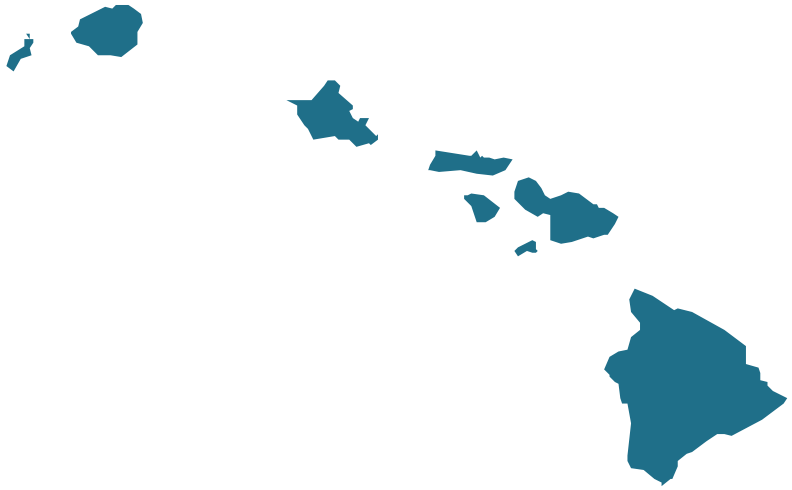
# Western Pacific

## - Hawai’i



## Management Context

The Western Pacific Region includes the state of Hawai'i.[1] Federal fisheries in this region are managed by the Western Pacific Fishery Management Council (WPFMC) and NOAA Fisheries (NMFS) under five fishery ecosystem plans (FEPs). Fishery ecosystem plans manage marine resources from a place-based perspective rather than managing fishing activities in terms of targeted species. These FEPs replace the Council's existing fishery management plans (FMPs) for Bottomfish and Seamount Groundfish, Coral Reef Ecosystems, Crustaceans, and Precious Corals.

**Western Pacific Fishery Ecosystem Plans**

1. American Samoa Archipelago
2. Hawai'i Archipelago
3. Mariana Archipelago
4. Pacific Remote Island Areas
5. Pacific Pelagics

Of the stocks covered in these fishery ecosystem plans, the Hancock Seamount groundfish complex is currently considered overfished. This fishery has been closed since 1986. Bigeye tuna is currently subject to overfishing and this status is considered to be primarily due to international fishing pressure. The U.S. harvested 6% (14 million pounds) of the Pacific-wide (western-central and eastern Pacific Ocean) total of Pacific bigeye tuna landings reported in 2011. Currently, there are no catch share programs in place in this region.

In addition to management oversight provided by the WPFMC and NOAA Fisheries, pelagic fish species such as bigeye and yellowfin tunas are also managed by two regional fishery management organizations (RFMOs). The Western and Central Pacific Fisheries Commission (WCPFC) is active in the western and central Pacific Ocean and the Inter-American Tropical Tuna Commission (IATTC) is active in the eastern Pacific Ocean. Species under the purview of the WCPFC and IATTC migrate across international boundaries and require coordinated management between countries with fishing interests in the Pacific Ocean.

The annual bigeye tuna catch limit recommended by WCPFC for the U.S. longline fleet in the Western and Central Pacific Ocean is 8.3 million pounds. NMFS responded to the measure by establishing a quota of 8.3 million pounds of bigeye tuna that may be caught in the Western and Central Pacific Ocean and retained by U.S. longline vessels beginning in 2009. The fishery was closely monitored during the year. The quota in the Western Pacific ocean was reached toward the end of the year and, therefore, the Hawai'i longline fishery was only closed for three days in 2009. In the meantime, the harvest limit established by the IATTC for the U.S. longline bigeye tuna is 1.1 million pounds. However, this quota is only applied to U.S. longline vessels greater than 78.7 feet in length, all other vessels are not bound by any catch limit in the Eastern tropical Pacific.[2]

## Commercial Fisheries

Fishermen in Hawai'i earned $92 million from their commercial harvest in 2011, landing over 29 million pounds of finfish and shellfish. Tunas comprised 73% of landings revenue ($67 million) as well as 63% of total landings (19 million pounds). Swordfish ($6.7 million), mahimahi ($4.3 million), moonfish ($2.9 million), and marlin ($2.4 million) also contributed to landings revenue. Lobsters commanded the highest ex-vessel price in 2011, with an average annual price of $10.39 per pound.

**Key Western Pacific Commercial Species**

- Lobsters
- Mahimahi
- Marlin
- Moonfish
- Pomfret
- Scad
- Snappers
- Swordfish
- Tunas
- Wahoo

### *Economic Impacts*[3]

In 2011, the Western Pacific's seafood industry generated $694 million in sales impacts, $213 million in income impacts, and approximately 8,600 full- and part-time jobs. Importers contributed the most to sales (38% of the total), while the retail sector contributed the most to employment impacts (41%), income impacts (37%), and valued added impacts (33%). The commercial harvest sector generated 3,200 jobs, $159 million in sales, $58 million in income, and $84 million in value added impacts.

### *Landings Revenue*

Landings revenue for finfish and shellfish totaled over $91.5 million in 2011, a 75% increase from total revenue generated in 2002; when adjusted for inflation, real landings revenues increased 21%. Landings trends for this time period (2002-2011) can only be understood in light of the extensive closure of fishing grounds to the Hawai'i-based swordfish longline fishery in 2000 due to concern about the high frequency of interactions with loggerhead and leatherback sea turtles. From 2000 to 2001, swordfish landings revenue decreased 95% from $12.8 million to $1.3 million. A few years later when the fishery was re-opened, landings revenue increased 534% from $1.2 million in 2004 to $7.8 million in 2005. Swordfish landings revenue between 2001 and 2004 averaged $1.2 million while between 2005 to 2011,

[1] The Western Pacific Region also includes the U.S. territories of American Samoa, Guam, and the Commonwealth of the Northern Mariana Islands. However, due to data availability, only information from Hawai'i is reported here.
[1] Under the Tuna Conventions Act of 1950 (64 Stat. 777) as amended (16 U.S.C., 951-961), NMFS must publish regulations that carry out IATTC recommendations and resolutions that have been approved by the Department of State.
3 The NMFS Commercial Fishing Industry Input/Output Model was used to generate the impact estimates (see NMFS Commercial Fishing & Seafood Industry Input/Output Model, available at: www.st.nmfs.noaa.gov/documents/commercial_seafood_impacts_2007-2009.pdf)

swordfish landings revenue averaged $7 million, an increase of more than 500%.

Landings revenue in 2011 increased 8.9% (0.5% increase in real terms) from the 2010 level ($84 million). Finfish and other catch contributed nearly 100% of total revenue in 2011 ($91 million), a 75% increase from 2002 (22% increase in real terms). Revenue earned from shellfish landings decreased 48% (a 64% decrease in real terms) from $306,000 in 2002 to $158,000 in 2011. Landings revenue in 2011 was dominated by tunas which contributed $67 million or 73% of total landings revenue. On average, tunas contributed 69% to total revenue over the 10 year time period. The largest increases in landings revenue from 2002 to 2011 were for swordfish (386% or 238% in real terms) and moonfish (134% or 62% in real terms).

### *Landings*

In 2011, Hawai'ian commercial fishermen landed 29 million pounds of finfish and shellfish, a 22% increase from 2002 landings totals. This was a 4.3% increase compared to landings in 2010 (28 million pounds). Finfish and other catch accounted for nearly 100% of total landings annually. Shellfish landings decreased 34% from 31,000 pounds landed in 2002 to 20,000 pounds in 2011 and also decreased 6.7% from 2010 to 2011.

Tunas contributed more to the Western Pacific's total landings than any other species or group with 18.5 million pounds landed in 2011. This was a 17% increase from 2002 total landings of tunas (15.9 million pounds). Swordfish followed with 2.6 million pounds landed in 2011. Swordfish landings experienced dramatic changes from 2002 to 2011 due to the aforementioned closure of the swordfish longline fishery in late 2000. From 2000 to 2001, landings decreased 91% from 6.4 million pounds to 559,000 pounds when the Hawai'i longline fishery was largely closed to protect sea turtles. When the fishery re-opened a few years later, landings increased 561% from 520,000 pounds in 2004 to 3.4 million pounds in 2005. Swordfish landings between 2001 and 2004 averaged approximately a half million pounds, while in between 2005 and 2011 the average was 2.9 million pounds.

### *Prices*

Overall, the 2011 ex-vessel price for nine of the key species or species groups were above their ten year average annual price. Only lobster had a lower price per pound ($10.39) in 2011 relative to its annual average ($11.54) over the time period.
The ex-vessel price for swordfish in 2011 was $2.57, $0.41 more than the ten year average. Relative to ex-vessel prices in 2010, mahimahi (40%) experienced a double digit increase in 2011 while lobster experienced a double digit decrease (16%) from 2010 to 2011.

### Commercial Fisheries Facts

*Landings revenue*

- On average, the key species or species groups account for 97% of total revenue, ($88 million) generated in the Western Pacific Region.
- Tunas contributed more than any other species or species group, averaging $49 million in landings revenue from 2002 to 2011.
- Swordfish had the largest one-year increase in landings revenue over the 10 year time period, increasing 534% from $1.2 million in 2004 to $7.8 million in 2005 due to the re-opening of the swordfish longline fishery.
- Swordfish had the largest one-year decrease in landings revenue over the 10 year time period, decreasing 50% from $1.4 million in 2002 to $691,000 in 2003.

*Landings*

- Key species or species groups contributed an average of 94% annually to total landings between 2002 and 2011.
- Tunas, contributed the most to landings in the region, averaging 16 million pounds from 2002 to 2011.
- Swordfish had the largest one-year increase in landings over the 10 year time period, increasing 561% from 520,000 in 2004 pounds to 3.4 million pounds in 2005.
- Swordfish had the largest one-year decrease in landings over the 10 year time period, decreasing 56% from 703,000 pounds in 2002 to 306,000 pounds in 2003 due to the re-opening of the swordfish longline fishery.

*Prices*

- Lobsters had the highest average annual ex-vessel price per pound ($11.54) over the time period, followed by snappers ($4.61), and tunas ($3.01).
- Marlin had the lowest average annual ex-vessel price per pound ($1.23) over the time period, followed by moonfish ($1.59), and swordfish ($2.16).
- Marlin had the largest one-year increase in ex-vessel price over the 10 year time period, increasing 58% from $0.85 per pound in 2003 to $1.34 in 2004.
- Marlin had the largest decrease in ex-vessel price over the 10 year time period, decreasing 37% from $1.34 per pound in 2002 to $0.85 in 2003.

## Recreational Fisheries

In 2011, there were 87,000 recreational anglers who fished in the state of Hawai'i. These anglers took 1.4 million fishing trips and of these, 84% were shore-based trips. Scads (bigeye and mackerel) was the most caught species group with 662,000 fish caught in 2011. Almost all of these fish were harvested by anglers rather than released. The most released species or species group was trevallys and other jacks (38%). All others were harvested at least 88% of the time in 2011.

**Key Western Pacific Recreational Species**

- Barracuda (smallmouth bonefish)
- Blue marlin
- Dolphinfish (mahimahi)
- Goatfishes
- Jacks (trevallys and other jacks)
- Bigeye and mackerel scad
- Snappers
- Skipjack tuna
- Yellowfin tuna
- Wahoo

### *Economic Impacts and Expenditures*[4]

In 2011, approximately 2,900 jobs in the Western Pacific were generated by recreational fishing activities and over $285 million was spent by anglers who fished in the region. Most of these employment impacts were generated by industries that provided services to anglers who fished from shore (603 jobs) or from a for-hire fishing vessel (570 jobs). These fishing trip modes also generated the most in trip-related expenditures: $45 million for shore-based fishing trips (43% of total trip expenditures) and $40 million for for-hire trips (38% of total trip expenditures). Thirty five percent of total trip-related expenditures in the Western Pacific came from non-resident anglers.

In addition to employment impacts generated by recreational fishing activities, other economic impacts include sales impacts and the contribution of recreational fishing activities to gross domestic product (value added impacts). For-hire fishing trips generated $55 million in sales impacts (42% of total trip-related sales) and $30 million in value added impacts (43% of total trip-related value added impacts) in 2011. Private boat trips contributed $25 million in sales (19%) and $13 million (18%) in value added impacts. Shore-based fishing trips contributed $52 million in trip-related sales (39%) and $27 million in trip-related value added impacts (39%).

Anglers spent over $179 million on durable equipment in 2011, contributing 63% to total expenditures in the region (trip and durable equipment combined). Fishermen spent more on fishing tackle ($67 million) and boat expenses (also $67 million) than other durable goods. Expenditures related to vehicle expenses ($35 million) and other equipment ($10 million) followed in size of expenditures. Economic impacts from durable equipment expenditures in 2011 include about 1,500 jobs, $179 million in sales impacts, and $87 million in value added impacts.

### *Participation*[5]

In 2011, there were 87,000 recreational anglers who fished in Hawai'i. This was an 80% decrease from 2003 (440,000 anglers) and a 82% decrease from 2010 (475,000 anglers). In 2011, non-resident anglers made up 4.2% of total anglers (3,700 anglers). There was a 98% decrease in non-resident anglers from 2003 (180,000 anglers) and a 99% decrease from 2010 (293,000 anglers). In terms of resident anglers, there were 84,000 resident anglers who fished in Hawai'i in 2011, which was a 68% decrease from 2003 and a 54% decrease from 2010. The large decline in participation is a result of the significant decrease in fishing effort (42% decrease, described below) coupled with a 23% increase in the number of trips taken by active anglers, which is commonly referred to as "angler avidity." An increase in angler avidity coupled with a decrease in trips necessarily results in a decrease in participation.

### Fishing Trips[5]

Anglers who fished in Hawai'i took approximately 1.38 million fishing trips in 2011. This was a 42% decrease from the 2.4 million fishing trips taken in 2003. From 2010 to 2011, there was a 42% decrease in the number of trips taken (2.4 million trips) in 2010.

### *Harvest and Release*[5]

Of Hawai'i's key species and species groups, bigeye and mackerel scad, goatfishes, and trevallys and other jacks were most frequently caught by recreational fishermen. In 2011, 662,000 bigeye and mackerel scad, 185,000 goatfishes, and 159,000 trevallys and other jacks were caught by anglers in Hawai'i. Blue marlin (100% harvested), dolphinfish (100%), and yellowfin tuna (100%) were more often harvested than released, while trevallys and other jacks were released more often (38%) than any of the other key species or species groups.

Between 2004 (the first year for which recreational catch data for Hawai'i are available) and 2011 one of Hawai'i's key species or groups experienced increases in catch totals: bigeye and mackerel scad (268%). Over the same time period, the largest decreases were experienced by: wahoo (84%), smallmouth bonefish (77%), and goatfishes (75%).

[4] Expenditure estimates were generated from the 2011 National Marine Recreational Fishing Expenditure Survey. Economic impacts from recreational fishing activities were generated using the NMFS Recreational Economic Impact Model (see The Economic Contribution of Marine Angler Expenditures in the United States, 2006, available at :http://www.st.nmfs.noaa.gov/economics/publications/marine-angler-expenditures/marine-angler-2006)

[5] Due to data availability, the time period 2003 to 2011 is discussed in this section.

Between 2010 and 2011, the largest (and only) increase in catch occurred in the blue marlin (100%) fishery. Decreases over the same time period occurred in nine of the species or species groups, the largest of which were experienced by smallmouth bonefish (76%) and snappers (65%).

### Recreational Fisheries Facts

*Participation*

- An average of 341,000 anglers fished in the Western Pacific annually from 2003 to 2011.
- In 2011, in-state residents made up 96% of total anglers in this region. These anglers averaged 53% of total anglers annually over the nine year time period.

*Fishing trips*

- In the Western Pacific, an average of 2.4 million fishing trips was taken annually from 2003 to 2011.
- Private or rental boat and shore-based fishing trips accounted for 224,000 and 1.2 million fishing trips, respectively in 2011.

*Harvest and release*

- The bigeye and mackerel scad species group was the most commonly caught key species or species group, averaging 728,000 fish caught over the 10 year time period. Of these, 0.22% were released rather than harvested.
- Of the ten commonly caught key species or species groups none were released more often than harvested over this time period. The species or species group that was most commonly released was trevallys and other jacks (38% released).
- Species or species groups that were harvested 100% of the time included blue marlin, dolphinfish, and bigeye and mackerel scad.
- Between 2010 and 2011, blue marlin experienced the largest annual increase in catch (100%), and smallmouth bonefish had the largest decrease (76%).

## Marine Economy[6]

In 2010, over 32,000 establishments employed approximately 479,000 full- and part-time employees in Hawai'i. Annual payroll totaled $18 billion, employee compensation totaled $38 billion, and gross product by state totaled $66 billion. Gross state product, annual payroll, and employee compensation increased 47%, 31%, and 44%, respectively between 2002 and 2010. The commercial fishing location quotient (CFLQ) for Hawai'i was 4.71. Between 2002 and 2010 the CFLQ for Hawai'i decreased 35%. Hawai'i's level of commercial fishing-related employment continues to be well above the national baseline.

### *Transport, Support, and Marine Operations*

Data were largely unavailable for the transport, support, and marine operations sector. According to the available information, the marine cargo handling had the highest numbers of establishments in 2010 (14 establishments). The marine cargo handling sector had the largest payroll ($109 million) and the largest number of employees was also in the marine cargo handling sector (1,236). The largest increase in number of establishments between 2002 and 2010 was in the marine cargo handling sector (100%) and the greatest decrease occurred in the coastal and Great Lakes freight transportation sector (82%)

[6] The CFLQ for the U.S. is 1.0. This provides a national baseline from which state CFLQs can be compared.

### 2011 Economic Impacts of the Hawaii Seafood Industry (thousands of dollars)

| | With Imports | | | Without Imports | | |
|---|---|---|---|---|---|---|
| | Jobs | Sales | Value Added | Jobs | Sales | Value Added |
| **Total Impacts** | 8,627 | 694,228 | 311,097 | 6,667 | 364,073 | 195,754 |
| Commercial Harvesters | 3,154 | 159,444 | 83,529 | 3,154 | 159,444 | 83,529 |
| Seafood Processors & Dealers | 509 | 44,786 | 22,865 | 366 | 32,350 | 16,516 |
| Importers | 964 | 265,307 | 80,877 | 0 | 0 | 0 |
| Seafood Wholesalers & Distributors | 476 | 45,551 | 21,253 | 277 | 26,518 | 12,372 |
| Retail | 3,523 | 179,139 | 102,574 | 2,869 | 145,761 | 83,337 |

### Total Landings Revenue and Landings Revenue of Key Species/Species Groups (thousands of dollars)

| | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 |
|---|---|---|---|---|---|---|---|---|---|---|
| Total revenue | 52,384 | 52,755 | 57,679 | 71,040 | 66,120 | 75,705 | 85,120 | 71,168 | 84,023 | 91,513 |
| Finfish & other | 52,078 | 52,493 | 57,274 | 70,677 | 66,013 | 75,531 | 84,753 | 70,985 | 83,851 | 91,354 |
| Shellfish | 306 | 262 | 406 | 364 | 106 | 174 | 367 | 183 | 172 | 158 |
| Lobsters | 122 | 68 | 91 | 111 | 61 | 93 | 120 | 136 | 116 | 104 |
| Mahimahi (dolphin) | 2,630 | 2,940 | 4,909 | 3,597 | 3,640 | 3,482 | 3,182 | 2,850 | 3,300 | 4,310 |
| Marlin | 2,010 | 1,986 | 2,472 | 2,512 | 2,558 | 2,028 | 2,072 | 2,141 | 1,756 | 2,373 |
| Moonfish (opah) | 1,219 | 1,509 | 1,343 | 1,897 | 1,873 | 2,170 | 2,197 | 2,408 | 2,591 | 2,852 |
| Pomfret | 675 | 777 | 1,316 | 1,440 | 1,311 | 1,460 | 1,665 | 1,379 | 1,549 | 1,449 |
| Scad | 1,067 | 1,105 | 944 | 839 | 1,020 | 1,099 | 896 | 555 | 1,251 | 964 |
| Snappers | 2,009 | 2,035 | 2,201 | 2,005 | 1,756 | 1,680 | 1,710 | 1,844 | 1,637 | 1,372 |
| Swordfish | 1,371 | 691 | 1,225 | 7,768 | 5,125 | 7,726 | 7,176 | 7,334 | 7,302 | 6,669 |
| Tunas | 37,598 | 37,381 | 38,484 | 46,071 | 44,085 | 51,148 | 60,874 | 47,674 | 59,756 | 66,580 |
| Wahoo | 1,452 | 1,919 | 2,201 | 2,253 | 2,329 | 2,087 | 2,235 | 1,672 | 1,745 | 1,806 |

### Total Landings and Landings of Key Species/Species Groups (thousands of pounds)

| | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 |
|---|---|---|---|---|---|---|---|---|---|---|
| Total landings | 23,968 | 23,740 | 24,456 | 28,140 | 25,659 | 28,938 | 30,682 | 26,906 | 28,069 | 29,289 |
| Finfish & other | 23,937 | 23,711 | 24,426 | 28,113 | 25,644 | 28,916 | 30,653 | 26,884 | 28,047 | 29,269 |
| Shellfish | 31 | 28 | 31 | 26 | 15 | 22 | 29 | 22 | 22 | 20 |
| Lobsters | 10 | 6 | 8 | 10 | 6 | 8 | 10 | 11 | 9 | 10 |
| Mahimahi (dolphin) | 1,376 | 1,326 | 2,225 | 1,440 | 1,342 | 1,388 | 1,252 | 1,287 | 1,518 | 1,423 |
| Marlin | 1,497 | 2,337 | 1,844 | 2,190 | 2,389 | 1,376 | 1,951 | 1,678 | 1,220 | 1,826 |
| Moonfish (opah) | 912 | 1,095 | 786 | 1,086 | 1,071 | 1,226 | 1,313 | 1,884 | 1,824 | 1,564 |
| Pomfret | 490 | 459 | 766 | 646 | 576 | 593 | 672 | 627 | 593 | 427 |
| Scad | 571 | 630 | 478 | 398 | 442 | 463 | 320 | 205 | 460 | 323 |
| Snappers | 499 | 501 | 508 | 436 | 377 | 376 | 376 | 386 | 314 | 249 |
| Swordfish | 703 | 306 | 520 | 3,439 | 2,514 | 3,643 | 3,835 | 3,881 | 3,153 | 2,592 |
| Tunas | 15,871 | 14,421 | 14,965 | 16,118 | 14,631 | 17,589 | 18,303 | 14,589 | 16,704 | 18,518 |
| Wahoo | 660 | 990 | 852 | 818 | 891 | 715 | 853 | 605 | 600 | 564 |

### Average Annual Price of Key Species/Species Groups (dollars per pound)

| | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 |
|---|---|---|---|---|---|---|---|---|---|---|
| Lobsters | 12.66 | 11.88 | 11.08 | 10.99 | 9.66 | 11.84 | 12.14 | 12.37 | 12.36 | 10.39 |
| Mahimahi (dolphin) | 1.91 | 2.22 | 2.21 | 2.50 | 2.71 | 2.51 | 2.54 | 2.21 | 2.17 | 3.03 |
| Marlin | 1.34 | 0.85 | 1.34 | 1.15 | 1.07 | 1.47 | 1.06 | 1.28 | 1.44 | 1.30 |
| Moonfish (opah) | 1.34 | 1.38 | 1.71 | 1.75 | 1.75 | 1.77 | 1.67 | 1.28 | 1.42 | 1.82 |
| Pomfret | 1.38 | 1.69 | 1.72 | 2.23 | 2.28 | 2.46 | 2.48 | 2.20 | 2.61 | 3.39 |
| Scad | 1.87 | 1.75 | 1.97 | 2.11 | 2.30 | 2.37 | 2.80 | 2.71 | 2.72 | 2.98 |
| Snappers | 4.02 | 4.06 | 4.33 | 4.59 | 4.64 | 4.44 | 4.54 | 4.78 | 5.20 | 5.53 |
| Swordfish | 1.95 | 2.26 | 2.36 | 2.26 | 2.04 | 2.12 | 1.87 | 1.89 | 2.32 | 2.57 |
| Tunas | 2.37 | 2.59 | 2.57 | 2.86 | 3.01 | 2.91 | 3.33 | 3.27 | 3.58 | 3.60 |
| Wahoo | 2.20 | 1.94 | 2.58 | 2.75 | 2.61 | 2.92 | 2.62 | 2.76 | 2.91 | 3.20 |

## 2011 Economic Impacts of Recreational Fishing Expenditures (thousands of dollars)

| | Jobs | Sales | Income | Value Added |
|---|---|---|---|---|
| Trip Impacts by Fishing Mode: | | | | |
| For-Hire | 570 | 54,641 | 17,687 | 30,043 |
| Private Boat | 237 | 24,980 | 7,512 | 12,774 |
| Shore | 603 | 51,518 | 16,955 | 27,197 |
| Total Durable Equipment Impacts | 1,538 | 178,784 | 59,031 | 86,582 |
| **Total State Trip and Durable Equipment Economic Impacts** | 2,948 | 309,923 | 101,185 | 156,595 |

## 2011 Angler Trip & Durable Expenditures (thousands of dollars)

| Fishing Mode | Trip Expenditures | | Equipment | Durable Expenditures |
|---|---|---|---|---|
| | Non-Residents | Residents | Fishing Tackle | 67,017 |
| For-Hire | 36,718 | 2,960 | Other Equipment | 10,316 |
| Private Boat | 102 | 21,171 | Boat Expenses | 66,574 |
| Shore | 69 | 44,801 | Vehicle Expenses | 35,182 |
| *Total Trip Expenditures* | 36,890 | 68,933 | Second Home Expenses | 0 |
| | | | *Total Durable Equipment Expenditures* | 179,089 |
| **Total State Trip and Durable Equipment Expenditures** | | | | 284,912 |

## Recreational Anglers by Residential Area (thousands of anglers)[1]

| | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 |
|---|---|---|---|---|---|---|---|---|---|---|
| Coastal | | 261 | 223 | 204 | 173 | 170 | 192 | 140 | 182 | 84 |
| Non-Coastal | | NA[2] | NA[1] | NA[1] | NA[1] | NA[1] | NA[1] | NA[1] | NA[1] | NA[1] |
| Out of State | | 180 | 183 | 166 | 224 | 146 | 137 | 106 | 293 | 4 |
| **Total Anglers** | | 440 | 407 | 370 | 396 | 317 | 329 | 246 | 475 | 87 |

## Recreational Fishing Effort by Mode (thousands of angler-trips)[1,3]

| | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 |
|---|---|---|---|---|---|---|---|---|---|---|
| Private | | 510 | 709 | 578 | 570 | 475 | 565 | 441 | 484 | 224 |
| Shore | | 1,893 | 2,162 | 1,893 | 2,075 | 2,102 | 1,966 | 1,722 | 1,907 | 1,158 |
| **Total Trips** | | 2,403 | 2,871 | 2,471 | 2,645 | 2,577 | 2,531 | 2,163 | 2,391 | 1,382 |

## Harvest (H) and Release (R) of Key Species Species Groups (thousands of fish)[1,4]

| | | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Blue marlin | H | | 4 | 5 | 19 | 3 | 2 | 11 | 3 | 1 | 2 |
| | R | | (1) | (1) | (1) | (1) | 1 | (1) | (1) | (1) | (1) |
| Dolphinfish (mahimahi) | H | | 109 | 225 | 178 | 219 | 137 | 184 | 103 | 164 | 63 |
| | R | | 1 | (1) | 1 | (1) | (1) | (1) | (1) | (1) | (1) |
| Goatfishes[5] | H | | 793 | 716 | 444 | 812 | 298 | 467 | 713 | 271 | 172 |
| | R | | 10 | 17 | 8 | 16 | 9 | 7 | 6 | 17 | 13 |
| Jacks (trevallys and other jacks)[6] | H | | 124 | 330 | 254 | 207 | 169 | 276 | 121 | 142 | 99 |
| | R | | 171 | 146 | 182 | 213 | 129 | 121 | 84 | 127 | 60 |
| Scads (bigeye and mackerel) | H | | 1,950 | 180 | 726 | 812 | 1,089 | 402 | 1,103 | 841 | 662 |
| | R | | 2 | (1) | 13 | (1) | (1) | (1) | (1) | (1) | (1) |
| Skipjack tuna | H | | 439 | 419 | 301 | 201 | 228 | 568 | 230 | 288 | 125 |
| | R | | 1 | 6 | 1 | 1 | 5 | 2 | (1) | (1) | (1) |
| Smallmouth bonefish | H | | 24 | 61 | 24 | 64 | 19 | 50 | 36 | 55 | 14 |
| | R | | 4 | 9 | 11 | 2 | 13 | 4 | 2 | 13 | 2 |
| Snappers[7] | H | | 232 | 234 | 221 | 178 | 105 | 140 | 145 | 340 | 114 |
| | R | | 17 | 18 | 57 | 35 | 39 | 7 | 24 | 25 | 14 |
| Wahoo | H | | 106 | 97 | 54 | 62 | 57 | 78 | 61 | 40 | 16 |
| | R | | (1) | (1) | (1) | (1) | 1 | (1) | (1) | (1) | (1) |
| Yellowfin tuna | H | | 183 | 267 | 231 | 124 | 273 | 461 | 198 | 302 | 141 |
| | R | | 5 | (1) | 10 | 1 | 2 | (1) | 1 | 1 | (1) |

[1]Participation (number of anglers), effort (number of trips), and catch (number of fish harvested or released) data were not available for 2001 and 2002.
[2]NA = not applicable because all Hawaii residents are considered coastal county residents
[3]Effort data (number of trips) for for-hire boat trips were not available and effort data were not available for 2002.
[4]In this table, '(1)' = 0-999 thousand fish and '1' = 1,000-1,499 thousand fish.
[5]Goatfishes include yellowstripe, yellowfin, pfulgers, bandtail, doublebar, diespot, whitesaddle, manybar, blue, and 'Goastfish famil/genus'
[6]Trevallys & other jacks includes bluefin trevally, giant trevally, bigeye trevally, black trevally, African pompano, greater amberjack, island jack, and other species in the jack family.
[7]Snappers include bluestip, blacktail, ruby, longtailed, pink, VonSiebolds, Binghams, green jobfish, ironjaw, and smalltooth jobfish.

## Hawaii's State Economy (% of national total)

| | With Imports | | | Without Imports | | |
|---|---|---|---|---|---|---|
| | Jobs | Sales | Value Added | Jobs.1 | Sales.1 | Value Added.1 |
| **Total Impacts** | 8,627 | 694,228 | 311,097 | 6,667 | 364,073 | 195,754 |
| Commercial Harvesters | 3,154 | 159,444 | 83,529 | 3,154 | 159,444 | 83,529 |
| Seafood Processors & Dealers | 509 | 44,786 | 22,865 | 366 | 32,350 | 16,516 |
| Importers | 964 | 265,307 | 80,877 | 0 | 0 | 0 |
| Seafood Wholesalers & Distributors | 476 | 45,551 | 21,253 | 277 | 26,518 | 12,372 |
| Retail | 3,523 | 179,139 | 102,574 | 2,869 | 145,761 | 83,337 |

## Seafood Sales & Processing - Nonemployer Firms (thousands of dollars)

| | | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|---|---|---|---|---|---|---|---|---|---|---|
| Seafood product prep. & packaging | Firms | 7 | 9 | 11 | 5 | 11 | 10 | 9 | 7 | 9 |
| | Receipts | 1,566 | 1,034 | 1,309 | 409 | 1,011 | 1,023 | 1,020 | 713 | 1,020 |
| Seafood Sales, retail | Firms | 0 | 36 | 33 | 29 | 31 | 41 | 37 | 34 | 37 |
| | Receipts | ND[1] | 4,753 | 2,875 | 3,487 | 3,627 | 4,353 | 4,394 | 3,559 | 4,394 |

## Seafood Sales & Processing - Employer Establishments (thousands of dollars)

| | | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|---|---|---|---|---|---|---|---|---|---|---|
| Seafood product prep. & packaging | Establishments | 4 | 4 | 4 | 3 | 3 | 1 | 1 | 1 | 1 |
| | Employees | 86 | ND[2] | ND[2] | ND[2] | ND[2] | ND[2] | ND[2] | ND[2] | ND[2] |
| | Payroll | 2,584 | ND[2] | ND[2] | ND[2] | ND[2] | ND[2] | ND[2] | ND[2] | ND[2] |
| Seafood sales, wholesale | Establishments | 44 | 33 | 36 | 32 | 33 | 36 | 37 | 38 | 37 |
| | Employees | 525 | 654 | 404 | 485 | 462 | 550 | 695 | 538 | 531 |
| | Payroll | 15,203 | 12,653 | 13,949 | 15,163 | 16,786 | 18,932 | 20,665 | 19,347 | 19,290 |
| Seafood sales, retail | Establishments | 29 | 31 | 31 | 29 | 27 | 25 | 25 | 25 | 24 |
| | Employees | 229 | 317 | 321 | 326 | 315 | 393 | 173 | 158 | 177 |
| | Payroll | 3,737 | 5,187 | 5,038 | 5,007 | 5,564 | 7,209 | 3,674 | 3,559 | 3,533 |

## Transport, Support, & Marine Operations - Employer Establishments (thousands of dollars)

| | | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|---|---|---|---|---|---|---|---|---|---|---|
| Coastal & Great Lakes freight transportation | Establishments | 11 | 10 | 11 | 13 | 13 | 11 | 5 | 5 | 2 |
| | Employees | ND[2] | ND[2] | ND[2] | ND[2] | 543 | 557 | 478 | 475 | ND[2] |
| | Payroll | ND[2] | ND[2] | ND[2] | ND[2] | 36,941 | 36,635 | 34,544 | 34,367 | ND[2] |
| Deep sea freight transportation | Establishments | 2 | 1 | NA[2] | NA[3] | NA[3] | NA[3] | 1 | NA[3] | 1 |
| | Employees | ND[2] | ND[2] | NA[3] | NA[3] | NA[3] | NA[3] | ND[2] | NA[3] | ND[2] |
| | Payroll | ND[2] | ND[2] | NA[3] | NA[3] | NA[3] | NA[3] | ND[2] | NA[3] | ND[2] |
| Deep sea passenger transportation | Establishments | 1 | 1 | 1 | 2 | 2 | 1 | 1 | 1 | 1 |
| | Employees | ND[2] | ND[2] | ND[2] | ND[2] | ND[2] | ND[2] | ND[2] | ND[2] | ND[2] |
| | Payroll | ND[2] | ND[2] | ND[2] | ND[2] | ND[2] | ND[2] | ND[2] | ND[2] | ND[2] |
| Marinas | Establishments | 8 | 11 | 11 | 10 | 9 | 11 | 9 | 10 | 13 |
| | Employees | 56 | 177 | 178 | 181 | 152 | 167 | 156 | 164 | 189 |
| | Payroll | 1,414 | 3,285 | 3,439 | 3,354 | 3,719 | 4,151 | 4,317 | 4,368 | 5,362 |
| Marine cargo handling | Establishments | 7 | 8 | 8 | 8 | 7 | 8 | 11 | 11 | 14 |
| | Employees | 756 | ND[2] | ND[2] | 694 | ND[2] | 1,048 | 1,098 | 1,075 | 1,236 |
| | Payroll | 49,975 | ND[2] | ND[2] | 53,061 | ND[2] | 87,770 | 89,104 | 87,833 | 109,059 |
| Navigational services to shipping | Establishments | 7 | 7 | 6 | 6 | 6 | 8 | 11 | 11 | 11 |
| | Employees | ND[2] | ND[2] | ND[2] | ND[2] | ND[2] | ND[2] | 105 | 120 | 90 |
| | Payroll | ND[2] | ND[2] | ND[2] | ND[2] | ND[2] | 3,340 | 5,846 | 5,258 | 5,113 |
| Port & harbor operations | Establishments | 2 | 2 | 2 | 2 | 2 | 2 | 4 | 3 | 2 |
| | Employees | ND[2] | ND[2] | ND[2] | ND[2] | ND[2] | ND[2] | ND[2] | ND[2] | ND[2] |
| | Payroll | ND[2] | ND[2] | ND[2] | ND[2] | ND[2] | ND[2] | 3,218 | 2,031 | ND[2] |
| Ship & boat building | Establishments | 16 | 14 | 17 | 16 | 14 | 13 | 14 | 13 | 15 |
| | Employees | ND[2] | 480 | 589 | ND[2] | 545 | ND[2] | ND[2] | ND[2] | ND[2] |
| | Payroll | ND[2] | 22,053 | 20,908 | ND[2] | 23,134 | ND[2] | ND[2] | ND[2] | ND[2] |

[1]ND = these data are confidential thus not disclosable
[2]NA = these data are not available