK

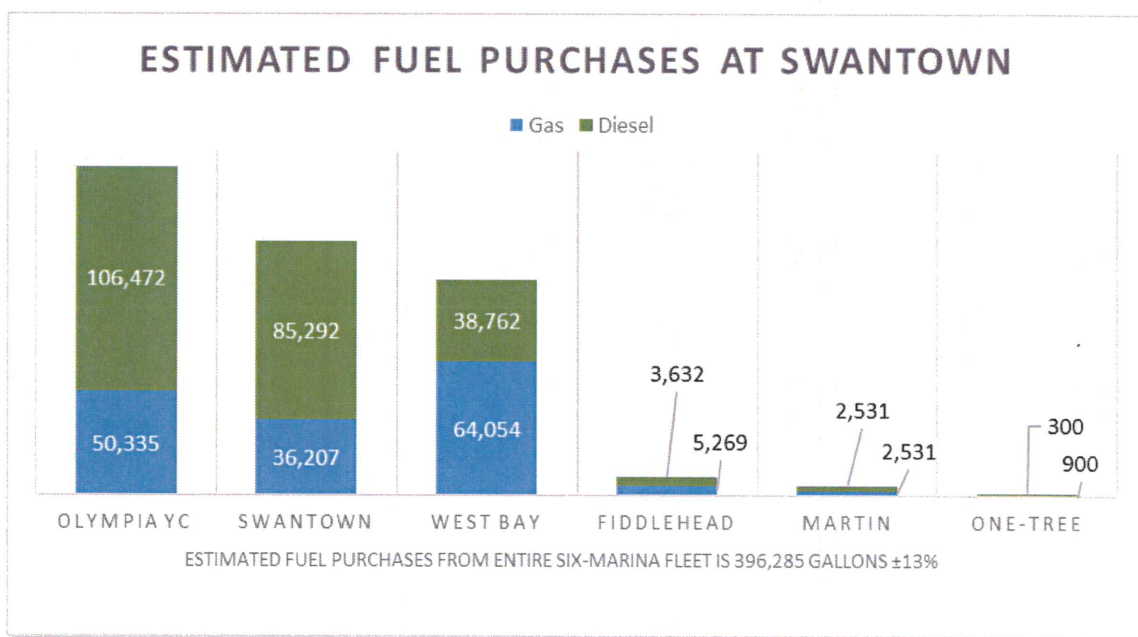
To measure support or opposition by marina boat owners for the proposed new fuel dock at Swantown, the survey asked boat owners if they would buy fuel from this location should a fuel dock be built there. Nine out of ten (90%) of the boat owners surveyed said they would buy fuel there at Swantown if the fuel dock were to be built.



Considering the fuel purchases of just those who said they would purchase fuel at the new dock, allows for an estimation of the maximum fuel purchasing potential of our survey respondents at this new dock. If all of the boat owners in the survey who indicated they would buy fuel at Swantown did indeed purchase all of their fuel there, the maximum potential fuel sales from the survey respondents is 187,363 gallons.



Again, using these data to extend to the entire fleet of 1,448 boats with a certain amount of confidence. Doing so results in an estimated total annual fuel purchasing potential of 396,285 gallons for the entire six-marina fleet. This estimate is produced at $\pm 13\%$ at the 95% confidence level, placing the estimate between x gallons and x gallons.



LOSS TO EXISTING FUEL DOCKS

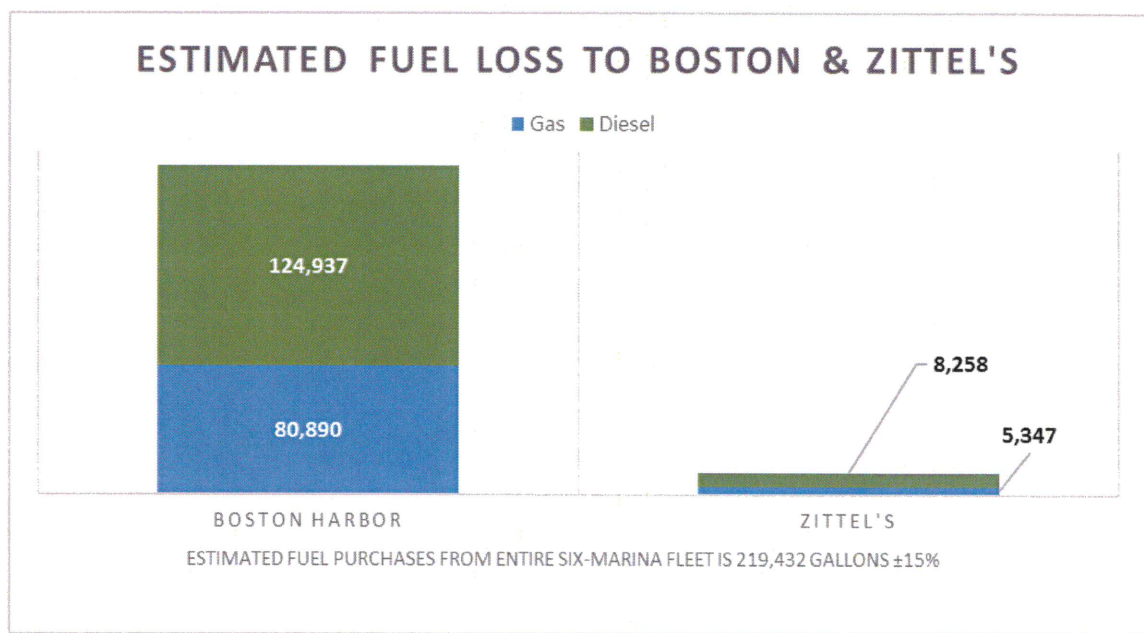
To understand what the potential loss in marine fuel sales would be to the two nearest existing fuel docks should the new dock at Swantown be built, the survey asked boat owners where they usually buy their fuel at present.

Half of the boat owners surveyed told us they buy fuel most of the time from the Boston Harbor fuel dock and another 3% buy their fuel from Zittel's Marina. Just over 1% said they typically purchase their fuel equally from both fuel docks. The remaining half of the respondents (45.6%) buy their fuel elsewhere.

TABLE 5. WHERE SURVEY RESPONDENTS CURRENTLY BUY FUEL

BOSTON HARBOR	300	50%
OTHER	140	23%
GAS STATION	133	22%
ZITTEL'S	18	3%
BOSTON AND ZITTEL'S EQUALLY	7	1%

From these data an estimation of the potential maximum loss in fuel sales to both Boston Harbor and Zittel's Marina can be calculated. If all boat owners who said they would purchase fuel at the new proposed Swantown dock and who currently buy fuel at Boston or Zittel's actually did purchase all of their fuel at Swantown, a maximum of 219,432 gallons would be lost, annually in sales to Boston and Zittel's ($\pm 15\%$ @ 95% confidence level).



2.

Administration

Background

Six Olympia, Washington marinas are located within Budd Bay Inlet in South Puget Sound and are the home to approximately 1,500 privately owned watercraft. As of the spring of 2014 the nearest fuel dock for these vessels was located several miles away across a no-wake zone. In order to fuel their boats, owners must either make the trip to the nearest fuel docks or port their own fuel in by hand, an illegal activity in Olympia.

Objectives

The Social and Economic Sciences Research Center (SESRC) implemented a postcard survey for the Port of Olympia in the summer of 2014. The survey was designed to gauge the demand of Olympia boat owners for a new fuel dock to be located at the Swantown Marina. The survey attempted to estimate the fuel needs of boat owners renting moorage slips at six marinas in the Olympia area and if those boat owners would actually purchase fuel at the new proposed location.

The survey results were then used to estimate the annual fuel purchases for the entire boat population at those six marinas and the resulting potential loss of sales to the two nearest existing fuel docks if the new Swantown fuel dock was built.

This report details that evaluation process.

3.

Implementation

Design

The survey was designed on the back of a 3x5 business reply postcard and mailed in a metered 6x9 tan envelope along with a letter, printed on SESRC letterhead, describing the study. Four of the marinas; Swantown, Fiddlehead, Martin and West Bay, allowed the SESRC to use their marina mailing lists, enabling the SESRC to send out the postcards directly from the SESRC research facility. Two other marinas, Olympia Yacht Club and One-Tree did not want to release mailing addresses to the SESRC so unlabeled, sealed and metered envelopes were sent to a marina representative who then attached the marina mailing labels and dropped the letters in the mail. The initial postcards were sent in June of 2014. A follow-up replacement postcard was sent to non-respondents of the four marinas with mailing list access in September. Olympia Yacht Club and One-Tree marinas were sent reminder letters which were distributed to their boat owners by marina staff.

Returns

The postcards to West Bay, Fiddlehead, Swantown and Martin Marinas were mailed on June 13, 2014. Envelopes containing the postcards and letters for Olympia Yacht Club and On-Tree were packaged up and sent via Fed-Ex to those marinas the same week. Postcards began arriving at the SESRC on June 25 and were collected through September 12.

Database

Response data were coded and entered into an Excel database by SESRC keypunch personnel. The data were then verified for accuracy and imported into an SPSS database for statistical analysis.



4.

Response Summary

Response Rates

The response rate is the ratio of completed and partially completed interviews to the total eligible survey group. This formula is considered the industry standard for calculating response rates and complies with AAPOR Standard Definitions (American Association for Public Opinion Research) Response Rate. The formula is:

$$\frac{(CM + PC)}{[(CM+PC) + RF + UI + UR]}$$

where CM = number of completed interviews

PC= number of partially completed interviews

RF = number of refusals

UI, UR = number unable to interview, unable to reach

At the time this report was drafted, 647 of 1,448 boat owners had completed and returned their postcard survey for a 45% response rate.

A breakdown by marina is as follows:

Group	Marina	Completes	RTS	IE	Total	Rate
Group 1	Swantown	319	13		528	60%
Group 2	Fiddlehead	57	2		138	41%
Group 3	Martin	36	1		71	51%
Group 4	West Bay	79	24	10	405	20%
Group 5	Olympia Yacht	152	0		266	57%
Group 6	One-Tree	4	0		40	10%
Total		647			1448	45%

Total Survey Error

One concern with using surveys in the process of formulating public policy is determining how well the results of the survey accurately represent the views and experiences of the population being studied. Surveys are very accurate when researchers take care

to mitigate the four main sources of survey error: measurement, sample, coverage and non-response error; the elements which comprise total survey error.

A systematic sample was not drawn for this study, eliminating **sample error** from the total survey error equation. Instead, the entire population of boat owners renting moorage slips at the six Olympia marinas within Bud Bay Inlet in June of 2014 were given an equal and non-zero chance of participating in the survey. Each of the 1,458 boat owners were assigned a unique ID number and great care was taken to assure only those within this population were allowed to respond to the survey. Furthermore, only one survey per boat owner was allowed into the survey results. These steps were taken in an effort to reduce or eliminate the effect of survey **coverage error**.

In order to minimize the effect of **measurement error**, the survey questions were written in simple language and followed the general principles for question and questionnaire development as outlined in Dillman's Tailored Design Method (TDM), a methodology for maximizing respondent comprehension of survey tasks. The SESRC also employs a professional data coding and key-punch staff who specialize in data entry with 100% verification, a technique for digitally coding, entering and verifying data in order to maximize recording accuracy.

Non-response error or bias is the extent to which the responses collected differ from the potential responses of those who did not participate in the survey. Achieving a high response rate is one way to minimize the effect of *potential* non-response bias, but response rate cannot predict whether or not non-response bias actually exists within the response data. A better method of detecting the potential bias of non-response is to compare known population statistics to those same characteristics within the subgroup of survey responders.

For this study, exact information on boat type (power vs sail) and boat size were known for the Swantown Marina boat population at the time the survey was conducted. Comparing the known boat type and size population characteristics to the survey results for Swantown responders gave some idea into the homogeneity between the total survey responders and non-responders. At the time this report was written, 319 of the 580 boats in Swantown Marina were accounted for in the survey data and non-response analysis provided evidence that the group of power boat owners participating in the survey differed from those that did not participate (p-value < .000 at 95% level of confidence).

5.

Results

Reading the Data

Throughout the dataset, missing values occur when a question is left blank without a response. A character value of "." is used as a placeholder value whenever a response is left blank.

Remarks File

The remarks data corresponding to the open-ended questions in this survey are included in this report. Comments written in the margins are noted with a "WC" in the remarks data. On occasion when a respondent circles two or more answers this was noted as "MA" in the comments, followed by the multiple responses given.

PLEASE NOTE: The remarks data have not been edited. For this study, references to individuals were not deleted. However, the data should remain strictly confidential. The remarks data should be treated as confidential information and printed for release only after careful review and necessary editing.



Frequency Tables

		Date Received			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	01-JAN-2000	1	.2	.2	.2
	08-JAN-2014	1	.2	.2	.3
	09-JAN-2014	12	1.9	2.0	2.3
	09-FEB-2014	2	.3	.3	2.7
	08-APR-2014	4	.6	.7	3.4
	09-APR-2014	2	.3	.3	3.7
	09-MAY-2014	12	1.9	2.0	5.7
	08-JUN-2014	1	.2	.2	5.9
	25-JUN-2014	146	22.6	24.5	30.3
	27-JUN-2014	44	6.8	7.4	37.7
	30-JUN-2014	23	3.6	3.9	41.5
	01-JUL-2014	30	4.6	5.0	46.6
	03-JUL-2014	22	3.4	3.7	50.3
	05-JUL-2014	1	.2	.2	50.4
	08-JUL-2014	58	9.0	9.7	60.1
	10-JUL-2014	11	1.7	1.8	62.0
	11-JUL-2014	4	.6	.7	62.6
	14-JUL-2014	11	1.7	1.8	64.5
	15-JUL-2014	12	1.9	2.0	66.5
	18-JUL-2014	3	.5	.5	67.0
	21-JUL-2014	3	.5	.5	67.5
	22-JUL-2014	9	1.4	1.5	69.0
	24-JUL-2014	3	.5	.5	69.5
	28-JUL-2014	3	.5	.5	70.0
	29-JUL-2014	75	11.6	12.6	82.6
	07-AUG-2014	3	.5	.5	83.1
	08-AUG-2014	3	.5	.5	83.6
	09-AUG-2014	2	.3	.3	83.9
	09-SEP-2014	19	2.9	3.2	87.1
	07-OCT-2014	1	.2	.2	87.3
	09-OCT-2014	1	.2	.2	87.4
	07-NOV-2014	1	.2	.2	87.6
	09-NOV-2014	53	8.2	8.9	96.5
	08-DEC-2014	16	2.5	2.7	99.2
	09-DEC-2014	4	.6	.7	99.8
	03-DEC-2040	1	.2	.2	100.0
	Total	597	92.3	100.0	
Missing	System	50	7.7		
Total		647	100.0		

Marina

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Swantown	319	49.3	49.3	49.3
	Fiddlehead	57	8.8	8.8	58.1
	Martin	36	5.6	5.6	63.7
	West Bay	79	12.2	12.2	75.9
	Olympia Yacht Club	152	23.5	23.5	99.4
	One Tree	4	.6	.6	100.0
	Total	647	100.0	100.0	

Q1 How many boats do you own that are moored at this marina?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	6	.9	.9	.9
	1	576	89.0	89.4	90.4
	2	56	8.7	8.7	99.1
	3	1	.2	.2	99.2
	4	2	.3	.3	99.5
	5	1	.2	.2	99.7
	7	1	.2	.2	99.8
	8	1	.2	.2	100.0
	Total	644	99.5	100.0	
Missing	System	3	.5		
Total		647	100.0		

Q2_1 What type of boat(s) do you have at this marina? BOAT #1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Sail	346	53.5	54.7	54.7
	Power	286	44.2	45.3	100.0
	Total	632	97.7	100.0	
Missing	System	15	2.3		
Total		647	100.0		

Q2_2 What type of boat(s) do you have at this marina? BOAT #2

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Power	15	2.3	100.0	100.0
Missing	System	632	97.7		
Total		647	100.0		

Q3_1 What size is this boat? BOAT #1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than 20 ft	52	8.0	8.1	8.1
	20 to 30 ft	191	29.5	29.8	37.9
	30 to 40 ft	287	44.4	44.8	82.7
	40 to 50 ft	94	14.5	14.7	97.3
	50 to 60 ft	11	1.7	1.7	99.1
	60 to 70 ft	5	.8	.8	99.8
	Other	1	.2	.2	100.0
	Total	641	99.1	100.0	
Missing	System	6	.9		
Total		647	100.0		

Q3_2 What size is this boat? BOAT #2

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than 20 ft	3	.5	6.3	6.3
	20 to 30 ft	6	.9	12.5	18.8
	30 to 40 ft	14	2.2	29.2	47.9
	40 to 50 ft	17	2.6	35.4	83.3
	50 to 60 ft	3	.5	6.3	89.6
	60 to 70 ft	4	.6	8.3	97.9
	Other	1	.2	2.1	100.0
	Total	48	7.4	100.0	
Missing	System	599	92.6		
Total		647	100.0		

Q4 Most of the time, where do you purchase fuel for your boat(s)?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Boston Harbor	300	46.4	50.2	50.2
	Zittel's	18	2.8	3.0	53.2
	Other	140	21.6	23.4	76.6
	Boston and Zittel	7	1.1	1.2	77.8
	Gas station	133	20.6	22.2	100.0
	Total	598	92.4	100.0	
Missing	System	49	7.6		
Total		647	100.0		

Q5 What kind of fuel do you usually purchase for your boat(s)?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Gas	228	35.2	36.0	36.0
	Diesel	380	58.7	60.0	96.1
	Both	25	3.9	3.9	100.0
	Total	633	97.8	100.0	
Missing	System	14	2.2		
Total		647	100.0		

Q6 Approximately how many gallons of fuel do you purchase for your boat(s) each year?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	8	1.2	1.3	1.3
	1	2	.3	.3	1.6
	2	3	.5	.5	2.1
	3	2	.3	.3	2.4
	4	1	.2	.2	2.6
	5	13	2.0	2.1	4.7
	6	2	.3	.3	5.0
	9	1	.2	.2	5.1
	10	30	4.6	4.8	10.0
	12	1	.2	.2	10.1
	13	1	.2	.2	10.3
	15	11	1.7	1.8	12.1
	18	1	.2	.2	12.2
	20	36	5.6	5.8	18.0
	24	1	.2	.2	18.2
	25	15	2.3	2.4	20.6
	30	31	4.8	5.0	25.6
	35	2	.3	.3	25.9
	36	2	.3	.3	26.2
	40	32	4.9	5.1	31.4
	45	1	.2	.2	31.5
	50	36	5.6	5.8	37.3
	55	2	.3	.3	37.6
	60	19	2.9	3.1	40.7
	68	1	.2	.2	40.8
	70	3	.5	.5	41.3
	75	5	.8	.8	42.1
	80	4	.6	.6	42.8
	90	1	.2	.2	42.9
	100	43	6.6	6.9	49.8
	120	8	1.2	1.3	51.1
	125	2	.3	.3	51.4
	150	26	4.0	4.2	55.6
	157	1	.2	.2	55.8
	160	4	.6	.6	56.4

Port of Olympia Fuel Dock Survey
SESRC Data Report 14-043
V. Results

165	1	.2	.2	56.6
175	2	.3	.3	56.9
177	1	.2	.2	57.1
180	2	.3	.3	57.4
190	1	.2	.2	57.6
200	54	8.3	8.7	66.2
210	1	.2	.2	66.4
215	1	.2	.2	66.6
250	14	2.2	2.3	68.8
275	2	.3	.3	69.1
280	1	.2	.2	69.3
300	38	5.9	6.1	75.4
350	5	.8	.8	76.2
360	1	.2	.2	76.4
400	22	3.4	3.5	79.9
434	1	.2	.2	80.1
450	2	.3	.3	80.4
480	1	.2	.2	80.5
500	35	5.4	5.6	86.2
600	14	2.2	2.3	88.4
650	1	.2	.2	88.6
700	4	.6	.6	89.2
750	3	.5	.5	89.7
800	7	1.1	1.1	90.8
900	2	.3	.3	91.2
1000	26	4.0	4.2	95.3
1200	8	1.2	1.3	96.6
1250	2	.3	.3	96.9
1350	1	.2	.2	97.1
1500	3	.5	.5	97.6
1800	1	.2	.2	97.7
2000	6	.9	1.0	98.7
2500	2	.3	.3	99.0
3000	2	.3	.3	99.4
4000	2	.3	.3	99.7
10000	1	.2	.2	99.8
15000	1	.2	.2	100.0
Total	622	96.1	100.0	
Missing System	25	3.9		
Total	647	100.0		

Descriptive Statistics

	N	Minimum	Maximum	Sum	Mean	Std. Deviation
Valid N (listwise)	622	0	15000	200119	321.73	839.125

Q7 Would you purchase fuel at Swantown if there was a facility located there?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	565	87.3	89.8	89.8
	No	64	9.9	10.2	100.0
	Total	629	97.2	100.0	
Missing	System	18	2.8		
Total		647	100.0		



Remarks

ID	NOTES FROM THE MARGINS
10137	Q1:WC:Plus more than 50 rowing shells in our boathouse Q2:WC:Power boats;rowing shells are all lengths Q3:WC:Acme Fuel WC:The increased traffic would be a hazard to our youth program especially.
10239	Q4:MA:1,3:And bring it by hand Q6:MA:250-300
10322	Q4:MA:1,3:Seattle- Shilshoal Q4:WC:Too shallow (arrow pointing to Zittel's)
10391	Q4:WC:Land station and fill boat with gas can
10440	Q5:WC:Swantown Q7:WC:If easy to access and less expensive than Boston Harbor.
10445	Q4:WC:Bring in WC:Very inconvenient and awkward to bring in.
10475	Q2:MA:1,2 Q3:MA:2,3 Q5:MA:1,2
10568	Q4:WC:Portable fuel tanks fill up at gas stations.
10598	Q7:WC:Definitely!
10700	Q2:MA:1,2 Q3:MA:2,6 Q4:MA:1,3:Town Q5:MA:1,2 Q5:WC:+ Q7:WC:A must- thanks
10772	Q4:WC:Jarrod's Cove
10851	WC:Stop messing around. Build it!
10956	Q4:MA:1,3:Local Gas Stations
10997	Q4:WC:Carry fuel to the boat
11025	Q4:WC:Tacoma
11034	Q4:WC:Tao or Des Moines Q7:WC:Your fee will be too high
11117	Q4:WC:Automobile fuel stations using portable containers
11149	Q6:MA:150-200
11179	WC: Q4: Land Service Station. WC: Q7: Especially if diesel had marine additives.
11199	Q4:WC:Land station
11219	WC:Just got boat- live out of state so can't answer 3-4-5.
11239	Q4:WC:Gas station
11254	Q4:WC:Bring in Jerry cans Q6:MA:40-60 Q7:WC:Absolutely
11271	Q6:MA:6-12
11276	Q4:MA:1,3:Or on the way north.
11330	Q4:WC:Jarrell Cove
11366	Q4:MA:2,3:Tacoma, Shilshole Q7:WC:!
11450	Q4:MA:1,2,3:Both. If we go north once every three or four years-Des Moines. Q6:WC:? We stay in South Sound (don't go far). No idea
11512	Q4:WC:Gas Station
11567	Q4:WC:Card lock service non ethanol gasoline Q7:WC:Only if it was non ethanol fuel- gasoline
11573	Q4:MA:1,3:A large portion purchased out of area during summer.
11618	Q4:WC:Off site WC:We need a fuel station. Boats use fuel!
11685	Q4:WC:Gas can in from shore WC:Proposed location for fuel dock is awful and will interfere with the septic pump out station. Boat traffic will be a mess. They should find a different location!
11705	Q4:MA:1,3:Des Moines (best price) Q7:WC:Depending on price
11765	Q4:WC:Des Moines WC:Fueling facility at Swantown would be a waste of money and an environmental danger.
11789	Q4:WC:Gas pump in town
11950	WC:Q4:DesMoines
11969	Q4:WC:Gas station
12010	Q4:WC:Des Moines
12025	Q4:WC:Gas station
12055	WC: Q7: !!
12076	Q3:WC:Both
12079	Q4:MA:1,3:Tacoma

12090	Q4:WC:LaConner
12119	Q5:MA:1,2
12226	Q4:WC:Have not- new.
12253	WC: Q7: !!!!!
12256	Q4:WC:Shell station near marina
12268	Q4:WC:Gas station Q5:WC:Mix Q6:WC:Less than
12291	Q4:WC:Gas station
12357	Q4:MA:1,3:5 gal cans Q7:WC:Yes yes
12374	Q4:WC:In town
12428	Q4:WC:Jerry can
12437	Q5:MA:1,2
12492	Q4:WC:No need to fuel at marine fueling station
12538	Q4:WC:Gas station
12570	Q4:WC:Gas station
12582	Q4:WC:Local gas station
12603	WC: Q4: Day Island
12643	WC: Q4: Texaco
12704	Q4:WC:Nearest and lowest cost when I need fuel. Q7:WC:Depends on price.
12736	Q4:WC:Tacoma
12781	Q4:WC:A gas station near Shelton Q5:WC:Non-ethanol preferred WC:I think the lack of fueling source in Olympia discourages boaters and hurts the local economy.
12801	Q4:WC:Gas Station
12816	Q4:WC:I carry my own fuel in five gallon cans.
12824	WC:We buy fuel at Boston Harbor (have to go there to go boating anyways) it is also a private company. Not using public money to compete.
12843	Q4:WC:Gas stations
12867	Q4:WC:Gas station
12891	Q4:WC: Des Moines WC:I expect Swantown fuel prices to be higher than Des Moines Marina.
12949	WC:Q4:Local Gas Station
12964	Q4:WC:Gas station (fuel can) Q7:WC:Only if it is ethanol free
13004	Q4:WC:Gas Station
13042	Q4:WC:Seattle
13073	Q2:WC:(With aux power) Q4:WC:(Mostly)
13091	WC: Q4: Tacoma
13177	Q4:MA:1,3:Port Townsend
13206	Q6:WC:+
13265	Q4:WC:Local gas station (cans) WC:No more lugging gas cans!
13338	Q4:WC:Target Q5:WC:Propane Q7:WC:If I had a boat that used gas or diesel I would.
13363	Q4:WC:We bring in fuel in containers from local stations Q6:WC:When boat was functioning- 50 gal/year
13407	Q4:WC:Jerry jugs by hand
13470	Q4:WC:Any BioDiesel retailer Q5:WC:Bio Q7:WC:Only if they had BioDiesel!
13499	Q6:MA:60-75
13527	Q4:WC:Land based gas stations
13549	Q4:WC:Gas station
13633	Q4:WC:San Juans
13655	Q4:WC:Gas station via jug
13689	Q4:WC:Northern destinations Q6:WC:Every year is different
13709	WC: Q4: gas station small motor. WC: Q7: If it's a good price but only if no ethyl alcohol in fuel. I can get this fuel close to Swantown.
13759	Q4:WC:Fast FuelQ7:WC:Yes yes yes!
13826	Q4:MA:1,3:Seattle Q4:WC:When I have to (line drawn to Boston Harbor) Q7:WC:Absolutely. It would be safer and vastly more convenient. Also better environmentally.

13843	Q4:WC:Gas station on road
13973	Q4:WC:Portable
14014	Q4:MA:1,3:Gas station- fill a can and walk down :(Q7:WC:Absolutely! Can't wait.
14156	Q4:WC:Gas Station
14276	Q4:WC:Any gas station
14377	WC: Q4: Day Island Marina @ 5 gal can
14421	WC: Q4: Gas Station
14443	Q4:MA1,3:Foss
14475	Q4:WC:Hand carry WC:Make it ethanol free! Boston Harbor is an eco disaster.
14497	Q4:WC:Carry on to boat or when cruising in. Q5:MA:1,2
14551	Q4:WC:Fast Fuel- Acme Q5:WC:BioDiesel 20%
14573	Q4:WC:Des Moines WC:Zittles and Boston H.- low volume, stack, old fuel- need new vendor.
14591	Q4:MA:1,3:5 gallon can to top off in water Q7:WC:not need at this time.
14657	Q4:MA:1,2
14791	WC: Q4: Land-Based
14844	Q4:WC:Gas stations
14868	Q4:WC:Point Defiance Ched Pen (sp?) Q6:WC:+ Q7:WC:Only if it is cost effective
14883	Q3:WC:2 Q4:WC:Shilshole/Seattle
14904	Q4:WC:On land
14920	WC: Q4: Jug
14934	Q4:Port Townsend Q7:WC:!!!!
14964	Q4:WC:Have not bought any for more than a year.
14972	WC:Q2:MotorSailer
14995	Q2:WC:Row Q3:MA:1,3 Q4:WC:Local gas station WC:Fueling out of a Jerry can is a fire and spill hazard- quit screwing around and put in a fuel dock.
15020	Q4:WC:Gas station
15094	Q4:WC:Bring my own in cans.
15217	WC: Q4: Haven't needed fuel
15233	Q4:WC:Des Moines
15245	Q4:WC:Only at high tide, mid week with crew. WC:If you want to understand, try to buy fuel in Boston Hbr at low tide in a boat over 35' confident that the facility complies with contemporary en vivo rules. You cannot! Also, go walk the docks yourselves. You will see it is inadequate and out of compliance with modern facilities.
15264	Q4:WC:Kingston, Des Moine Q7:WC:If price is comprable
15370	Q4:WC:Local gas station
15373	WC:Q4:Gas Station (haulin jug)
15395	Q4:WC:Fred Meyer/carry cans Q5:WC:(local)
15407	Q4:WC:Carry it in fuel cans and refuel
15442	Q4:WC:Tacoma/Gig Harbor Q7:WC:Prices would be too high!
15534	Q7:WC:If the price is right!
15563	Q4:WC:Local gas station
15679	WC:Q4:Local gas station
15705	Q4:WC:Gas station
15734	Q4:MA:1,3:Seattle
15780	WC: Q3: 110'
15828	WC:Q3:10 WC:Q4:ADS STATIONS WC:Q7:THIS SHOULD GET DONW NOW DO IT
15864	WC:An important addition to the Capitol city, bring in tourists to Olympia, downtown.
15887	WC:Thank you
15903	Q7:WC:!
15977	Q7:WC:!*!
16015	Q4:MA:1,2:Day Island Tacoma
16045	Q4:WC:Tacoma or bring in cans to boat

16087	Q4:MA:1,3:Jarrel Cove
16178	Q4:WC:Seattle-Gig Harbor auto diesel Q6:WC:+/-
16190	Q4:WC:Gas stations with jerry cans
16225	Q4:WC:Acme (ethanol free) Q6:WC:+
16247	Q4:WC:Use fuel can- portable
16433	WC:However, if I thought this was going to put Boston Harbor out of business I wouldn't use Swantown.
16452	WC:Q07:Acme fast fuel
16513	Q4:WC:Varies
16565	Q4:WC:Fill by hand
16581	Q4:WC:Local
16588	Q4:WC:Bring it from home Q6:MA:40-50
16692	WC:04:Gas station/land. Q06:2-300
16701	WC: Q7: if price was competitive
16875	Q4:MA:2,3:San Juan Islands
16895	WC: Q4: Targa in Tacoma. WC: Q6: 15,000+
16953	Q2:MA:1,2 Q3:MA:1,3 Q4:WC:Jerrel Cove, Point Defiance
17106	Q4:MA:1,3:Jarrell Cove
17155	WC:Q04:Haul by hand-gas can
17170	Q4:WC:Shell Station on Plum St. in Olympia- portable tanks.
17230	Q1:WC:Plus two shore boats (dinghys) Q4:WC:Seattle- Shilshoal WC:Water is putrid at Swantown now we don't have fuel leaks. Ther is no flow here at the bottom of Puget Sound.
17257	Q2:MA:1,2 Q3:MA:1,3
17276	Q4:MA:1,3:Gas station
17315	Q4:WC:Jerel's Cove Kingstory
17340	Q4:WC:We bring it from gas station
17366	Q4:MA:1,3:Kingston- Tacoma
17402	WC: Q6: 1000-1500. WC: Q7: If the price is competitive
17464	Q4:WC:Kingston
17479	Q7:WC:Depends on price. I am concerned about impact of a new fuel dock on other private enterprises.
17498	Q7:WC:Please!
17504	WC:Just purchased the boat and haven't had it long.
17519	Q4:WC:Moved here in December and haven't refueled yet. Will use Boston Harbor or a local gas station and jerry can. Q7:WC:I'd probably go into town with a jerry can.
17535	WC:This is a huge need; when the tide is out, it is very hard to get fuel at Boston Harbor!
17550	Q4:WC:Costco
17604	Q7:WC:!
17687	Q4:WC:Ethanol free providers in area Q6:WC:+ Q7:WC:Only if the fuel is ethanol free.
17713	Q4:WC:Local gas station
17749	Q4:WC:Tacoma;Boston Harbor tanks contain contaminated fuel
17793	Q4:WC:Diesel Gas Station Q7:WC:If the price was reasonable
17842	WC: Q4: In Olympia gas stations
17862	WC:Q07:Absolutely
17873	Q4:WC:Gas Station
17882	Q4:WC:Cans for gas station
17910	Q4:WC:Self fuel w/cans
17974	Q4:WC:Des Moines Q6:MA:1000-1500 Q7:WC:If priced competitively Swantown needs a fuel facility
17997	WC:Q4:local diesel retailer
18011	Q4:WC:Des Moines
18017	Q7:WC:Definitely!
18071	Q4:MA:1,3:When traveling out of South Sound 1. Seattle 2. Kingston 3. Deer Harbor 4.Roche Harbor 5. Canada
	Q7:WC:Sometimes
18102	Q4:WC:Seattle

V. Results

18156	Q4:WC:Corner gas station
18269	Q4:WC:1/2 the time- other is north. Q7:WC:!!
18284	Q4:WC:Cenex (farm diesel) Jerry can
18300	Q4:WC:Acme Fuel
18389	Q4:WC:Only fuel once a year wherever- only at marina 4 months a year (trailer able boat).
18431	Q7:WC:Sometimes
18456	Q4:WC:Wherever I'm at
18641	Q4:WC:Shell Q7:WC:If non-ethanol fuel was available.
18645	WC:Q04:Local gas stations. WC:Q07:If it were non-ethanol
18677	WC: Q4: Acme Fuels
18695	WC:Q04:Trailer [spelling?]
18706	WC: Q4: Gas Station. WC: Q6: 20+/-
18765	Q4:WC:Des Moines
18791	Q4:WC:Jarrells Cove and Fair Harbor
18841	Q5:MA:1,2 Q6:WC:?
18853	WC:Boston Harbor is very inconvenient and difficult landing for fuel for long vessels.
18879	Q6:WC:Summer Q7:WC:!
18985	Q4:WC:Wherever I cruise Q6: 300-400 Q7:WC:Perhaps once a year.
19012	Q4:WC:Local gas station
19056	WC:Q4:Out of area-BC mostly.
20049	WC: Q4: Haul
20181	WC: Q4: N/A
20236	Q4:WC:Gas station
20314	Q4:WC:On land Q7:WC:Would actively boycott
20382	Q2:MA1,2 Q3:MA:1,3 Q5:MA:1,2
20488	WC: Q4: haul
20530	WC: Q4: Haul
20576	WC: Q4: Haul
20616	WC: Q4: haul
20682	WC: Q4: Can
20704	WC: Q4: Haul
20760	Q4:WC:Gas stations on land
20772	Q4:WC:Gas stations WC:Boston Harbor and Zittel's are not the best places to get in and out of.
20783	Q4:WC:Filling station
20804	WC: Q4: Haul
20841	WC: Q4: N/A
20927	Q4:WC:None needed Q5:WC:N/A Q7:WC:N/A
20948	WC: Q4: Haul
21011	Q7:WC:If it was easy to get in and out.
21033	WC: Q4: Haul
21060	Q4:WC:Haul in by hand
21090	WC: Q1: Broke
21115	WC: Q4: haul
30015	Q4:WC:Chevron
30024	Q4:WC:N/A Q7:WC: Maybe WC:I don't drive it
30039	Q4:WC:None needed Q5:WC:Batteries- boat is electric Q6:WC:N/A
30058	Q3:MA:1,2 Q4:WC:Gas Station
30193	Q4:WC:Fred Meyer
30202	Q4:WC:Gas Station
30407	Q4:WC:Local Station Q7:WC:Maybe, depending on price.
30436	Q6:WC:(new owner- not sure)

30478	Q4:WC:Centralia: non-ethanol Q7:WC:If they would provide non-ethanol gasoline.
30540	Q4:WC:Tacoma/Des Moines
30558	Q4:MA:1,3:Bring in cans
30592	Q4:WC:Fast Fuel
30605	Q4:WC:Buy at gas station in 5 gallon cans.
30632	Q4:WC:Texaco
30663	Q4:WC:Haul it myself
30706	Q4:WC:Des Moines Q7:WC:If priced right
30756	Q4:WC:Safeway Q6:WC:+ WC:I use an outboard motor and portable 3 gallon gas tank. No need for a fuel dock.
30797	Q4:WC:Gas Station
30958	Q2:WC:Houseboat Q4:WC:None Q5:WC:None
30962	Q4:WC:Gas station- bring to boat in jug.
31044	Q4:WC:Cenex
31122	WC: Moored at Olympia Yacht Club, not Martin.
31159	WC:Q4:formerly Aim, WC:Q5:99% blu, WC:7:provided it supplies biodiesel
31197	Q4:WC:Chevron
31204	Q2:WC:Botu- a motor sailor Q4:WC:I bring B99.9 biodiesel up from Portland by totes since not available in Olympia or Puget Sound. Q5:WC:B99.9 biodiesel only. Q7:WC:If B99
40120	Q4:WC:Carry on board Q7:WC:Depending on price
40168	WC:Q4:Gas Station
40179	Q4:WC:None- live aboard only
40200	Q3:MA:1,3 Q4:WC:Des Moines
40340	Q7:WC:!
40447	WC:Why would I go backwards?!
40716	Q4:WC:I have electric all Q5:WC:Neither Q6:WC:N/A Q7:WC:N/A
40740	Q4:WC:Fast Fuel (Olympia)
40762	Q4:WC:Tacoma
40776	Q4:MA:1,2
40795	Q4:WC:Gas station
41000	WC:No longer have a boat at West Bay.
41039	WC:Q2:w/ outboard motor. WC:Q4:Gas Station
41065	Q4:WC:Shell Gas Station
41530	Q3:WC:32
41541	Q4:WC:Local fuel supplier
41589	Q4:WC:Kamilcht Trading Post Q7:WC:Most definitely if they have no-ethanol
41594	Q4:MA:1,2
41606	Q4:WC:Chevron(Auto Fuel)
41618	Q4:MA:1,2
41650	Q6:WC:+
41662	Q4:WC:Gas Station
41670	WC:Q1:Kayak. WC:Q3:Grocery Store. WC:Q4:Bananas, potatoes, pasta, wine. WC:Q6:5 Gallons of wine. WC:Q7:There is Bar + Grill there now. Only use that for special occasions. WC: People hand carry fuel to their boats and spill while purging. Will they stop if fuel is close? Will they spill less?
41822	Q4:WC:Des Moines
41833	Q4:MA:1,2
41993	Q4:WC:Safeway because it isn't available closer- we bring it down Q7:WC:Yes yes yes!
42091	Q4:WC:Port of Poulsbo Q5:MA:1,2
42148	Q7:WC:Sometimes
42257	Q7:WC:Yes! Yes!
42297	WC:Please build one soon, Boston Harbor sucks!

V. Results

42317	Q4:MA:1,2,3:Anybody but city, state and government just like our taxes on this issue what a waste of time and energy! WC:The port does not need to get in the private sector! We're already stuck with the shipyard again which is a 3 scale!
42483	Q6:MA:10-20
42545	Q4:WC:N/A Q5:WC:N/A Q6:WC:N/A Q7:WC:N/A
42603	Q4:WC:I sometimes buy fuel on shore and carry it to boat
42846	WC:Q04:Des Moines
43095	Q4:WC:Generally I carry 5-gallon gas cans to the boat
43110	Q1:WC:We sold boat Q7:WC:When we used to have a boat
43417	Q4:WC:Safeway. Q7:WC:Maybe if the price was right. Q3: listed a third boat as 40'-50'.
43495	Q4:WC:Outboard- By Container
43585	WC:My boat that I keep at Westbay Marina doesn't have an engine! I keep my other boat at Boston Harbor- it has an engine.
43621	Q4:Auto gas station- carry to boat
43648	Q3:MA:1,3 Q4:WC:Bremqutein(SP?) Q5:MA:1,2 Q6:MA:50/25
43669	Q4:WC:Gas Station- 3.5 HP Outboard
43765	Q4:MA1,3
43949	Q4:MA:1,3:I use 5 gallon containers using gas stations Q6:MA:50-60
44004	WC: Q4: Fill 6 gal gas containers Fast Fuel. WC:Q5: Ethanol Free; Q3: listed a third boat as 30'-40' and a 4th boat as 40'-50'
44023	Q7:WC:Yes! Yes! Yes! Please!
44127	Q7:WC:No!
50025	Q4:MA:1,3
50043	Q4:MA:1,3:Des Moines
50104	Q4:WC:Des Moines Q5:MA:1,2 Q6:WC:Diesel, 40 gal gas
50168	WC:Q3:Tacoma-Thea Foss
50208	Q6:MA:600-700
50238	Q4:WC:Des Moines
50242	WC:Q4:TACOMA
50290	WC: Q6: 500+
50293	Q4:MA:1,3:Seattle area Q5:MA:1,2
50455	Q4:WC:Des Moines Q5:WC:+ Q7:WC:If the price is competitive
50459	WC:Q4:Try to fill e service stations, WC:Q7:Provided decent price!
50478	WC:Q4:Tacoma Dock Street
50512	Q6:MA:1,2
50560	Q4:WC:North
50627	Q4:WC:Buy diesel 5 gal. at a time on shore.
50633	Q7:WC:!
50636	Q4:WC:Where I am when I need to fuel.
50642	Q4:WC:Gas station Q6:MA:50-60
50687	Q4:WC:Poulsbo Q7:WC:Depending on price
50707	Q2:MA:1,2
50722	WC:Q3:Local Shell in 5ga. fuel jugs.
50747	Q4:WC:Up North
50756	WC: Q4: Gas Station
50802	WC:Q4: Boston Harbor for a small amount. Then north of Tacoma. WC:Q7:Both B.H and zittles are to small for my boat.Swan town would be great for my 22' fishing boat too.
50870	Q4:WC:Des Moines
50923	Q4:MA:1,3:Fair Harbor, Jarell's Cove Q6:MA:2-3 K WC:This is highly needed please put in a super dock 100' plus.
50954	Q4:WC:Acme Fuel
50967	WC:Q4:Tacoma



V. Results

51004	WC:Q4:Kingston
51100	WC:Q04:Up North
51120	Q4:WC:Anacortes or Tacoma
51137	WC:Q4:Seattle. Note: reported 200 boats in Q1 and we recoded as "missing data"
51159	WC:Q3:30
51193	WC:Q4:Gig Harbor/Anacortes
51207	WC:Q04:Des Moines, Brownsville. WC:Q07:-If competitive price
51255	Q6:MA:200-400
51265	Q5:MA:1,2
51283	Q4:WC:Tacoma, sometimes (with arrow drawn to Boston Harbor) Q6:MA:500-700 Q7:WC:Absolutely!
51286	WC:Q04: Des Moines
51306	Q4:WC:Tacoma and Des Moines
51310	WC:Q7: we own two other boats that we launch at swantown and would like to see a fuel dock at swantown.
51318	WC:Q04:North of Narrows Too \$\$\$ South of bridge. WC:Q07:They will charge too much \$\$\$ need to compete with Tac or Des Moines.
51336	Q4:WC:Safeway
51366	WC:Q07:!!
51392	WC:Q4:Des Moines. WC:Q07:Definitely!
51401	WC:Yes indeed. Boston Harbor is in very poor condition. Difficult to get into with marginal service. It's about time the port installs fueling docks.
51455	Q4:WC:Jerry cans
51525	WC:Q04:Thea Foss Waterway WC:Q06:1000+
51591	Q4:WC:Jerry cans
51633	Q4:MA:1,3:Tacoma Q7:WC:If price is competitive.
51667	Q4:MA:1,3:Tacoma/Gig Harbor
51671	WC:Q06:500+
51697	WC:Q4:Des Moines
51700	Q4:WC:Port of Anacortes, Boston Harbor and Zittels are both too confined and we can't fuel there. Not enough space to maneuver Q7:WC:Need a fast hose
51713	WC:Q5:?. WC:Q7:Maybe
51723	Q4:WC:Tacoma
51739	WC:Q4:San Juans
51781	Q4:WC:Tacoma Q6:WC:+
51810	Q7:WC:If price competitive.
51857	Q4:MA:1,3:Des Moines-Tacoma Q6:MA:600-800
51894	WC:Q1:My boat moored at Swantown Marina, not Olympia Yacht Club. WC:Q4: Des Moines - cheaper. WC:Q7:Probably-depends on cost.
51909	WC:Q04:Local gas stations
51942	WC: Q4: Des Moines
51966	Q3:WC:37' Q4:WC:Des Moines, Tacoma WA
51976	Q4:WC:Des Moines Q5:MA:1,2
51995	Q4:WC:Reservation Nation
52131	Q4:WC:Fair Harbor
52153	WC:Q4:Olympia Yach Club,WC:Q7:YES the current alternative at Boston Harbor is not good
52172	WC:Q4:North(in Seattle). WC:Q6:250-300
52174	WC:Q06:40+. WC:Q07:!!!
52292	Q4:WC:Des Moines
52348	WC:Q04:Tacoma Area
52366	WC:Q04:Local filling stations by small container
52396	Q7:MA:1,2
52400	WC:Q04:En route



V. Results

52443	Q4:WC:Out of town for my yacht, any place with a fast pump.
52551	WC:Q04:Des Moines
52558	Q4:MA1,3:Tacoma WC:It would be very good for both the Olympia boating community and visiting boaters to have a Swantown fuel dock.
52588	WC:Q06:Approx.
52596	WC:Q6:12-1500
52654	WC:Q4:5 gallons at a time
52688	WC:Q04: Des Moines, WA
52738	WC:Swan Town C64
52755	WC:q4:Des Moines Marina, WC:Q7:PRICING IS KEY
60056	WC:Q04:Haul cans from auto gas stations. WC:Q07:I am 77 years of age, hauling gas cans is a real hardship.
60309	WC: Q4: On Shore
60379	WC:Q04:Bring it to boat
42XXX	WC:Q4:Gas Station



6.

Instruments

Please answer the following regarding your boat(s) moored at [MARINA NAME].

1. How many boats do you own that are moored at this marina?
___ Number of boats
2. What type of boat(s) do you have at this marina?
☐ Sail ☐ Power
3. What size is this/are these boat(s)? *If more than one boat, please indicate the size of each.*
☐ <20' ☐ 20'-30' ☐ 30'-40' ☐ 40'-50' ☐ 50'-60' ☐ 60'-70' ☐ Other _____
4. Most of the time, where do you purchase fuel for your boat(s)?
☐ Boston Harbor ☐ Zittel's ☐ Other (specify): _____
5. What kind of fuel do you usually purchase for your boat(s)?
☐ Gas ☐ Diesel
6. Approximately how many gallons of fuel do you purchase for your boat(s) each year?
_____ Gallons of fuel
7. Would you purchase fuel at Swantown if there was a facility located there?
☐ Yes ☐ No

52688

June 13, 2014

«Address»
«City», «State» «ZIP»«Dash»«ZIP4»

Dear Boat Owner,

The issue of local access to fuel sources for Olympia area boat owners is a concern of the Port of Olympia. In an effort to better understand the issue, the Port of Olympia has asked the Social and Economic Sciences Research Center at Washington State University to conduct a study regarding this matter.

I am writing to ask for your help in improving our understanding of local boat owner fuel needs. The best way we know to do this is by asking boat owners to share their boat fueling activities with us. Enclosed you will find a postcard with several questions on the back. Please take just a moment to answer the questions and then drop the postcard back in the mail, the postage has already been paid.

Your responses to this very short survey are voluntary and will be kept confidential. Your answers will never be associated with your name or mailing address. If you have any questions about this survey please contact the SESRC study director, Thom Allen by telephone at 1-800-833-0867 or by email at ted@wsu.edu.

By spending just a few minutes you will be adding greatly to our understanding of Olympia area marina boat owner and operator experiences regarding the availability of marine fuel. I want to thank you in advance for your help and I look forward to receiving your responses.

Many thanks,

Rose H. Krebill-Prather

Rose Krebill-Prather
Assistant Director
Washington State University
Social and Economic Sciences Research Center



7.

Credits

Project Team

SESRC is committed to high quality and timely delivery of project results. The following list identifies the SESRC team members responsible for particular elements of this project.

Thom AllenStudy Director, Data Manager
Rose Krebill-Prather.....Assistant Director
Tony HernandezData Collection Supervisor
Tim LensingData Collection Supervisor
Maria CarrilloData Collection Supervisor
Rita Koontz.....Administration Services Manager

VI. Credits

SESRC Staff

All of the work conducted at the Social & Economic Sciences Research Center is the result of a cooperative effort made by a team of dedicated research professionals. The research in this report could not have been conducted without the efforts of interviewers and part-time personnel not listed.

Principal Investigators and Study Directors

Danna L. Moore, Ph. D.....Interim Director
Rose Krebill-Prather, Ph. D.....Assistant Director
Don A. Dillman, Ph.D.Deputy Director for Research &
Development
Arina Gertseva, Ph.D.Research Associate
Candiya Mann, M.A.....Research Associate, Vancouver
Kyra KesterSenior Research Associate, Puget Sound
Kent Miller, M.A.....Study Director/Mail Survey Manager
Thom Allen, B.A.....Study Director II/Special Programs Manager
Yi-Jen Wang, M.A.Study Director

Administrative Support

Rita KoontzDepartment Administrative Manager
Jaime Colyar, B.A.Fiscal Specialist I
Lisa Brooks, B.A.Research Associate, Olympia

Data Collection and Interviewer Supervision

Tony HernandezResearch Survey Supervisor
Tim LensingResearch Survey Supervisor
Maria Carrillo.....Research Survey Supervisor
Pat Slinkard.....Social Scientific Assistant

Data Management and Analysis

Dan Vakoch, M.S.....Information Systems Coordinator/Data
Analyst
Nathan Palmer, M.S.....Information Systems Coordinator/Data
Analyst

Programming and Network Administration

Nikolay Ponomarev, Ph. D.....Sr. Research Programmer/Database
Architect



World Class. Face to Face.

Social & Economic Sciences Research Center
Washington State University
P.O. Box 644014
Pullman, Washington 99164-4014
Telephone: (509) 335-1511 Fax: (509) 335-0116
<http://www.sesrc.wsu.edu>
sesrc@wsu.edu

ATTACHMENT D

US fuel prices in Washington

Sort by: [Diesel Price](#) [Gas Price](#) [Name](#) [City](#)

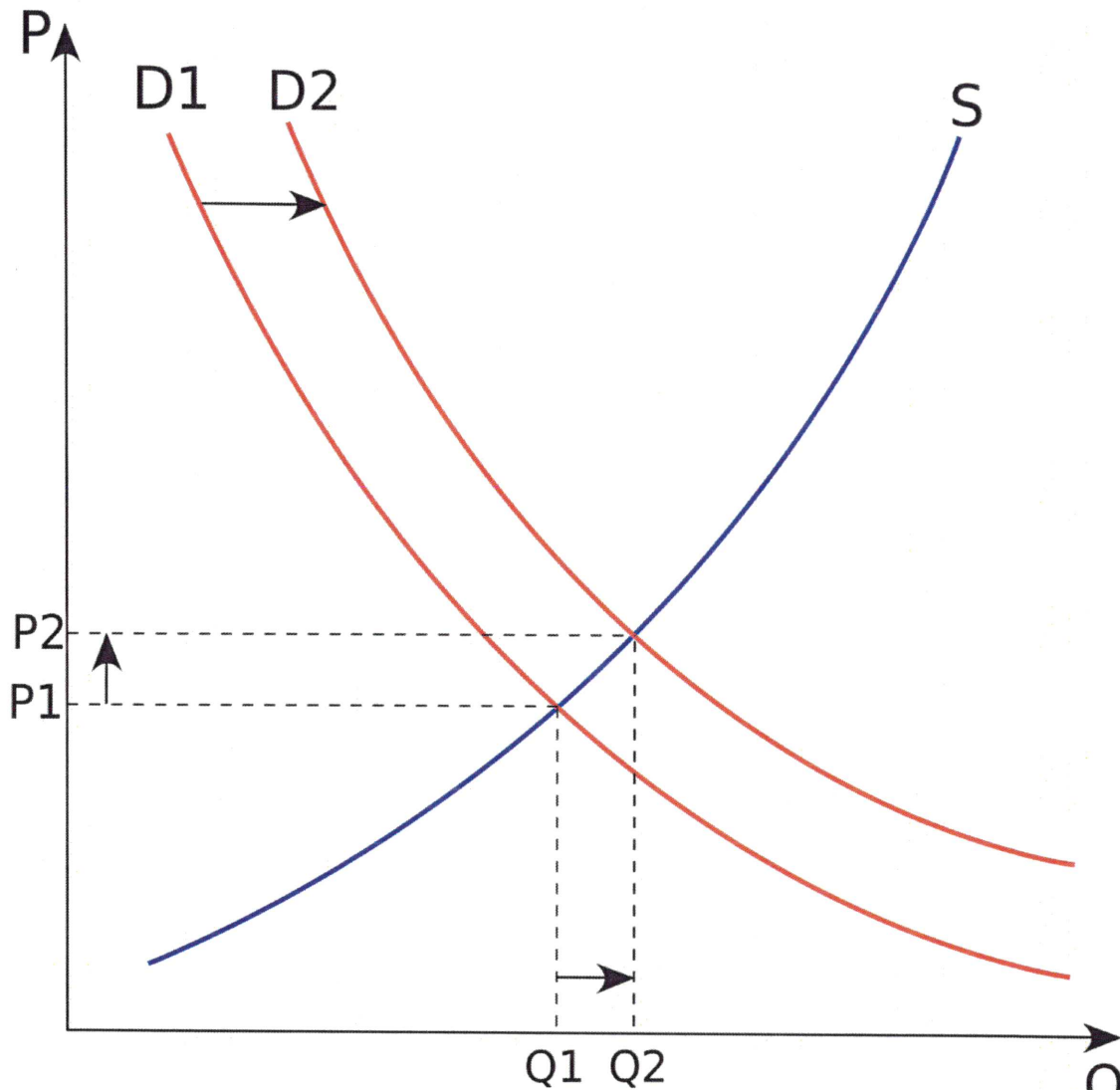
Marina	Diesel	Diesel Discounts	Gas	Gas Discounts
City of Des Moines Marina Des Moines 206-824-5700	2.15 USD/gal 2017-04-02	Generally the best prices on Puget Sound. Fuel dock accomodates both a port or starboard side pump station as well as a pump out.	3.15 USD/gal 2017-04-02	Generally the best prices on Puget Sound.
Port Orchard Marina Port Orchard 360-876-5535	2.21 USD/gal 2017-04-02	Includes all taxes. Red offroad.	3.00 USD/gal 2017-04-02	Includes all taxes. No ethanol.
Oak Harbor Marina Oak Harbor 360-279-4575, 360-279-4576	2.24 USD/gal 2017-04-17	\$0.05 per gallon discount on 100 gallons or more. \$0.20 per gallon discount up to amount paid for 1st night of guest moorage. Only one discount may be applied. Fuel dock open from 8:30 - 4:30 7 days a week. Price displayed includes all fees and taxes.	3.50 USD/gal 2017-04-17	\$0.05 per gallon discount on 100 gallons or more. \$0.20 per gallon discount up to amount paid for 1st night of guest moorage. Price displayed includes all fees and taxes. Only one discount may be applied. Fuel dock closed from 12-1 daily for lunch and all day on Sundays.
Port of Kingston Kingston 360-297-3545	2.30 USD/gal 2017-04-02		3.40 USD/gal 2017-04-02	
Port of Brownsville Marina Bremerton 360-692-5498	2.35 USD/gal 2017-04-17		2.93 USD/gal 2017-04-17	
Port Angeles Boat Haven Port Angeles 360-457-4505	2.38 USD/gal 2017-04-14	Cash price for purchases over 600 gallons. Call for additional quantity discounts. Washington State Sales Tax (8.4%) - where applicable. Add 3% for Credit Card purchases.	3.41 USD/gal 2017-04-14	Add 3% for credit card purchases. Ethanol free.
Port of Camas-Washougal Marina Washougal 360-772-2832	2.46 USD/gal 2017-04-17		4.60 USD/gal 2017-04-17	
Squalicum Harbor East Bellingham 360-676-2542	2.49 USD/gal 2017-04-02	Higher for credit card.	3.48 USD/gal 2017-04-02	Higher for credit card.
Squalicum Harbor West Bellingham 360-676-2542	2.49 USD/gal 2017-04-02	Diesel Cash Price. \$0.05 more for credit cards.	3.48 USD/gal 2017-04-02	
Skyline Marine Center Anacortes 360-293-5134	2.55 USD/gal 2017-04-07	\$0.03 discount over 100 gallons.	3.74 USD/gal 2017-04-07	\$0.03 discount over 100 gallons. Ethanol free.
Cap Sante Marina Anacortes 360-293-0694 8 am - 5 pm	2.59 USD/gal 2017-04-18	Volume discounts available. Includes sales tax. The port intentionally keeps the price of fuel low to encourage boats to come in and use the marina and spend money in town.	3.70 USD/gal 2017-04-18	Volume discounts available.
Port of Anacortes Anacortes 360-293-3134	2.59 USD/gal 2017-04-18	Over 100 gallons is \$2.51 per gallon. Over 750 gallons is \$2.13 per gallon. Price shown Includes tax. Non-ethanol gasoline. No sales tax on gas. Winter 2016/2017 Hours of Operation: 7:00 am - 4:30 pm 7 days a week.	3.70 USD/gal 2017-04-18	Over 100 gallons is \$3.62 per gallon. Non-ethanol gasoline. No sales tax on gas. Winter 2016/2017 Hours of Operation: 7:00 am - 4:30 pm 7 days a week.
Port of Edmonds Edmonds 425-774-0549	2.59 USD/gal 2017-04-02	Please visit http://www.portofedmonds.org/fuel.htm for current prices.	3.57 USD/gal 2017-04-02	Please visit http://www.portofedmonds.org/fuel.htm for current prices.
Shilshole Bay Fuel Dock	2.59 USD/gal	Discounts @ 100 gallon increments.	3.59 USD/gal	Marina discounts and quantity discounts.

Seattle 206-783-7555	2017-04-14		2017-04-14	Non-ethanol gasoline
<u>Port of Poulsbo</u> Poulsbo 360-779-3505	2.60 USD/gal 2017-04-17	Tax included. ValvTect Marine Fuel. No discount for quantity.	3.41 USD/gal 2017-04-17	Tax included. No ethanol.
<u>Point Roberts Marina</u> Point Roberts 360-945-2255	2.64 USD/gal 2017-03-15	2% cash discount. 2% over 100 gallons discount. 2% over 500 gallons discount. Total discount allowed is 6%.	3.82 USD/gal 2017-03-15	Mid-grade, 2% cash discount. 2% over 100 gallons discount. 2% over 500 gallons discount. Total discount allowed is 6%.
<u>Commencement Bay Marine Services</u> Tacoma 253-572-2666/Fuel Dock: 253-383-0851	2.65 USD/gal 2017-04-14	Quantity Discounts: \$0.13 over 100 gallons. (\$2.609) \$0.16 over 200 gallons. (\$2.589) \$0.20 over 500 gallons. (\$2.559) All discounts and taxes included. Your purchases support Youth Programs.	3.30 USD/gal 2017-04-14	Quantity Discounts: \$0.06 over 100 gallons.(\$3.239) \$0.10 over 200 gallons.(\$3.199) \$0.12 over 500 gallons.(\$3.179) All discounts and taxes included. Your purchases support Youth Programs.
<u>Foss Harbor Marina</u> Tacoma 253-272-4404	2.69 USD/gal 2017-04-16	\$0.10 cents per gallon discount for BoatUS members. \$0.07 cents per gallon discount to permanent, seasonal and transient moorage guests. \$0.07 cent per gallon quantity discounts also offered on purchases of over 100 gallons. Call office at 253-272-4404 for discounts available on purchases of over 1,000 gallons. Commercial fuel charge accounts also available; inquire with office.	3.35 USD/gal 2017-04-16	\$0.10 cents per gallon discount for BoatUS members. \$0.07 cents per gallon discount to permanent, seasonal and transient moorage guests. \$0.07 cent per gallon quantity discounts also offered on purchases of over 100 gallons. Call office at 253-272-4404 for discounts available on purchases of over 1,000 gallons. Commercial fuel charge accounts also available; inquire with office.
<u>Port of Everett Marina</u> Everett 425-259-6001/800-729-7678	2.69 USD/gal 2017-04-14	Includes 9.2% sales tax. Winter Fuel Dock hours: 8 am - 4 pm Closed Sunday/Monday	3.62 USD/gal 2017-04-14	Winter Fuel Dock hours: 8 am - 4 pm Closed Sunday/Monday
<u>Port of Friday Harbor</u> Friday Harbor 360-378-2688	2.84 USD/gal 2017-04-02		3.56 USD/gal 2017-04-02	
<u>Port Ludlow Marina</u> Port Ludlow 360-437-0513 toll free: 800-308-7991	2.90 USD/gal 2017-04-14	Plus tax.	3.90 USD/gal 2017-04-14	Cash discount \$0.05.
<u>Boston Harbor Marina</u> Olympia 360-357-5670	3.00 USD/gal 2017-04-02	You can use after hours with an issued card. Discount for OYC members.	3.75 USD/gal 2017-04-02	You can use the fuel dock after hours with an issued card. Discount for OYC members.
<u>Roche Harbor Resort and Marina</u> Roche Harbor 360-378-2155/800-451-3590	3.11 USD/gal 2017-04-17	Volume breaks at 100, 300, 500, and 1000 gallons.	3.85 USD/gal 2017-04-17	Volume breaks at 100, 300, 500, and 1,000 gallons. Gasoline is ethanol free.
<u>Blaine Harbor</u> Blaine 360-647-6176	3.14 USD/gal 2017-04-02		3.89 USD/gal 2017-04-02	
<u>Shilshole Bay Marina</u> Seattle 206-787-3006/800-426-7817, ext. 3006	3.15 USD/gal 2017-04-02		3.89 USD/gal 2017-04-02	
<u>Port Townsend Boat Haven</u> Port Townsend 800-228-2803/360-385-2355/Fuel dock: 360-385-7031	3.18 USD/gal 2017-04-02	Includes 10% tax sales tax on diesel. \$3.99 for 100+ gallons. \$3.89 for 500+ gallons.	3.99 USD/gal 2017-04-02	
<u>Seattle Boat</u> Bellevue 425-641-2090	3.39 USD/gal 2017-04-17	Diesel #2 with ValvTect Premium Fuel Additive. Diesel Happy Hour - D.E.E.P. Current pricing* is \$2.64 plus tax. Now offering Diesel Happy Hour. Purchase premium grade diesel fuel with ValveTect additive at wholesale pricing on Lake Washington. Prices subject to change, and based on diesel fuel pricing. Visit the fuel dock between the hours of 8:00 am until 2:00 pm Monday through Thursday to receive the special discount.	4.41 USD/gal 2017-04-17	Mid-grade, 89 octane Chevron Fuel.
<u>Yarrow Bay Marina</u> Kirkland 425-822-6066	3.72 USD/gal 2017-04-17		4.32 USD/gal 2017-04-17	
<u>Boyer Park and Marina</u> Colfax 509-397-3208			4.99 USD/gal 2017-04-05	Ethanol free fuel.
<u>Point Defiance Boathouse Marina</u> Tacoma			3.69 USD/gal 2017-04-03	Ethanol free gas.

ATTACHMENT E

The referenced Supply and Demand Model is most commonly depicted by the following illustration:

Supply and Demand Model



In this theoretical model, the price P of a product is determined by a balance between production at each price (supply S) and the desires of those with purchasing power at each price (demand D). The diagram shows a positive shift in demand from D_1 to D_2 , resulting in an increase in price (P) and quantity sold (Q) of the product.

While this is an interesting exercise in the economics of fuel pricing, the Subcommittee concluded that the factors listed above (*Port Fuel Dock Considerations*) were sufficiently compelling to move us away from any further consideration of this model.