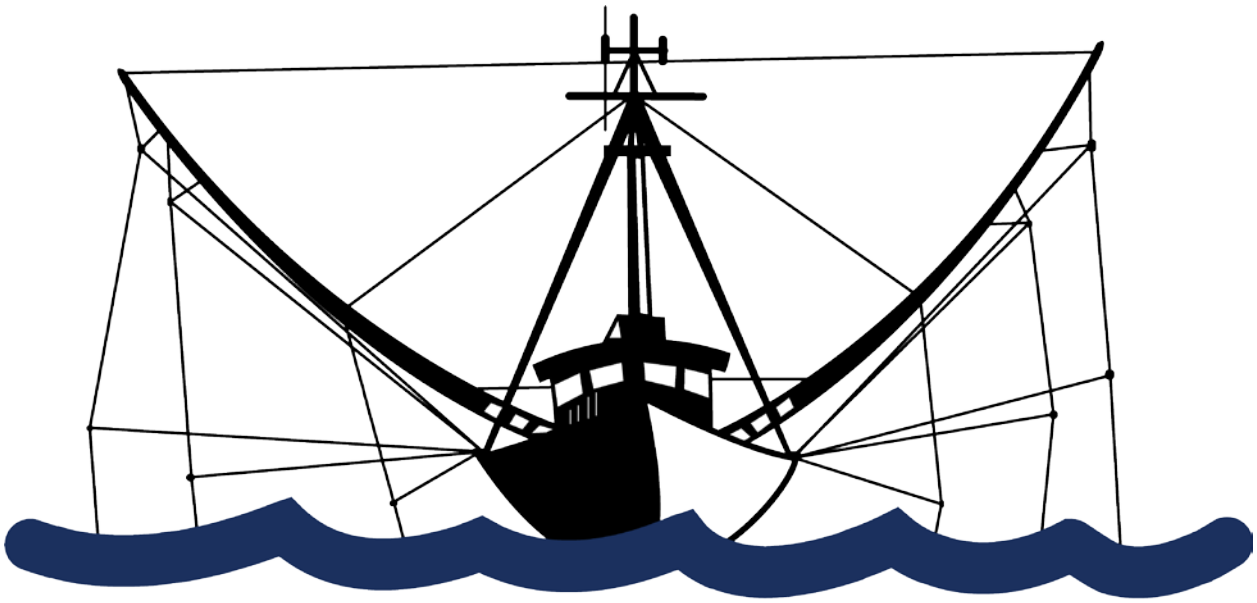
# Cost and Revenue Characteristics of the Salmon Fisheries in California and Oregon



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## I. INTRODUCTION

The purpose of this report is to summarize and analyze secondary survey data recently gathered in California and Oregon from commercial salmon fishery participants. The overall goal is to use the survey data to improved information on vessel operating costs and revenues. The resulting study, summarized in report form, will provide a current picture of the salmon troll fleet characteristics.

This subcontract was supported by funds provided by the National Marine Fisheries Service (NMFS, or NOAA Fisheries Service). These funds were provided to support the regulatory efforts of the Oregon Department of Fish and Wildlife (ODFW) and California Department of Fish and Game (CDFG). The analysis in this report was conducted using secondary data that was originally gathered by Hackett and Hansen (2008) and by Lian and others at NOAA Fisheries Service. No funds from Subcontract 8404-S-004 were used to support survey research. California survey data were gathered with funding under a separate contract from CDFG, while Oregon survey data were gathered by the NOAA Fisheries Service under a separate contract.

Cost and revenue summary data were prepared in consultation with representatives of CDFG and ODFW. Each agency utilizes its own methods for economic analysis, and the summary data in this report reflect the specific data requirements of these state agencies. State and federal regulatory agencies can use the cost and revenue information in this report to conduct economic impact and other assessment, and ultimately to facilitate resource management decisions: (1) by determining least cost (to fishermen) management alternatives, (2) estimating relationships to and impacts on other fisheries (other fishery alternatives), (3) giving consideration to the social costs and benefits of management actions, (4) estimating economic impacts on coastal communities in terms of sales, personal income, and employment, and (5) forecasting likely future outcomes associated with different resource abundances and regulatory frameworks.

The first part of this report briefly describes the resource and regulatory context for this report. We then turn to a brief description of the survey data and methods. This section also includes a description of cost categories, operational configurations (California), and FEAM (Fishery Economic Assessment Model) vessel classes (Oregon). The last section of this report contains the cost and revenue tables that form the core of this report.

## II. RESOURCE AND REGULATORY CONTEXT

This report is focused on the costs and revenues associated with the commercial salmon fisheries in California and Oregon. Commercial salmon fishermen may target various non-salmon species, and in order to understand fishing costs one must include a complex of species. In consultation with California and Oregon fisheries experts, characteristic species groups targeted by salmon fishermen are addressed in this report. Key target species or species groups addressed in this report include Chinook salmon (*Oncorhynchus tshawytscha*), coho salmon (*Oncorhynchus kisutch)*, albacore tuna (*Thunnus alalunga*), Dungeness crab (*Cancer magister*), sablefish (*Anoplopoma fimbria*), ocean shrimp (*Pandalus jordani*), and various groundfish and highly migratory species (HMS).

No single agency is responsible for all Pacific salmon management because salmon cross many geographical and political boundaries, which makes their management complex. The state commissions governing the California Department of Fish and Game and the Oregon Department of Fish and Wildlife set salmon seasons in their respective state waters, including coastal waters extending three miles offshore. The NMFS sets all seasons in the Exclusive Economic Zone beyond the three-mile limit out to 200 miles. California and Oregon are members of the Pacific Fisheries Management Council (PFMC),

and present data and information for review during the season-setting process. Each year the PFMC develops management measures that establish fishing areas, seasons, quotas, legal gear, possession and landing restrictions, and minimum lengths for salmon taken in federal waters off Washington, Oregon, and California (Boydstun et al. 2001). These measures are designed to prevent overfishing and to allocate the ocean harvest equitably among ocean commercial and recreational fisheries. The measures must meet the goals of the Fishery Management Plan, which addresses spawning escapement needs and allows for freshwater fisheries. The needs of salmon species listed under the federal Endangered Species Act must also be met as part of the process (Boydstun et al. 2001).

The PFMC makes annual recommendations to NMFS for ocean salmon seasons. Once the federal season setting process is completed the respective state fishing commissions normally adopt a similar set of regulations for state waters. Moreover, American Indian tribes play a key co-management role in managing salmon fisheries and in conserving salmon populations through harvest management, tribal hatchery programs, habitat protection, and restoration and biological studies.

Various factors have contributed to declining salmon stocks, including the destruction of spawning habitat, pollution, fishing pressure, and fluctuating ocean conditions (Boydstun et al. 2001). Conditions in the Klamath River basin system have been of particular concern. Chinook salmon represents the primary commercial salmon species in this area, and stocks in the Oregon and California interface were so depressed in the early 1980s that a recovery plan was adopted in 1986, leading to the creation of the Klamath Management Zone (KMZ). The KMZ extends from Port Orford in southern Oregon to Point Arena in northern California. The KMZ restricts salmon landings for commercial and recreational fisheries to allow for escapement back to spawning areas (PFMC 2008b).

In recent years the Chinook salmon fisheries in California and Oregon have been in crisis. In 2006 the PFMC recommended closures and other restrictions for commercial and recreational fishermen for California and Oregon, and the NOAA Fisheries Service adopted those recommendations, sharply reducing ocean salmon fishing in 2006 (Schwarzenegger 2006). NOAA Fisheries Service closed the commercial salmon season in southern Oregon and north of Pt. Arena in California, and much of the rest of California saw an abbreviated season (NOAA Fisheries Service 2006). California and Oregon salmon landings in 2006 were down 83 percent from 2005, and 87 percent from 2004 (National Marine Fisheries Service SW Office 2008). The impending closure and restrictions prompted disaster relief fund petition letters to the federal government from both the Oregon and California governors four days before the NOAA announcement (Schwarzenegger 2006; Kulongoski 2006).

With the severe reduction in the supply of salmon, the average West Coast ex-vessel price in 2006 was the second highest received since 1979 (PFMC 2007). Although fishermen benefited from these high ex-vessel prices, average ex-vessel revenue per vessel dropped by over 50 percent in Oregon and by 41 percent in California (PFMC 2007). In 2006, 489 California commercial fishermen landed 1.04 million pounds (dressed) of salmon on 477 vessels. This California fleet total represents the lowest number of commercial fishing vessels that targeted salmon since the beginning of PFMC's database in 1960 (PFMC 2001). By comparison, 680 commercial vessels targeted salmon in California in 2005. The value of California commercial salmon landings in 2006 totaled $5.3 million (in 2007 $), down from $12.9 million in 2005 (in 2007 $) (PFMC 2007). Oregon's 2006 salmon season saw its second lowest number of participating commercial vessels since the beginning of PFMC's Oregon database in 1974. Three hundred and fifty-seven vessels landed 499,000 pounds (dressed) salmon valued $2.7 million (in 2007 $). By way of comparison, 565 vessels landed 2.7 million pounds (dressed) of salmon worth $8.5 million in 2005 (in 2007 $) (PFMC 2007).

In 2008 the PFMC recommended a complete closure of commercial and sport Chinook fisheries off

California and most of Oregon, and allowed only a 9,000 fish catch for hatchery coho salmon off Central and southern Oregon (PFMC 2008a). The closures were aimed at conserving Sacramento River fall-run Chinook salmon. On April 10th 2008 Governors Schwarzenegger and Kulongoski issued executive orders declaring a state of emergency in their respective states due to low numbers of Chinook salmon returns (Schwarzenegger 2008; Kulongoski 2008). On May 1st 2008 the NOAA Fisheries Service closed the federal ocean salmon fishery south of Cape Falcon, Oregon, and Secretary of Commerce Gutierrez (2008) declared a commercial fishery failure for the West Coast salmon fishery due to historically low salmon returns. Once again the impending salmon season closures and restrictions prompted disaster relief petitions to the federal government from both the California and Oregon Governors.

Following each of the salmon fishery crises described above, federal legislation provided disaster aid for all affected west coast states. The total dollar amount of the disaster payments to the states ($60.4 million in 2006 and $170 million in 2008) was ultimately derived from a negotiated political process involving consultations and meetings between industry representatives, elected government officials, and government agencies. The bulk of the aid packages focused on assisting commercial salmon fishermen. For 2006, all current salmon permit holders in California were given $1,000. In addition to the permit allowance, a catch payment for California permit holders was determined based on a selected best season's landings from the previous three years multiplied by a price per pound figure (approximately 60 percent of the previous year's nominal average ex-vessel price). For 2008, California fishermen would receive the greater of a minimum payment of $5,000 or a catch payment (similar to 2006) not exceeding a $225,000 cap (California Salmon Council 2007 and 2008). Oregon's 2006 and 2008 disasters payments went to all qualifying fishermen who were reimbursed for at least 50 percent of their ex-vessel value for a selected previous year's landings up to a $75,000 cap (Oregon Salmon Commission 2007 and Pacific States Fisheries Marine Commission 2008).

The net revenue estimates provided in section IV of this report provide insight into the economic distress confronting participants in the California and Oregon salmon fisheries in 2006. As was described above, however, the disaster payments were based on the more robust economic conditions in these fisheries in prior years and not on estimated losses in 2006. Moreover, the net revenue estimates in this report are entirely based on income from commercial fishing, and do not include the disaster payments. The recent and repeated failure of the west coast salmon fisheries underscores the importance of understanding the underlying economic conditions in these fisheries.

## III. DATA SOURCES AND METHODS OF ANALYSIS

This section of the report is divided into two subsections – one for California and one for Oregon. Each provides a brief description of the surveys from which this report draws summary cost and revenue data. Each subsection also includes a description of the cost categories, operational configurations (California), and FEAM vessel classes (Oregon). Note that aggregated cost and revenue data for salmon fisheries in California and Oregon are also provided in supplementary Excel files accompanying this report.

### III.A. California

The analysis presented in this section of the report derives from secondary data gathered from a California commercial fisherman survey that was conducted in 2007 by Hackett and Hansen (2008), funded by CDFG. All salmon fishermen who made landings in 2006 in California received a survey requesting economic and demographic data. The total research design method (Dillman 1978) was followed. Quality assurance and quality control methods helped limit potential errors in response interpretation and data tabulation.

Hackett and Hansen merged the disaggregated survey data with license and landings receipt datasets provided by CDFG. These additional data were then used to infer both unit and item non-responses and create a complete dataset for estimated costs and revenues for 550 California commercial fishermen targeting salmon or albacore during the 2006 salmon season. This dataset can be used by CDFG to evaluate aggregated cost, revenue, and profit conditions for California's commercial salmon fishermen, as well as to conduct economic impact analyses of management and other discrete events affecting fishing activity and landings in California's commercial fisheries (e.g., see Minnesota IMPLAN Group 2008).

For the purpose of describing California's salmon fishing activity, commercial fishermen (rather than vessels) were categorized into distinct operational configurations (OCs) constructed in collaboration with Terry Tillman of CDFG. The 550 fishermen are grouped into four salmon OCs depending on species landed, size of vessel, and gear type used to land the targeted species. The result of this process is illustrated in Table 1. It should be noted that within the "Salmon & Albacore" OC, a large number of the fishermen only landed albacore in 2006, though many used salmon troll gear and were active in the salmon fishery in previous years. In collaboration with Terry Tillman it was determined that the albacore-only fishermen should be categorized in the "Salmon & Albacore" OC since albacore and salmon gear types are similar, and many salmon fishermen target albacore as well.

**Table 1: California's Salmon Operational Configurations***

| Operational Configuration | Vessel Size | Gear Types | Fishing Seasons |
|---|---|---|---|
| Salmon | Any | Salmon Troll, Hook and Line | Summer to Fall |
| Salmon & Albacore** | Any | Salmon and Albacore Troll, Hook and Line | Early Summer to Fall |
| Salmon & Dungeness – Small Vessels | < 26' | Salmon Troll, Hook and Line, Crab Trap | Winter to Fall |
| Salmon & Dungeness – Medium and Large Vessels | 26' and Larger | Salmon Troll, Hook and Line, Crab Trap | Winter to Fall |

* Source: Hackett and Hansen (2008)

** Data for this OC includes costs and revenue from some fishermen who fish albacore but not salmon.

All cost data are in nominal 2006 dollars. Cost data are divided into fixed and variable (operating) cost categories, as shown in Tables 2 and 3. Nearly half of the fixed costs concern elective purchases and maintenance of the vessel's hull, engine, electronic gear, and fishing gear. These particular costs are broken down in such a way as to conform to IMPLAN modeling requirements.

**Table 2: California Fixed Cost Categories***

| Fixed Cost Categories | Description |
|---|---|
| Engine Repair | Annual Expenditures on engine repairs |
| Engine Purchase | Annual Expenditures on engine purchases |
| Electrical Gear Repair | Annual Expenditures on electronic repairs |
| Electrical Gear Purchase | Annual Expenditures on electronic purchases |
| Hull Repair | Annual Expenditures on hull repairs |
| Hull Purchase | Annual Expenditures on hull purchases |
| Other Gear Repair | Annual Expenditures on gear repairs |
| Other Gear Purchase | Annual Expenditures on gear purchases |
| Vessel Insurance | Annual Insurance costs |
| Storage | Annual Storage costs |
| Interest | Annual Interest paid |
| Federal Taxes | Federal Taxes paid in 2006 |
| State Taxes | State Taxes paid in 2006 |
| Boat Registration Fees | Annual Boat Registration Fees |
| Permit Fees | Annual Permit Fees |
| Commercial License | Annual Commercial Fishing License Fee |
| Slip | Annual Home Slip costs |
| Other Slip | Annual Slip Costs other than home slip costs |

* Source: Hackett and Hansen (2008)

**Table 3: California Variable Cost Categories***

| Variable Cost Categories | Description |
|---|---|
| Bait | Annual Bait Costs |
| Wage | Annual expenditures on Crew Wages |
| Food | Annual Food Costs |
| Fuel | Annual Fuel Costs |
| Harbor | Annual Harbor Fees |
| Ice | Annual Ice Costs |
| Transportation | Annual Transportation Costs related to fishing |
| Membership | Annual Fishing Membership Fees |
| Landing Taxes | Annual Landing Taxes paid |

* Source: Hackett and Hansen (2008)

Fishermen's costs are also categorized into four different vessel size classes: vessels under 26'; vessels between 26' and 36'; vessels over 36'; and "unclassified". The "unclassified" category refers to costs associated with fishermen who did not make landings in vessels that they either owned or that were "business owned" (based on CDFG vessel registration records). These unclassified cases represent fishermen who shared or leased the use of vessels owned by others. An additional instance concerning unclassified fishermen is when multiple fishermen land in a single vessel and the fish dealer fills out a landing receipt for each fisherman's landings, often called a "split ticket". These split tickets comprise 10 to 20 percent of recorded landings (Leos 2008). Therefore, one or more of these fishermen land in a vessel they are not registered to own, and so cannot be placed into a specific vessel size class.

California (ex-vessel) revenue data are obtained through CDFG landings receipt records, which are usually completed when fish are off-loaded from vessels by receiver/processors. There are several data reporting issues that can distort landings and revenue data at the individual fisherman level. In some cases, fishermen borrow or lease each other's vessels, and the license number of the registered vessel owner may be recorded on the landing receipt rather than the landing fisherman's license number. Moreover, as landing receipts are designed to only record one license number per landing, if several licensed commercial fishermen contribute to a single landing, the participation of all but one of these "phantom" fishermen is lost to the empirical record (Leos 2008). While these reporting practices may result in an incorrect count of active commercial fishermen and a distorted measure of average revenue, total revenue measures should be less affected.

### III.B. Oregon

With the cooperation of the Pacific States marine Fisheries Commission, personnel from the NMFS Northwest Fisheries Science Center conducted coast-wide economic surveys in 2007 (NOAA NMFS 2008). In-person interviews were used to collect 2005 and 2006 costs from commercial open access groundfish vessels in California, Oregon, and Washington (CA/OR/WA), as well as various types of vessels targeting salmon and other species groups. The survey population criteria required that all commercial fishing vessels "(1) did not have a federal limited entry permit during 2005-06, (2) earned at least $2,000 from West Coast groundfish and salmon landings during 2005-06, and (3) earned at least five percent of their West Coast landed revenue from groundfish and salmon (this five percent rule was designed to exclude vessels that target HMS or coastal pelagic species but have a small amount of groundfish or salmon bycatch, and would not be receptive to a groundfish/salmon survey)" (Lian 2007).

All cost data in this section are derived from the NMFS survey, while revenue data are sourced from the PacFin database. Cost categories are grouped into the following fixed and variable costs categories (Tables 4 and 5).

**Table 4: Oregon and CA/OR/WA Fixed Cost Categories***

| Fixed Cost Categories | Description |
|---|---|
| Repair, Maintenance, and Improvements | Mean annual expenditures on repair, maintenance, and improvements for vessel, gear, and equipment |
| Insurance | Mean Annual Expenditures on vessel insurance |
| Interest | Mean Annual Expenditures on Interest |
| Permit Lease | Mean Annual Expenditures on permit leasing |
| Permit Purchase | Mean Annual Expenditures on permit purchases |

* Source: NOAA NMFS (2008)

**Table 5: Oregon and CA/OR/WA Variable Cost Categories***

| Variable Cost Categories | Description |
|---|---|
| Bait | Mean Annual Bait Costs |
| Captain Wage | Mean Annual expenditures on Captain Wages |
| Crew Wage | Mean Annual expenditures on Crew Wages |
| Food | Mean Annual Food Costs |
| Fuel | Mean Annual Fuel Costs |
| Ice | Mean Annual Ice Costs |

* Source: NOAA NMFS (2008)

The specific cost and revenue data requirements for the Oregon portion of this study were developed in close consultation with Chris Carter and Christine Broniak at ODFW, as constrained by the nature of the NMFS survey from which the data are drawn. ODFW utilizes the FEAM (Fisheries Economic Assessment Model) vessel-level framework in its economic analysis of commercial fisheries, which conforms to the vessel-level focus of the NMFS survey. Table 6 describes the relevant FEAM vessel categories used in this analysis.

**Table 6: Oregon Vessel Categories***

| Vessel Type | Description |
|---|---|
| Sablefish Fixed Gear | Sablefish revenue from fixed gear is greater than 33% of that vessel's total revenue, and total revenue is greater than $15,000 |
| Other Groundfish Fixed Gear | Groundfish (including halibut and California halibut), other than sablefish, revenue from fixed gear is greater than 33% of that vessel's total revenue, and total revenue is greater than $15,000 |
| Pelagic Netter | Pelagic species revenue is greater than 33% of that vessel's total revenue, and total revenue is greater than $15,000 |
| Migratory Netter | Highly migratory species revenue from gear other than troll or line gear is greater than 33% of that vessel's total revenue, and total revenue is greater than $15,000 |
| Shrimper | Shrimp revenue is greater than 33% of that vessel's total revenue, and total revenue is greater than $15,000 |
| Crabber | Crab revenue is greater than 33% of that vessel's total revenue, and total revenue is greater than $15,000 |
| Salmon Troller | Salmon revenue from troll gear is greater than 33% of that vessel's total revenue, and total revenue is greater than $5,000 |
| Other > $15,000 | All other vessels not listed in FEAM vessel categories 1 to 17 with total revenue greater than $15,000 |
| Other ≤ $15,000 | All other vessels not listed in FEAM vessel categories 1 to 17 with total revenue less than or equal to $15,000 |

* Source: Research Group (2006)

## IV. SUMMARY COST AND REVENUE DATA

Summary cost and revenue data are presented in two subsections below – one each for California and Oregon. As different survey instruments were used, the data in IV.A are not directly comparable to those in IV.B.

### IV.A. California

### California Costs by Operational Configuration

The top three expenditures by OC are given in Table 7. Vessel and gear repairs/ maintenance tend dominate the fixed cost categories, while crew wages and fuel are the largest expenses for variable costs. It is notable that fixed costs have higher percentages in the Salmon and the Salmon Albacore OCs, while variable costs (particularly crew wages) are higher for the Salmon and Dungeness OCs.

**Table 7: Top Three 2006 CA Commercial Salmon Cost Categories by OC***

| | Top Three Costs | | | |
|---|---|---|---|---|
| **Operational Configuration** | **Fixed Cost** | **% of Total** | **Variable Cost** | **% of Total** |
| Salmon | Other Gear Purchase | 9.38 | Wage | 7.25 |
| | Engine Purchase | 7.96 | Fuel | 6.70 |
| | Slip Costs | 7.34 | Transport | 4.52 |
| Salmon & Albacore | Hull Repair | 11.04 | Fuel | 8.59 |
| | Other Gear Purchase | 9.29 | Wage | 8.03 |
| | Interest | 7.43 | Transport | 3.72 |
| Salmon & Dungeness – Small Vessels | Engine Purchase | 9.51 | Wage | 18.92 |
| | Fed Tax | 5.58 | Fuel | 12.71 |
| | Other Gear Repair | 5.53 | Transport | 7.05 |
| Salmon & Dungeness – Medium & Large Vessels | Other Gear Purchase | 8.68 | Wage | 16.53 |
| | Fed Tax | 7.84 | Fuel | 6.77 |
| | Hull Repair | 7.31 | Bait | 5.06 |
| All Salmon Fisheries | Other Gear Purchase | 8.98 | Wage | 11.58 |
| | Hull Repair | 7.36 | Fuel | 6.99 |
| | Other Gear Repair | 7.12 | Transport | 4.06 |

* Source: Hackett and Hansen (2008)

Tables 8 through 11 give total and average cost for each of the 27 cost categories from the Hackett and Hansen (2008) survey. Average costs are calculated on a “per-fisherman” basis (not per vessel, as with the Oregon data), as some fishermen do not own vessels or may share the use of a vessel. Each table provides these costs for a given OC. Costs are further disaggregated into the four vessel size classes described in section III.A. above.

**Table 8: Estimated Costs Incurred in the CA *Salmon* OC by Vessel Size Class in 2006***

| | Estimated Total Cost ($) | | | | | Estimated Average Cost ($) | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Vessel Size Class** | Unclassified | < 26' | 26' - 36' | > 36' | **All** | Unclassified | < 26' | 26' - 36' | > 36' |
| **Number of Fishermen** | 73 | 84 | 124 | 60 | 341 | 73 | 84 | 124 | 60 |
| **Cost Category** | | | | | | | | | |
| Engine Repair | 77,041 | 88,151 | 223,991 | 75,869 | **465,052** | 988 | 1,062 | 1,750 | 1,431 |
| Engine Purchase | 75,136 | 110,301 | 386,614 | 31,846 | **603,897** | 963 | 1,329 | 3,020 | 601 |
| Electrical Gear Repair | 25,562 | 17,219 | 76,616 | 62,902 | **182,299** | 328 | 207 | 599 | 1,187 |
| Electrical Gear Purchase | 70,150 | 34,403 | 88,466 | 39,350 | **232,369** | 899 | 414 | 691 | 742 |
| Hull Repair | 71,366 | 42,485 | 237,592 | 179,025 | **530,467** | 915 | 512 | 1,856 | 3,378 |
| Hull Purchase | 43,999 | 35,208 | 108,475 | 39,592 | **227,273** | 564 | 424 | 847 | 747 |
| Other Gear Repair | 69,581 | 82,780 | 243,576 | 155,233 | **551,170** | 892 | 997 | 1,903 | 2,929 |
| Other Gear Purchase | 141,401 | 61,983 | 336,442 | 172,396 | **712,220** | 1,813 | 747 | 2,628 | 3,253 |
| Vessel Insurance | 43,005 | 40,484 | 86,849 | 48,123 | **218,461** | 551 | 488 | 679 | 908 |
| Storage | 23,746 | 50,224 | 80,100 | 29,722 | **183,792** | 304 | 605 | 626 | 561 |
| Interest | 51,325 | 21,826 | 227,093 | 118,879 | **419,123** | 658 | 263 | 1,774 | 2,243 |
| Federal Taxes | 81,062 | 84,451 | 162,080 | 65,856 | **393,449** | 1,039 | 1,017 | 1,266 | 1,243 |
| State Taxes | 15,665 | 16,352 | 28,504 | 11,639 | **72,160** | 201 | 197 | 223 | 220 |
| Boat Reg. Fees | 0 | 19,951 | 32,622 | 10,671 | **63,244** | 0 | 240 | 255 | 201 |
| Permit Fees | 1,889 | 1,272 | 2,970 | 2,907 | **9,039** | 24 | 15 | 23 | 55 |
| Commercial License | 5,892 | 6,779 | 11,583 | 3,778 | **28,032** | 76 | 82 | 90 | 71 |
| Slip | 94,018 | 100,182 | 258,877 | 103,993 | **557,071** | 1,205 | 1,207 | 2,022 | 1,962 |
| Other Slip | 8,191 | 2,621 | 2,138 | 249 | **13,199** | 105 | 32 | 17 | 5 |
| Bait | 25,967 | 26,262 | 68,007 | 90,004 | **210,240** | 333 | 316 | 531 | 1,698 |
| Wage | 95,011 | 123,307 | 235,993 | 95,889 | **550,201** | 1,218 | 1,486 | 1,844 | 1,809 |
| Food | 45,676 | 56,768 | 130,141 | 74,465 | **307,050** | 586 | 684 | 1,017 | 1,405 |
| Fuel | 115,117 | 84,630 | 183,784 | 124,761 | **508,291** | 1,476 | 1,020 | 1,436 | 2,354 |
| Harbor | 11,067 | 19,341 | 29,882 | 10,519 | **70,808** | 142 | 233 | 233 | 198 |
| Ice | 15,331 | 9,938 | 26,308 | 20,556 | **72,132** | 197 | 120 | 206 | 388 |
| Transportation | 72,225 | 70,451 | 142,943 | 57,783 | **343,403** | 926 | 849 | 1,117 | 1,090 |
| Membership | 13,031 | 8,000 | 15,572 | 5,354 | **41,956** | 167 | 96 | 122 | 101 |
| Landing Taxes | 5,287 | 2,010 | 10,726 | 5,482 | **23,505** | 68 | 24 | 84 | 103 |
| **TOTAL COSTS** | 1,297,740 | 1,217,376 | 3,437,943 | 1,636,842 | **7,589,901** | 16,637 | 14,668 | 26,859 | 30,884 |

* Source: Hackett and Hansen (2008)

**Table 9: Estimated Costs Incurred in the CA *Salmon & Albacore* OC by Vessel Size Class in 2006***

| | Estimated Total Cost ($) | | | | | Estimated Average Cost ($) | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Vessel Size Class** | Unclassified | < 26' | 26' - 36' | > 36' | **All** | Unclassified | < 26' | 26' - 36' | > 36' |
| **Number of Fishermen** | 10 | 6 | 8 | 38 | 62 | 10 | 6 | 8 | 38 |
| **Cost Category** | | | | | | | | | |
| Engine Repair | 10,541 | 2,246 | 3,200 | 39,560 | **55,547** | 1,054 | 449 | 400 | 1,014 |
| Engine Purchase | 11,618 | 3,433 | 5,397 | 15,761 | **36,208** | 1,162 | 687 | 675 | 404 |
| Electrical Gear Repair | 3,049 | 1,366 | 1,041 | 29,485 | **34,941** | 305 | 273 | 130 | 756 |
| Electrical Gear Purchase | 2,167 | 659 | 1,224 | 16,965 | **21,015** | 217 | 132 | 153 | 435 |
| Hull Repair | 30,148 | 852 | 3,378 | 98,437 | **132,816** | 3,015 | 170 | 422 | 2,524 |
| Hull Purchase | 13,874 | 730 | 1,516 | 19,604 | **35,724** | 1,387 | 146 | 189 | 503 |
| Other Gear Repair | 9,463 | 2,990 | 3,230 | 67,331 | **83,014** | 946 | 598 | 404 | 1,726 |
| Other Gear Purchase | 21,151 | 1,696 | 4,501 | 84,396 | **111,743** | 2,115 | 339 | 563 | 2,164 |
| Vessel Insurance | 28,388 | 2,140 | 1,997 | 31,080 | **63,605** | 2,839 | 428 | 250 | 797 |
| Storage | 3,168 | 762 | 1,039 | 12,718 | **17,687** | 317 | 152 | 130 | 326 |
| Interest | 22,894 | 1,027 | 3,685 | 61,840 | **89,446** | 2,289 | 205 | 461 | 1,586 |
| Federal Taxes | 18,534 | 1,989 | 2,480 | 51,636 | **74,639** | 1,853 | 398 | 310 | 1,324 |
| State Taxes | 4,160 | 513 | 453 | 9,801 | **14,927** | 416 | 103 | 57 | 251 |
| Boat Reg. Fees | 0 | 411 | 532 | 3,835 | **4,779** | 0 | 82 | 67 | 98 |
| Permit Fees | 177 | 103 | 98 | 658 | **1,036** | 18 | 21 | 12 | 17 |
| Commercial License | 588 | 155 | 150 | 1,698 | **2,592** | 59 | 31 | 19 | 44 |
| Slip | 13,016 | 1,545 | 3,536 | 46,679 | **64,776** | 1,302 | 309 | 442 | 1,197 |
| Other Slip | 1,096 | 57 | 14 | 452 | **1,618** | 110 | 11 | 2 | 12 |
| Bait | 1,916 | 11,273 | 1,274 | 20,592 | **35,056** | 192 | 2,255 | 159 | 528 |
| Wage | 24,463 | 9,027 | 4,666 | 58,541 | **96,696** | 2,446 | 1,805 | 583 | 1,501 |
| Food | 6,936 | 1,049 | 1,262 | 26,428 | **35,676** | 694 | 210 | 158 | 678 |
| Fuel | 30,976 | 6,040 | 3,693 | 62,613 | **103,320** | 3,098 | 1,208 | 462 | 1,605 |
| Harbor | 5,083 | 6,784 | 381 | 3,725 | **15,972** | 508 | 1,357 | 48 | 96 |
| Ice | 5,260 | 1,999 | 326 | 8,757 | **16,341** | 526 | 400 | 41 | 225 |
| Transportation | 9,635 | 4,156 | 2,133 | 28,816 | **44,740** | 963 | 831 | 267 | 739 |
| Membership | 962 | 1,171 | 329 | 5,187 | **7,649** | 96 | 234 | 41 | 133 |
| Landing Taxes | 483 | 14 | 111 | 1,292 | **1,900** | 48 | 3 | 14 | 33 |
| **TOTAL COSTS** | 279,744 | 64,188 | 51,644 | 807,888 | **1,203,465** | 27,974 | 12,837 | 6,456 | 20,715 |

* Source: Hackett and Hansen (2008)

**Table 10: Estimated Costs Incurred in the CA *Salmon & Dungeness – Small Vessels* OC by Vessel Size Class in 2006***

| | Estimated Total Cost ($) | | | Estimated Average Cost ($) | |
|---|---|---|---|---|---|
| **Vessel Size Class** | Unclassified | < 26' | **All** | Unclassified | < 26' |
| **Number of Fishermen** | 2 | 11 | 13 | 2 | 11 |
| **Cost Category** | | | | | |
| Engine Repair | 2,452 | 9,419 | **11,870** | 1,226 | 856 |
| Engine Purchase | 7,300 | 23,384 | **30,684** | 3,650 | 2,126 |
| Electrical Gear Repair | 1,231 | 2,206 | **3,436** | 615 | 201 |
| Electrical Gear Purchase | 3,743 | 4,187 | **7,930** | 1,872 | 381 |
| Hull Repair | 2,569 | 8,523 | **11,092** | 1,284 | 775 |
| Hull Purchase | 1,925 | 9,123 | **11,047** | 962 | 829 |
| Other Gear Repair | 4,367 | 13,491 | **17,858** | 2,183 | 1,226 |
| Other Gear Purchase | 4,496 | 11,469 | **15,965** | 2,248 | 1,043 |
| Vessel Insurance | 1,525 | 6,271 | **7,796** | 763 | 570 |
| Storage | 2,000 | 6,145 | **8,145** | 1,000 | 559 |
| Interest | 122 | 2,177 | **2,299** | 61 | 198 |
| Federal Taxes | 7,383 | 10,629 | **18,013** | 3,692 | 966 |
| State Taxes | 936 | 2,584 | **3,520** | 468 | 235 |
| Boat Reg. Fees | 0 | 3,257 | **3,257** | 0 | 296 |
| Permit Fees | 0 | 1,468 | **1,468** | 0 | 133 |
| Commercial License | 204 | 830 | **1,034** | 102 | 75 |
| Slip | 2,500 | 14,968 | **17,468** | 1,250 | 1,361 |
| Other Slip | 0 | 0 | **0** | 0 | 0 |
| Bait | 2,400 | 7,747 | **10,147** | 1,200 | 704 |
| Wage | 19,003 | 42,074 | **61,077** | 9,501 | 3,825 |
| Food | 1,775 | 4,752 | **6,527** | 888 | 432 |
| Fuel | 9,053 | 31,961 | **41,014** | 4,527 | 2,906 |
| Harbor | 3,100 | 1,651 | **4,751** | 1,550 | 150 |
| Ice | 0 | 0 | **0** | 0 | 0 |
| Transportation | 3,500 | 19,251 | **22,751** | 1,750 | 1,750 |
| Membership | 40 | 1,325 | **1,365** | 20 | 120 |
| Landing Taxes | 1,183 | 1,099 | **2,283** | 592 | 100 |
| **TOTAL COSTS** | 82,806 | 239,992 | **322,797** | 41,403 | 21,817 |

* Source: Hackett and Hansen (2008)

**Table 11: Estimated Costs Incurred in the CA *Salmon & Dungeness – Medium and Large Vessels* OC by Vessel Size Class in 2006***

| | Estimated Total Cost ($) | | | | Estimated Average Cost ($) | | |
|---|---|---|---|---|---|---|---|
| **Vessel Size Class** | Unclassified | 26' - 36' | > 36' | **All** | Unclassified | 26' - 36' | > 36' |
| **Number of Fishermen** | 27 | 52 | 75 | 148 | 27 | 52 | 75 |
| **Cost Category** | | | | | | | |
| Engine Repair | 37,054 | 100,704 | 127,009 | **264,767** | 1,372 | 1,937 | 1,740 |
| Engine Purchase | 46,265 | 166,036 | 60,584 | **272,885** | 1,714 | 3,193 | 830 |
| Electrical Gear Repair | 19,288 | 45,293 | 108,941 | **173,522** | 714 | 871 | 1,492 |
| Electrical Gear Purchase | 30,382 | 40,134 | 73,470 | **143,986** | 1,125 | 772 | 1,006 |
| Hull Repair | 79,491 | 127,768 | 307,073 | **514,332** | 2,944 | 2,457 | 4,206 |
| Hull Purchase | 30,195 | 60,153 | 70,478 | **160,826** | 1,118 | 1,157 | 965 |
| Other Gear Repair | 85,154 | 134,625 | 277,942 | **497,722** | 3,154 | 2,589 | 3,807 |
| Other Gear Purchase | 130,483 | 150,172 | 329,598 | **610,253** | 4,833 | 2,888 | 4,515 |
| Vessel Insurance | 72,004 | 46,555 | 93,819 | **212,378** | 2,667 | 895 | 1,285 |
| Storage | 23,000 | 37,271 | 53,470 | **113,742** | 852 | 717 | 732 |
| Interest | 37,054 | 120,448 | 209,540 | **367,041** | 1,372 | 2,316 | 2,870 |
| Federal Taxes | 101,124 | 107,723 | 342,490 | **551,337** | 3,745 | 2,072 | 4,692 |
| State Taxes | 23,462 | 18,541 | 63,570 | **105,573** | 869 | 357 | 871 |
| Boat Reg. Fees | 0 | 18,754 | 25,542 | **44,296** | 0 | 361 | 350 |
| Permit Fees | 419 | 5,130 | 4,591 | **10,140** | 16 | 105 | 62 |
| Commercial License | 2,365 | 4,412 | 6,759 | **13,536** | 88 | 85 | 93 |
| Slip | 51,347 | 114,473 | 194,275 | **360,095** | 1,902 | 2,201 | 2,661 |
| Other Slip | 5,383 | 100 | 6,422 | **11,905** | 199 | 2 | 88 |
| Bait | 136,084 | 101,849 | 118,170 | **356,103** | 5,040 | 1,959 | 1,619 |
| Wage | 361,986 | 250,601 | 549,740 | **1,162,326** | 13,407 | 4,819 | 7,531 |
| Food | 45,245 | 57,674 | 124,898 | **227,817** | 1,676 | 1,109 | 1,711 |
| Fuel | 127,708 | 101,961 | 246,280 | **475,949** | 4,730 | 1,961 | 3,374 |
| Harbor | 5,004 | 25,945 | 12,180 | **43,129** | 185 | 499 | 167 |
| Ice | 11 | 70 | 0 | **80** | 0 | 1 | 0 |
| Transportation | 63,020 | 67,068 | 115,215 | **245,302** | 2,334 | 1,290 | 1,578 |
| Membership | 9,308 | 16,019 | 14,557 | **39,885** | 345 | 308 | 199 |
| Landing Taxes | 19,411 | 8,798 | 26,087 | **54,296** | 719 | 169 | 357 |
| **TOTAL COSTS** | 1,542,248 | 1,928,274 | 3,562,700 | **7,033,223** | 57,120 | 37,088 | 48,803 |

* Source: Hackett and Hansen (2008)

**California Costs by County**

According to CDFG landings records, commercial fishermen landed salmon in 18 California counties in 2006. Sonoma County led the state in total number of commercial salmon fishing trips in 2006, followed by San Mateo and Mendocino Counties (Table 12). When the trip data are disaggregated by OC, the resulting lists of top three counties reveal considerable heterogeneity, with only Mendocino County appearing in the top-three lists for all OC's (Table 13).

**Table 12: Top Three California Counties Based on Frequency of All Commercial Salmon Fishing Trips in 2006***

| County | Shares of Total Statewide Trips in 2006 (%) |
|---|---|
| Sonoma | 28.98 |
| San Mateo | 16.73 |
| Mendocino | 11.54 |

* Source: Hackett and Hansen (2008)

**Table 13: Top Three California Counties Based on Frequency of All Commercial Salmon Fishing Trips in 2006, by OC***

| Salmon | | Salmon & Albacore | | Salmon & Dungeness – Small Vessels | | Salmon & Dungeness – Medium & Large Vessels | |
|---|---|---|---|---|---|---|---|
| County | Share of Statewide Trips (%) | County | Share of Statewide Trips (%) | County | Share of Statewide Trips (%) | County | Share of Statewide Trips (%) |
| Sonoma | 42 | Humboldt | 34 | Marin | 43 | San Mateo | 24 |
| Monterey | 21 | Santa Cruz | 17 | Sonoma | 18 | Sonoma | 23 |
| Mendocino | 12 | Mendocino | 10 | Mendocino | 14 | Mendocino | 11 |

* Source: Hackett and Hansen (2008)

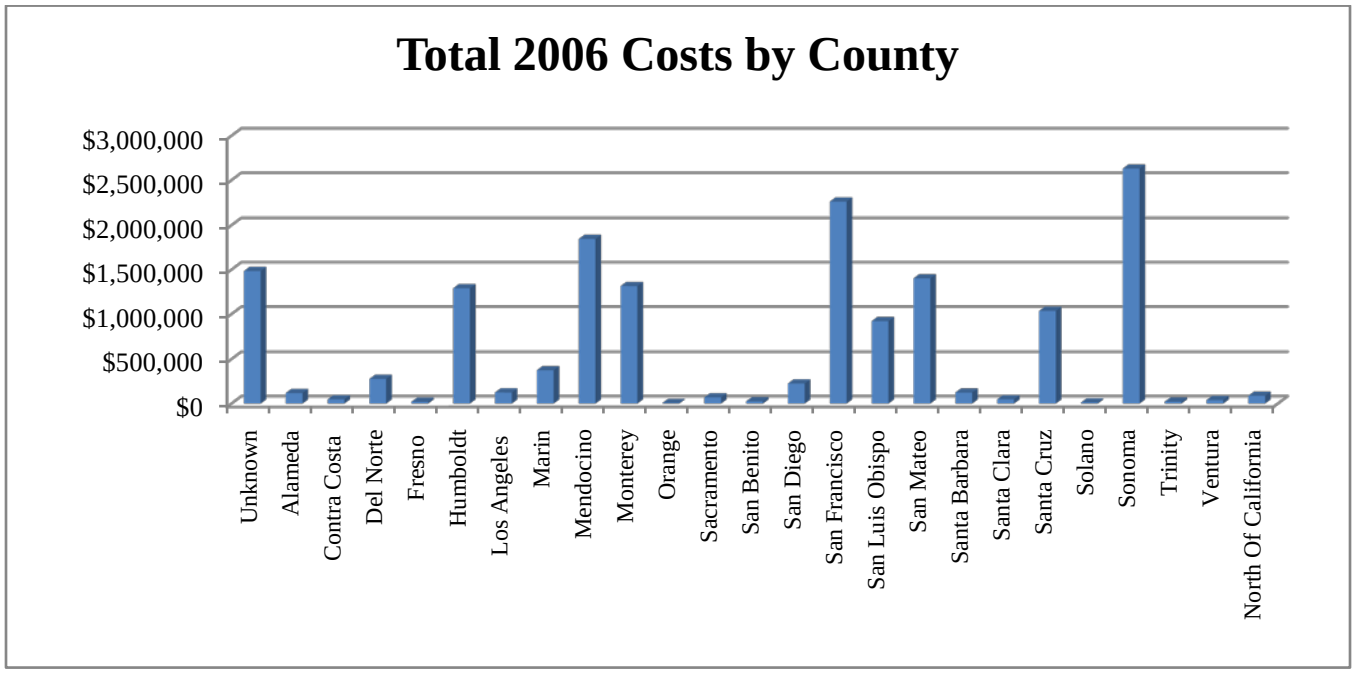
One can see from Table 14 and Figure 1 below that Sonoma County ranks first among all California counties in terms of total costs associated with commercial salmon fishing in 2006, whereas Orange County ranked last.

**Table 14: Estimated Commercial Salmon Costs Incurred in 2006, by California County (All OC's)***

| California County | Total Cost ($) | | California County | Average Cost ($) |
|---|---|---|---|---|
| Sonoma | 2,034,785 | | San Diego | 24,792 |
| San Francisco | 1,815,646 | | San Benito | 22,425 |
| Mendocino | 1,410,632 | | Humboldt | 21,406 |
| Unknown | 1,275,788 | | Los Angeles | 18,433 |
| Monterey | 1,110,070 | | North Of California | 18,189 |
| Humboldt | 984,654 | | Trinity | 17,919 |
| San Luis Obispo | 966,359 | | Fresno | 16,526 |
| San Mateo | 964,284 | | Santa Clara | 16,385 |
| Santa Cruz | 859,542 | | Sacramento | 14,662 |
| Marin | 291,862 | | Unknown | 13,718 |
| Del Norte | 175,568 | | San Luis Obispo | 13,238 |
| San Diego | 173,547 | | San Francisco | 12,436 |
| Santa Barbara | 108,627 | | Santa Cruz | 11,310 |
| Los Angeles | 92,163 | | Marin | 11,225 |
| Alameda | 86,967 | | Mendocino | 10,076 |
| North Of California | 72,756 | | Monterey | 9,824 |
| Sacramento | 58,649 | | Contra Costa | 9,271 |
| Contra Costa | 37,084 | | Santa Barbara | 9,052 |
| Ventura | 33,671 | | Sonoma | 8,443 |
| Santa Clara | 32,770 | | Ventura | 8,418 |
| San Benito | 22,425 | | San Mateo | 7,840 |
| Trinity | 17,919 | | Del Norte | 7,023 |
| Fresno | 16,526 | | Alameda | 4,141 |
| Solano | 10,753 | | Solano | 3,584 |
| Orange | 2,460 | | Orange | 2,460 |

* Source: Hackett and Hansen (2008)

**Figure 1: Total Estimated 2006 Commercial Salmon Costs by California County (All OC's)***




* Source: Hackett and Hansen (2008)

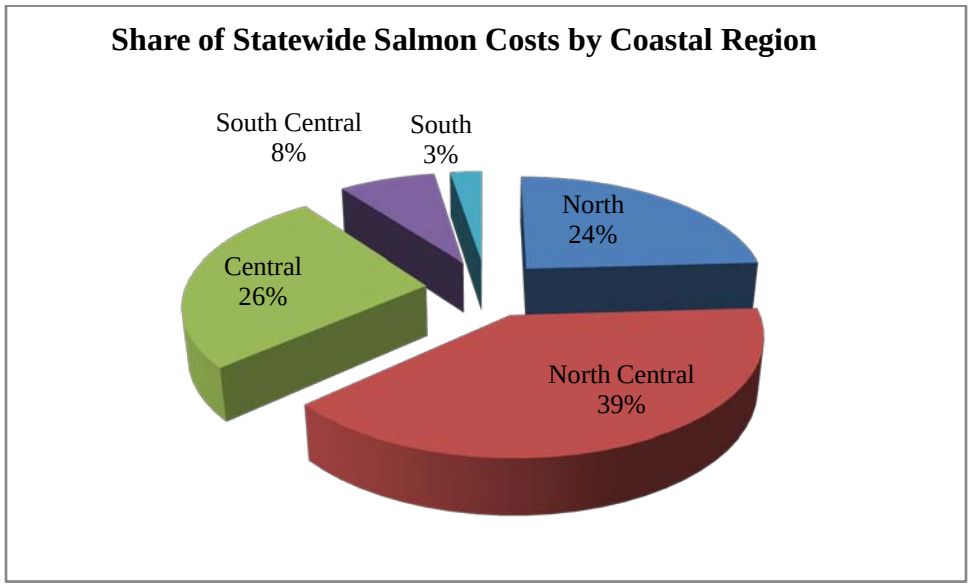
**California Costs by Region**

California can be divided into five coastal regions: North, North Central, Central, South Central, and South (Table 15). Commercial salmon costs by California coastal region are shown in Figure 2 below. Fishermen in the North Central region incurred the largest share of California's total estimated 2006 salmon costs, likely due to the large number of commercial fishermen making landings and having their home ports in this region. The southern regions have fewer salmon fishermen with home and landing ports in the area (as salmon are less frequently encountered off southern California), and thus contribute the least to statewide costs.

**Table 15: California Coastal Regions**

| Regions | Counties |
|---|---|
| North | Del Norte, Humboldt, Mendocino |
| North Central | Alameda, Contra Costa, Marin, Napa, San Francisco, Santa Clara, Solano, Sonoma |
| Central | Monterey, San Mateo, Santa Cruz |
| South Central | San Luis Obispo, Santa Barbara, Ventura |
| South | Los Angeles, Orange, San Diego |

**Figure 2: Share of Total 2006 Commercial Salmon Costs by Coastal Region***




* Source: Hackett and Hansen (2008)

**California Ex-Vessel Revenue and Net Revenue**

California fishermen received nearly $15 million in gross revenue from commercial fishing activity in the four salmon OCs in 2006. As shown in Table 16, the majority of total revenue was generated from the Salmon & Dungeness – medium and large OC, due in large part to bountiful landings of valuable Dungeness crab by fishermen participating in that OC. As salmon ex-vessel revenue is further apportioned into vessel size classes, the larger vessels accrued the most revenue except in the case of the salmon OC, where medium sized vessels attained the highest total revenue (Table 17). Recall that ex-vessel revenue is solely derived from landing receipts from commercial fishing, and does not include disaster payments, income from other sources, or other transfers (e.g. Social Security).

**Table 16: Ex-Vessel California Revenues in 2006 by OC***

| | **Ex-Vessel Revenue in 2006 ($)** | |
|---|---|---|
| **Operational Configuration** | **Total** | **Average** |
| Salmon | 2,801,917 | 8,217 |
| Salmon & Albacore | 550,182 | 8,874 |
| Salmon & Dungeness – Small Vessels | 300,847 | 23,142 |
| Salmon & Dungeness – Med. & Large Vessels | 11,205,875 | 75,715 |
| **Total** | **14,858,821** | **26,345** |

*Source: CDFG 2006 landings receipt database

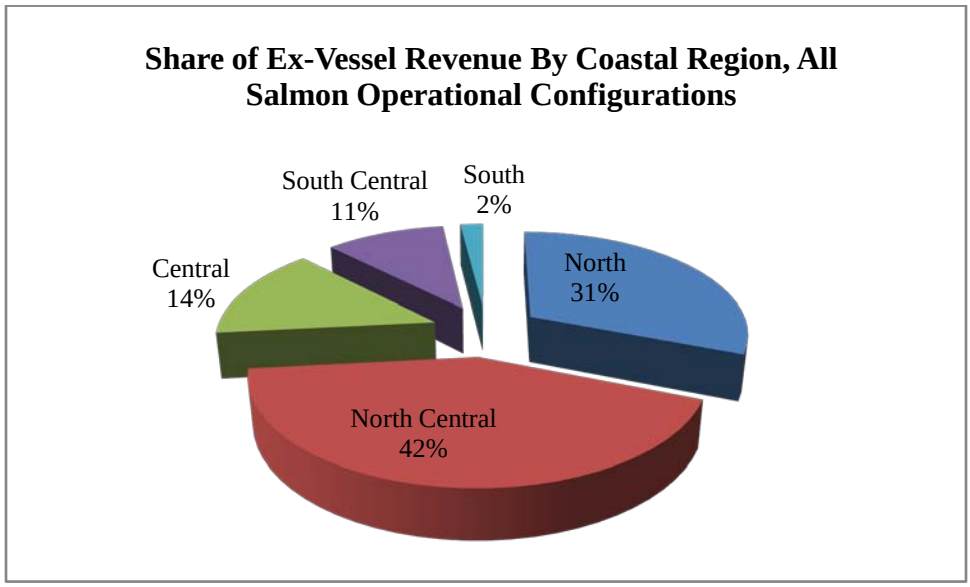
**Table 17: Ex-Vessel California Revenue by OC and Vessel Size Class in 2006 ***

| | | Ex-Vessel Revenue in 2006 ($) | |
|---|---|---|---|
| **Operational Configuration** | **Size** | **Total** | **Average** |
| Salmon | Unclassified | 658,962 | 9,027 |
| | < 26’ | 261,617 | 3,114 |
| | 26’ – 36’ | 1,103,370 | 8,898 |
| | > 36’ | 77,968 | 12,966 |
| Salmon & Albacore | Unclassified | 82,476 | 8,248 |
| | < 26’ | 13,565 | 2,261 |
| | 26’ – 36’ | 16,292 | 2,037 |
| | > 36’ | 437,849 | 11,522 |
| Salmon & Dungeness – Small Vessels | Unclassified | 115,379 | 57,690 |
| | < 26’ | 185,468 | 16,861 |
| Salmon & Dungeness – Med. & Large Vessels | Unclassified | 2,137,792 | 79,177 |
| | 26’ – 36’ | 2,351,022 | 47,020 |
| | > 36’ | 6,717,061 | 92,014 |

*Source: CDFG 2006 landings receipt database

Figure 3 provides information on the share of ex-vessel commercial fishing revenue in the four salmon OCs by California coastal region. The North Central region had the largest share of statewide ex-vessel revenue, while in contrast the South region had smallest share of revenue.

**Figure 3: Share of 2006 Ex-Vessel Commercial Revenue by California Coastal Region***




* Source: CDFG 2006 landings receipt database

Ex-vessel revenues in 2006 from the four commercial salmon OCs in California were heavily impacted by fishing restrictions that occurred along the coast. As mentioned in section II above, ex-vessel revenues in 2006 in California were down $7.6 million in nominal terms from 2005. The steep decline in revenue created negative net revenues in three of the four salmon OCs evaluated in this study, and for the entire California salmon fishery taken as a whole (Table 18). Table 19 further examines salmon net revenues within the OC's vessel size classes. The disastrous season resulted in over half of the participating 2006 salmon fishermen having negative net revenues (Table 20).

**Table 18: California Net Revenues in 2006 by Operational Configuration***

| OC | Total Net Revenues ($) | Average Net Revenues ($) |
|---|---|---|
| Salmon | -4,787,984 | -14,305 |
| Salmon & Albacore | -653,283 | -10,537 |
| Salmon & Dungeness – Small Vessels | -21,950 | -1,689 |
| Salmon & Dungeness – Med. & Large Vessels | 4,172,652 | 28,194 |
| All Salmon Fisheries | -1,290,565 | -2,346 |

*Source: Hackett and Hansen (2008) and CDFG

**Table 19: 2006 California Estimated Net Revenue by Vessel Size Class and Operational Configuration***

| | Estimated Total Net Revenue ($) | | | | | Estimated Average Net Revenue ($) | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Vessel Size Class** | Unclassified | < 26' | 26' - 36' | > 36' | **All** | Unclassified | < 26' | 26' - 36' | > 36' |
| **Operational Configuration** | | | | | | | | | |
| Salmon | -638,778 | -896,882 | -2,279,137 | -973,187 | **-4,787,984** | -7,611 | -11,329 | -17,121 | -18,817 |
| Salmon Albacore | -197,268 | -50,623 | -35,352 | -370,039 | **-653,283** | -19,727 | -10,577 | -4,419 | -9,193 |
| Salmon Dungeness – Small Vessels | 32,573 | -54,524 | n/a | n/a | **-21,950** | 16,287 | -4,956 | n/a | n/a |
| Salmon Dungeness – Med. & Large Vessels | 595,544 | n/a | 422,748 | 3,154,361 | **4,172,652** | 22,057 | n/a | 9,932 | 43,211 |

*Source: Hackett and Hansen (2008) and CDFG

**Table 20: Net Revenue Status in 2006 for Commercial Fishermen Active in all California Salmon Operational Configurations**

| | Number of Fishermen | Share of All CA Salmon Fishermen (%) |
|---|---|---|
| Negative Net Revenue | 380 | 69 |
| Positive Net Revenue | 170 | 31 |
| Total | 550 | 100 |

*Source: Hackett and Hansen (2008) and CDFG

## IV.B. Oregon

This section of the report is built on data from the NOAA NMFS (2008) survey covering open access groundfish vessels, as well as various types of vessels targeting salmon and other species groups. This survey collected cost data for California, Oregon, and Washington (CA/OR/WA) commercial fishing vessels, and the following tables provide information for vessels that landed salmon in 2005 and 2006. CA/OR/WA data refer to information drawn from (or aggregated by) the entire survey area, while Oregon data refer to information drawn from (or aggregated for) all Oregon vessels (defined as vessels that made a majority of their landings at Oregon ports in 2005 or 2006, as requested by ODFW personnel). As previously noted, revenue data for each state are derived from the PacFin database. Note that while the California data in section IV.A are aggregated from the individual fisherman level, the NOAA NMFS (2008) data reported below are aggregated from the individual vessel level. The vessel-level data for CA/OR/WA and for Oregon are organized for use in the FEAM vessel impacts model, as requested by ODFW personnel.

Tables 21 through 24 provide average costs for surveyed Oregon (OR) and for CA/OR/WA vessels landing salmon in 2006 and 2005 by cost categories and FEAM vessel type. ODFW personnel requested additional analysis specifically focused on the salmon troller FEAM vessel type, and this information is provided in Tables 25 through 27 below. From the list of top three cost categories for the salmon troller FEAM vessel type given in Table 25 below, one can see that captain's wages and elective repairs and maintenance costs were consistently the top two. The third largest expense for these vessels in 2005 was crew wage, while in 2006 it was vessel fuel.

**Table 21. 2006 Average Costs and Cost Shares for Oregon Survey Vessel Types***

| | 2006 Average Costs ($) | | | | | | |
|---|---|---|---|---|---|---|---|
| **FEAM Vessel Type**** | **Sablefish Fixed Gear** | **Groundfish Fixed Gear** | **HMS** | **Crabber** | **Salmon Troller** | **Other ≤ $15,000** | **Weighted Average** |
| **Number of Vessels** | 5 | 6 | 4 | 13 | 10 | 32 | 70 |
| **Cost Categories** | | | | | | | |
| Captain Wage | 22,400 | 30,667 | 20,000 | 19,653 | 20,400 | 3,927 | 13,731 |
| Crew Wage | 22,000 | 17,333 | 7,500 | 34,340 | 3,165 | 1,498 | 11,000 |
| Fuel | 11,144 | 5,417 | 10,250 | 16,348 | 4,137 | 2,772 | 6,740 |
| Food | 850 | 567 | 2,475 | 1,640 | 1,442 | 647 | 1,057 |
| Ice | 570 | 117 | 684 | 2,738 | 1,045 | 349 | 907 |
| Bait | 2,880 | 2,342 | 1,125 | 6,775 | 18 | 545 | 1,981 |
| Repair, Maintenance, and Improvements | 13,640 | 7,917 | 33,600 | 11,799 | 7,692 | 4,906 | 9,105 |
| Insurance | 1,000 | 0 | 0 | 8,384 | 457 | 618 | 1,976 |
| Interest | 1,000 | 0 | 6,000 | 550 | 70 | 349 | 686 |
| Permit Purchase | 0 | 0 | 8,750 | 401 | 0 | 127 | 632 |
| Permit Lease | 1,800 | 0 | 0 | 0 | 0 | 0 | 129 |
| **Total** | **76,284** | **64,358** | **84,384** | **102,077** | **38,357** | **15,388** | **47,258** |
| | **2006 Average Cost Shares (%)** | | | | | | |
| Captain Wage | 29.4 | 47.6 | 23.7 | 19.3 | 53.2 | 25.5 | 29.1 |
| Crew Wage | 28.8 | 26.9 | 8.9 | 33.6 | 8.3 | 9.7 | 23.3 |
| Fuel | 14.6 | 8.4 | 12.1 | 16.0 | 10.8 | 18.0 | 14.3 |
| Food | 1.1 | 0.9 | 2.9 | 1.6 | 3.8 | 4.2 | 2.2 |
| Ice | 0.7 | 0.2 | 0.8 | 2.7 | 2.7 | 2.3 | 1.9 |
| Bait | 3.8 | 3.6 | 1.3 | 6.6 | 0.0 | 3.5 | 4.2 |
| Repair, Maintenance, and Improvements | 17.9 | 12.3 | 39.8 | 11.6 | 20.1 | 31.9 | 19.3 |
| Insurance | 1.3 | 0.0 | 0.0 | 8.2 | 1.2 | 4.0 | 4.2 |
| Interest | 1.3 | 0.0 | 7.1 | 0.5 | 0.2 | 2.3 | 1.5 |
| Permit Purchase | 0.0 | 0.0 | 10.4 | 0.4 | 0.0 | 0.8 | 1.3 |
| Permit Lease | 2.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.3 |
| **Total** | **100.0** | **100.0** | **100.0** | **100.0** | **100.0** | **100.0** | **100.0** |

* Source: NOAA NMFS (2008)

**Shrimper and "Other > $15,000" vessels not included (n < 3)

**Table 22. 2005 Average Costs and Cost Shares for Oregon Survey Vessel Types***

| | 2005 Average Costs ($) | | | | | | |
|---|---|---|---|---|---|---|---|
| **FEAM Vessel Type**** | **Sablefish Fixed Gear** | **Groundfish Fixed Gear** | **HMS** | **Crabber** | **Salmon Troller** | **Other ≤ $15,000** | **Weighted Average** |
| **Number of Vessels** | 5 | 7 | 1 | 8 | 28 | 29 | 77 |
| **Cost Categories** | | | | | | | |
| Captain Wage | 46,400 | 17,143 | n/a | 32,768 | 14,892 | 2,524 | 14,342 |
| Crew Wage | 26,000 | 14,671 | n/a | 32,459 | 7,691 | 714 | 9,460 |
| Fuel | 8,844 | 6,314 | n/a | 17,482 | 6,845 | 1,353 | 5,964 |
| Food | 1,300 | 629 | n/a | 1,803 | 2,182 | 441 | 1,289 |
| Ice | 570 | 143 | n/a | 2,354 | 1,269 | 165 | 818 |
| Bait | 4,360 | 2,621 | n/a | 8,538 | 750 | 147 | 1,737 |
| Repair, Maintenance, and Improvements | 15,700 | 13,743 | n/a | 17,393 | 12,631 | 4,579 | 10,394 |
| Insurance | 1,760 | 386 | n/a | 9,890 | 2,074 | 448 | 2,100 |
| Interest | 1,000 | 71 | n/a | 1,248 | 1,317 | 362 | 816 |
| Permit Purchase | 0 | 71 | n/a | 495 | 1,250 | 187 | 583 |
| Permit Lease | 0 | 0 | n/a | 0 | 0 | 0 | 0 |
| **Total** | **104,934** | **55,721** | **n/a** | **123,182** | **49,585** | **10,558** | **46,685** |
| | **2005 Average Costs Shares (%)** | | | | | | |
| Captain Wage | 44.2 | 30.8 | n/a | 26.6 | 30.0 | 23.9 | 30.7 |
| Crew Wage | 24.8 | 26.3 | n/a | 26.4 | 15.5 | 6.8 | 20.3 |
| Fuel | 8.4 | 11.3 | n/a | 14.2 | 13.8 | 12.8 | 12.8 |
| Food | 1.2 | 1.1 | n/a | 1.5 | 4.4 | 4.2 | 2.8 |
| Ice | 0.5 | 0.3 | n/a | 1.9 | 2.6 | 1.6 | 1.8 |
| Bait | 4.2 | 4.7 | n/a | 6.9 | 1.5 | 1.4 | 3.7 |
| Repair, Maintenance, and Improvements | 15.0 | 24.7 | n/a | 14.1 | 25.5 | 43.4 | 22.3 |
| Insurance | 1.7 | 0.7 | n/a | 8.0 | 4.2 | 4.2 | 4.5 |
| Interest | 1.0 | 0.1 | n/a | 1.0 | 2.7 | 3.4 | 1.7 |
| Permit Purchase | 0.0 | 0.1 | n/a | 0.4 | 2.5 | 1.8 | 1.2 |
| Permit Lease | 0.0 | 0.0 | n/a | 0.0 | 0.0 | 0.0 | 0.0 |
| **Total** | **100.0** | **100.0** | **n/a** | **100.0** | **100.0** | **100.0** | **100.0** |

* Source: NOAA NMFS (2008)

**Shrimper and "Other > $15,000" vessels not included (n < 3)

**Table 23. 2006 Average Costs and Cost Shares for CA/OR/WA Survey Vessel Types***

| | 2006 Average Costs ($) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **FEAM Vessel Type**** | **Sablefish Fixed Gear** | **Groundfish Fixed Gear** | **HMS** | **Crabber** | **Salmon Troller** | **Other > $15,000** | **Other ≤ $15,000** | **Weighted Average** |
| **Number of Vessels** | 9 | 10 | 12 | 41 | 27 | 7 | 77 | 183 |
| **Cost Categories** | | | | | | | | |
| Captain Wage | 19,556 | 26,500 | 13,208 | 22,121 | 18,002 | 33,286 | 3,454 | 13,615 |
| Crew Wage | 16,602 | 11,050 | 8,346 | 27,827 | 3,835 | 6,989 | 836 | 9,387 |
| Fuel | 8,142 | 5,960 | 9,530 | 12,740 | 4,228 | 17,755 | 3,601 | 7,023 |
| Food | 1,321 | 940 | 2,757 | 2,562 | 1,417 | 5,537 | 716 | 1,593 |
| Ice | 343 | 320 | 903 | 1,503 | 699 | 443 | 270 | 664 |
| Bait | 2,700 | 1,805 | 721 | 4,688 | 242 | 5,009 | 341 | 1,700 |
| Repair, Maintenance, and Improvements | 9,876 | 6,250 | 20,736 | 13,099 | 8,112 | 21,299 | 5,851 | 9,595 |
| Insurance | 556 | 80 | 1,889 | 5,460 | 973 | 775 | 510 | 1,767 |
| Interest | 1,230 | 300 | 2,460 | 610 | 535 | 1,524 | 233 | 610 |
| Permit Purchase | 11,597 | 0 | 2,917 | 176 | 407 | 314 | 162 | 941 |
| Permit Lease | 1,000 | 0 | 0 | 24 | 39 | 0 | 14 | 66 |
| **Total** | **71,692** | **52,905** | **61,006** | **90,200** | **37,955** | **91,407** | **15,756** | **46,352** |
| | **2006 Average Costs Shares (%)** | | | | | | | |
| Captain Wage | 27.3 | 50.1 | 21.7 | 24.5 | 47.4 | 36.4 | 21.9 | 29.4 |
| Crew Wage | 23.2 | 20.9 | 13.7 | 30.9 | 10.1 | 7.6 | 5.3 | 20.3 |
| Fuel | 11.4 | 11.3 | 15.6 | 14.1 | 11.1 | 19.4 | 22.9 | 15.2 |
| Food | 1.8 | 1.8 | 4.5 | 2.8 | 3.7 | 6.1 | 4.5 | 3.4 |
| Ice | 0.5 | 0.6 | 1.5 | 1.7 | 1.8 | 0.5 | 1.7 | 1.4 |
| Bait | 3.8 | 3.4 | 1.2 | 5.2 | 0.6 | 5.5 | 2.2 | 3.7 |
| Repair, Maintenance, and Improvements | 13.8 | 11.8 | 34.0 | 14.5 | 21.4 | 23.3 | 37.1 | 20.7 |
| Insurance | 0.8 | 0.2 | 3.1 | 6.1 | 2.6 | 0.8 | 3.2 | 3.8 |
| Interest | 1.7 | 0.6 | 4.0 | 0.7 | 1.4 | 1.7 | 1.5 | 1.3 |
| Permit Purchase | 16.2 | 0.0 | 4.8 | 0.2 | 1.1 | 0.3 | 1.0 | 2.0 |
| Permit Lease | 1.4 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.1 | 0.1 |
| **Total** | **100.0** | **100.0** | **100.0** | **100.0** | **100.0** | **100.0** | **100.0** | **100.0** |

* Source: NOAA NMFS (2008)

**Shrimper vessels not included (n < 3)

**Table 24. 2005 Average Costs and Cost Shares for CA/OR/WA Survey Vessel Types***

| | 2005 Average Costs ($) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **FEAM Vessel Type**** | **Sablefish Fixed Gear** | **Groundfish Fixed Gear** | **HMS** | **Crabber** | **Salmon Troller** | **Other > $15,000** | **Other ≤ $15,000** | **Weighted Average** |
| **Number of Vessels** | 10 | 14 | 4 | 22 | 78 | 4 | 60 | 192 |
| **Cost Categories** | | | | | | | | |
| Captain Wage | 38,100 | 18,286 | 24,500 | 25,792 | 14,856 | 40,000 | 3,673 | 14,800 |
| Crew Wage | 27,403 | 10,729 | 17,525 | 29,063 | 6,857 | 2,900 | 662 | 8,958 |
| Fuel | 8,593 | 9,486 | 11,464 | 12,150 | 5,940 | 16,100 | 3,715 | 6,680 |
| Food | 1,540 | 1,171 | 3,380 | 2,144 | 2,067 | 7,100 | 708 | 1,690 |
| Ice | 413 | 239 | 1,338 | 1,353 | 895 | 400 | 250 | 672 |
| Bait | 4,237 | 2,196 | 1,050 | 6,307 | 810 | 6,863 | 143 | 1,642 |
| Repair, Maintenance, and Improvements | 10,897 | 10,336 | 19,902 | 14,528 | 10,374 | 33,788 | 3,804 | 9,508 |
| Insurance | 880 | 193 | 3,325 | 7,603 | 1,551 | 1,359 | 426 | 1,792 |
| Interest | 915 | 763 | 189 | 1,166 | 707 | 63 | 247 | 606 |
| Permit Purchase | 39 | 36 | 0 | 6,189 | 768 | 3,500 | 319 | 1,198 |
| Permit Lease | 0 | 0 | 0 | 100 | 14 | 0 | 0 | 17 |
| **Total** | **92,102** | **52,671** | **82,483** | **105,229** | **44,130** | **112,009** | **13,701** | **46,956** |
| | **2005 Average Costs Shares (%)** | | | | | | | |
| Captain Wage | 41.4 | 34.7 | 29.7 | 24.5 | 33.7 | 35.7 | 26.8 | 31.5 |
| Crew Wage | 29.8 | 20.4 | 21.2 | 27.6 | 15.5 | 2.6 | 4.8 | 19.1 |
| Fuel | 9.3 | 18.0 | 13.9 | 11.5 | 13.5 | 14.4 | 27.1 | 14.2 |
| Food | 1.7 | 2.2 | 4.1 | 2.0 | 4.7 | 6.3 | 5.2 | 3.6 |
| Ice | 0.4 | 0.5 | 1.6 | 1.3 | 2.0 | 0.4 | 1.8 | 1.4 |
| Bait | 4.6 | 4.2 | 1.3 | 6.0 | 1.8 | 6.1 | 1.0 | 3.5 |
| Repair, Maintenance, and Improvements | 11.8 | 19.6 | 24.1 | 13.8 | 23.5 | 30.2 | 27.8 | 20.2 |
| Insurance | 1.0 | 0.4 | 4.0 | 7.2 | 3.5 | 1.2 | 3.1 | 3.8 |
| Interest | 1.0 | 1.4 | 0.2 | 1.1 | 1.6 | 0.1 | 1.8 | 1.3 |
| Permit Purchase | 0.0 | 0.1 | 0.0 | 5.9 | 1.7 | 3.1 | 2.3 | 2.6 |
| Permit Lease | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 |
| **Total** | **100.0** | **100.0** | **100.0** | **100.0** | **100.0** | **100.0** | **100.0** | **100.0** |

* Source: NOAA NMFS (2008)

**Shrimper vessels not included (n < 3)

**Table 25: Top 3 Average Cost Categories for the Salmon Troller Vessel Type in 2005 and 2006***

| | Share of Total Costs | | | Share of Total Costs | |
|---|---|---|---|---|---|
| **2005 Cost Categories** | **CA/OR/WA** | **OR** | **2006 Cost Categories** | **CA/OR/WA** | **OR** |
| Captain Wage | 37 | 30 | Captain Wage | 47 | 53 |
| Repair, Maintenance, and Improvements | 24 | 25 | Repair, Maintenance, and Improvements | 21 | 20 |
| Crew Wage | 16 | 16 | Fuel | 11 | 11 |

* Source: NOAA NMFS (2008)

Captain and crew earnings expressed as shares of total ex-vessel revenue for the salmon troller FEAM vessel type is given in Table 26. Captains generally receive between one-quarter and one-third of total vessel revenue, while the crew receives between 11 and 16 percent of total vessel revenue. Somewhat surprisingly, average crew size does not increase with vessel revenue and the data in Table 27 show that many commercial fishermen operating salmon troller vessels fish alone or with only one deck hand.

**Table 26: Shares of Salmon Troller Vessel-Type Revenue Allocated to Captain and Crew Wages***

| | Average Shares of Salmon Troller Vessel Revenue (%) | | | |
|---|---|---|---|---|
| | Captain | | Crew | |
| **Salmon Troller Annual Revenue** | **CA/OR/WA** | **Oregon** | **CA/OR/WA** | **Oregon** |
| < $500 | 30 | 29 | 14 | 16 |
| $500 to $5,000 | 26 | 28 | 12 | 11 |
| $5,000 to $25,000 | 24 | 24 | 12 | 11 |
| > $25,000 | 33 | 30 | 12 | 16 |

* Source: NOAA NMFS (2008)

**Table 27: Average Crew Size per Salmon Troller-Type Vessel by Vessel Revenue Category***

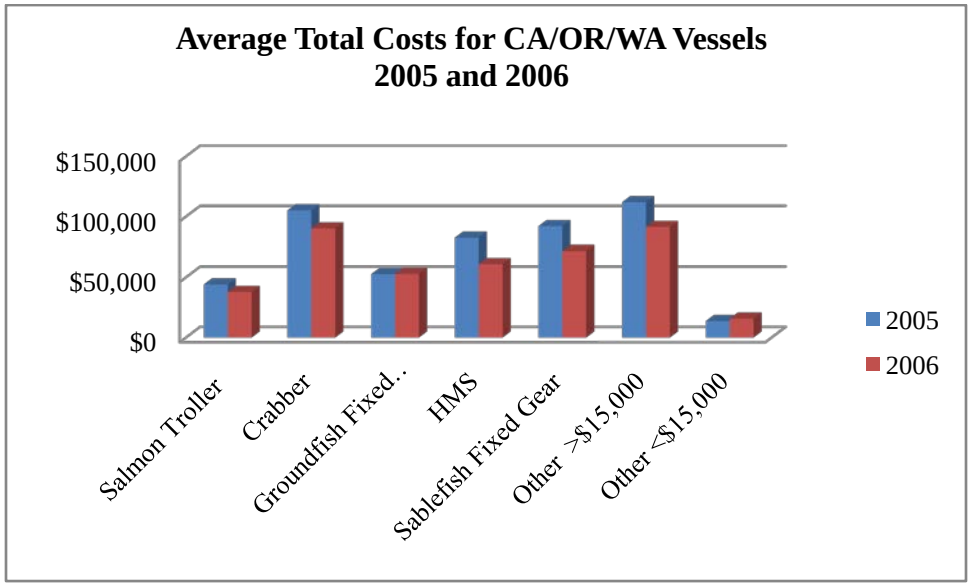
| | Salmon Troller Average Crew Size** | |
|---|---|---|
| **Salmon Troller Annual Revenue** | **CA/OR/WA** | **Oregon** |
| < $500 | 1.3 | n/a |
| $500 to $5,000 | 0.9 | 0.9 |
| $5,000 to $25,000 | 0.6 | 0.6 |
| > $25,000 | 0.6 | 0.7 |

* Source: NOAA NMFS (2008)

**Crew size does not include the captain

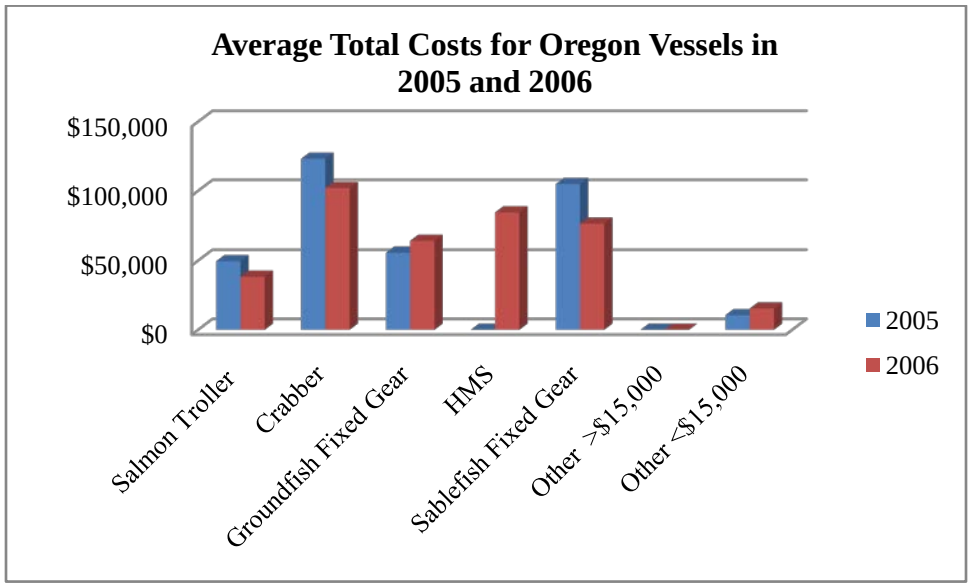
When comparing average total vessel costs between 2005 and 2006 (Figures 4 and 5), it is interesting to note that 2005 costs are generally greater than 2006 costs for five of the seven CA/OR/ WA vessel types, and for three of the five applicable OR vessel types. Tables 28 through 31 may provide the reason for this. It shows that the average number of trips for 2005 vessels were generally higher than for 2006. Therefore, in making more fishing trips, vessels in 2005 most likely incurred more operating costs than in 2006. Data on average number of trips by vessel type for 2006 and 2005 for all Oregon and CA/OR/WA vessels are provided in Tables 32 to 35.

**Figure 4: Average Total Costs for CA/OR/WA Vessels by Type in 2005 and 2006***




* Source: NOAA NMFS (2008)

**Figure 5: Average Total Costs for Oregon Vessel Types in 2005 and 2006***




* Source: NOAA NMFS (2008)

**Table 28. 2006 Average Number of Trips for Oregon Survey Vessel Types by Species Landed***

| | 2006 Average Number of Trips | | | | | |
|---|---|---|---|---|---|---|
| **FEAM Vessel Type**** | **Sablefish Fixed Gear** | **Groundfish Fixed Gear** | **HMS** | **Crabber** | **Salmon Troller** | **Other ≤ $15,000** |
| **Number of Vessels** | 5 | 6 | 4 | 13 | 10 | 32 |
| **Species Group** | | | | | | |
| Whiting | 0 | 0 | 0 | 0 | 0 | 0 |
| Groundfish | 23 | 58 | 3 | 4 | 0 | 5 |
| Salmon Troll | 8 | 3 | 4 | 4 | 10 | 8 |
| Salmon Net | 0 | 0 | 0 | 0 | 0 | 0 |
| Crab | 5 | 13 | 3 | 38 | 3 | 1 |
| Shrimp | 0 | 0 | 0 | 1 | 0 | 0 |
| Other | 2 | 2 | 8 | 3 | 5 | 1 |
| **Total** | **38** | **75** | **17** | **51** | **18** | **14** |
| | **2006 Average Distribution of Trips** | | | | | |
| Whiting | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Groundfish | 61.3 | 76.8 | 16.2 | 8.4 | 1.6 | 34.4 |
| Salmon Troll | 20.8 | 3.6 | 23.5 | 8.0 | 56.4 | 51.9 |
| Salmon Net | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Crab | 13.9 | 16.9 | 14.7 | 75.0 | 15.9 | 3.7 |
| Shrimp | 0.0 | 0.0 | 0.0 | 2.1 | 0.0 | 0.0 |
| Other | 4.0 | 2.7 | 45.6 | 6.4 | 26.1 | 10.0 |
| **Total** | **100.0** | **100.0** | **100.0** | **100.0** | **100.0** | **100.0** |

* Source: NOAA NMFS (2008)

**Shrimper and "Other > $15,000" vessels not included (n < 3)

**Table 29. 2005 Average Number of Trips for Oregon Survey Vessel Types by Species Landed***

| | 2005 Average Number of Trips | | | | | |
|---|---|---|---|---|---|---|
| **FEAM Vessel Type**** | **Sablefish Fixed Gear** | **Groundfish Fixed Gear** | **HMS** | **Crabber** | **Salmon Troller** | **Other ≤ $15,000** |
| **Number of Vessels** | 5 | 7 | 1 | 8 | 28 | 29 |
| **Species Group** | | | | | | |
| Whiting | 0 | 0 | n/a | 0 | 0 | 0 |
| Groundfish | 27 | 52 | n/a | 2 | 2 | 5 |
| Salmon Troll | 11 | 10 | n/a | 6 | 19 | 10 |
| Salmon Net | 0 | 0 | n/a | 0 | 0 | 0 |
| Crab | 12 | 20 | n/a | 24 | 3 | 0 |
| Shrimp | 0 | 0 | n/a | 0 | 0 | 0 |
| Other | 6 | 2 | n/a | 5 | 3 | 2 |
| **Total** | **56** | **84** | **n/a** | **38** | **27** | **18** |
| | **2005 Average Distribution of Trips** | | | | | |
| Whiting | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Groundfish | 47.2 | 62.0 | 0.0 | 5.6 | 6.9 | 29.8 |
| Salmon Troll | 20.2 | 11.8 | 0.0 | 15.9 | 71.3 | 56.1 |
| Salmon Net | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Crab | 22.0 | 23.9 | 0.0 | 64.7 | 9.9 | 2.7 |
| Shrimp | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Other | 10.6 | 2.4 | 0.0 | 13.7 | 11.9 | 11.3 |
| **Total** | **100.0** | **100.0** | **0.0** | **100.0** | **100.0** | **100.0** |

* Source: NOAA NMFS (2008)

**Shrimper and "Other > $15,000" vessels not included (n < 3)

**Table 30. 2006 Average Number of Trips for CA/OR/WA Survey Vessel Types by Species Landed***

| | 2006 Number of Trips | | | | | | |
|---|---|---|---|---|---|---|---|
| **FEAM Vessel Type**** | **Sablefish Fixed Gear** | **Groundfish Fixed Gear** | **HMS** | **Crabber** | **Salmon Troller** | **Other > $15,000** | **Other ≤ $15,000** |
| **Number of Vessels** | 9 | 10 | 12 | 41 | 27 | 7 | 77 |
| **Species Group** | | | | | | | |
| Whiting | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Groundfish | 26 | 53 | 2 | 5 | 1 | 4 | 5 |
| Salmon Troll | 6 | 2 | 3 | 4 | 14 | 1 | 8 |
| Salmon Net | 0 | 0 | 0 | 0 | 0 | 0.3 | 0.0 |
| Crab | 5 | 13 | 3 | 35 | 2 | 7 | 0 |
| Shrimp | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other | 2 | 2 | 8 | 5 | 5 | 60 | 3 |
| **Total** | **39** | **69** | **16** | **49** | **21** | **71** | **17** |
| | **2006 Average Distribution of Trips** | | | | | | |
| Whiting | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Groundfish | 67.3 | 76.4 | 13.9 | 9.7 | 4.7 | 5.6 | 28.5 |
| Salmon Troll | 16.4 | 2.3 | 21.1 | 8.0 | 64.0 | 0.8 | 48.0 |
| Salmon Net | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.4 | 0.1 |
| Crab | 12.4 | 18.9 | 18.0 | 70.9 | 9.8 | 9.6 | 2.9 |
| Shrimp | 0.0 | 0.0 | 0.0 | 0.7 | 0.0 | 0.0 | 0.0 |
| Other | 3.8 | 2.4 | 46.9 | 10.6 | 21.6 | 83.6 | 20.5 |
| **Total** | **100.0** | **100.0** | **100.0** | **100.0** | **100.0** | **100.0** | **100.0** |

* Source: NOAA NMFS (2008)

**Shrimper Vessels not included (n < 3)

**Table 31. 2005 Average Number of Trips for CA/OR/WA Survey Vessel Types by Species Landed***

| | 2005 Average Number of Trips | | | | | | |
|---|---|---|---|---|---|---|---|
| **FEAM Vessel Type**** | **Sablefish Fixed Gear** | **Groundfish Fixed Gear** | **HMS** | **Crabber** | **Salmon Troller** | **Other > $15,000** | **Other ≤ $15,000** |
| **Number of Vessels** | 10 | 14 | 4 | 22 | 78 | 4 | 60 |
| **Species Group** | | | | | | | |
| Whiting | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Groundfish | 27 | 48 | 0 | 6 | 2 | 5 | 7 |
| Salmon Troll | 8 | 7 | 6 | 7 | 19 | 0 | 10 |
| Salmon Net | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 |
| Crab | 7 | 13 | 2 | 31 | 4 | 5 | 0 |
| Shrimp | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other | 6 | 18 | 4 | 5 | 5 | 69 | 5 |
| **Total** | **48** | **86** | **12** | **49** | **29** | **79** | **23** |
| | **2005 Average Distribution of Trips** | | | | | | |
| Whiting | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Groundfish | 56.8 | 55.6 | 0.0 | 11.8 | 5.7 | 6.4 | 31.0 |
| Salmon Troll | 16.4 | 7.8 | 47.8 | 15.2 | 66.1 | 0.0 | 45.4 |
| Salmon Net | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.3 |
| Crab | 15.4 | 15.6 | 17.4 | 63.6 | 12.4 | 6.1 | 1.3 |
| Shrimp | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Other | 11.4 | 21.1 | 34.8 | 9.4 | 15.8 | 87.6 | 22.1 |
| **Total** | **100.0** | **100.0** | **100.0** | **100.0** | **100.0** | **100.0** | **100.0** |

* Source: NOAA NMFS (2008)

**Shrimper Vessels not included (n < 3)

**Table 32. 2006 Average Number of Trips for Oregon Vessel Types by Species Landed (*All Active Fishermen*)***

| | 2006 Number of Trips | | | | | |
|---|---|---|---|---|---|---|
| **FEAM Vessel Type**** | **Sablefish Fixed Gear** | **Groundfish Fixed Gear** | **HMS** | **Crabber** | **Salmon Troller** | **Other ≤ $15,000** |
| **Number of Vessels** | 17 | 19 | 22 | 81 | 46 | 184 |
| **Species Group** | | | | | | |
| Whiting | 0 | 0 | 0 | 0 | 0 | 0 |
| Groundfish | 20 | 44 | 2 | 4 | 1 | 5 |
| Salmon Troll | 3 | 2 | 4 | 5 | 11 | 6 |
| Salmon Net | 0 | 0 | 0 | 0 | 0 | 0 |
| Crab | 3 | 8 | 1 | 34 | 1 | 0 |
| Shrimp | 0 | 0 | 0 | 0 | 0 | 0 |
| Other | 3 | 4 | 6 | 4 | 5 | 2 |
| **Total** | **30** | **58** | **13** | **47** | **18** | **14** |
| | **2006 Average Distribution of Trips** | | | | | |
| Whiting | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Groundfish | 66.4 | 75.6 | 13.8 | 7.8 | 5.4 | 39.0 |
| Salmon Troll | 11.5 | 3.6 | 29.7 | 10.1 | 61.5 | 40.7 |
| Salmon Net | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Crab | 11.5 | 14.2 | 6.5 | 73.4 | 5.5 | 3.3 |
| Shrimp | 0.8 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Other | 9.8 | 6.7 | 50.0 | 8.7 | 27.5 | 17.0 |
| **Total** | **100.0** | **100.0** | **100.0** | **100.0** | **100.0** | **100.0** |

* Source: NOAA NMFS (2008)

**Shrimper and "Other > $15,000" vessels not included (n < 3)

**Table 33. 2005 Average Number of Trips for Oregon Vessel Types by Species Landed (*All Active Fishermen*)***

| | 2005 Average Number of Trips | | | | | |
|---|---|---|---|---|---|---|
| **FEAM Vessel Type**** | **Sablefish Fixed Gear** | **Groundfish Fixed Gear** | **HMS** | **Crabber** | **Salmon Troller** | **Other ≤ $15,000** |
| **Number of Vessels** | 18 | 23 | 11 | 50 | 123 | 223 |
| **Species Group** | | | | | | |
| Whiting | 0 | 0 | 0 | 0 | 0 | 0 |
| Groundfish | 27 | 45 | 2 | 4 | 1 | 6 |
| Salmon Troll | 6 | 4 | 6 | 9 | 19 | 9 |
| Salmon Net | 0 | 0 | 0 | 0 | 0 | 0 |
| Crab | 7 | 9 | 1 | 33 | 3 | 0 |
| Shrimp | 0 | 0 | 0 | 0 | 0 | 0 |
| Other | 2 | 4 | 5 | 4 | 3 | 2 |
| **Total** | **42** | **62** | **13** | **50** | **26** | **17** |
| | **2005 Average Distribution of Trips** | | | | | |
| Whiting | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Groundfish | 63.2 | 72.2 | 12.2 | 8.6 | 3.4 | 35.7 |
| Salmon Troll | 15.3 | 6.9 | 43.5 | 18.5 | 72.8 | 52.5 |
| Salmon Net | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Crab | 15.9 | 14.5 | 5.4 | 65.7 | 12.4 | 1.6 |
| Shrimp | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Other | 5.5 | 6.5 | 38.8 | 7.2 | 11.4 | 10.2 |
| **Total** | **100.0** | **100.0** | **100.0** | **100.0** | **100.0** | **100.0** |

* Source: NOAA NMFS (2008)

**Shrimper and "Other > $15,000" vessels not included (n < 3)

**Table 34. 2006 Average Number of Trips for CA/OR/WA Vessel Types by Species Landed (*All Active Fishermen*)***

| | 2006 Average Number of Trips | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **FEAM Vessel Type** | **Sablefish Fixed Gear** | **Groundfish Fixed Gear** | **HMS** | **Shrimper** | **Crabber** | **Salmon Troller** | **Other > $15,000** | **Other ≤ $15,000** |
| **Number of Vessels** | 49 | 81 | 50 | 4 | 232 | 170 | 14 | 501 |
| **Species Group** | | | | | | | | |
| Whiting | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Groundfish | 24 | 35 | 2 | 4 | 3 | 1 | 8 | 5 |
| Salmon Troll | 2 | 2 | 3 | 0 | 4 | 14 | 0 | 5 |
| Salmon Net | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.2 | 0.0 |
| Crab | 2 | 4 | 1 | 0 | 32 | 4 | 3 | 1 |
| Shrimp | 0 | 0 | 0 | 47 | 0 | 0 | 0 | 0 |
| Other | 6 | 30 | 7 | 10 | 4 | 4 | 49 | 6 |
| **Total** | **34** | **71** | **13** | **60** | **44** | **23** | **61** | **17** |
| | **2006 Average Distribution of Trips** | | | | | | | |
| Whiting | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Groundfish | 69.4 | 49.1 | 14.3 | 6.2 | 7.2 | 4.9 | 12.8 | 27.7 |
| Salmon Troll | 7.2 | 2.3 | 25.7 | 0.0 | 10.3 | 59.2 | 0.5 | 30.9 |
| Salmon Net | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.4 | 0.1 |
| Crab | 6.5 | 5.8 | 8.9 | 0.0 | 73.4 | 17.4 | 5.2 | 3.8 |
| Shrimp | 0.6 | 0.6 | 0.0 | 78.0 | 0.0 | 0.9 | 0.1 | 0.1 |
| Other | 16.3 | 42.2 | 51.1 | 15.8 | 9.1 | 17.5 | 81.1 | 37.5 |
| **Total** | **100.0** | **100.0** | **100.0** | **100.0** | **100.0** | **100.0** | **100.0** | **100.0** |

* Source: NOAA NMFS (2008)

**Table 35. 2005 Average Number of Trips for CA/OR/WA Vessel Types by Species Landed (*All Active Fishermen*)***

| | 2005 Average Number of Trips | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **FEAM Vessel Type** | **Sablefish Fixed Gear** | **Groundfish Fixed Gear** | **HMS** | **Shrimper** | **Crabber** | **Salmon Troller** | **Other > $15,000** | **Other ≤ $15,000** |
| **Number of Vessels** | 56 | 86 | 27 | 4 | 122 | 409 | 11 | 436 |
| **Species Group** | | | | | | | | |
| Whiting | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Groundfish | 29 | 37 | 1 | 6 | 5 | 1 | 10 | 6 |
| Salmon Troll | 3 | 3 | 5 | 3 | 8 | 18 | 4 | 8 |
| Salmon Net | 0.0 | 0.0 | 0.0 | 0.5 | 0.0 | 0.0 | 0.0 | 0.1 |
| Crab | 4 | 4 | 0 | 1 | 32 | 5 | 0 | 0 |
| Shrimp | 0 | 1 | 0 | 37 | 0 | 0 | 0 | 0 |
| Other | 5 | 56 | 5 | 13 | 4 | 4 | 43 | 6 |
| **Total** | **42** | **100** | **12** | **60** | **48** | **28** | **57** | **21** |
| | **2005 Average Distribution of Trips** | | | | | | | |
| Whiting | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Groundfish | 69.6 | 36.4 | 10.3 | 9.7 | 9.4 | 3.5 | 16.9 | 30.8 |
| Salmon Troll | 7.8 | 2.6 | 44.4 | 4.6 | 16.3 | 64.2 | 7.1 | 38.0 |
| Salmon Net | 0.0 | 0.0 | 0.0 | 0.8 | 0.1 | 0.1 | 0.0 | 0.2 |
| Crab | 10.6 | 4.3 | 3.6 | 0.8 | 66.1 | 18.4 | 0.0 | 2.3 |
| Shrimp | 0.0 | 0.7 | 0.0 | 62.2 | 0.4 | 0.1 | 0.0 | 0.0 |
| Other | 12.1 | 56.0 | 41.7 | 21.8 | 7.8 | 13.7 | 76.0 | 28.7 |
| **Total** | **100.0** | **100.0** | **100.0** | **100.0** | **100.0** | **100.0** | **100.0** | **100.0** |

* Source: NOAA NMFS (2008)

**Oregon Ex-Vessel Revenue and Net Revenue**

The next eight tables give average ex-vessel revenues by vessel type for commercial fishing vessels that landed salmon on the west coast in 2005 and 2006. Ex-vessel revenues are further broken down by species landed and the type of gear used. The first two tables (Tables 36 and 37) refer to survey respondents that made a majority of their landings in Oregon. The second pair of tables (Tables 38 and 39) covers CA/OR/WA fishermen who responded to the survey. The third pair of tables (Tables 40 and 41) covers all vessels that made a majority of their landings Oregon. The final two tables (Tables 42 and 43) refer to all active west coast fishermen that landed salmon in CA/OR/WA. These average ex-vessel revenues pertain to individual participating vessels in each vessel type category. Recall that revenues are entirely derived from landing receipts from commercial fishing, and do not include disaster payments or other sources of income.

**Table 36. 2006 Average Ex-Vessel Revenue for Oregon Survey Vessel Types***

| | 2006 Average Revenue ($) | | | | | | |
|---|---|---|---|---|---|---|---|
| **FEAM Vessel Type**** | **Sablefish Fixed Gear** | **Groundfish Fixed Gear** | **HMS** | **Crabber** | **Salmon Troller** | **Other ≤ $15,000** | **Weighted Average** |
| **Number of Vessels** | 5 | 6 | 4 | 13 | 10 | 32 | 70 |
| **Species Group** | | | | | | | |
| Whiting | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Groundfish | 61,473 | 33,910 | 2,344 | 9,103 | 201 | 1,522 | 9,846 |
| Salmon Troll | 7,491 | 1,298 | 6,583 | 7,199 | 16,971 | 3,337 | 6,309 |
| Salmon Net | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Crab | 11,325 | 22,384 | 7,454 | 148,086 | 9,646 | 221 | 32,135 |
| Shrimp | 0 | 0 | 0 | 10,184 | 0 | 0 | 1,891 |
| HMS | 821 | 295 | 39,193 | 8,414 | 9,306 | 446 | 5,419 |
| Pelagic Species | 0 | 0 | 0 | 8 | 0 | 0 | 1 |
| Halibut | 220 | 0 | 0 | 599 | 111 | 34 | 158 |
| **Total***** | **81,330** | **57,921** | **55,574** | **183,631** | **36,245** | **5,560** | **55,772** |
| | **2006 Average Ex-Vessel Revenue Shares (%)** | | | | | | |
| Whiting | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Groundfish | 75.6 | 58.5 | 4.2 | 5.0 | 0.6 | 27.4 | 17.7 |
| Salmon Troll | 9.2 | 2.2 | 11.8 | 3.9 | 46.8 | 60.0 | 11.3 |
| Salmon Net | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Crab | 13.9 | 38.6 | 13.4 | 80.6 | 26.6 | 4.0 | 57.6 |
| Shrimp | 0.0 | 0.0 | 0.0 | 5.5 | 0.0 | 0.0 | 3.4 |
| HMS | 1.0 | 0.5 | 70.5 | 4.6 | 25.7 | 8.0 | 9.7 |
| Pelagic Species | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Halibut | 0.3 | 0.0 | 0.0 | 0.3 | 0.3 | 0.6 | 0.3 |
| **Total** | **100.0** | **99.9** | **100.0** | **100.0** | **100.0** | **100.0** | **100.0** |

* Source: NOAA NMFS (2008)

**Shrimper and "Other > $15,000" vessels not included (n < 3)

***Total also includes revenue from species groups not listed

**Table 37. 2005 Average Ex-Vessel Revenue for Oregon Survey Vessel Types***

| | 2005 Average Revenue ($) | | | | | | |
|---|---|---|---|---|---|---|---|
| **FEAM Vessel Type**** | **Sablefish Fixed Gear** | **Groundfish Fixed Gear** | **HMS** | **Crabber** | **Salmon Troller** | **Other ≤ $15,000** | **Weighted Average** |
| **Number of Vessels** | 5 | 7 | 1 | 8 | 28 | 29 | 77 |
| **Species Group** | | | | | | | |
| Whiting | 0 | 0 | n/a | 0 | 0 | 0 | 0 |
| Groundfish | 69,127 | 33,098 | n/a | 5,033 | 1,755 | 1,876 | 9,817 |
| Salmon Troll | 13,592 | 4,064 | n/a | 13,601 | 35,624 | 4,667 | 11,068 |
| Salmon Net | 0 | 0 | n/a | 0 | 0 | 0 | 0 |
| Crab | 15,168 | 16,750 | n/a | 86,349 | 4,832 | 331 | 19,397 |
| Shrimp | 0 | 0 | n/a | 0 | 0 | 0 | 0 |
| HMS | 5,125 | 56 | n/a | 10,532 | 6,506 | 173 | 3,336 |
| Pelagic Species | 0 | 0 | n/a | 0 | 0 | 0 | 0 |
| Halibut | 2,899 | 0 | n/a | 160 | 467 | 18 | 312 |
| **Total***** | **105,912** | **53,996** | **n/a** | **116,485** | **49,731** | **7,066** | **44,161** |
| | **2005 Average Ex-Vessel Revenue Shares (%)** | | | | | | |
| Whiting | 0.0 | 0.0 | n/a | 0.0 | 0.0 | 0.0 | 0.0 |
| Groundfish | 65.3 | 61.3 | n/a | 4.3 | 3.5 | 26.5 | 22.2 |
| Salmon Troll | 12.8 | 7.5 | n/a | 11.7 | 71.6 | 66.1 | 25.1 |
| Salmon Net | 0.0 | 0.0 | n/a | 0.0 | 0.0 | 0.0 | 0.0 |
| Crab | 14.3 | 31.0 | n/a | 74.1 | 9.7 | 4.7 | 43.9 |
| Shrimp | 0.0 | 0.0 | n/a | 0.0 | 0.0 | 0.0 | 0.0 |
| HMS | 4.8 | 0.1 | n/a | 9.0 | 13.1 | 2.5 | 7.6 |
| Pelagic Species | 0.0 | 0.0 | n/a | 0.0 | 0.0 | 0.0 | 0.0 |
| Halibut | 2.7 | 0.0 | n/a | 0.1 | 0.9 | 0.3 | 0.7 |
| **Total** | **100.0** | **99.9** | **0.0** | **99.3** | **98.9** | **100.0** | **99.5** |

* Source: NOAA NMFS (2008)

**Shrimper and "Other > $15,000" vessels not included (n < 3)

***Total also includes revenue from species groups not listed

**Table 38. 2006 Average Ex-Vessel Revenue for CA/OR/WA Survey Vessel Types***

| | 2006 Average Revenue ($) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **FEAM Vessel Type**** | **Sablefish Fixed Gear** | **Groundfish Fixed Gear** | **HMS** | **Crabber** | **Salmon Troller** | **Other > $15,000** | **Other ≤ $15,000** | **Weighted Average** |
| **Number of Vessels** | 9 | 10 | 12 | 41 | 27 | 7 | 77 | 183 |
| **Species Group** | | | | | | | | |
| Whiting | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Groundfish | 54,811 | 34,399 | 2,213 | 8,129 | 895 | 3,465 | 1,229 | 7,324 |
| Salmon Troll | 10,470 | 779 | 7,332 | 6,825 | 23,329 | 254 | 4,344 | 7,847 |
| Salmon Net | 0 | 0 | 0 | 3 | 0 | 161 | 5 | 9 |
| Crab | 6,892 | 19,073 | 3,629 | 110,480 | 5,807 | 2,219 | 332 | 27,453 |
| Shrimp | 0 | 0 | 0 | 3,229 | 0 | 0 | 0 | 723 |
| HMS | 456 | 189 | 49,459 | 8,000 | 4,462 | 163 | 237 | 5,833 |
| Pelagic Species | 0 | 0 | 0 | 2 | 0 | 0 | 1 | 1 |
| Halibut | 982 | 28 | 147 | 1,337 | 765 | 6,634 | 150 | 789 |
| **Total***** | **73,612** | **54,489** | **66,593** | **138,694** | **35,262** | **98,064** | **6,301** | **53,643** |
| | **2006 Average Ex-Vessel Revenue Shares (%)** | | | | | | | |
| Whiting | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Groundfish | 74.5 | 63.1 | 3.3 | 5.9 | 2.5 | 3.5 | 19.5 | 13.7 |
| Salmon Troll | 14.2 | 1.4 | 11.0 | 4.9 | 66.2 | 0.3 | 68.9 | 14.6 |
| Salmon Net | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.2 | 0.1 | 0.0 |
| Crab | 9.4 | 35.0 | 5.5 | 79.7 | 16.5 | 2.3 | 5.3 | 51.2 |
| Shrimp | 0.0 | 0.0 | 0.0 | 2.3 | 0.0 | 0.0 | 0.0 | 1.3 |
| HMS | 0.6 | 0.3 | 74.3 | 5.8 | 12.7 | 0.2 | 3.8 | 10.9 |
| Pelagic Species | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Halibut | 1.3 | 0.1 | 0.2 | 1.0 | 2.2 | 6.8 | 2.4 | 1.5 |
| **Total** | **100.0** | **100.0** | **94.3** | **99.5** | **100.0** | **13.1** | **100.0** | **93.2** |

* Source: NOAA NMFS (2008)

**Shrimper Vessels not included (n < 3)

***Total also includes revenue from species groups not listed

**Table 39. 2005 Average Ex-Vessel Revenue for CA/OR/WA Survey Vessel Types***

| | 2005 Average Revenue ($) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **FEAM Vessel Type**** | **Sablefish Fixed Gear** | **Groundfish Fixed Gear** | **HMS** | **Crabber** | **Salmon Troller** | **Other > $15,000** | **Other ≤ $15,000** | **Weighted Average** |
| **Number of Vessels** | 10 | 14 | 4 | 22 | 78 | 4 | 60 | 192 |
| **Species Group** | | | | | | | | |
| Whiting | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Groundfish | 53,858 | 32,803 | 0 | 9,066 | 1,153 | 7,032 | 1,712 | 7,386 |
| Salmon Troll | 14,785 | 3,124 | 13,717 | 15,577 | 33,009 | 0 | 5,602 | 18,229 |
| Salmon Net | 0 | 0 | 0 | 0 | 4 | 0 | 46 | 16 |
| Crab | 9,840 | 11,050 | 5,735 | 88,215 | 6,566 | 1,720 | 174 | 14,303 |
| Shrimp | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| HMS | 4,315 | 28 | 69,865 | 8,875 | 3,073 | 31 | 85 | 3,975 |
| Pelagic Species | 0 | 0 | 0 | 6 | 0 | 0 | 0 | 1 |
| Halibut | 2,061 | 1,028 | 194 | 925 | 367 | 15,083 | 114 | 791 |
| **Total***** | **84,860** | **51,044** | **89,510** | **122,965** | **45,410** | **91,023** | **7,732** | **46,857** |
| | **2005 Average Ex-Vessel Revenue Shares (%)** | | | | | | | |
| Whiting | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Groundfish | 63.5 | 64.3 | 0.0 | 7.4 | 2.5 | 7.7 | 22.1 | 15.8 |
| Salmon Troll | 17.4 | 6.1 | 15.3 | 12.7 | 72.7 | 0.0 | 72.4 | 38.9 |
| Salmon Net | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.6 | 0.0 |
| Crab | 11.6 | 21.6 | 6.4 | 71.7 | 14.5 | 1.9 | 2.3 | 30.5 |
| Shrimp | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| HMS | 5.1 | 0.1 | 78.1 | 7.2 | 6.8 | 0.0 | 1.1 | 8.5 |
| Pelagic Species | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Halibut | 2.4 | 2.0 | 0.2 | 0.8 | 0.8 | 16.6 | 1.5 | 1.7 |
| **Total** | **100.0** | **94.1** | **100.0** | **99.8** | **97.3** | **26.2** | **100.0** | **95.4** |

* Source: NOAA NMFS (2008)

**Shrimper Vessels not included (n < 3)

***Total also includes revenue from species groups not listed

**Table 40. 2006 Average Ex-Vessel Revenue for Oregon Vessel Types (*All Active Fishermen*)***

| | 2006 Average Revenue ($) | | | | | | |
|---|---|---|---|---|---|---|---|
| **FEAM Vessel Type**** | **Sablefish Fixed Gear** | **Groundfish Fixed Gear** | **HMS** | **Crabber** | **Salmon Troller** | **Other ≤ $15,000** | **Weighted Average** |
| **Number of Vessels** | 17 | 19 | 22 | 81 | 46 | 193 | 378 |
| **Species Group** | | | | | | | |
| Whiting | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Groundfish | 23,369 | 23,689 | 2,021 | 3,881 | 872 | 1,862 | 4,248 |
| Salmon Troll | 3,957 | 2,015 | 8,539 | 5,230 | 20,115 | 2,708 | 5,728 |
| Salmon Net | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Crab | 265 | 0 | 0 | 0 | 0 | 0 | 12 |
| Shrimp | 2,927 | 12,787 | 2,547 | 108,791 | 2,532 | 273 | 24,683 |
| HMS | 3,286 | 1,276 | 53,553 | 11,606 | 10,530 | 512 | 7,359 |
| Pelagic Species | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| Halibut | 2,043 | 1,313 | 406 | 1,825 | 316 | 29 | 626 |
| **Total***** | **35,849** | **41,174** | **67,067** | **131,591** | **34,368** | **5,388** | **42,717** |
| | **2006 Average Ex-Vessel Revenue Shares (%)** | | | | | | |
| Whiting | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Groundfish | 65.2 | 57.5 | 3.0 | 2.9 | 2.5 | 34.6 | 9.9 |
| Salmon Troll | 11.0 | 4.9 | 12.7 | 4.0 | 58.5 | 50.3 | 13.4 |
| Salmon Net | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Crab | 0.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Shrimp | 8.2 | 31.1 | 3.8 | 82.7 | 7.4 | 5.1 | 57.8 |
| HMS | 9.2 | 3.1 | 79.9 | 8.8 | 30.6 | 9.5 | 17.2 |
| Pelagic Species | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Halibut | 5.7 | 3.2 | 0.6 | 1.4 | 0.9 | 0.5 | 1.5 |
| **Total** | **100.0** | **99.8** | **100.0** | **99.8** | **100.0** | **99.9** | **99.9** |

* Source: NOAA NMFS (2008)

**Shrimper and "Other > $15,000" vessels not included (n < 3)

***Total also includes revenue from species groups not listed

**Table 41. 2005 Average Ex-Vessel Revenue for Oregon Vessel Types (*All Active Fishermen*)***

| | 2005 Average Revenue ($) | | | | | | |
|---|---|---|---|---|---|---|---|
| **FEAM Vessel Type**** | **Sablefish Fixed Gear** | **Groundfish Fixed Gear** | **HMS** | **Crabber** | **Salmon Troller** | **Other ≤ $15,000** | **Weighted Average** |
| **Number of Vessels** | 18 | 23 | 11 | 50 | 123 | 152 | 377 |
| **Species Group** | | | | | | | |
| Whiting | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Groundfish | 28,257 | 22,312 | 2,102 | 4,148 | 751 | 1,798 | 4,413 |
| Salmon Troll | 5,740 | 1,945 | 15,905 | 13,225 | 32,108 | 4,513 | 10,327 |
| Salmon Net | 0 | 0 | 0 | 0 | 6 | 0 | 1 |
| Crab | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Shrimp | 6,485 | 10,369 | 2,086 | 70,689 | 5,260 | 140 | 16,793 |
| HMS | 1,631 | 211 | 45,300 | 8,537 | 6,492 | 223 | 5,454 |
| Pelagic Species | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Halibut | 1,630 | 564 | 11 | 1,111 | 396 | 92 | 436 |
| **Total***** | **43,744** | **35,413** | **65,407** | **97,740** | **45,022** | **6,765** | **37,431** |
| | **2005 Average Ex-Vessel Revenue Shares (%)** | | | | | | |
| Whiting | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Groundfish | 64.6 | 63.0 | 3.2 | 4.2 | 1.7 | 26.6 | 11.8 |
| Salmon Troll | 13.1 | 5.5 | 24.3 | 13.5 | 71.3 | 66.7 | 27.6 |
| Salmon Net | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Crab | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Shrimp | 14.8 | 29.3 | 3.2 | 72.3 | 11.7 | 2.1 | 44.9 |
| HMS | 3.7 | 0.6 | 69.3 | 8.7 | 14.4 | 3.3 | 14.6 |
| Pelagic Species | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Halibut | 3.7 | 1.6 | 0.0 | 1.1 | 0.9 | 1.4 | 1.2 |
| **Total** | **100.0** | **100.0** | **100.0** | **100.0** | **100.0** | **100.0** | **100.0** |

* Source: NOAA NMFS (2008)

**Shrimper and "Other > $15,000" vessels not included (n < 3)

***Total also includes revenue from species groups not listed

**Table 42. 2006 Average Ex-Vessel Revenue for CA/OR/WA Vessel Types (*All Active Fishermen*)***

| | 2006 Average Revenue ($) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **FEAM Vessel Type** | **Sablefish Fixed Gear** | **Groundfish Fixed Gear** | **HMS** | **Shrimper** | **Crabber** | **Salmon Troller** | **Other > $15,000** | **Other ≤ $15,000** | **Weighted Average** |
| **Number of Vessels** | 49 | 81 | 50 | 4 | 232 | 170 | 14 | 501 | 1101 |
| **Species Group** | | | | | | | | | |
| Whiting | 0 | 0 | 0 | 62 | 0 | 0 | 0 | 0 | 0 |
| Groundfish | 22,442 | 23,201 | 2,484 | 6,667 | 3,602 | 892 | 4,301 | 1,770 | 4,599 |
| Salmon Troll | 4,305 | 2,551 | 6,779 | 0 | 6,851 | 24,732 | 127 | 2,949 | 7,293 |
| Salmon Net | 0 | 9 | 0 | 0 | 5 | 47 | 192 | 14 | 18 |
| Crab | 160 | 528 | 0 | 72,650 | 4 | 47 | 31 | 2 | 320 |
| Shrimp | 2,507 | 5,777 | 1,783 | 76 | 107,386 | 6,953 | 1,106 | 339 | 24,488 |
| HMS | 1,440 | 342 | 56,958 | 0 | 7,326 | 3,718 | 73 | 346 | 4,952 |
| Pelagic Species | 16 | 9 | 58 | 29 | 3 | 98 | 848 | 3 | 32 |
| Halibut | 815 | 8,711 | 244 | 1,872 | 1,125 | 448 | 394 | 217 | 1,105 |
| **Total**** | **32,776** | **42,000** | **71,257** | **83,064** | **126,531** | **37,334** | **80,871** | **5,679** | **44,126** |
| | **2006 Average Ex-Vessel Revenue Shares (%)** | | | | | | | | |
| Whiting | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Groundfish | 68.5 | 55.2 | 3.5 | 8.0 | 2.8 | 2.4 | 5.3 | 31.2 | 10.4 |
| Salmon Troll | 13.1 | 6.1 | 9.5 | 0.0 | 5.4 | 66.2 | 0.2 | 51.9 | 16.5 |
| Salmon Net | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.2 | 0.3 | 0.0 |
| Crab | 0.5 | 1.3 | 0.0 | 87.5 | 0.0 | 0.1 | 0.0 | 0.0 | 0.7 |
| Shrimp | 7.6 | 13.8 | 2.5 | 0.1 | 84.9 | 18.6 | 1.4 | 6.0 | 55.5 |
| HMS | 4.4 | 0.8 | 79.9 | 0.0 | 5.8 | 10.0 | 0.1 | 6.1 | 11.2 |
| Pelagic Species | 0.1 | 0.0 | 0.1 | 0.0 | 0.0 | 0.3 | 1.0 | 0.1 | 0.1 |
| Halibut | 2.5 | 20.7 | 0.3 | 2.3 | 0.9 | 1.2 | 0.5 | 3.8 | 2.5 |
| **Total** | **96.7** | **97.9** | **95.9** | **97.9** | **99.8** | **98.9** | **8.7** | **99.3** | **97.0** |

* Source: NOAA NMFS (2008)

**Total also includes revenue from species groups not listed

**Table 43. 2005 Average Ex-Vessel Revenue for CA/OR/WA Vessel Types (*All Active Fishermen*)***

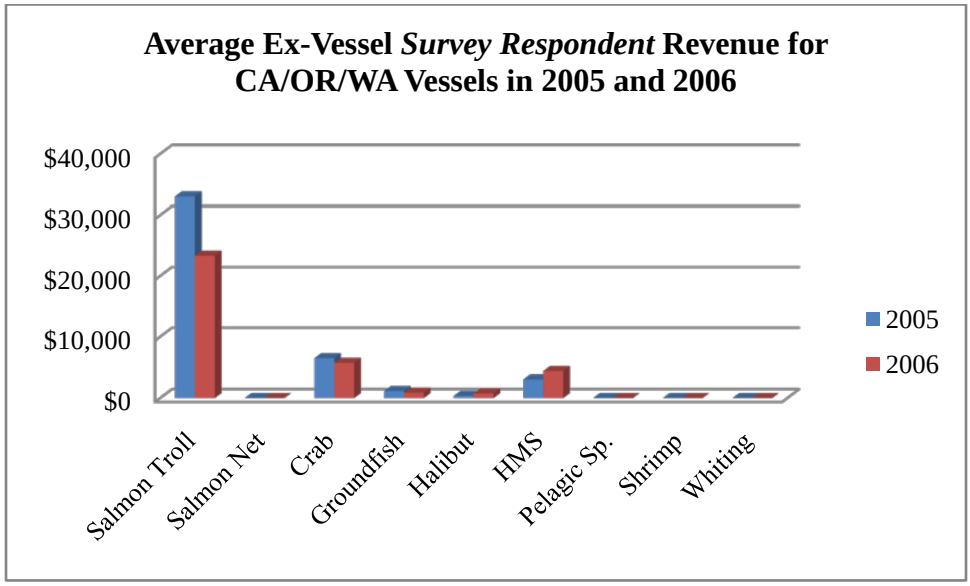
| | 2005 Average Revenue ($) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **FEAM Vessel Type** | **Sablefish Fixed Gear** | **Groundfish Fixed Gear** | **HMS** | **Shrimper** | **Crabber** | **Salmon Troller** | **Other > $15,000** | **Other ≤ $15,000** | **Weighted Average** |
| **Number of Vessels** | 56 | 86 | 27 | 4 | 122 | 409 | 11 | 436 | 1151 |
| **Species Group** | | | | | | | | | |
| Whiting | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Groundfish | 29,151 | 22,795 | 1,838 | 6,782 | 5,485 | 813 | 7,047 | 2,013 | 4,128 |
| Salmon Troll | 3,659 | 1,928 | 14,979 | 1,647 | 13,674 | 36,869 | 7,004 | 4,143 | 15,301 |
| Salmon Net | 0 | 11 | 0 | 168 | 62 | 31 | 0 | 37 | 19 |
| Crab | 0 | 548 | 0 | 64,551 | 1,686 | 12 | 0 | 0 | 449 |
| Shrimp | 4,433 | 4,478 | 1,206 | 214 | 76,834 | 9,036 | 4 | 225 | 11,935 |
| HMS | 969 | 71 | 54,103 | 0 | 5,954 | 3,485 | 1,841 | 104 | 3,209 |
| Pelagic Species | 1 | 47 | 0 | 8 | 0 | 3 | 1 | 8 | 5 |
| Halibut | 739 | 7,685 | 149 | 2,062 | 1,020 | 303 | 651 | 183 | 843 |
| **Total**** | **39,372** | **40,684** | **73,766** | **75,783** | **104,736** | **51,261** | **99,672** | **6,761** | **37,225** |
| | **2005 Average Ex-Vessel Revenue Shares (%)** | | | | | | | | |
| Whiting | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Groundfish | 74.0 | 56.0 | 2.5 | 8.9 | 5.2 | 1.6 | 7.1 | 29.8 | 11.1 |
| Salmon Troll | 9.3 | 4.7 | 20.3 | 2.2 | 13.1 | 71.9 | 7.0 | 61.3 | 41.1 |
| Salmon Net | 0.0 | 0.0 | 0.0 | 0.2 | 0.1 | 0.1 | 0.0 | 0.5 | 0.1 |
| Crab | 0.0 | 1.3 | 0.0 | 85.2 | 1.6 | 0.0 | 0.0 | 0.0 | 1.2 |
| Shrimp | 11.3 | 11.0 | 1.6 | 0.3 | 73.4 | 17.6 | 0.0 | 3.3 | 32.1 |
| HMS | 2.5 | 0.2 | 73.3 | 0.0 | 5.7 | 6.8 | 1.8 | 1.5 | 8.6 |
| Pelagic Species | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 |
| Halibut | 1.9 | 18.9 | 0.2 | 2.7 | 1.0 | 0.6 | 0.7 | 2.7 | 2.3 |
| **Total** | **98.9** | **92.3** | **98.0** | **99.5** | **100.0** | **98.6** | **16.6** | **99.3** | **96.4** |

* Source: NOAA NMFS (2008)

**Total also includes revenue from species groups not listed

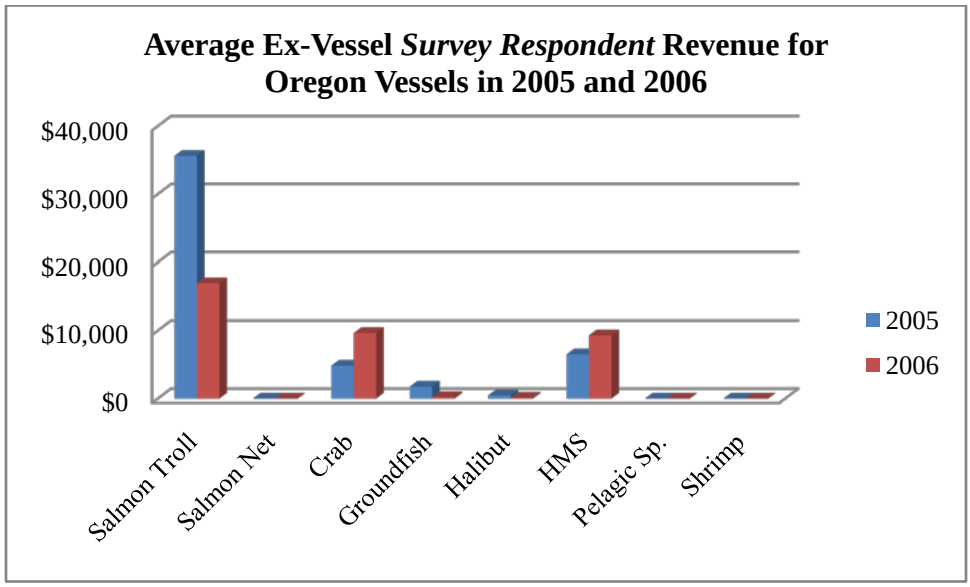
The nearly $10,000 reduction in average ex-vessel salmon revenues from 2005 to 2006 for CA/OR/WA salmon fishermen are shown in Figure 6. The only noticeable increase in ex-vessel revenue from 2005 to 2006 is for HMS. This increase may indicate a shift in strategy by targeting albacore instead of salmon during the 2006 season. Figure 7 also shows the sharp decline in Oregon average ex-vessel revenue (over $13,000) from 2005 to 2006. Revenue from salmon caught by troll gear was $18,000 less in 2006 from 2005. Oregon salmon fishermen appear to have honed their efforts to harvesting crab and HMS species, however, as these revenues increased in 2006.

**Figure 6: Average Ex-Vessel *Survey Respondent* Revenue for CA/OR/WA Vessels in 2005 and 2006***




* Source: NOAA NMFS (2008)

**Figure 7: Average Ex-Vessel *Survey Respondent* Revenue for Oregon Vessels in 2005 and 2006***




* Source: NOAA NMFS (2008)

While Oregon's total net revenue is only 45 percent of CA/OR/WA total net revenue in 2006, on average individual Oregon vessels generated similar net revenues to other west coast vessels (Table 44). Oregon groundfish fixed gear and HMS vessels preformed less well compared to CA/OR/WA vessels, however, in 2006. But average net revenue for 2006 Oregon crabbers was over $33,000 higher than CA/OR/WA vessels. When comparing across years (Tables 44 and 45), total and average net revenues of salmon trollers diverge dramatically. Total 2006 net revenue for CA/OR/WA and Oregon were down by 173 percent and 616 percent, respectively, from 2005. Although 2006 was a dismal year for salmon fishermen, west coast and Oregon crabbers vastly increased their net revenues from 2005.

**Table 44: CA/OR/WA *Survey Respondent* Net Revenue by Vessel Type in 2006**

| | 2006 Net Revenue ($) | | | |
|---|---|---|---|---|
| | CA/OR/WA | | Oregon | |
| **FEAM Vessel Type** | **Total** | **Average** | **Total** | **Average** |
| Salmon Troller | -72,700 | -2,693 | -21,110 | -2,111 |
| Crabber | 1,988,224 | 48,493 | 1,060,197 | 81,554 |
| Groundfish Fixed Gear | 15,839 | 1,584 | -38,626 | -6,438 |
| HMS | 67,047 | 5,587 | -115,239 | -28,810 |
| Sablefish Fixed Gear | 17,284 | 1,920 | 25,231 | 5,046 |
| Other > $15,000 | 46,604 | 6,658 | 0 | n/a |
| Other ≤ $15,000 | -728,035 | -9,455 | -314,491 | -9,828 |
| **Total** | **1,334,262** | **7,291** | **595,962** | **8,514** |

* Source: NOAA NMFS (2008)

**Table 45: CA/OR/WA *Survey Respondent* Net Revenue by Vessel Type in 2005**

| | 2005 Net Revenue ($) | | | |
|---|---|---|---|---|
| | CA/OR/WA | | Oregon | |
| **FEAM Vessel Type** | **Total** | **Average** | **Total** | **Average** |
| Salmon Troller | 99,848 | 1,280 | 4,086 | 146 |
| Crabber | 390,189 | 17,736 | -53,574 | -6,697 |
| Groundfish Fixed Gear | -22,791 | -1,628 | -12,078 | -1,725 |
| HMS | 28,111 | 7,028 | n/a | n/a |
| Sablefish Fixed Gear | -72,421 | -7,242 | 4,891 | 978 |
| Other > $15,000 | -83,942 | -20,985 | n/a | n/a |
| Other ≤ $15,000 | -358,093 | -5,968 | -101,265 | -3,492 |
| **Total** | **-19,099** | **-99** | **-157,941** | **-2,025** |

* Source: NOAA NMFS (2008)

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