PACIFIC ISLANDS FISHERIES SCIENCE CENTER

Fishery Statistics of the Western Pacific

Volume 29

Territory of American Samoa (2012)
Commonwealth of the Northern Mariana Islands (2012)
Territory of Guam (2012)
State of Hawaii (2012)

Compiled by

M. Kimberly Lowe, Michael M. C. Quach, Karen R. Brousseau and Ashley S. Tomita

August 2016

Administrative Report H-16-03

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PREFACE

There is an increasing worldwide demand for data and information relating to marine fisheries, in order to ensure their sustainable harvest and management. To help meet this need in the central and western Pacific areas, the National Marine Fisheries Service's (NMFS) Southwest Fisheries Science Center (SWFSC), Honolulu Laboratory, initiated the Western Pacific Fisheries Information Network (WPacFIN) in the early 1980s. WPacFIN is a partnership of fisheries agencies from across the US Pacific islands, which serves as a centralized data warehouse and assists the agencies in improving their data collecting, processing, and reporting capabilities.

In 1982, WPacFIN partner agencies (page 1) formed a Fisheries Data Coordinating Committee (FDCC), which delegates a FDCC Technical Subcommittee to help guide, coordinate, and plan WPacFIN fisheries data-related projects and activities. Over the ensuing decades, all participating agencies have made significant progress, particularly in the area of upgrading data collection and processing systems.

In May 1985, the FDCC took a big step towards improving and coordinating data reporting and distribution systems of the agencies, and agreed to produce a combined document that would report each island's major fisheries statistics. Production of the document would be the responsibility of the FDCC Technical Subcommittee and would be coordinated by the WPacFIN Program Manager. Each agency agreed to supply the data required to produce the tables and graphs for its respective section, and WPacFIN centralized staff (in Honolulu) would produce and distribute the document as part of the Administrative Report Series.

In April 2003, NMFS created a new Pacific Islands Region (PIR) made up of the Pacific Islands Fisheries Science Center (PIFSC, formerly SWFSC's Honolulu Laboratory) and the Pacific Islands Regional Office (PIRO, formerly Southwest Regional Office's Pacific Islands Area Office). The reorganization placed this statistical report under affiliation with PIFSC, as opposed to with SWFSC.

This is the 29th volume in the series, "Fishery Statistics of the Western Pacific". It contains summaries of commercial landings for American Samoa, the Commonwealth of the Northern Mariana Islands, Guam, and Hawaii for the year 2012. As with previous volumes, it has four sections, one for each of the major island areas. Each section contains reports regarding monthly and annual commercial landings by species and/or major groups.

INTRODUCTION

This report is compiled by fisheries agencies participating in the Western Pacific Fisheries Information Network (WPacFIN, formerly referenced as WPACFIN), a collaboration among fisheries agencies in Hawaii, Guam, the Commonwealth of the Northern Mariana Islands (CNMI), and American Samoa. WPacFIN's goal is to improve access to and dissemination of fisheries information. Participating agencies include the following:

American Samoa	Department of Marine and Wildlife Resources (DMWR)
	NOAA Pacific Islands Regional Office (PIRO), Fisheries Monitoring Field Office and Observer Program, American Samoa
Commonwealth of the Northern Mariana Islands (CNMI)	Department of Lands and Natural Resources, Division of Fish and Wildlife (DFW)
Guam	Department of Agriculture, Division of Aquatic and Wildlife Resources (DAWR)
	Bureau of Statistics and Plans (BSP; formerly Department of Commerce)
Hawaii	Department of Land and Natural Resources, Division of Aquatic Resources (DAR)
	NOAA Pacific Islands Fisheries Science Center (PIFSC)
	NOAA Pacific Islands Regional Office (PIRO)
	Western Pacific Regional Fisheries Management Council (Council)

WPacFIN and these agency partners collect, digitize, conduct quality control, edit, and otherwise process data from the islands. WPacFIN staff at the Pacific Islands Fisheries Science Center then use these data to create the summaries and graphs found in this document. In 1981, when WPacFIN began assisting agencies in improving their data collecting and processing systems, only the State of Hawaii had computerized processing. By mid-1982, fisheries offices in American Samoa, Guam, and CNMI were using WPacFIN-supplied computers to process data. Since that time, these agencies have made significant improvements in their data collection methodology and have established various automated data processing systems with support from WPacFIN Central.

WPacFIN has established File Transfer Protocols (FTP) for all the island areas, with support from PIFSC Information Technology Services (ITS). Online data entry and FTP for DAR are also supported by the Department of Accounting and General Services and Hawaii ITS contractors. Once data from all agencies has reached the WPacFIN centralized data system and appropriate editing, adjustment, and validation procedures are completed, summary tables and charts are produced using freeware and commercially available database and server applications developed by WPacFIN Central staff.

CAVEATS

Data collection, compilation, and processing systems vary greatly among Pacific Island fisheries agencies. Although a lot of effort has made to standardize data systems over the years, many unique aspects remain, resulting from differences in local requirements, resources, abilities, and other factors.

As a result, interpretation and comparison of data across islands from this report, requires recognition of several caveats. For example, Hawaii's commercial landings data summaries are based on mandatory monthly reporting by fish dealers and licensed commercial fishers, and data from federal longline logbooks. In contrast, commercial landings estimates for CNMI and Guam are based on voluntary reporting by major fish buyers, using government-provided invoices, adjusted to represent 100% coverage of estimated fishing trips (referenced throughout this report as "estimated commercial landings"). Finally, American Samoa commercial landings estimates are based on a complex integration of data from a boat-based creel survey and data expansion system for non-federal fisheries, mandatory federal logbook data, a size-frequency sampling program for the longline fishery, and data from a mandatory commercial purchase reporting system for local sales.

Each system has advantages and disadvantages; the reader should be aware of when comparing or interpreting data across fisheries and island areas. In addition, the island agencies and WPacFIN Central staff are continually improving the data collecting and processing systems for each area. Because the improvements usually result in updates to the estimates of total and commercial landings, the data in this volume may not align exactly with data in previous volumes of this report series. WPacFIN Central staff is currently compiling documentation of significant changes in data collection and summary systems across the region over the past three decades, to help put into perspective the effects of these differences on trends in the data.

The reader should also be aware that species assemblages vary among island areas, as do cultural preferences and principal fishing techniques and gears. Island cultures and fisheries also change over time. Sometimes new fishing methods evolve quickly in a given area. The changing population and weather of the island group is relevant to the interpretation of the relative value and importance of its fisheries in a given year. To help provide this perspective, a brief description of island population, fisheries, data collecting, and processing systems are included in each island's section.

DEFINITIONS OF SPECIES CATEGORIES

In addition to a description of the fisheries monitoring systems, and monthly and annual reports, each section contains graphs of statistical summaries of particular interest or importance to participating WPacFIN agencies. Species categories have been defined for each island's fisheries. Because of differences in the resolution of species identification across local monitoring systems and sectors of the fishing industry, the species within each category varies somewhat between the island areas. There is also a degree of overlap between some of the categories used for different graphs. For example, the category "bottomfish" includes some, but not all of the snappers, jacks (trevallies), and groupers. Bottomfish species are reported separately during creel surveys, but they are often grouped in reports from the markets. Each section of the report has its own documentation of species groupings.

Note: Many of the species included in this report have been recategorized over the years. For example, the Magnuson Fishery Conservation and Management Act of 1976 was amended in 1992 to include tunas in the Pelagic Management Unit Species (PMUS) category. However, this FSWP volume will maintain the original species categorizations from previous volumes for comparative purposes. As such, tunas are kept in a separate category.

Categories used in the graphs include

1. Fisheries Categories – These are combinations of species of similar ecological habitat, specifically pelagic, bottomfish, reef fish, and "other." The category "other" includes species or groups that generally traverse these ecological categories (e.g. sharks or jacks), as well as species not typically included in these groups in the Pacific islands (e.g., species that are estuarine in continental ecosystems, such as mullet or milkfish).

2. Pelagic Management Unit Species (PMUS) – The Magnuson Fishery Conservation and Management Act of 1976 was amended in 1992 to place tunas under U.S. jurisdiction for management. The Fishery Management Plan for Pacific Pelagic Species was amended to reflect this change. However, this report series has continued to treat tunas as a separate category for the sake of continuity. Therefore, the PMUS category in this document includes only billfishes, wahoo, mahimahi, and oceanic sharks.

3. Bottomfish Management Unit Species (BMUS) – Defined as the species of initial importance in the Pacific Island's Fishery Management Plan for bottomfish and seamount ground fish fisheries, including the major deep-water snappers, groupers, emperors, and certain jacks.

4. Tunas – Any of 15 species, across 5 genera, of the tribe *Thunnini*. All tunas are oceanic in habitat, most are worldwide in distribution. This does not include other scombrids, such as wahoo and "dogtooth tuna" (see species tables for scientific names). Historically in the Pacific islands, this group had been comprised predominantly of skipjack and yellowfin tuna; but with the growth

of longline fisheries in Hawaii and American Samoa, bigeye and albacore tuna have become much more predominant in landings.

5. Other Scombrids – This group includes species that comprise a very small portion of the catch, unidentified tunas, and apparent misidentifications.

6. Billfishes – This group is a combination of blue, striped, and black marlins; sailfishes; spearfishes; and swordfish species.

GRAPHS

Four types of graphs are provided with each island's data, as follows:

- The first is a chart of the major species or groups, showing the estimated commercial catch for each month of the year.

- The second is a seasonality plot for the major species or groups, showing the average weight landed during each month for all years for which there are data.

- The third is a time series plot of annual summary statistics, to illustrate the year-to-year variability.

- The fourth type of plot shows monthly landings of some of the major commercially important species or groups, and documents monthly fluctuations in landings of these species over the entire time series (all years for which there are data).

To see the most current data and charts, please visit http://www.pifsc.noaa.gov/wpacfin.

AMERICAN SAMOA 2012 FISHERIES STATISTICS

Compiled by

American Samoa

Department of Marine and Wildlife Resources

and the

Western Pacific Fisheries Information Network

March 2016

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AMERICAN SAMOA 2012 FISHERIES STATISTICS

INTRODUCTION

Location: 14°S latitude, 170°W longitude
Islands: Tutuila, Aunu`u, the Manu`a Islands (Ofu, Olosega, Ta`u), Rose Atoll (uninhabited), and Swains Island (sparsely populated)
Population: about 54,719 (*The World Factbook,* July 2014 estimate), the majority (> 95%) living on Tutuila
Economy: tuna fishing and tuna processing plants, with canned tuna the primary export

The American Samoa Department of Marine and Wildlife Resources (DMWR), located in Pago Pago, on Tutuila, has been collecting commercial fisheries data from the Tutuila fleet since the early 1970s. In 1983, DMWR extended its coverage to the Manu`a Islands, and in 1985 modified its data collection programs to include recreational and subsistence fisheries.

American Samoa
Source: http://www.cia.gov/cia/publications/factbook/aq.html; *The World Factbook*

Until the mid-1990s, American Samoa's domestic fisheries had been dominated by small (28-to-32-foot) outboard-engine-powered catamarans called *alias* (pronounced *ah-lee-ahs*), fishing primarily single-day trips. Traditionally, trolling and bottomfishing were the major methods of fishing, with occasional small amounts of spearfishing, netting, and vertical longlining. About mid-1995, some of the traditional alias began converting to horizontal longline fishing. Over the course of 1996, horizontal longlining became the largest fishery in American Samoa, based on total weight of landings, although only about a third of the fleet had converted to this method. The fleet grew rapidly over the next few years, adding new and larger alias up to about 38 feet in length. More significantly, throughout the same period, increasingly larger monohull vessels (40-70 feet and over) also began to join the fleet. These boats could fish much longer trips, both in duration and distance. Between 1995 and 2002, vessels over 50 feet in length rapidly came to dominate the fleet, and have been responsible for over 90% of longline fishing effort annually (number of hooks set) since 2002. The primary target species for this fleet has always been albacore tuna (50-70% of catch annually), but the fishery also lands a significant amount of skipjack tuna (roughly 18-25%), and lesser amounts of yellowfin and bigeye tuna, wahoo, oilfish, blue marlin, mahimahi and other incidental species.

During 2012, the various fisheries monitoring programs in American Samoa identified 43 active vessels, of which 39 were home-ported on Tutuila and 5 in the Manu`a Islands. Many of these vessels participated in more than one fishery, and 28 of the Tutuila boats (including 22

vessels > 50 feet long) did at least some longlining. Of the 43 total boats, 9 participated in the troll and bottomfish fisheries and five were used in other fishing activities, including spearfishing. On average, the alia fleet on Tutuila was made up of a 3-man crew, fishing a 6-hour day, and catching about 87 pounds of fish per trip. Other factors influencing average crew size on Tutuila are described below. The Manu`a-based fleet typically had a 4-man crew, fishing a 6-hour day and landing about 94 pounds of fish per trip. Essentially all of the longlining was based out of Tutuila, where the majority of the catch was offloaded to the cannery.

LINGERING EFFECTS OF THE 2009 TSUNAMI ON LOCAL FISHERIES

On September 29, 2009 American Samoa experienced a severe tsunami that damaged Leone Village and low-lying docks, shores, and villages within Pago Pago Harbor. The tsunami took a huge toll on the boat-based fishery. Of 17 actively fishing local alia boats, only 3 survived the tsunami. The rest sustained damage or loss to the vessel hull, outboard engine, and/or fishing gear. By the fourth quarter of 2010, only 5 or 6 alia boats had resumed fishing and a few were making short trips to test seaworthiness. During the tsunami, several large longline vessels that had not fished for a while were in port and were also destroyed.

From 2010 through 2012, only one alia has continued longline fishing. The remaining serviceable vessels are either trolling, bottomfishing, spearfishing, or using some combination of these methods. A few boat owners are leasing their boats to fishermen for offshore fishing. On some Tutuila trips, particularly for spearfishing, the number of fishermen can be as high as 10 or more, since few have their own boat. By teaming up to rent a boat, fishermen are able to lower the rental fee per person and maximize use of the small number of vessels available.

Most DMWR vehicles were also severely damaged by the tsunami, affecting the ability of agency staff to conduct fishing surveys. As a result, the frequency of creel surveys for the boat-based program was reduced to 2 or 3 days per week and data were only collected data during the daytime. Because of coastal damage, debris, and pollution, little or no shore-based fishing occurred prior to the second quarter of 2010. Nor did DMWR’s shore-based creel survey program resume until that time, due to a lack of serviceable vehicles and an effort on the part of the agency and government as a whole to help the community with the cleanup effort. As of 2012, very few fishers have been observed fishing near the shore.

The slow recovery of fishing, industry, and monitoring activity continued throughout 2012. One cannery had closed and moved to Ohio just prior to the tsunami, by sheer luck avoiding damage to its business. Since October 2010, a new tuna facility operator acquired the cannery and has hired a small number of workers formerly employed by the cannery that closed, but it is unclear how many additional workers they will hire. Various businesses are currently investing in the tuna industry locally, acquiring and refurbishing vessels, seeking to improve local processing options, and developing new markets.

Comparing the fourth quarter of 2012 to the same quarter of 2009, the longline fleet reported about 20% less fishing effort than had been seen 3 years earlier. The number of active

vessels decreased from 25 to 22 vessels (12%). Those 22 vessels made 16% fewer sets, and set 21% less hooks than recorded in the fourth quarter of 2009. Hook densities (number of hooks/set) decreased about 6%. The total catch in the fourth quarter of 2012 was 8% less than during the same quarter of 2009. However, the overall catch per unit effort for all species (CPUE, number of fish/1000 hooks) increased 16% in the fourth quarter of 2012, relative to 2009 values.

Comparing annual summaries for longline logbook data between 2012 and 2010, the longline fleet reported the same amount of fishing effort (26 active vessels for both years). In 2012, the 26 vessels made 7% fewer sets and used 8% less hooks than in 2010. Hooks densities (per set) decreased in 2012 by about 3%, relative to 2010. The shorter trip lengths (less sets/trip) reported in 2012 may be an adaptation to increasing fuel costs and lower CPUE for their target species. The total catch decreased by 13% in 2012, relative to 2010. The overall CPUE decreased by about 6% in 2012, relative to 2010. The 2012 longline fishery in American Samoa remains challenged, which in some ways (such as fewer active vessels) is still related to the impacts of the tsunami.

DATA COLLECTION PROGRAMS

The data collection programs used by the DMWR to monitor the changing fisheries of American Samoa have evolved considerably over the past 20 years. These data collection programs typically have relied heavily on personal contacts with fishers, a significant proportion of interviews across commercial trips, and a lot of dockside monitoring. From 1982 to 1985, DMWR obtained catch statistics by interviewing commercial fishermen at the end of each trip, and kept a record of as much commercial fishing activity as possible. This was referred to as the “Commercial Catch Monitoring System.” This data collection method was accurate for trips for which interviews were conducted. However, it was very labor intensive, did not cover all trips, and did not include subsistence fishing or the small but growing recreational fisheries.

DMWR has several major data collection programs in place. Data from these programs are used to develop the best estimates of catch and effort for the complex, rapidly changing fisheries of American Samoa. These programs include the following:

1. Vessel Classification Program – a vessel history and tracking system for all American Samoa vessels, managed by the Department of Public Safety.
2. Boat-based Creel Survey Program (formerly the Offshore Creel Survey System) – access-point creel surveys at boat ramps on Tutuila and in the Manu`a Islands.
3. Shore-based Creel Survey Program – roving creel surveys along the shoreline of Tutuila and the Manu`a Islands.
4. Commercial Purchase Program – a mandatory purchase receipt system for fish businesses on Tutuila.
5. Federal Longline Logbook Program, in coordination with NOAA’s Pacific Islands Fisheries Science Center (PIFSC), for detailed tracking of the longline fishery.

6. Cannery Sampling Program – Length-frequency sampling data collected for tunas and important pelagic species from longline and purse seine vessels offloading at canneries in Pago Pago.
7. Cannery Offloading Data – Monitoring of total quantities of fish offloaded at the cannery from longline and purse seine vessels in Pago Pago.

Vessel Classification Program – Beginning in the early 1980s, this program was established to collect information on all vessels participating in any domestic fisheries. It includes the following information on American Samoa vessels:

- Boat Name
- Registration Number
- Propulsion
- Length
- Beam
- Number of Engines
- Type of Use
- Trailered
- Number of Crew
- Depth
- Engine Type
- Fuel Type
- Material
- Horsepower
- Port
- Methods of Fishing
- Federal Permit

Boat-based Creel Survey Program – Around 1985, a boat-based creel survey sampling program was implemented on Tutuila to provide statistics on all boat-based fisheries, including non-commercial information. Similar monitoring programs were established shortly thereafter in the Manu`a Islands, where the fishing fleets are centrally located and small enough for statistics to be collected for almost every trip. The surveyors in the Manu`a Islands send monitoring data to the DMWR office on Tutuila for processing.

The details of the Tutuila boat-based fishery sampling program have changed over the years to accommodate changes in the fisheries. But it has remained a trip-based, stratified sampling program, by type of day (weekday vs. weekend/holiday) and fishing method. For cultural reasons, Sundays are not worked in American Samoa. As a result, no sampling occurs on Sundays and there is very little fishing activity.

DMWR staff normally samples at least 2 weekdays and 1 weekend/holiday per week. More recently, sampling has taken place on almost every weekday. During survey days, counts of total participation (number of trips) are collected, and as many returning vessels as possible are interviewed for catch, effort, and biological samples. Tutuila is divided into 6 sample areas, 5 of which are sampled. Since 1985, it has been assumed that fishing activity and catch rates in the non-sampled area are similar to the sampled areas. These assumptions are under evaluation. Furthermore, it has been assumed that the fishers interviewed are representative of the entire fishing population and that they give accurate information.

Unless contrary information is available from knowledgeable persons interviewed along the docks or in the local community, a boat is assumed to be “out fishing” if its trailer is at a boat ramp or the boat is missing from its normal berthing area during the 18-hour survey day.

The following participation information is recorded for all boats considered to be "out fishing" and is expanded to estimate the total number of fishing trips on Tutuila:

- Sample Date
- Boat Name
- 3 Observation Times
- Type of Day
- Fishing Method
- Sample Area

The remaining data elements, listed below, are collected on each boat/trip for which an interview can be successfully completed:

- Interview Time *
- Area Fished
- Home Island
- Total Hours Fished (trip length) *
- Number of Fishermen
- Number of Gears Used
- Total Trip Weight in Pounds *
- Species Caught *
- Number of Pieces by Species
- Disposition of Species (sale vs. home or village consumption) *
- Weight in Pounds by Species *
- Condition by Species (if not whole)
- Length of Fish (converted to weight)
- Price per Pound by Species

It is not always possible to obtain information on all the items listed. However, the ones marked with an asterisk (*) are considered essential for data expansion purposes. Identification and weight of each species are often not obtainable. If that is the case, a code for species groupings (e.g., "miscellaneous bottomfish") is used. The interview data are later expanded to estimate total catch, using the average catch per fishing trip by gear type and the number of fishing trips in each stratum. The sum of catch-per-trip estimates, multiplied by the estimated number of trips for each stratum is used to obtain an estimate of the total catch for Tutuila. The Manu`a statistics, considered to be a census and therefore not expanded, are added to the expanded estimates for Tutuila to arrive at a total estimate for American Samoa.

Shore-based Creel Survey Program – Around 1985, a shore-based creel survey sampling program was implemented on Tutuila to provide statistics on all shore-based fisheries, including non-commercial information. Similar monitoring programs were established shortly thereafter in the Manu`a Islands. The surveyors in the Manu`a Islands send monitoring data to the DMWR office on Tutuila for processing.

The details of the shore-based fishery sampling program have changed over the years to accommodate changes in the fisheries. But it has remained an hourly CPUE-based stratified random sampling program, by area, time of day (6-hour time periods on weekdays vs. weekend/holidays) and fishing method. As noted for boat-based surveys, for cultural reasons no sampling occurs on Sundays and there is very little fishing activity.

In the shore-based creel survey, DMWR staff drives along a designated survey route and stops at designated areas to observe and record fishing activity by method/gear. Any activity that involves a motorized vessel is not counted, unless the vessel: 1) is used primarily for transporting such items as gill nets, surround nets, and drag nets, and 2) was launched from a

beach, not a boat ramp. The survey routes cover the most accessible shoreline areas along the Tutuila and Manu`a Islands shores.

DMWR staff on Tutuila complete a minimum of 7 surveys per quarter: 5 weekdays and 2 weekend/holidays per route and quarter. During survey days, counts of total participation are collected, and as many fishermen returning from fishing trips along the coastline (or while they are still fishing) are interviewed for catch and effort data, and biological samples are taken if possible.

Since 1985, it has been assumed that fishing activity and catch rates in the non-sampled area are similar to the sampled areas. These assumptions are under evaluation. Furthermore, it has been assumed that the fishers interviewed are representative of the entire fishing population and that they provide accurate information.

The following participation information is recorded and is expanded to estimate the total number of fishing trips on Tutuila:

- Survey Date
- Shift Start and End Time
- Location (Areas of Tutuila, Ofu, or Ta`u)
- Run Number and Time
- Village
- Number of People Fishing
- Fishing Method and Number of Gears
- Weather

The remaining data elements, listed below, are collected during interviews:

- Interview Date
- Type of Day (weekday vs. weekend/holiday)
- Interview Time
- Village
- Number of Fishermen
- Fishing Start and Stop Time
- Hours Not Fished
- Fishing Method and Number of Gears
- Location Fished
- Percent of Catch (sold and unsold)
- Species
- Length of Fish (converted to weight)
- Total Number of Pieces
- Total Weight of Fish
- Whether Interview was Complete (all fish are measured), Incomplete or Opportunistic
- Bycatch (species, weight, number of pieces, live, dead/injured, released)

It is not always possible to obtain information on all the items listed, nor is it always possible to identify and weigh each species. In some cases, a code for species groupings may be used and the weight either measured or estimated for the lot. The interview data are later expanded to estimate total catch, using the average catch per hour by gear type and the number of fishing hours in each stratum. The sum of estimated catch-per-stratum (area and time period), multiplied by the number of strata in a year, provides an estimated total catch for Tutuila. The Manu`a statistics, considered to be a census and therefore not expanded, are added to the expanded estimates for Tutuila to arrive at a total estimate for American Samoa.

Commercial Purchase Program – For several decades, the two canneries in Pago Pago Harbor provided monthly summary statistics of their purchases of fish from all vessels, foreign and domestic. In September 1990, a Commercial Purchase Program was instituted, whereby all other businesses in American Samoa that buy fish directly from fishermen were required by law to submit a copy of their purchase receipts to DMWR. Receipt books were issued by DMWR to all fish markets, stores, hotels, and restaurants that resell fish, either whole or prepared. The information collected via these receipts includes:

- Invoice Date
- Invoice Number
- Buyer's Name
- Boat Name, Owner
- Area Fished
- Fishing Method
- Species Bought
- Number of Pieces by Species
- Weight in Pounds by Species *
- Price per Pound by Species

Federal Longline Logbook System – In January 1996, in response to the developing longline fishery, a mandatory federal longline logbook system was implemented by NOAA's National Marine Fisheries Services (NOAA Fisheries) for American Samoa. All longline fishermen are required to obtain a federal permit and to submit logs containing detailed data on each set, including location, effort, and the number kept and released by species. In 1996, DMWR began collecting and processing the logbook data submitted by American Samoa longliners and sending it via FTP to the PIFSC-WPacFIN Central Office in Honolulu on a regular basis.

In July 1999, to improve monitoring of the quickly growing longline fishery, DMWR implemented a Daily Effort Census (DEC) for all federally permitted longline vessels. Six days a week, DMWR staff made two visits daily to the docks and mooring areas frequented by longline vessels. The staff documented whether each vessel listed was either "in port" or "out fishing." The DEC data were used to track the activity of each vessel and help ensure that all log sheets are submitted in a timely manner.

Over the course of 1996, longlining became the largest fishery in American Samoa, based on total weight of landings, although only about a third of the fleet had converted to this method. The fleet grew rapidly over the next few years, adding new and larger alias up to about 38 feet in length. More significantly, throughout the same period, increasingly larger monohull vessels (40-70 feet and over) also began to join the fleet. These boats could fish much longer trips, both in duration and distance. Between 1995 and 2002, vessels over 50 feet in length rapidly came to dominate the fleet. These large vessels have been responsible for more than 90% of longline fishing effort (number of hooks set) annually since 2002.

By 2008, the number of alias longlining had dwindled to just two boats and the Daily Effort Census no longer served a useful purpose. In December 2008, DMWR ceased collecting the DEC data. Instead, DMWR and PIFSC began using Vessel Activity Record data collected by PIRO's Fisheries Monitoring Field Office and Longline Observer Program to keep track of timely submission of logbooks by the larger longline vessels.

Information recorded for each longline set in federal logbooks includes:

- Logbook Number
- Federal Longline Permit Number
- Vessel Name
- Date of Departure/Arrival
- Port of Departure/Arrival
- Observer on Board (yes/no)
- Begin and End of Set/Haul Date and Time
- Begin and End of Set/Haul Latitude and Longitude
- Target Species
- Bait Used
- Mainline Length
- Number of Hooks
- Number of Hooks between Floats
- Number of Hooks Lost
- Number of Kept by Species (including sharks)
- Number Released by Species
- Number of Protected Species Released Alive, Injured or Dead
- Bird Catch Mitigation Measures
- Number of Light Sticks Used

Cannery Sampling (Length-Frequency) Program – This data collection program is run by PIRO staff in the Pago Pago Fisheries Monitoring Field Office (FMFO). Tuna sampling data is collected from foreign and domestic longline and purse seine vessels offloading catches at the canneries in Pago Pago. Data on the percentage of fish sold to the cannery, local markets or kept for other uses ("percent disposition") are also collected on the sampling form. The FMFO sampling program is primarily geared towards collecting data on tuna size compositions (bigeye, yellowfin, skipjack, and albacore), but other pelagic species are also sampled periodically.

To estimate the weight of fish kept versus sold by the American Samoa-based longline fleet, in 1998 WPacFIN developed and implemented a data processing system to enable DMWR staff to compile cannery sampling data collected from the PIRO FMFO, focusing specifically on data from domestic longline vessels (purse seine catch excluded). The longline cannery sampling data are used by WPacFIN to develop estimates of average weight for the species sampled. The average length data are converted to average weights by species, using a length-weight regression. These average weights are applied to logbook data to estimate the weight of the kept catch. The percent disposition (% sold to cannery versus local markets), from cannery sampling data, is applied to the total weight estimated by species in order to develop an estimated weight of commercial landings. Then market vs. cannery prices are applied to the appropriate percentage of the commercial weight to come up with an estimated total sales value.

Cannery Offloading Data – This PIRO FMFO program monitors the amount of fish offloaded at the cannery in Pago Pago by longline and purse seine vessels. To qualify for the American Samoa Government's tax exemption benefits, the canneries are required to report their monthly landings to the Governor's Office and the local Department of Commerce. Previously, these Cannery Offloading Reports were also submitted to the DMWR office. These reports provide a record of the total pounds of fish offloaded at the cannery, by species and vessel.

In 1998, WPacFIN assisted DMWR in developing a data entry system to capture and compile these data. From 1995 through 2010, the cannery offloading data were processed and stored in a DMWR database. During the first few years of the federally mandated longline logbook data system, data on the amount of domestic longline vessel landings at the canneries were used by DMWR to assist WPacFIN in verifying and monitoring delinquencies in reporting via federal longline logbooks.

More recently, changes in the American Samoa Government and changes in management of the (remaining) cannery have affected the continuity of cannery reporting to the DMWR. Cannery reporting started to fall behind in 2008, and no reports have been submitted to the DMWR since 2010. There is an ongoing effort by the DMWR to revive this data collection.

DATA PROCESSING

Significant changes in American Samoa's fisheries have occurred since the mid-1990s, including the development of the longline fishery and a nighttime, boat-based spear fishery. These changes, along with changes in the ability of DMWR to conduct monitoring throughout the week, at all times of day, and in all fishing areas, have introduced bias in formerly randomized processes used to collect creel survey effort and interview data in the field. By 1997, WPacFIN and DMWR identified some problems and implemented modifications to creel survey field techniques. By early 1998, it was clear that the algorithms used to expand the survey data and estimate landings for the fishery as a whole needed to be adapted to changes in the fielding methodology. New data processing programs that better handled the more complex fisheries in American Samoa were implemented and used to reprocess the historical time series of data. This volume includes some of the results of new data expansion algorithms.[1]

As the data collecting programs used by DMWR to monitor the fisheries in American Samoa have changed over the years, so have the data processing systems. Numerous versions of database utilities/applications and desktop computer systems have been used over the years to meet the growing need for fisheries data within the agencies, and to adapt to rapid changes in data processing technology. Generally speaking, these changes have placed increasing emphasis on improving data quality and employing cross-validation measures across systems, which has made the data processing systems and data collections more robust and complete, albeit more complex.

[1] Hospital, S. B. 2015. Western Pacific Creel Survey Program Data Summary and Analysis *Guam, the Commonwealth of the Northern Mariana Islands, and American Samoa*. Pacific Islands Fish. Sci. Cent., Natl. Mar. Fish. Serv., NOAA, Honolulu, HI 96818-5007. Pacific Islands Fish. Sci. Cent. Admin. Rep. H-15-06C, 194 p.

The following important principles have remained constant over time:

1. Keep data processing close to the source of data collection.
2. Provide all of the needed software tools to ensure data quality.
3. Make systems user-friendly and functional for the local staff.
4. Maintain data collection standards as consistently as possible throughout the time series.

Typically, when upgrades have been made to data processing systems (such as changes in expansion and reporting algorithms for the creel and commercial landings data), the entire time series of data is reprocessed using the new algorithms, in an effort to ensure that apparent trends in fisheries data would not result solely from changing methodology. To help the reader understand the origin of the data included in this report, a general description of these processes follows. Please note that, although the summary does not include the details of minor changes that may have occurred throughout the evolutionary history of these systems, an effort has been made to include a description of major changes.

The data from 1982 to 1985 were imported directly from the original Commercial Catch Monitoring System, used prior to implementation of the boat-based creel survey in American Samoa. Since 1986, the boat-based creel survey data expansion system has been the central system used to estimate total commercial landings in American Samoa. Briefly, the survey data expansion process involves multiplying the average daily participation by the average catch per trip for each stratum and summing this across strata.

For the years from 1986 to 1990, the estimated commercial sales portion of expanded creel survey data from Tutuila and the Manu`a Islands were combined to produce estimated total commercial landings. Since 1990, with implementation of a mandatory fish dealer receipt book system on Tutuila (Commercial Purchase Program), further adjustments have been made to these combined creel data, based on a comparison with receipt book data. The total reported commercial receipts were compared with the estimated percent of the expanded total catch sold from creel survey data. These adjustments made significant improvements in the total commercial sales estimates provided herein, since they helped adjust for sales not detected through the boat-based survey (e.g., inshore and strictly nighttime commercial fishing). Species totals modified with these types of adjustments are marked with an asterisk (*) in the following data summaries.

In the late 1990s, when large longline vessels began landing their catches directly at the canneries (outside the monitoring capability of standard boat-based creel survey data), the longline logbook system and cannery size-frequency sampling data began to enter into algorithms used to estimate commercial landings from this part of the fishery. Landings from those vessels were added to develop a more complete estimate of total commercial landings for American Samoa.

One of the most significant recent improvements made in the data processing systems for DMWR has been in the area of cross-system data validation and quality control. By collecting similar data from several sources, using different monitoring and reporting tools, the quality of

reported data can be cross-referenced between systems to provide insight into the validity and completeness of each data set.

The charts that make up the rest of the report are for groups of species, as well as for some individual species that are more predominant in commercial landings. The top 10 commercial species for the year are emphasized in this report, but these can change from year to year. To see the most current charts and tables, please visit the WPacFIN website, http://www.pifsc.noaa.gov/wpacfin.

DATA REPORTING

After all editing, quality control, and data interpretation activities are completed, monthly and annual commercial landings data tables by species are generated. Each of the commercial landings data tables contains the common name, weight (in pounds), estimated value if all the weight were sold (in dollars), the average price per pound of each species or group, and whether the data were modified by Commercial Purchase System data (denoted by an asterisk). The monthly data tables are based on a monthly expansion of the Tutuila boat-based creel survey data, with addition or adjustment based upon monthly Longline Logbook, Commercial Purchase System, and Manu`a data, as explained previously. Annual data tables are based on an annual expansion of the creel data for the calendar year, with similar addition or adjustment based upon Longline Logbook, Commercial Purchase System, and Manu`a data. Since the monthly and annual data tables are based on separate monthly and annual expansions of the creel data, for which sample size affects mean CPUE and participation, the annual data tables are not the exact sum of the 12 monthly data tables, but their sum falls within the range of the annual standard error (Tables A-1 to A-13).

SPECIES CATEGORIES

The species and groups used in the tables and graphs of American Samoa's data are defined in this section. Some of the species groupings included in this report have been recategorized over the time series covered by these reports. There have been changes in management groupings and in some cases the taxonomy has been reviewed or revised, affecting the appropriateness of former groupings. For example, the Magnuson Fishery Conservation and Management Act of 1976 was amended in 1992 to include tunas in the Pelagic Management Unit Species (PMUS) category. And species such as the dogtooth tuna have been recognized as not being true tunas (members of the Tribe Thunnini), although the word "tuna" is part of the common name.

To maintain easy comparability, this report maintains the original species groupings from previous FSWP volumes. As such, tunas are kept in a separate category from other PMUS. The species tables are affected by differences in usage of local common names, and are currently being updated for consistency across regions. To avoid confusion in this report, the scientific names are provided, along with the most common English or in some cases local name. These tables will be revised in the next volume to clearly associate scientific names with English and

local common names, and taxonomic groups will be clarified in this context. This is part of an ongoing effort to overhaul WPacFIN taxonomic references, to improve consistency and ease of interpretation for all our Pacific island partners. To see the most current taxonomic information for species caught commercially in American Samoa, and other U.S.-associated Pacific island areas, please visit the WPacFIN website, http://www.pifsc.noaa.gov/wpacfin.

I. Pelagic Management Unit Species (PMUS)

Blue marlin *(Makaira mazara)*
Mahimahi *(Coryphaena hippurus)*
Striped marlin *(Kajikia audax)*
Swordfish *(Xiphias gladius)*
Wahoo *(Acanthocybium solandri)*

II. Bottomfish Management Unit Species (BMUS)

Black jack *(Caranx lugubris)*
Blue-lined snapper *(Lutjanus kasmira)*
Flower snapper/Gindai *(Pristipomoides zonatus)*
Giant trevally *(Caranx ignobilis)*
Goldflag jobfish *(Pristipomoides auricilla)*
Gray jobfish *(Aprion virescens)*
Longtail snapper/Onaga *(Etelis coruscans)*
Pink snapper/Opakapaka *(Pristipomoides filamentosus)*
Silverjaw jobfish/Lehi *(Aphareus rutilans)*
Redgill emperor *(Lethrinus lentjan)*
Ruby snapper/Ehu *(Etelis carbunculus)*
Yellow-edged lyretail *(Variola louti)*

III. Billfishes

Blue marlin *(Makaira mazara)*
Striped marlin *(Kajikia audax)*
Swordfish *(Xiphias gladius)*

IV. Tunas

Albacore *(Thunnus alalunga)*
Bigeye tuna *(Thunnus obesus)*
Kawakawa *(Euthynnus affinis)*[2]
Skipjack tuna *(Katsuwonus pelamis)*
Yellowfin tuna *(Thunnus albacares)*
Other tunas[3]

V. Other Scombrids

Dogtooth tuna *(Gymnosarda unicolor)*
(See footnote 2)

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[2] Because of the low volume of catch, this tuna is included with "other scombrids" in some of the charts.

[3] This group includes species that comprise a very small portion of the catch, unidentified tunas, and apparent misidentifications (e.g., Bluefin tuna have never been credibly identified in American Samoa but are occasionally reported by fishermen. These are thought to have been large bigeye tuna.).

VI. Fisheries Categories

A. *Pelagic Fishes*

Albacore tuna *(Thunnus alalunga)*
Barracudas *up to 5 species (Sphyraena spp.)*
Bigeye tuna *(Thunnus obesus)*
Blue marlin *(Makaira mazara)*
Dogtooth tuna *(Gymnosarda unicolor)*
Kawakawa *(Euthynnus affinis)*
Mackerel *(Rastrelliger brachysoma)*
Mahimahi (*Coryphaena hippurus, C. equiselis*)
Rainbow runner *(Elagatis bipinnulata)*
Skipjack tuna *(Katsuwonus pelamis)*
Striped marlin *(Kajikia audax)*
Swordfish *(Xiphias gladius)*
Wahoo *(Acanthocybium solandri)*
Yellowfin tuna *(Thunnus albacares)*

B. *Bottomfishes*

Bigeye bream *(Monotaxis grandoculis)*
Bigeye scad *(Selar crumenopthalmus)*
Black jack *(Caranx lugubris)*
Blue-lined snapper *(Lutjanus kasmira)*
Bottomfishes (unspecified[5])
Brown jobfish *(Aphareus furca)*
Deep-water snappers (unspecified[6])
Emperors (unspecified, family Lethridae)
Flagtail grouper *(Cephalopholis urodeta)*
Flower snapper/Gindai *(Pristipomoides zonatus)*
Jacks (unspecified, generally larger Carangidae[4])
Longnose emperor *(Lethrinus elongatus)*
Longtail snapper/Onaga *(Etelis coruscans)*
Mackerel scad/'Opelu *(Decapterus macarellus)*
Onespot snapper *(Lutjanus monostigma)*
Peacock grouper *(Cephalopholis argus)*
Pink snapper/Opakapaka *(Pristipomoides filamentosus)*
Redgill emperor *(Lethrinus lentjan)*
Ruby snapper/Ehu *(Etelis carbunculus)*
Silverjaw jobfish/Lehi *(Aphareus rutilans)*

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[4] The categories “Jacks” and “Trevallies” both apply to carangid species, but the names are used somewhat interchangeably, depending on the fish size. In American Samoa, the fish most commonly called “jacks” are of the genera *Caranx* or *Seriola*. Most of the species called “trevallies” are of the genus *Carangoides* or *Uraspis*, but some of these are also referred to at times as “jacks.” Generally, the larger the fish, the more likely it is to be referred to as a jack, and the smaller fish the more likely it will be called a “trevally.” These categories are used in this report only when the fish were not identified to species. Please note that there may be some overlap.

[5] This group includes multiple genera and species of snappers, groupers, and carangids, often grouped together in reporting by markets because they come from a single fishery.

[6] This group includes any of the snappers caught by the deep bottom fishing method. They are the various species of the genera *Aphareus*, *Aprion*, *Etelis*, and *Pristipomoides*, listed separately, and also the species *Lutjanus kasmira*.

Giant trevally *(Caranx ignobilis)*
Goldflag jobfish *(Pristipomoides auricilla)*
Gray jobfish *(Aprion virescens)*
Greater amberjack *(Seriola dumerili)*
Groupers (unspecified, family Serranidae)
Humpback snapper *(Lutjanus gibbus)*
Trevallies (unspecified, smaller Carangidae[4])
White-edged lyretail *(Variola albimarginata)*
Whitemouth trevally *(Uraspis secunda)*
Yellow margined snapper *(Lutjanus fulvus)*
Yellow-edged lyretail *(Variola louti)*

C. *Reef Fishes*

Barred flagtail (Kuhlia mugil)
Bloch's Bigeye *(Priacanthus blochii)*
Goatfishes (family Mullidae)
Inshore groupers (family Serranidae)
Mullets (family Mugilidae)
Parrotfishes (family Scaridae)
Rabbitfishes (family Siganidae)
Reef fishes (unspecified)
Rudderfishes (*Kyphosus* spp.)
Squirrelfishes (multi-species *Neoniphon, Sargocentron*[7])
Surgeonfishes/Tangs (family Acanthuridae)
Terapon perch *(Terapon jarbua)*
Triggerfishes (family Balistidae)
Unicornfishes (multi-species *Naso* spp.)
Wrasses (family Labridae)

D. *Other Fishes, Algae & Invertebrates*

Conger eels (all species identified to date included *Conger* spp.)
Crabs (multiple families, Brachyura)
Eels (most are *Gymnothorax* spp.)
Filefishes (family Monacanthidae)
Gold banded fusilier *(Caesio caerulaurea)*
Needlefishes (*Strongylura incisa*, *Platybelone argalus*, other Belonidae)
Octopus (*Octopus cyanea*, *Octopus ornatus*)
Pufferfishes (family Tetraodontidae)
Spiny lobster (mainly *Panulirus penicillatus*)

[7] This group has mistakenly included some *Priacanthus* in the past. Identifications have improved significantly in recent years.

INTERPRETATION OF STATISTICS

When interpreting the data in the tables and graphs, please keep in mind the caveats described earlier in this section, along with the fact that these commercial landings summaries are not based on a census of all fishing activity, but on a subsample of those activities, as well as on integration of data from several different programs. One of the primary tools in expanding the creel survey data into an estimate of monthly and annual catch is the proportionality constants, used to adjust for the percentage of temporal and geographic coverage of the surveys. The data expansion methodology is designed to allow for refinement of these constants, as additional information is gained on the proportions of fishing activity taking place outside the survey times and areas. With constant improvement in the estimated values of these constants, the survey data expansion can be improved to create better overall estimates. Variation in species composition would not be expected to change significantly, unless gear types and fishing methods change as well. The current estimates of total landings are considered to be conservative, because the catch from inshore subsistence fisheries has not been included in these estimates.

Table A-1

American Samoa Annual 2012 Estimated Commercial Landings

Species	Pounds	Value ($)	Price/Lb ($)
Amberjack, greater	1,141	5,154	4.52
Barracudas	660	1,888	2.86
Bloch's bigeye	1	2	2.96
Bottomfishes (unspecified)	10,488	31,375	2.99
Bigeye bream	9	28	3.16
Crabs	4	11	3.00
Conger eels	1	2	2.95
Dogtooth tuna	38	132	3.46
Eels	14	41	3.00
Emperor, longnose	10	37	3.75
Emperor, redgill	534	1,776	3.33
Emperors	1,896	6,435	3.39
Filefishes	39	182	4.68
Flagtail, barred	2	8	3.50
Fusilier, gold banded	0	0	3.75
Goatfishes	12	42	3.47
Grouper, flagtail	2	8	3.75
Grouper, peacock	28	102	3.64
Groupers	242	709	2.92
Groupers, inshore	586	1,707	2.91
Jack, black	67	202	3.00
Jacks (unspecified)	327	1,173	3.59
Jobfish, brown	85	251	2.95
Jobfish, goldflag	70	264	3.75
Jobfish, gray	215	652	3.04
Jobfish, silverjaw (lehi)	57	201	3.54
Lobster, spiny	849	3,887	4.58
Lyretail, yellow-edged	3	9	3.00
Lyretail, white-edged	167	626	3.75
Mackerel	8,688	18,298	2.11
Mahimahi	23,764	64,251	2.70
Marlin, blue	1,124	1,231	1.09
Marlin, striped	952	809	0.85
Mullets	15	44	3.00
Needlefishes	34	103	3.00
Octopus	50	150	2.98
Parrotfishes	7,485	23,118	3.09
Perch, terapon	213	796	3.74
Pufferfishes	3	9	3.00
Rabbitfishes	0	1	3.00
Rainbow runner	37	139	3.75
Reef fishes (unspecified)	2,458	7,312	2.97
Rudderfishes	5	15	3.00
Scad, bigeye	2,776	6,517	2.35
Scad, mackerel ('opelu)	96	289	3.00
Snapper, blue-lined	660	1,975	2.99

Table A-1 (continued)

American Samoa Annual 2012 Estimated Commercial Landings

Species	Pounds	Value ($)	Price/Lb ($)
Snapper, flower (gindai)	41	113	2.75
Snapper, humpback	1,519	4,799	3.16
Snapper, longtail (onaga)	222	710	3.20
Snapper, onespot	100	373	3.74
Snapper, ruby (ehu)	374	1,649	4.41
Snapper, yellow margined	7	25	3.75
Snapper, pink (opakapaka)	719	2,112	2.94
Snappers, deep-water	8	23	3.00
Squirrelfishes	1,476	4,395	2.98
Surgeonfishes/tangs	19,863	59,126	2.98
Swordfish	2,344	5,561	2.37
Trevally, giant	23	79	3.50
Trevally, whitemouth	5	15	3.00
Trevallies	6	22	3.75
Triggerfishes	23	77	3.37
Tuna, albacore	7,070,780	7,710,662	1.09
Tuna, bigeye	384,657	482,768	1.26
Tuna, kawakawa	296	870	2.94
Tuna, skipjack	654,082	511,332	0.78
Tuna, yellowfin	851,670	866,259	1.02
Unicornfishes	3,331	10,024	3.01
Wahoo	189,311	188,736	1.00
Wrasses	1	4	3.74
TOTAL	9,246,762	10,031,692	1.08

* Data replaced or modified by Actual Commercial Landings Data

Table A-2
American Samoa January 2012 Estimated Commercial Landings

Species	Pounds	Value ($)	Price/Lb ($)	
Amberjack, greater	28	83	2.95	
Barracudas	7	0	0.00	
Bottomfishes (unspecified)	1,322	3,967	3.00	
Bigeye bream	6	18	3.00	
Crabs	4	11	3.00	
Eels	14	41	3.00	
Emperor, redgill	282	832	2.95	
Emperors	6	8	1.25	
Filefishes	0	1	2.98	
Goatfishes	2	6	2.99	
Groupers	36	107	2.99	*
Groupers, inshore	26	82	3.15	*
Jobfish, brown	85	251	2.95	
Jobfish, gray	54	160	2.95	
Jobfish, silverjaw (lehi)	15	45	2.95	
Lobster, spiny	92	444	4.82	*
Mahimahi	473	1,276	2.70	
Parrotfishes	471	1,358	2.88	*
Pufferfishes	3	9	3.00	
Rabbitfishes	0	1	3.00	
Reef fishes (unspecified)	216	625	2.89	
Rudderfishes	5	15	3.00	
Snapper, blue-lined	149	438	2.95	
Snapper, humpback	784	2,313	2.95	
Snapper, longtail (onaga)	5	15	2.95	
Snapper, onespot	1	2	3.00	
Snapper, pink (opakapaka)	623	1,839	2.95	
Squirrelfishes	96	290	3.01	*
Surgeonfishes/tangs	1,938	5,581	2.88	
Swordfish	222	722	3.25	*
Triggerfishes	11	34	3.00	
Tuna, albacore	393,878	430,384	1.09	
Tuna, bigeye	10,306	12,938	1.26	
Tuna, skipjack	12,537	8,831	0.70	
Tuna, yellowfin	39,921	39,332	0.99	
Unicornfishes	189	582	3.09	*
Wahoo	18,201	17,177	0.94	
TOTAL	482,009	529,819	1.10	

* Data replaced or modified by Actual Commercial Landings Data

Table A-3

American Samoa February 2012 Estimated Commercial Landings

Species	Pounds	Value ($)	Price/Lb ($)	
Barracudas	14	40	2.75	
Bottomfishes (unspecified)	1,430	4,291	3.00	*
Groupers, inshore	174	510	2.93	*
Lobster, spiny	78	362	4.66	*
Mahimahi	788	2,127	2.70	
Marlin, blue	313	391	1.25	*
Parrotfishes	869	2,624	3.02	*
Reef fishes (unspecified)	305	915	3.00	
Snapper, ruby (ehu)	160	800	5.00	*
Squirrelfishes	171	509	2.98	*
Surgeonfishes/tangs	2,041	6,058	2.97	
Tuna, albacore	205,610	224,820	1.09	
Tuna, bigeye	5,771	7,250	1.26	
Tuna, kawakawa	8	8	1.00	
Tuna, skipjack	7,638	8,968	1.17	
Tuna, yellowfin	33,275	33,800	1.02	
Unicornfishes	458	1,362	2.98	*
Wahoo	9,916	10,673	1.08	
TOTAL	269,020	305,508	1.14	

* Data replaced or modified by Actual Commercial Landings Data

Table A-4
American Samoa March 2012 Estimated Commercial Landings

Species	Pounds	Value ($)	Price/Lb ($)	
Amberjack, greater	14	53	3.75	
Barracudas	3	10	3.00	
Bloch's Bigeye	1	2	2.96	
Bottomfishes (unspecified)	616	1,849	3.00	
Filefishes	4	16	3.75	
Goatfishes	3	8	3.00	
Groupers	58	165	2.85	
Groupers, inshore	27	80	2.95	*
Jacks	13	47	3.50	
Lobster, spiny	48	200	4.17	*
Mackerel	3	6	2.50	
Mahimahi	653	1,763	2.70	
Marlin, blue	181	317	1.75	*
Octopus	9	26	3.00	
Parrotfishes	628	1,932	3.08	*
Perch, terapon	2	3	2.00	
Reef fishes (unspecified)	36	109	3.00	
Scad, bigeye	354	831	2.35	
Snapper, humpback	6	12	2.00	
Snapper, onespot	1	3	3.73	
Squirrelfishes	175	518	2.96	*
Surgeonfishes/tangs	1,477	4,411	2.99	
Swordfish	429	794	1.85	*
Tuna, albacore	304,657	332,429	1.09	
Tuna, bigeye	24,175	30,373	1.26	
Tuna, skipjack	22,346	16,940	0.76	
Tuna, yellowfin	79,673	79,179	0.99	
Unicornfishes	253	747	2.95	*
Wahoo	12,856	12,085	0.94	
TOTAL	448,700	484,908	1.08	

* Data replaced or modified by Actual Commercial Landings Data

Table A-5

American Samoa April 2012 Estimated Commercial Landings

Species	Pounds	Value ($)	Price/Lb ($)	
Amberjack, greater	11	43	3.75	
Barracudas	11	33	3.00	
Emperors	39	109	2.75	
Fusilier, gold banded	0	0	3.75	
Groupers	60	170	2.82	
Groupers, inshore	43	124	2.91	*
Jacks	41	143	3.50	
Jobfish, gray	10	29	2.75	*
Lobster, spiny	9	44	5.00	
Mackerel	2	6	2.50	
Mahimahi	765	2,066	2.70	
Parrotfishes	579	1,744	3.01	*
Reef fishes (unspecified)	88	241	2.75	
Scad, bigeye	246	615	2.50	
Snapper, blue-lined	46	126	2.75	*
Snapper, flower (gindai)	41	113	2.75	*
Snapper, humpback	52	144	2.75	*
Snapper, longtail (onaga)	58	165	2.85	*
Snapper, onespot	7	25	3.75	
Snapper, ruby (ehu)	98	269	2.75	*
Squirrelfishes	118	349	2.96	*
Surgeonfishes/tangs	1,006	3,001	2.98	
Swordfish	233	699	3.00	*
Tuna, albacore	511,220	557,230	1.09	
Tuna, bigeye	64,884	81,518	1.26	
Tuna, skipjack	45,045	33,933	0.75	
Tuna, yellowfin	99,596	99,430	1.00	
Unicornfishes	395	1,161	2.94	*
Wahoo	8,280	8,440	1.02	
TOTAL	732,984	791,969	1.08	

* Data replaced or modified by Actual Commercial Landings Data

Table A-6

American Samoa May 2012 Estimated Commercial Landings

Species	Pounds	Value ($)	Price/Lb ($)	
Amberjack, greater	28	104	3.75	
Barracudas	6	17	3.00	
Bottomfishes (unspecified)	265	794	3.00	
Dogtooth tuna	24	88	3.75	
Emperor, longnose	10	37	3.75	
Emperor, redgill	20	77	3.75	
Emperors	134	374	2.79	
Grouper, flagtail	1	4	3.75	
Groupers	19	70	3.75	
Groupers, inshore	66	189	2.86	*
Jack, black	56	169	3.00	
Jacks	28	97	3.50	
Jobfish, gray	29	80	2.75	*
Jobfish, silverjaw (lehi)	38	143	3.75	
Lobster, spiny	61	286	4.72	*
Lyretail, white-edged	6	22	3.75	
Mackerel	8	20	2.50	
Mahimahi	2,544	6,868	2.70	
Marlin, blue	72	61	0.85	*
Needlefishes	10	31	3.00	
Octopus	5	15	3.00	
Parrotfishes	669	2,012	3.01	*
Perch, terapon	6	24	3.75	
Reef fishes (unspecified)	92	277	3.00	
Scad, bigeye	226	182	0.81	
Snapper, blue-lined	54	149	2.75	*
Snapper, humpback	104	299	2.88	*
Snapper, onespot	3	12	3.75	
Snapper, ruby (ehu)	78	392	5.00	*
Snapper, pink (opakapaka)	14	53	3.75	
Squirrelfishes	202	593	2.94	
Surgeonfishes/tangs	2,070	6,163	2.98	
Tuna, albacore	791,862	863,482	1.09	
Tuna, bigeye	48,629	61,096	1.26	
Tuna, skipjack	31,297	28,087	0.90	
Tuna, yellowfin	124,126	126,107	1.02	
Unicornfishes	361	1,076	2.98	*
Wahoo	10,857	10,721	0.99	
Wrasses	1	4	3.74	
TOTAL	1,014,080	1,110,276	1.09	

* Data replaced or modified by Actual Commercial Landings Data

Table A-7

American Samoa June 2012 Estimated Commercial Landings

Species	Pounds	Value ($)	Price/Lb ($)	
Amberjack, greater	5	20	3.75	
Barracudas	39	116	3.00	
Bottomfishes (unspecified)	232	641	2.77	*
Emperors	392	1,155	2.95	
Groupers	22	55	2.50	
Groupers, inshore	91	251	2.76	*
Jacks	23	81	3.50	
Lobster, spiny	62	268	4.33	*
Mackerel	2,149	5,372	2.50	
Mahimahi	3,196	8,630	2.70	
Octopus	5	14	2.75	
Parrotfishes	1,049	3,287	3.13	*
Reef fishes (unspecified)	30	88	2.95	
Scad, bigeye	573	1,431	2.50	
Scad, mackerel ('opelu)	20	59	3.00	
Snapper, blue-lined	130	335	2.58	*
Snapper, humpback	16	46	2.85	
Snapper, onespot	2	7	3.75	
Snapper, ruby (ehu)	38	188	5.00	*
Squirrelfishes	124	368	2.96	*
Surgeonfishes/tangs	1,564	4,664	2.98	
Swordfish	952	2,047	2.15	*
Trevallies	0	1	3.74	
Tuna, albacore	570,087	621,395	1.09	
Tuna, bigeye	18,960	23,821	1.26	
Tuna, skipjack	24,433	18,908	0.77	
Tuna, yellowfin	98,590	102,316	1.04	
Unicornfishes	402	1,202	2.99	*
Wahoo	12,894	12,909	1.00	
TOTAL	736,078	809,673	1.10	

* Data replaced or modified by Actual Commercial Landings Data

Table A-8

American Samoa July 2012 Estimated Commercial Landings

Species	Pounds	Value ($)	Price/Lb ($)	
Amberjack, greater	129	483	3.75	
Barracudas	463	1,389	3.00	
Bottomfishes (unspecified)	2,840	8,558	3.01	
Conger eels	1	2	2.95	
Emperor, redgill	40	151	3.75	
Emperors	687	2,578	3.75	
Goatfishes	8	29	3.75	
Grouper, flagtail	1	4	3.76	
Grouper, peacock	28	102	3.64	
Groupers	8	23	2.85	
Groupers, inshore	18	52	2.96	*
Jacks	111	388	3.50	
Jobfish, goldflag	70	264	3.75	
Jobfish, gray	14	53	3.75	
Lobster, spiny	88	394	4.50	
Lyretail, white-edged	136	509	3.75	
Mackerel	814	2,034	2.50	
Mahimahi	3,933	10,707	2.72	
Mullets	15	44	3.00	
Octopus	32	96	3.00	*
Parrotfishes	642	2,021	3.15	*
Perch, terapon	14	52	3.75	
Rainbow runner	6	22	3.75	
Reef fishes (unspecified)	353	1,059	3.00	
Scad, bigeye	679	1,697	2.50	
Scad, mackerel ('opelu)	77	230	3.00	
Snapper, blue-lined	123	430	3.50	
Snapper, humpback	252	944	3.75	
Snapper, onespot	10	39	3.75	
Squirrelfishes	219	653	2.98	*
Surgeonfishes/tangs	2,121	6,346	2.99	
Trevallies	1	5	3.75	
Tuna, albacore	815,652	889,787	1.09	
Tuna, bigeye	48,018	60,328	1.26	
Tuna, kawakawa	22	65	3.00	
Tuna, skipjack	22,862	19,072	0.83	
Tuna, yellowfin	48,433	56,838	1.17	
Unicornfishes	451	1,353	3.00	*
Wahoo	19,191	19,405	1.01	
TOTAL	968,561	1,088,207	1.12	

* Data replaced or modified by Actual Commercial Landings Data

Table A-9

American Samoa August 2012 Estimated Commercial Landings

Species	Pounds	Value ($)	Price/Lb ($)	
Amberjack, greater	372	2,825	7.59	
Barracudas	5	15	3.00	
Bottomfishes (unspecified)	3,425	10,274	3.00	*
Emperors	69	180	2.60	
Flagtail, barred	2	8	3.50	
Groupers	10	25	2.50	
Groupers, inshore	44	129	2.93	*
Jacks	65	243	3.75	
Jobfish, gray	14	35	2.50	*
Lobster, spiny	274	1,232	4.50	
Mackerel	965	2,414	2.50	
Mahimahi	7,361	19,874	2.70	
Parrotfishes	772	2,410	3.12	*
Perch, terapon	33	122	3.75	
Rainbow runner	6	23	3.75	
Scad, bigeye	376	940	2.50	
Snapper, blue-lined	40	100	2.50	*
Snapper, humpback	34	127	3.75	
Snapper, longtail (onaga)	107	400	3.75	
Snapper, onespot	16	59	3.75	
Snapper, yellow margined	1	3	3.76	
Snapper, pink (opakapaka)	67	168	2.50	*
Squirrelfishes	113	339	3.01	
Surgeonfishes/tangs	1,647	4,960	3.01	
Swordfish	212	636	3.00	*
Trevallies	4	15	3.75	
Tuna, albacore	1,025,018	1,117,270	1.09	
Tuna, bigeye	37,248	46,797	1.26	
Tuna, kawakawa	129	387	3.00	
Tuna, skipjack	32,814	23,954	0.73	
Tuna, yellowfin	58,044	57,615	0.99	
Unicornfishes	330	1,066	3.23	*
Wahoo	24,375	24,403	1.00	
TOTAL	1,193,989	1,319,049	1.10	

* Data replaced or modified by Actual Commercial Landings Data

Table A-10

American Samoa September 2012 Estimated Commercial Landings

Species	Pounds	Value ($)	Price/Lb ($)	
Amberjack, greater	105	395	3.75	
Barracudas	28	84	3.00	
Bottomfishes (unspecified)	176	528	2.99	*
Emperors	40	109	2.75	
Groupers	3	9	2.75	
Jacks	30	112	3.75	
Jobfish, gray	7	20	2.75	
Lobster, spiny	13	63	4.70	
Mackerel	885	2,212	2.50	
Mahimahi	2,589	6,989	2.70	
Marlin, striped	952	809	0.85	*
Needlefishes	24	72	3.00	
Parrotfishes	207	622	3.00	*
Perch, terapon	13	49	3.75	
Rainbow runner	25	94	3.75	
Reef fishes (unspecified)	165	496	3.00	
Scad, bigeye	99	248	2.50	
Snapper, blue-lined	29	80	2.75	*
Snapper, humpback	20	54	2.75	*
Snapper, yellow margined	2	8	3.74	
Squirrelfishes	37	111	3.00	*
Surgeonfishes/tangs	1,091	3,284	3.01	
Swordfish	151	302	2.00	*
Tuna, albacore	980,700	1,069,041	1.09	
Tuna, bigeye	48,572	61,025	1.26	
Tuna, kawakawa	65	196	3.00	
Tuna, skipjack	95,927	79,121	0.82	
Tuna, yellowfin	80,331	79,008	0.98	
Unicornfishes	83	248	3.00	
Wahoo	15,283	15,301	1.00	
TOTAL	1,227,653	1,320,689	1.08	

* Data replaced or modified by Actual Commercial Landings Data

Table A-11

American Samoa October 2012 Estimated Commercial Landings

Species	Pounds	Value ($)	Price/Lb ($)	
Amberjack, greater	170	637	3.74	
Barracudas	19	54	2.80	
Bottomfishes (unspecified)	182	473	2.61	
Bigeye bream	3	10	3.51	
Dogtooth tuna	15	44	3.00	
Emperors	56	156	2.80	
Filefishes	34	165	4.82	
Groupers, inshore	3	8	2.75	
Jacks	15	58	3.75	
Jobfish, gray	20	55	2.75	*
Lobster, spiny	34	157	4.67	*
Mackerel	910	2,275	2.50	
Mahimahi	743	2,006	2.70	
Marlin, blue	213	203	0.95	*
Parrotfishes	673	2,193	3.26	*
Perch, terapon	13	48	3.75	
Reef fishes (unspecified)	470	1,396	2.97	
Scad, bigeye	143	370	2.59	
Snapper, blue-lined	18	50	2.75	*
Snapper, humpback	26	72	2.75	*
Snapper, longtail (onaga)	52	130	2.50	*
Snapper, onespot	34	129	3.75	
Snapper, yellow margined	3	11	3.76	
Squirrelfishes	45	141	3.12	
Surgeonfishes/tangs	1,941	5,765	2.97	
Trevally, whitemouth	5	15	3.00	
Triggerfishes	4	15	3.75	
Tuna, albacore	659,446	718,874	1.09	
Tuna, bigeye	28,618	35,955	1.26	
Tuna, kawakawa	62	186	3.00	
Tuna, skipjack	217,341	160,819	0.74	
Tuna, yellowfin	70,888	69,682	0.98	
Unicornfishes	151	454	3.00	*
Wahoo	15,327	15,346	1.00	
TOTAL	997,678	1,017,948	1.02	

* Data replaced or modified by Actual Commercial Landings Data

Table A-12

American Samoa November 2012 Estimated Commercial Landings

Species	Pounds	Value ($)	Price/Lb ($)	
Amberjack, greater	180	376	2.09	
Barracudas	63	125	2.00	
Emperor, redgill	96	360	3.75	
Emperors	94	348	3.70	
Groupers	14	39	2.75	
Groupers, inshore	94	282	2.99	*
Jack, black	11	33	3.00	
Jacks	2	6	3.76	
Jobfish, gray	26	72	2.75	*
Jobfish, silverjaw (lehi)	4	14	3.75	
Lobster, spiny	77	364	4.75	*
Lyretail, yellow-edged	3	9	3.00	
Lyretail, white-edged	3	12	3.75	
Mackerel	1,484	2,249	1.52	
Mahimahi	180	486	2.70	
Marlin, blue	345	259	0.75	*
Parrotfishes	447	1,479	3.31	*
Perch, terapon	76	286	3.75	
Reef fishes (unspecified)	416	1,249	3.00	
Scad, bigeye	69	173	2.50	
Snapper, blue-lined	4	13	3.50	
Snapper, humpback	65	186	2.85	*
Snapper, onespot	26	98	3.75	
Snapper, yellow margined	1	3	3.74	
Snapper, pink (opakapaka)	3	10	3.75	
Deep water snappers	8	23	3.00	
Squirrelfishes	77	228	2.98	*
Surgeonfishes/tangs	1,886	5,650	3.00	
Swordfish	145	363	2.50	*
Trevally, giant	23	79	3.50	
Triggerfishes	7	27	3.75	
Tuna, albacore	563,503	614,271	1.09	
Tuna, bigeye	39,702	49,386	1.24	
Tuna, kawakawa	9	27	3.00	
Tuna, skipjack	111,141	78,377	0.71	
Tuna, yellowfin	69,118	68,337	0.99	
Unicornfishes	200	599	2.99	*
Wahoo	23,913	24,035	1.01	
TOTAL	813,514	849,935	1.04	

* Data replaced or modified by Actual Commercial Landings Data

Table A-13

American Samoa December 2012 Estimated Commercial Landings

Species	Pounds	Value ($)	Price/Lb ($)	
Amberjack, greater	98	135	1.37	
Barracudas	1	2	2.99	
Emperor, redgill	95	357	3.75	
Emperors	378	1,419	3.75	
Groupers	12	46	3.75	
Jobfish, gray	40	149	3.75	
Lobster, spiny	15	74	5.00	*
Lyretail, white-edged	22	83	3.75	
Mackerel	1,468	1,710	1.16	
Mahimahi	540	1,459	2.70	
Parrotfishes	478	1,435	3.00	*
Perch, terapon	56	212	3.75	
Reef fishes (unspecified)	286	857	3.00	
Scad, bigeye	12	30	2.50	
Snapper, blue-lined	67	253	3.75	
Snapper, humpback	160	601	3.75	
Snapper, pink (opakapaka)	11	43	3.75	
Squirrelfishes	99	296	3.00	*
Surgeonfishes/tangs	1,081	3,242	3.00	
Tuna, albacore	249,147	271,679	1.09	
Tuna, bigeye	9,774	12,280	1.26	
Tuna, skipjack	30,700	34,322	1.12	
Tuna, yellowfin	49,676	54,616	1.10	
Unicornfishes	58	174	3.00	*
Wahoo	18,219	18,240	1.00	
TOTAL	362,494	403,712	1.11	

* Data replaced or modified by Actual Commercial Landings Data

The following are summary charts of the major species and species groups by month:

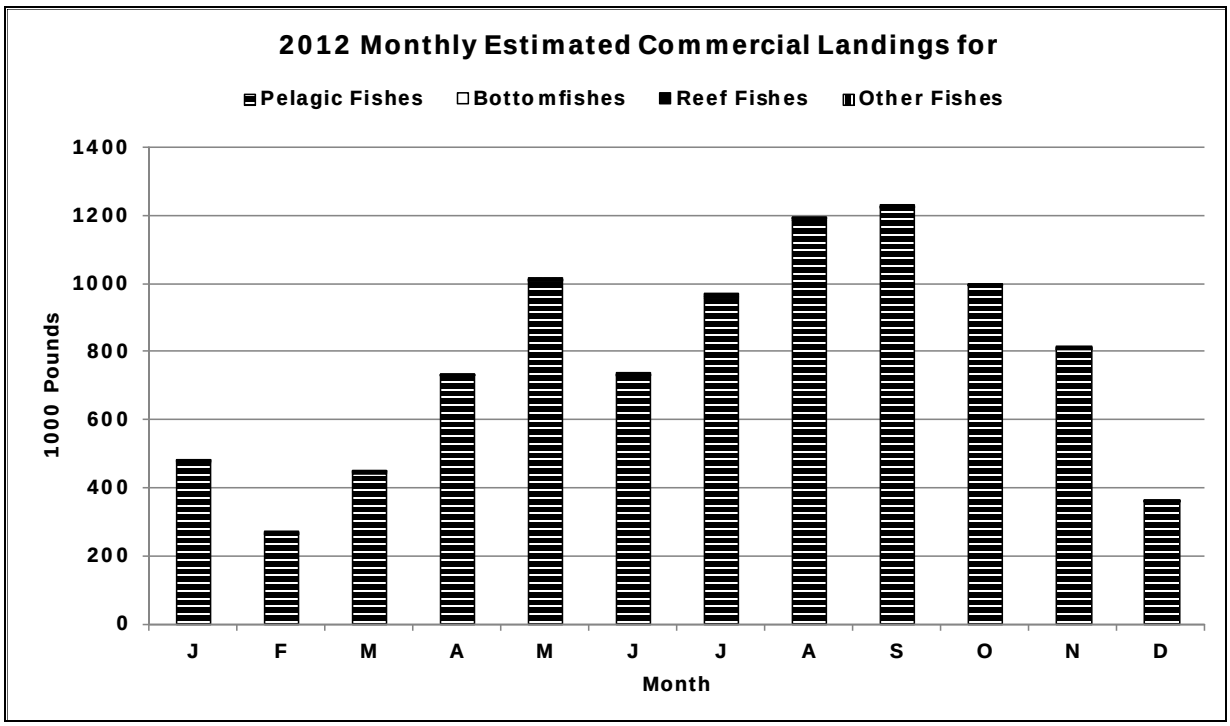


Figure A-1-1

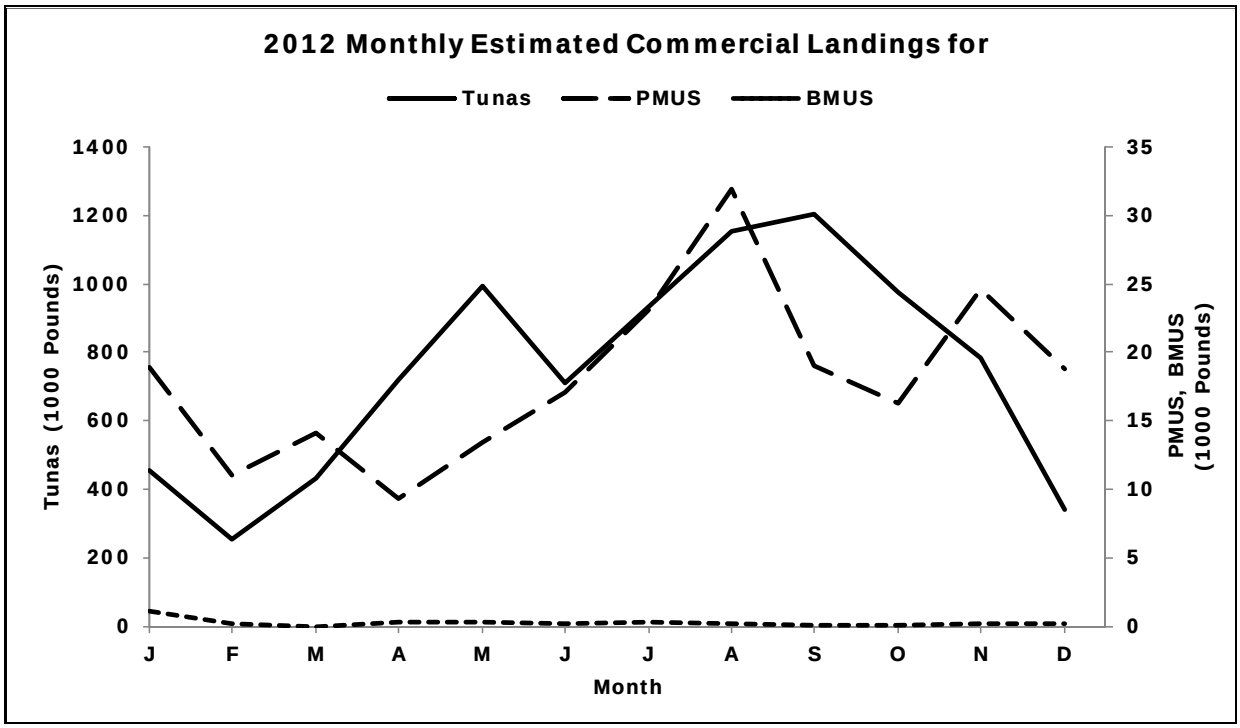


Figure A-1-2

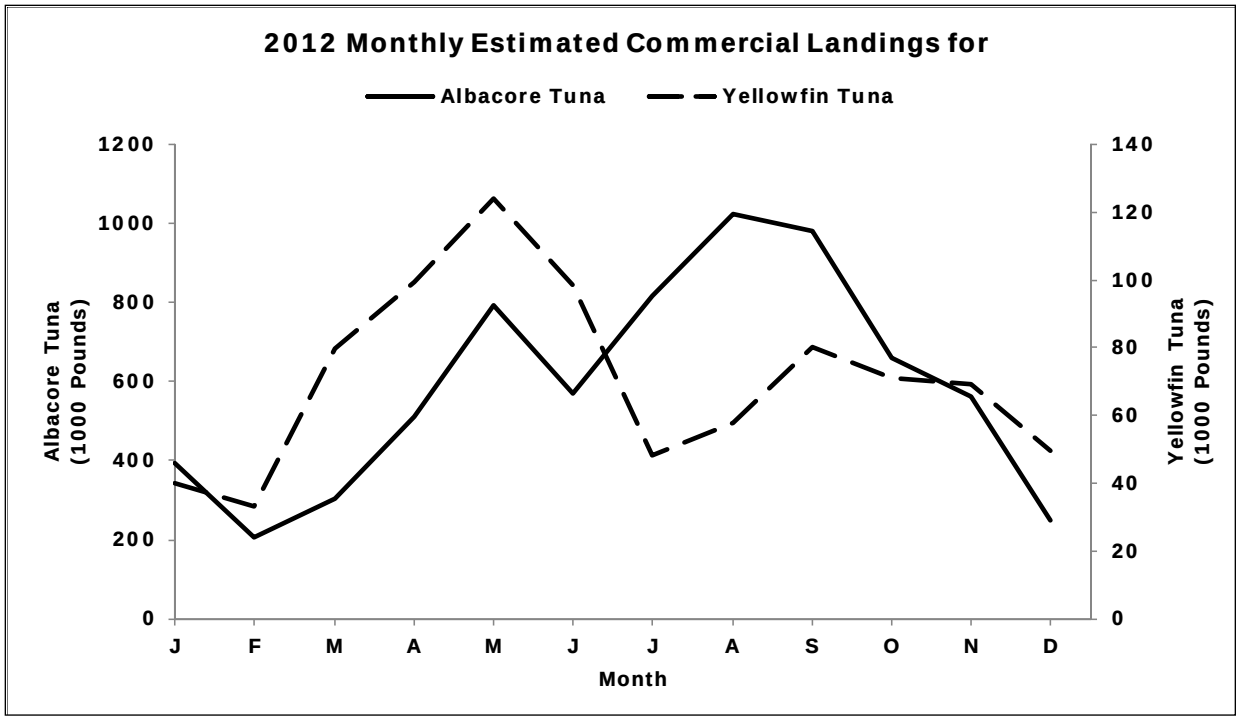


Figure A-1-3

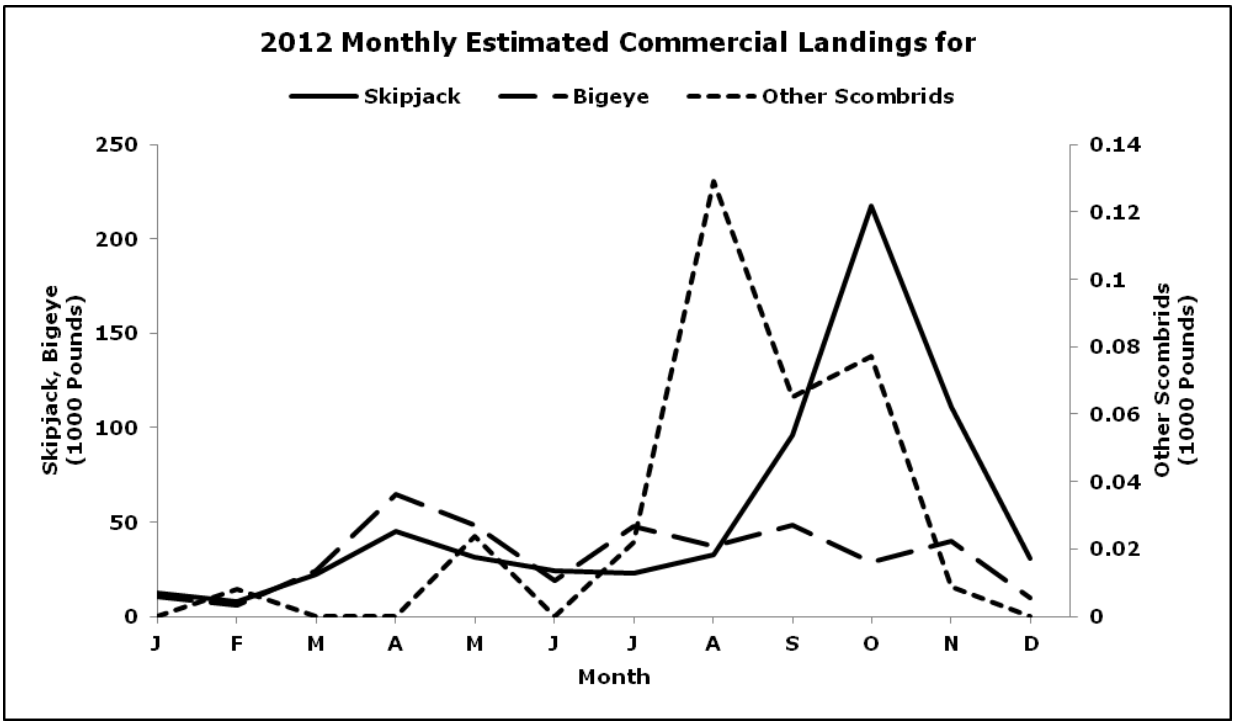


Figure A-1-4

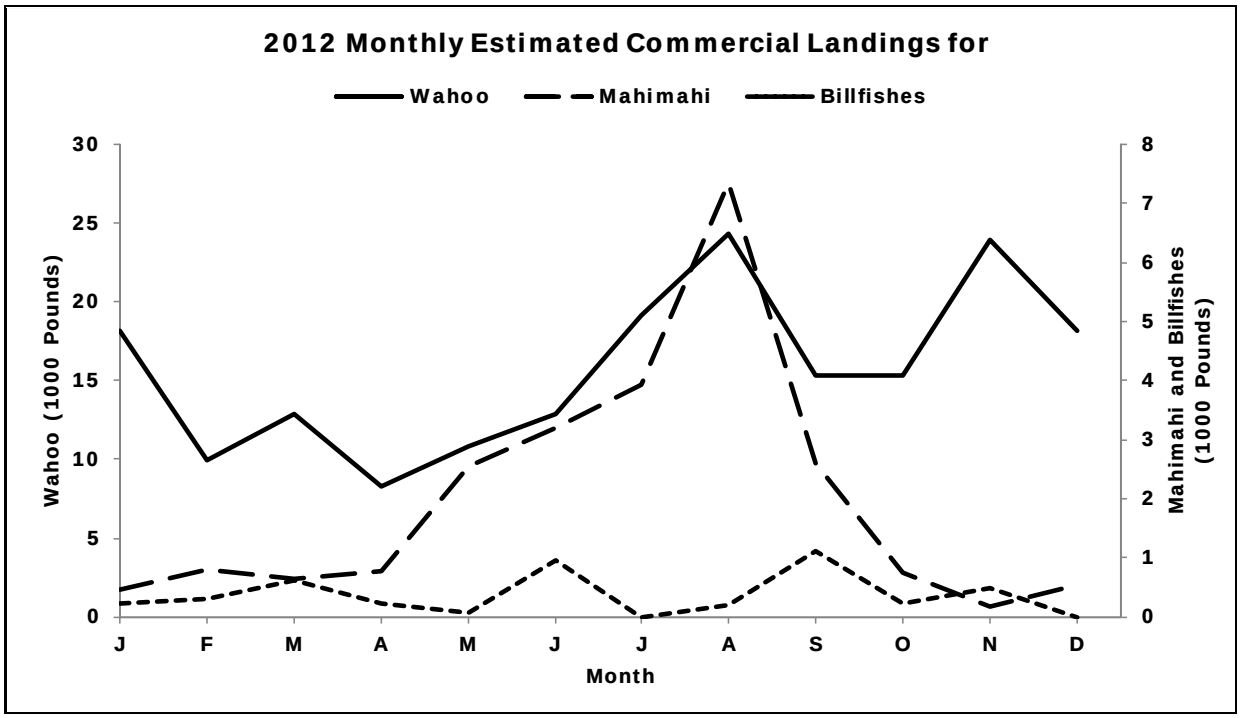

2012 Monthly Estimated Commercial Landings for
Wahoo
Mahimahi
Billfishes
Wahoo (1000 Pounds)
Mahimahi and Billfishes (1000 Pounds)
30
25
20
15
10
5
0
8
7
6
5
4
3
2
1
0
J
F
M
A
M
J
J
A
S
O
N
D
Month

Figure A-1-5

The following are seasonality plots for the major species or species groups, showing the average weight landed during each month for all years combined:

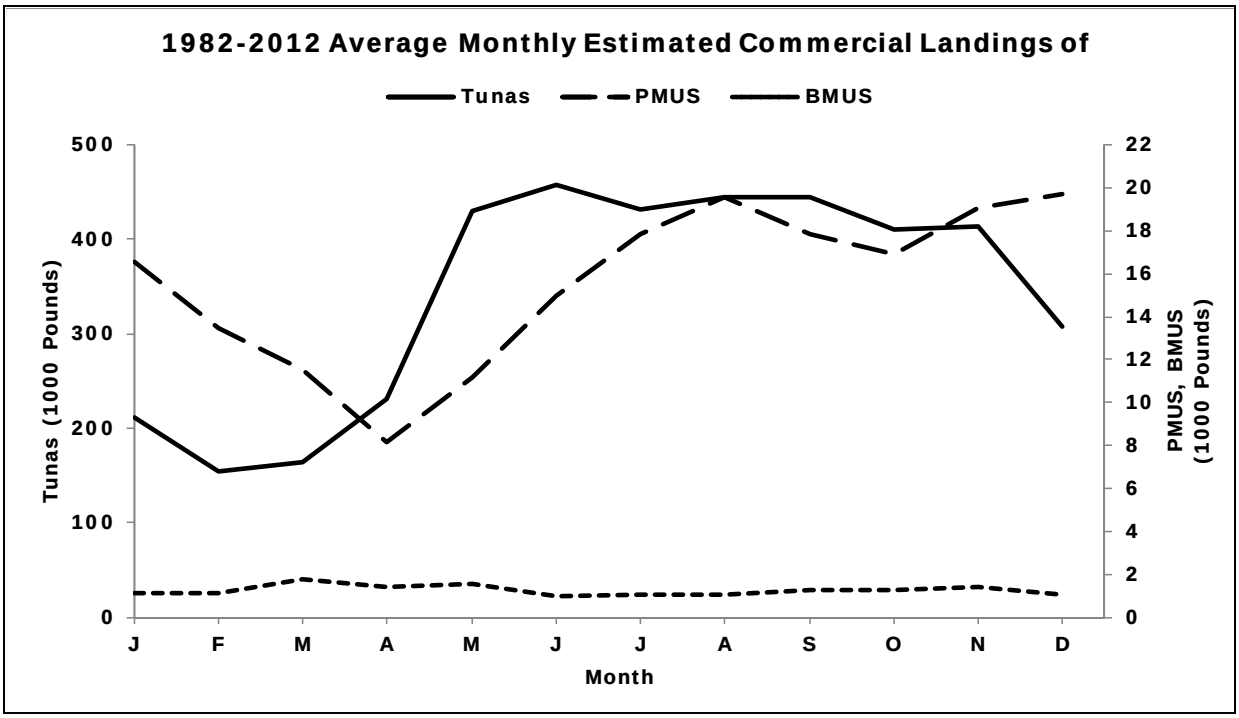


Figure A-2-1

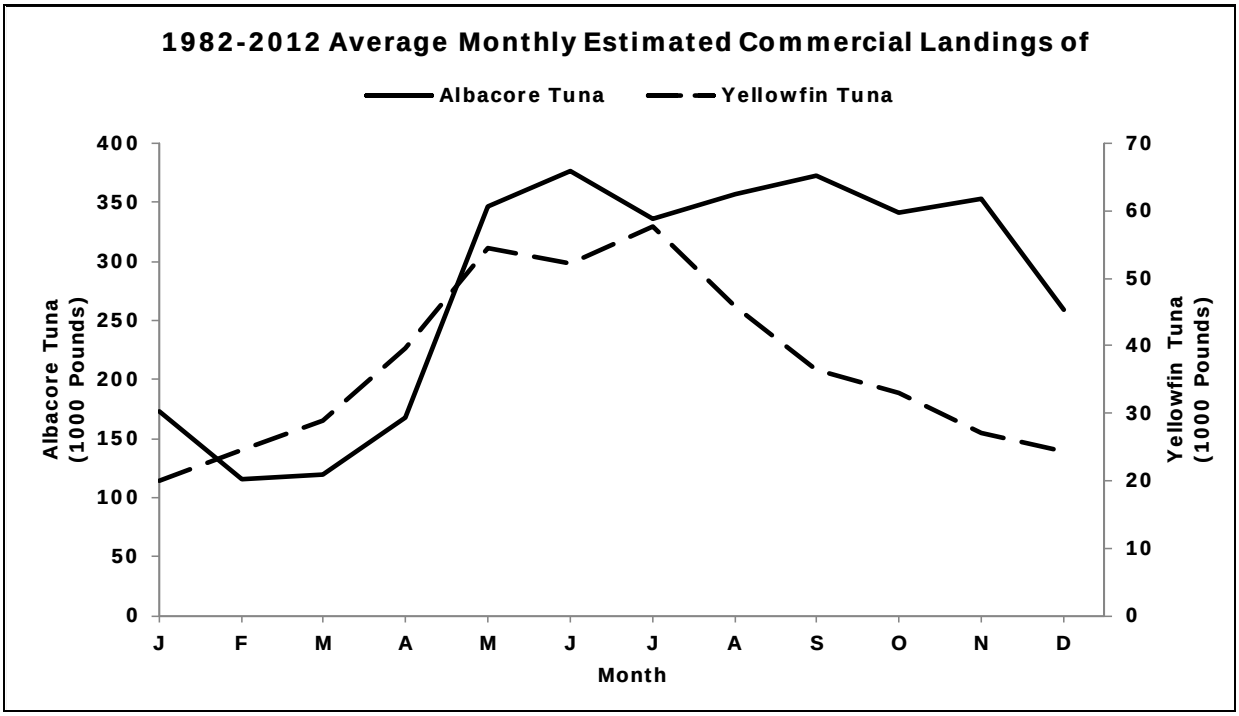


Figure A-2-2

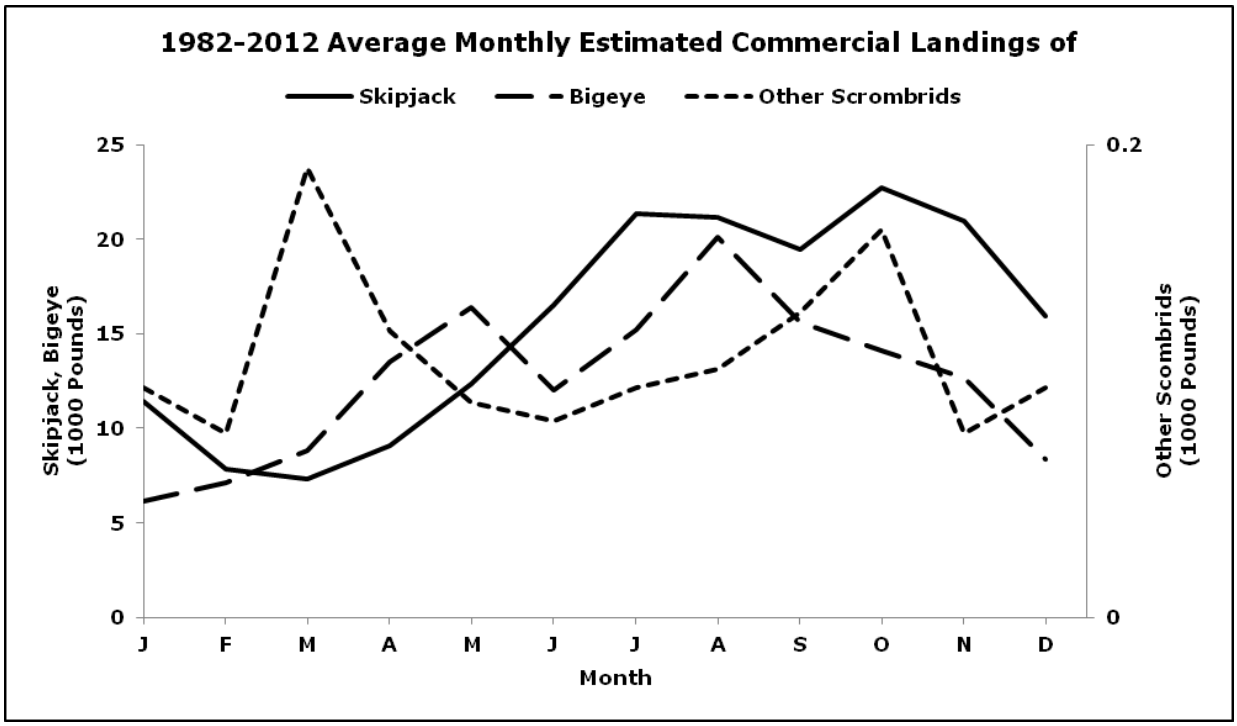


Figure A-2-3

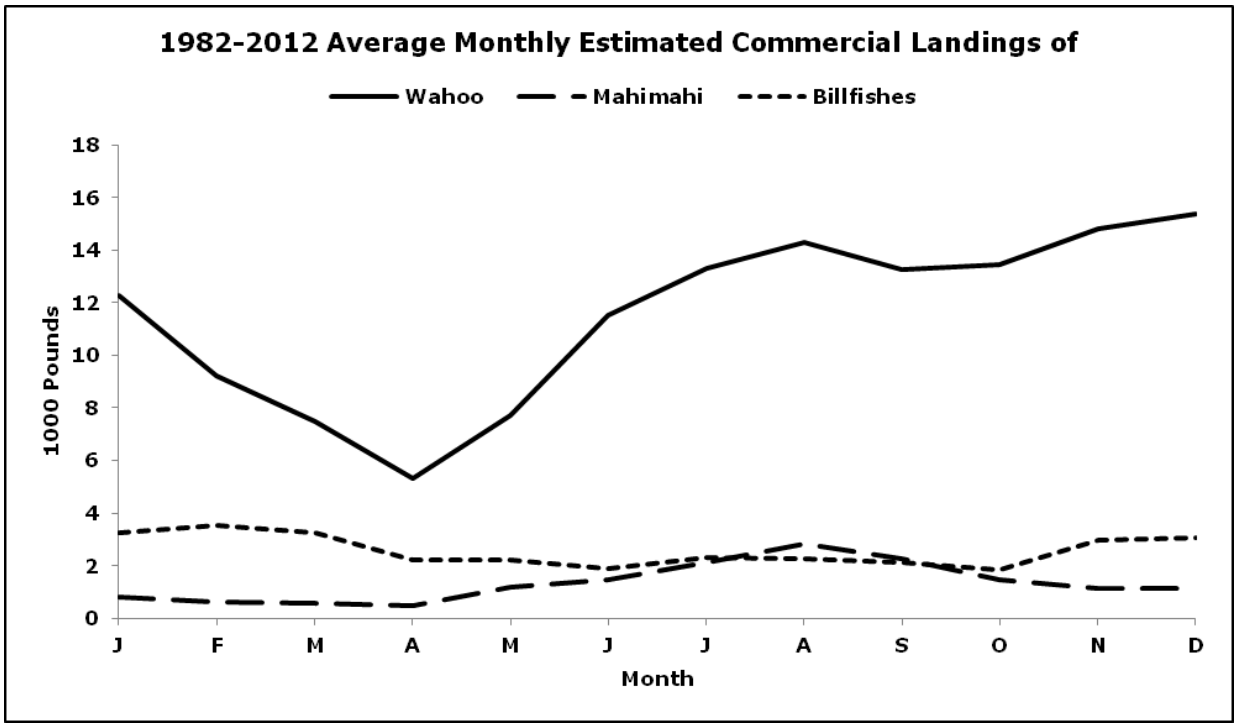


Figure A-2-4

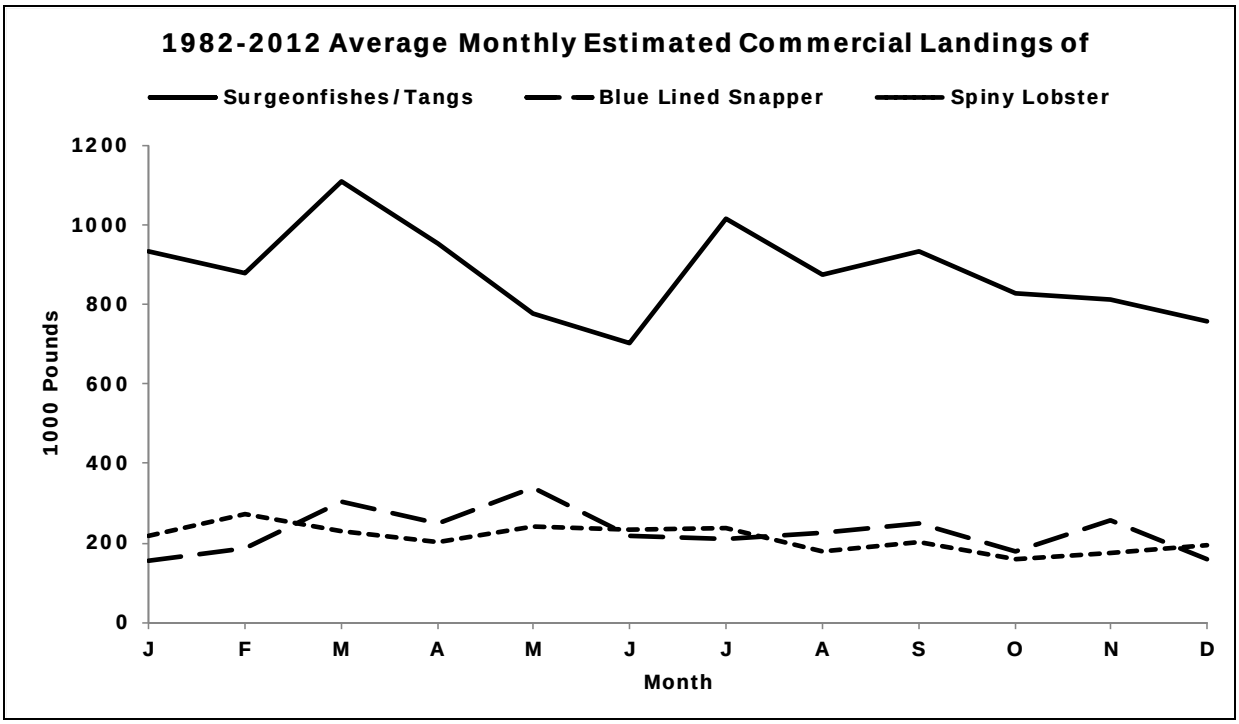

1982-2012 Average Monthly Estimated Commercial Landings of
Surgeonfishes/Tangs
Blue Lined Snapper
Spiny Lobster
1000 Pounds
1200
1000
800
600
400
200
0
J
F
M
A
M
J
J
A
S
O
N
D
Month

Figure A-2-5

The following graphs plot annual summary statistics to illustrate the variability among years:

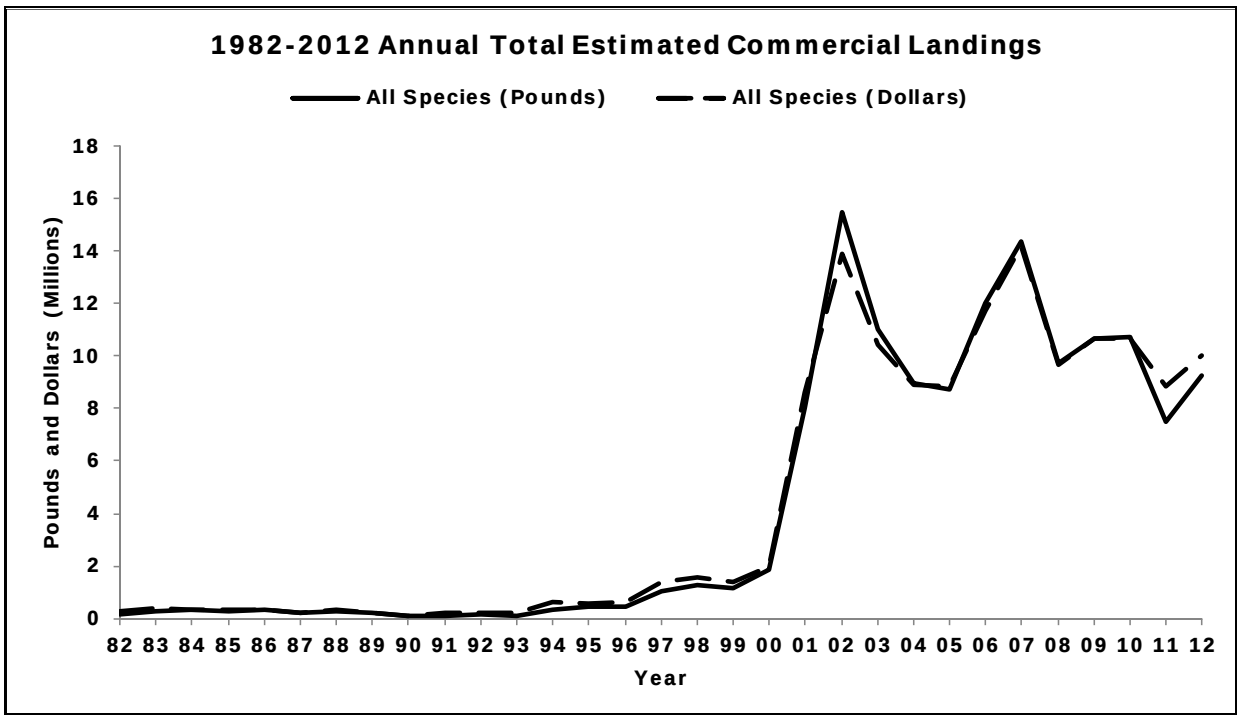


Figure A-3-1

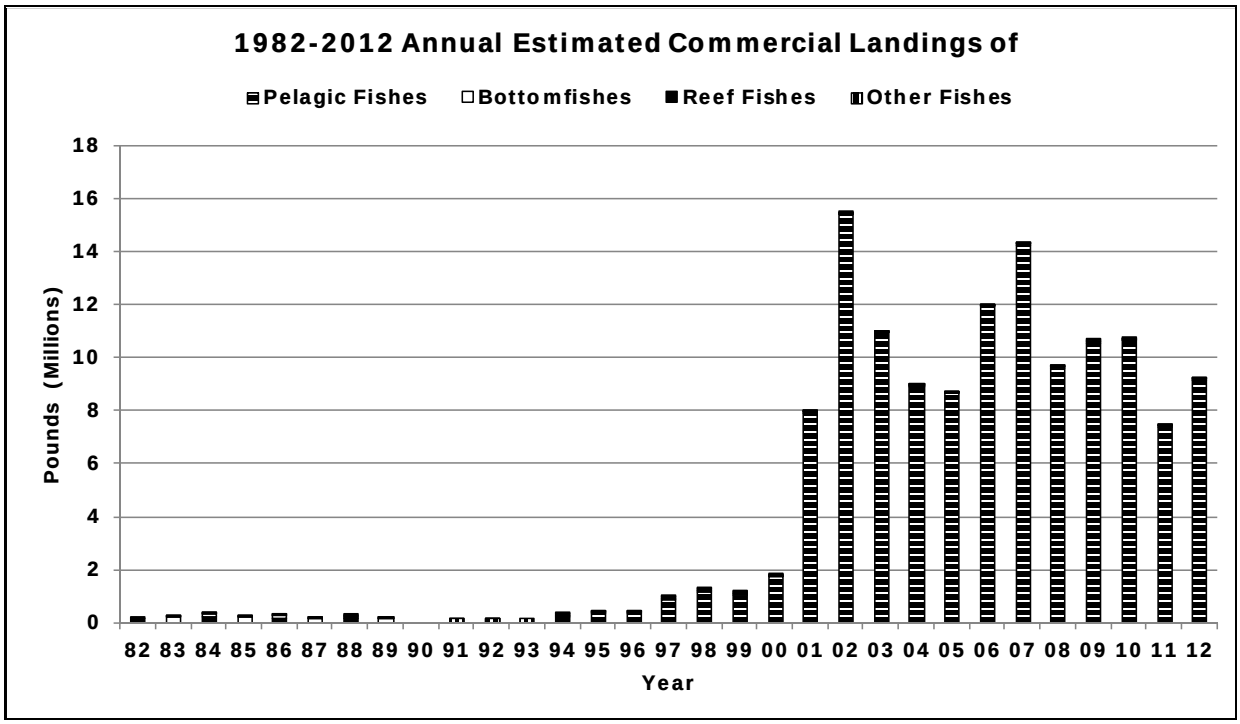


Figure A-3-2

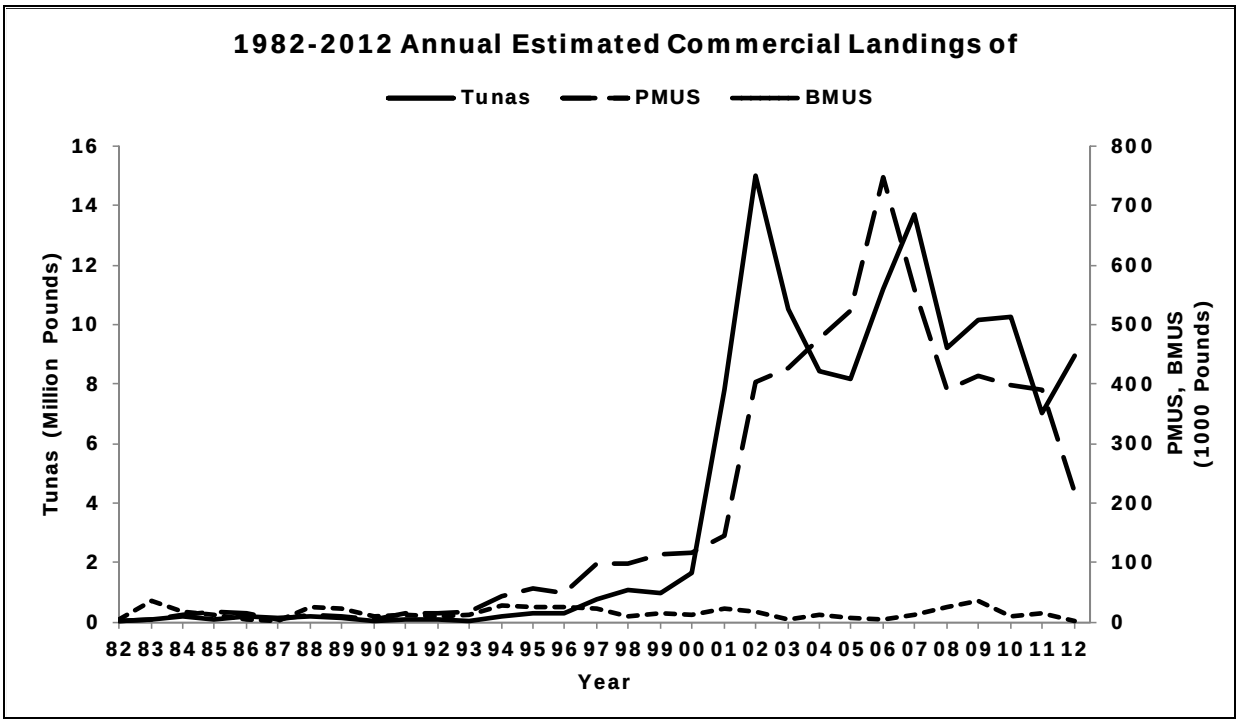


Figure A-3-3

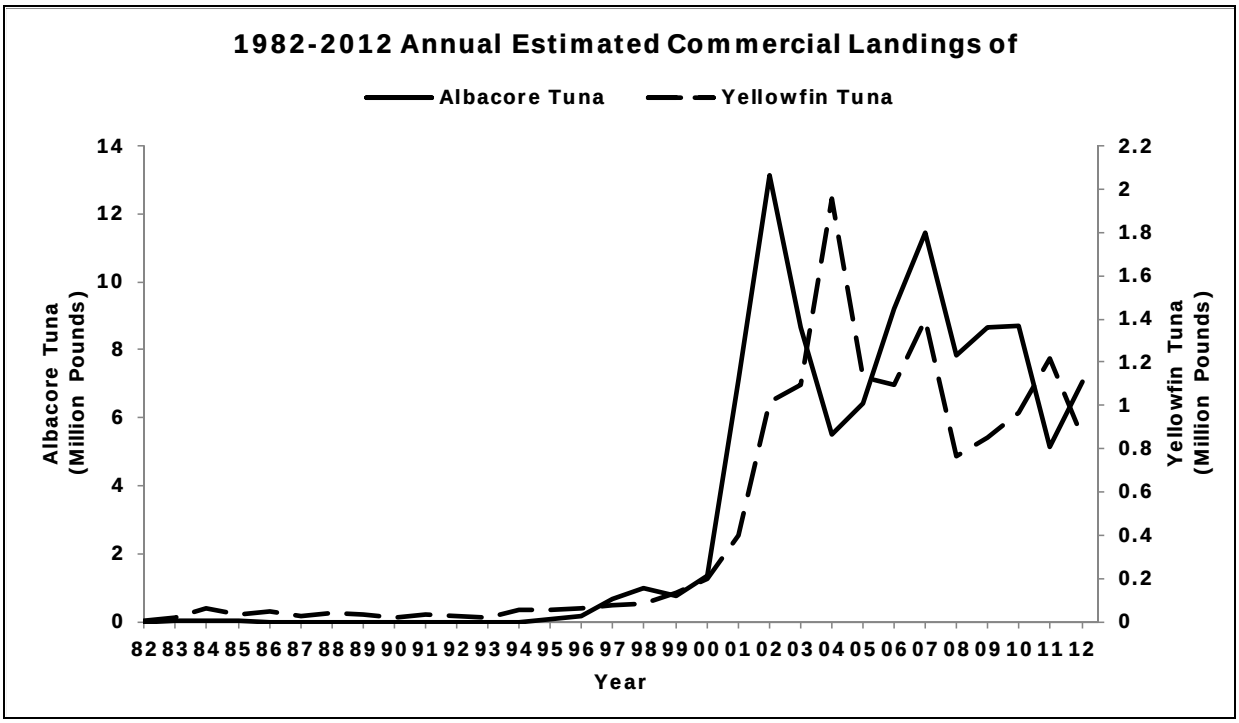


Figure A-3-4

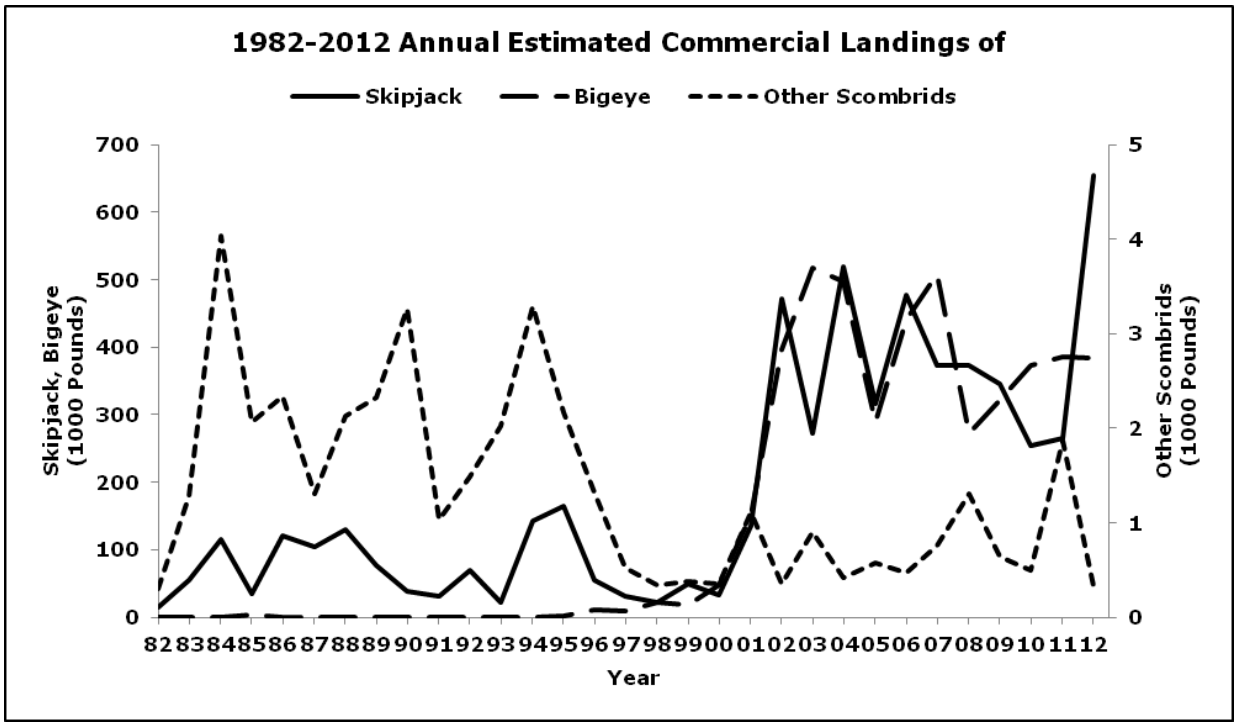


Figure A-3-5

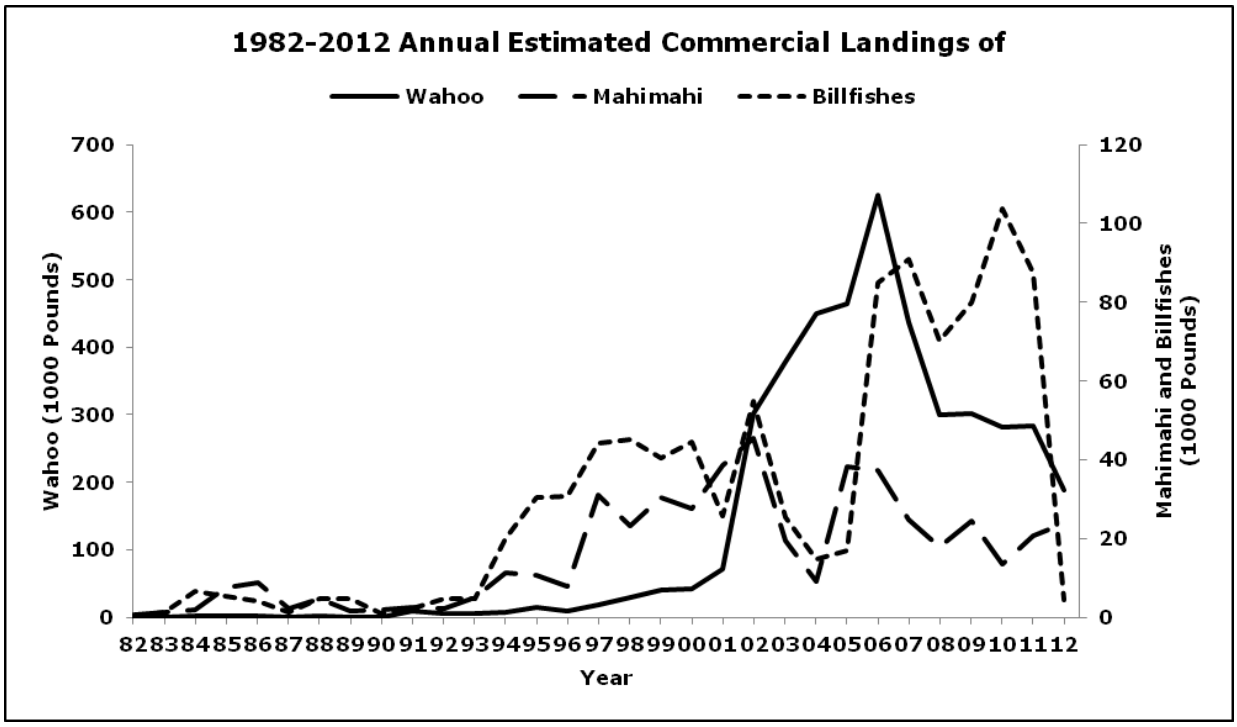


Figure A-3-6

The following graphs plot the monthly landings of some of the major commercially important species and document monthly fluctuations in landings over the time series:

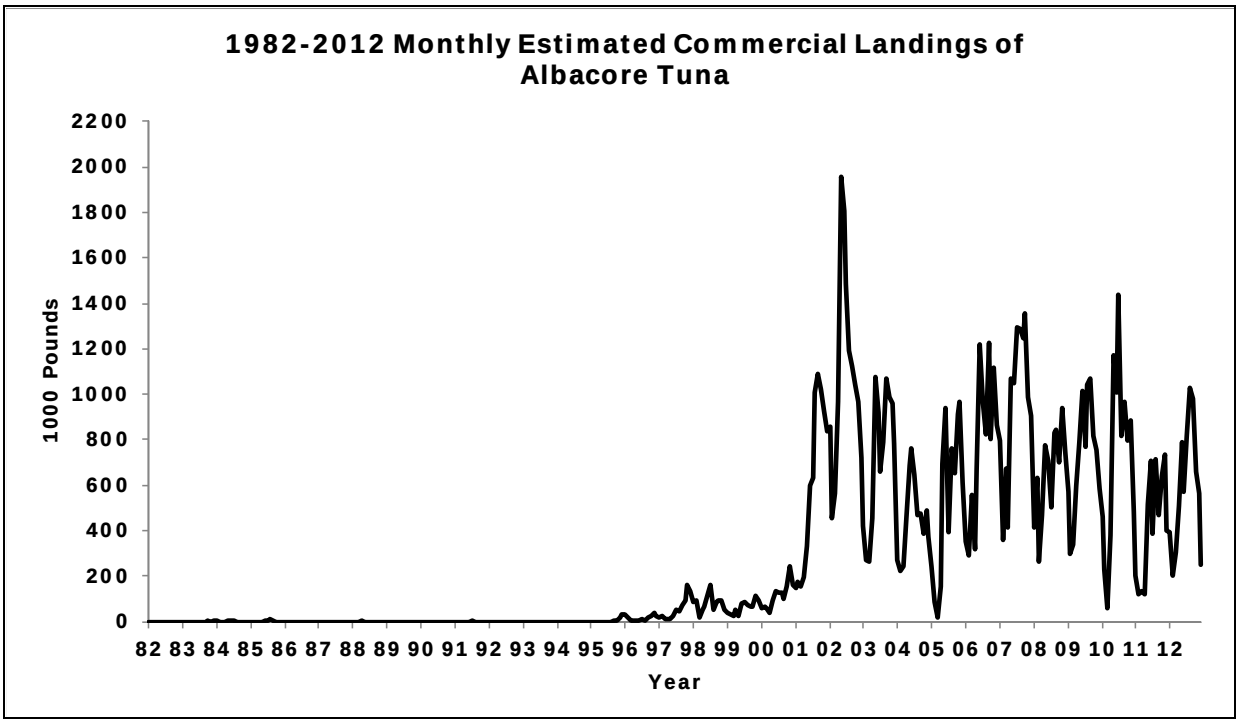


Figure A-4-1

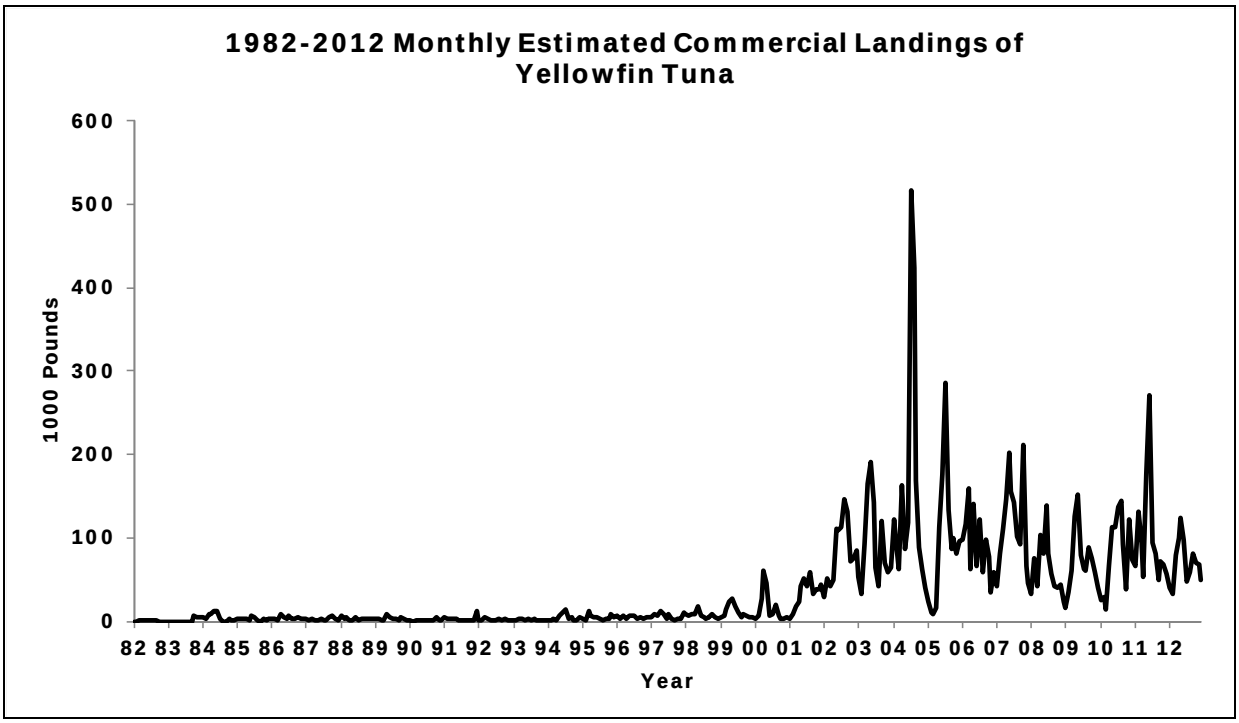


Figure A-4-2

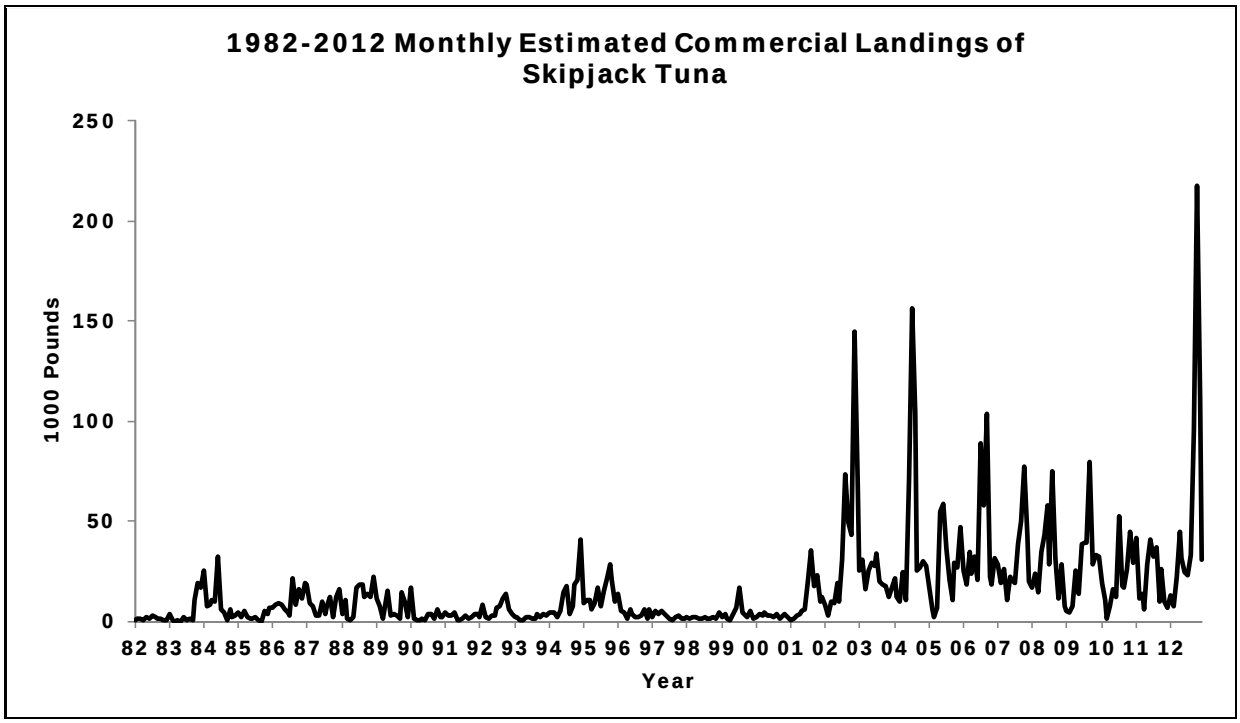
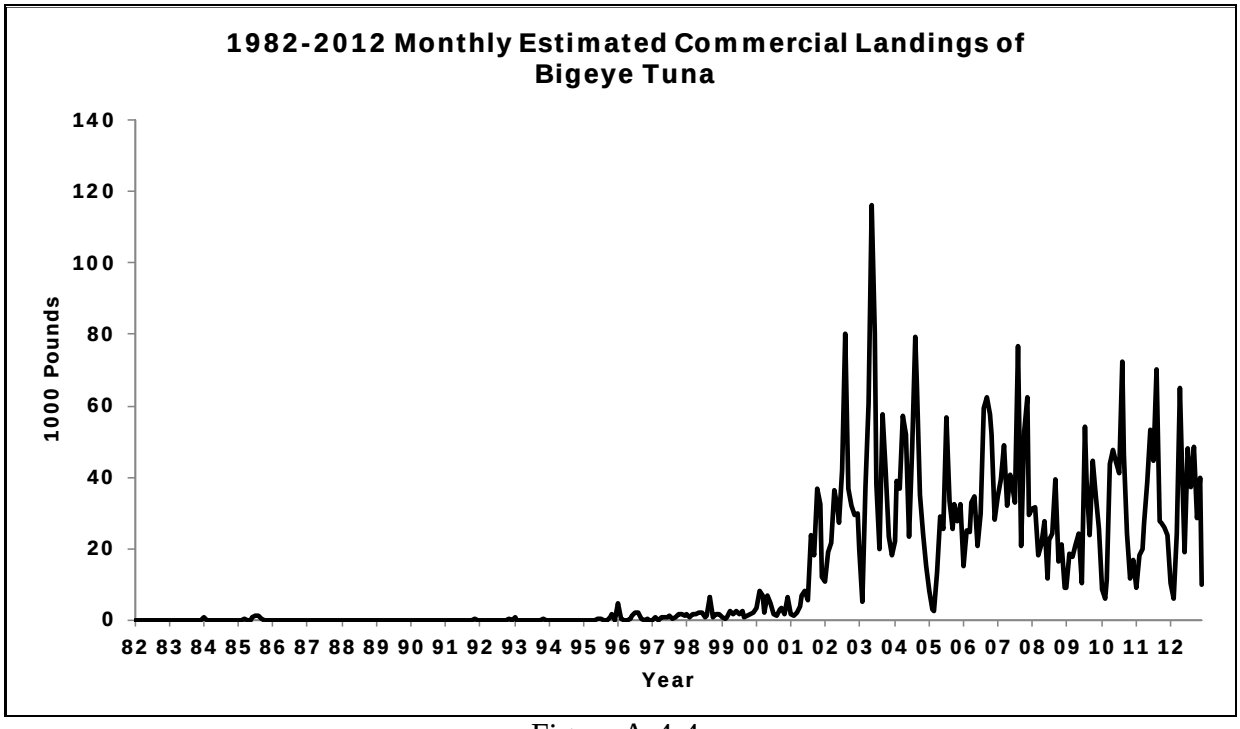


Figure A-4-3



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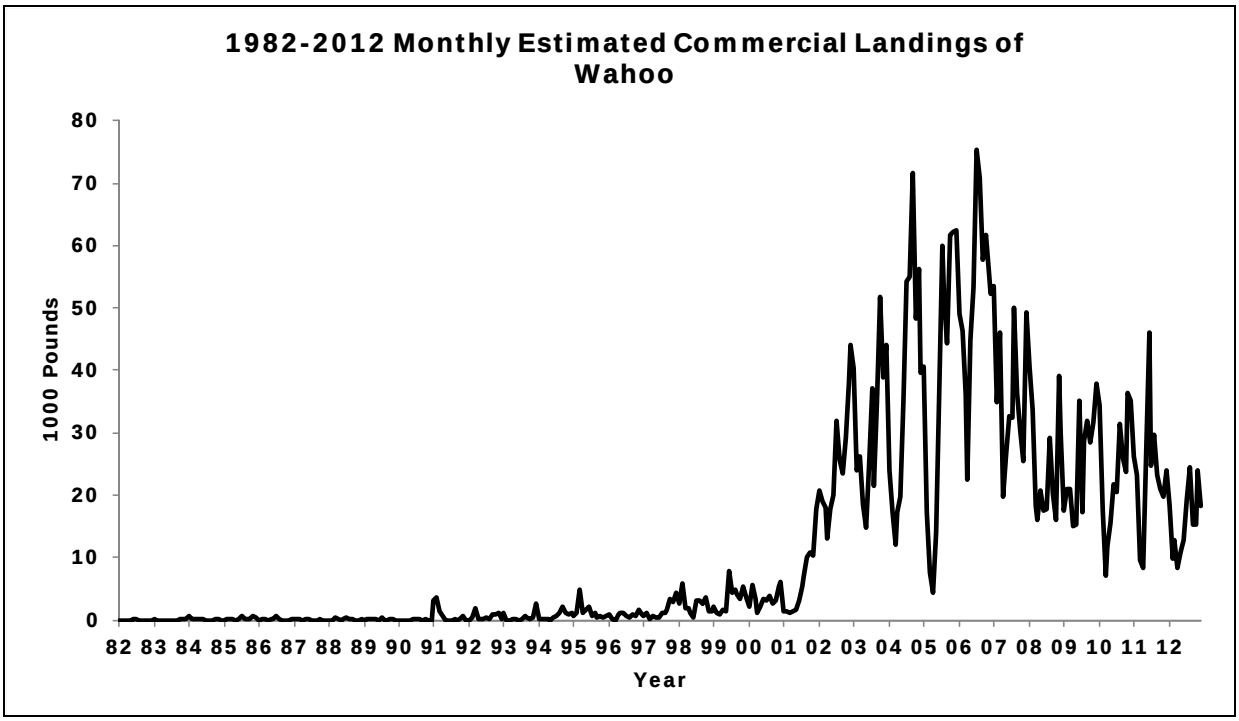

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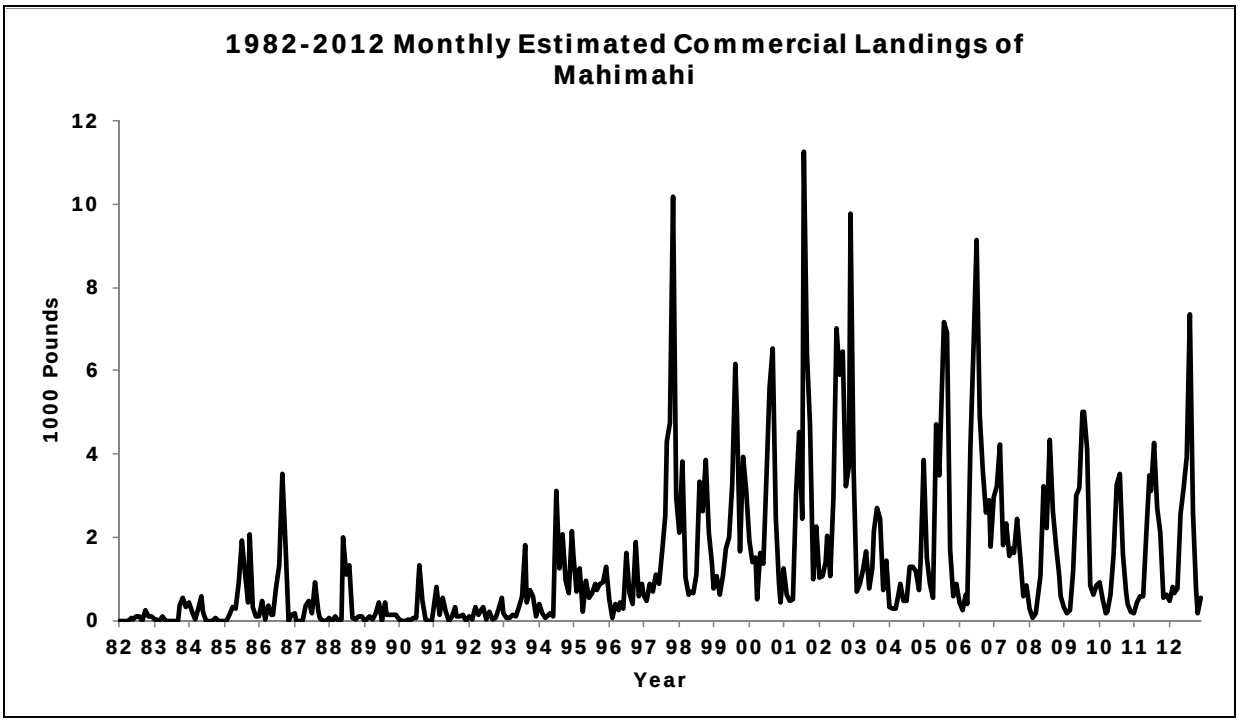

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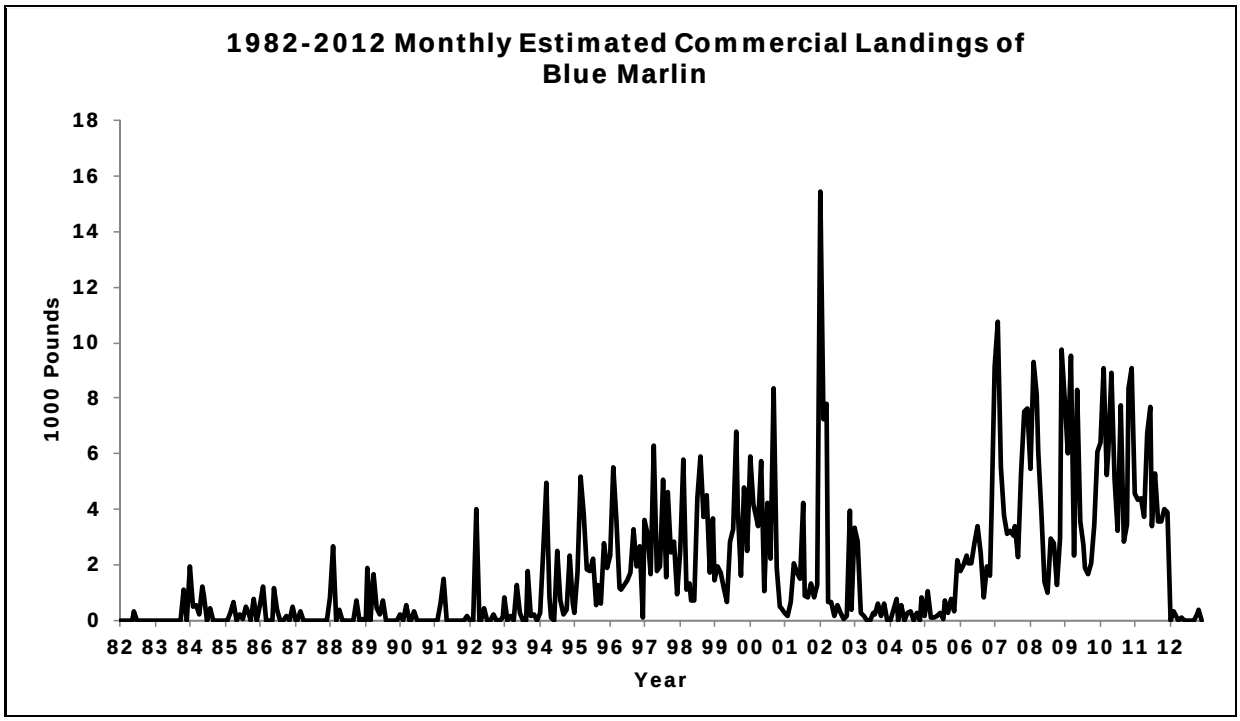

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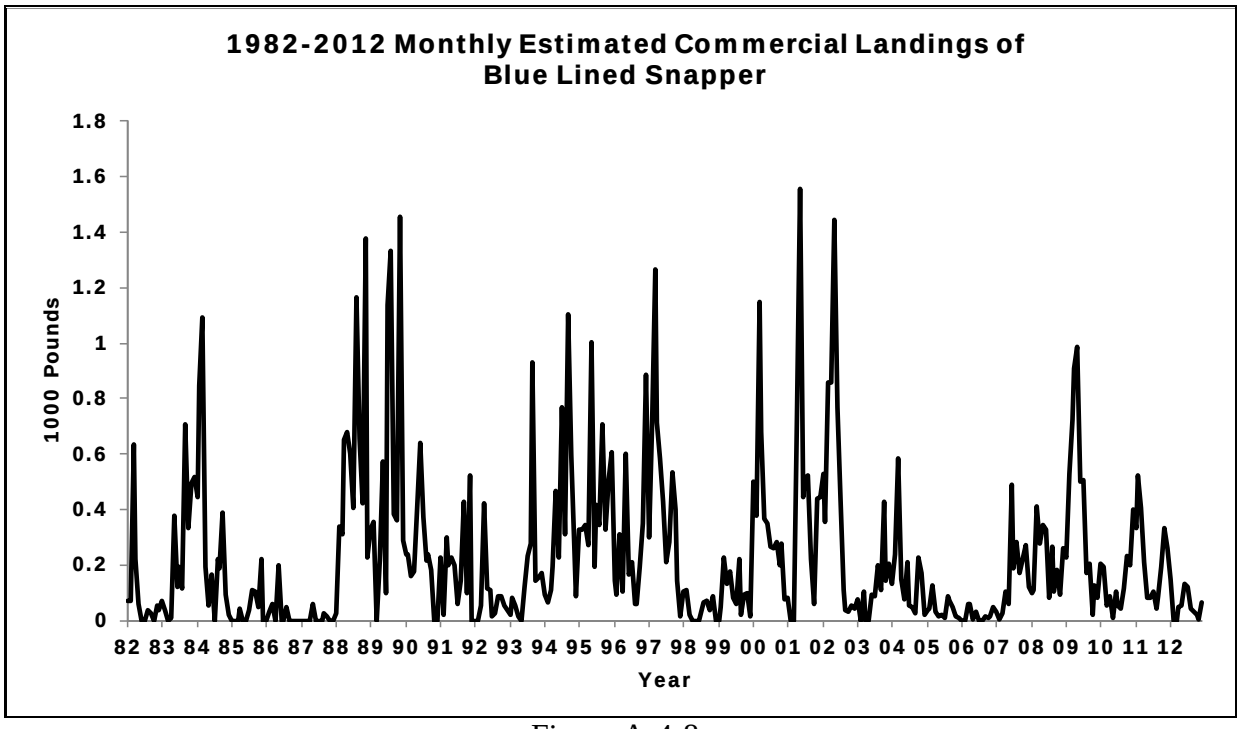

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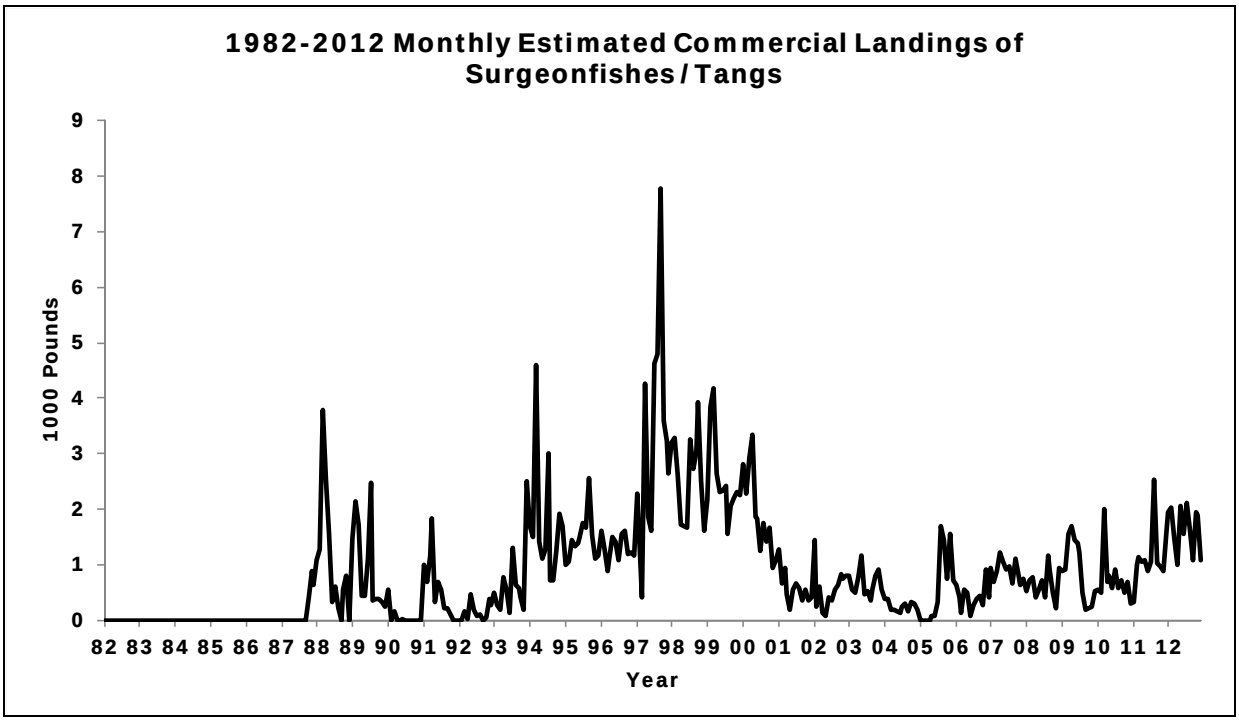

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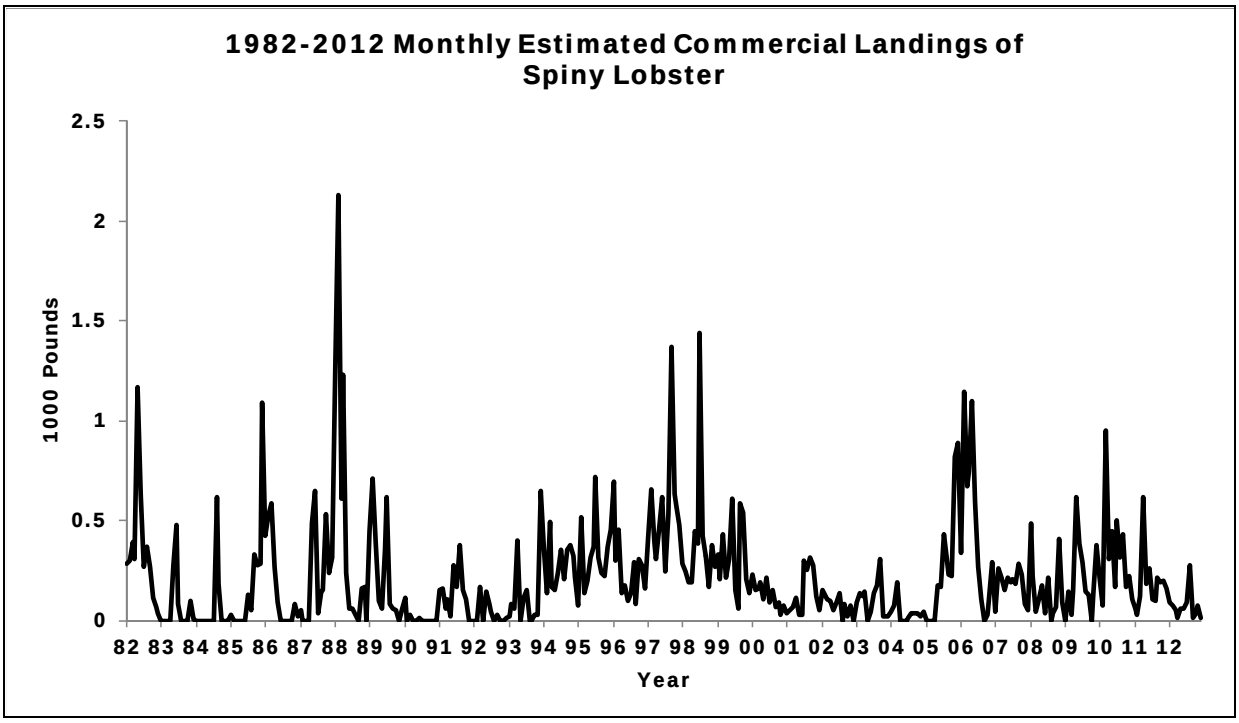

Figure A-4-10

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COMMONWEALTH OF THE NORTHERN MARIANA ISLANDS
2012 FISHERY STATISTICS

Compiled by

Commonwealth of the Northern Mariana Islands,

Department of Lands and Natural Resources, Division of Fish and Wildlife

and the

Western Pacific Fisheries Information Network

March 2016

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COMMONWEALTH OF THE NORTHERN MARIANA ISLANDS
2012 FISHERY STATISTICS

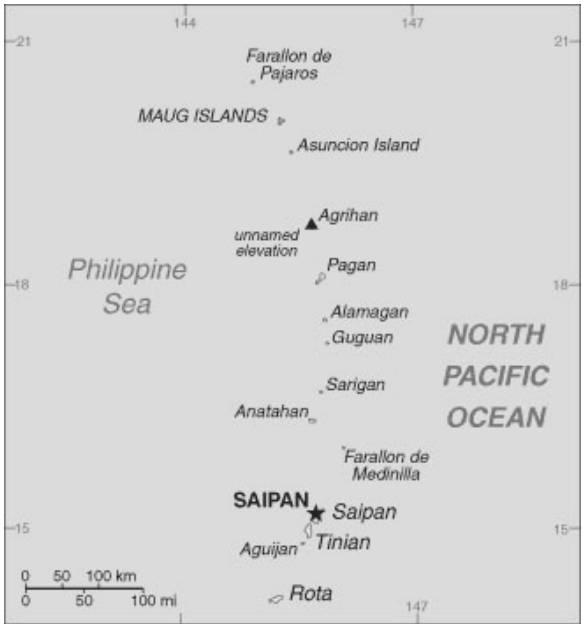
INTRODUCTION

Location: 14º to 21ºN latitude, 145ºE longitude

Main Islands: Saipan, Rota, Tinian

Population: about 51,483 (*The World Factbook*, 2014 estimate)

Economy: industries (tourism, banking, construction, fishing, handicrafts, other services), agriculture



CNMI
Source: https://www.cia.gov/library/publications/the-world-factbook/maps/cq-map.gif;
The World Factbook

The domestic commercial fishery of the Commonwealth of the Northern Mariana Islands (CNMI) is mainly a small boat, troll fishery. Most boats are 12-to-24-foot, outboard-powered, runabout-type vessels, that make trolling trips of generally a day or less in duration. There are a few larger boats that have been used in recent years for bottomfishing around the islands north of Saipan, in addition to trolling. There is also a small charter fleet.

Although trolling is the most common fishing method, bottomfishing and reef fishing are also popular. Reef fishes make up a significant portion of the total commercial catch and are an important component of the local diet. While the vast majority of the domestic catch is consumed locally, in recent years there have been some intermittent exports to Guam, Hawaii, Korea, and Japan.

In 1982, NMFS WPacFIN began efforts to improve fisheries monitoring data and data processing systems in the Commonwealth by providing computer hardware, software, and training. Since then, numerous system upgrades and replacements have been put in place to keep up with changing technologies and increasing demand for fisheries statistics from the CNMI and other PIR island areas.

DATA COLLECTION

The CNMI Department of Lands and Natural Resources, Division of Fish and Wildlife (DFW), has been collecting commercial fishery statistics for the Saipan fleet since the mid-1970s. With assistance from NOAA Fisheries and the U.S. Fish & Wildlife Service's Federal Aid in Sportfish Restoration Program, DFW expanded its fisheries monitoring programs to explore limited monitoring for Rota and Tinian, the two other major inhabited islands in the CNMI.

DFW's principal domestic commercial fisheries data collection method is a dealer invoicing system, which has been referenced in the past as a "trip ticket system." The DFW provides numbered invoices, each with a duplicate carbonless copy, to all purchasers of fresh fishery products (including hotels, restaurants, stores, fish markets, and roadside vendors). These fish vendors are supposed to complete an invoice each time they purchase fish directly from fishers, which is generally at the end of a fishing trip (although fishermen may sell to more than one vendor and no data directly linking this invoice to a fishing trip are collected). One copy of the invoice goes to the DFW, and the other is maintained for the vendor's records.

Some advantages of this data collection method include the facts that it is relatively inexpensive to implement and maintain, and makes it easy to completely cover the commercial market in this relatively small island economy with a limited number of fish vendors. Because DFW is responsible for collecting the invoices in person, another advantage is that DFW staff can provide direct feedback to vendors to ensure data accuracy and promote cooperation with this voluntary program. Some of the disadvantages that affect accuracy and completeness of data collected in this manner include: 1) dependence on non-DFW personnel (the vendors) to identify the catch and record the data, 2) limitations on the types of data that can be requested via the invoice form, 3) reliance on education and cooperation of fish purchasers to ensure the forms are filled out correctly, and 4) limited direct contact with fishermen (no direct reporting by fishermen) or other means of cross-checking that fish actually sold to vendors are being reported. These and other factors contribute to the likelihood that a significant portion of commercial landings go unrecorded.

Since 1982, the DFW has tried in several ways to reduce drawbacks and maximize the benefits of the vendor invoicing system. They have tried to maintain a close working relationship with fish dealers, and have maintained and updated a list of dealers, which they use to check on invoices periodically and monitor vendor reporting. DFW staff have also made periodic education and outreach efforts to fish vendors over the years. In addition, they have implemented a creel survey program, filling the need for direct contact with fishermen. This program includes boat ramps, ports, and shoreline areas, and is used to estimate not only commercial landings, but also the recreational and subsistence components of the catch.

The current fishery monitoring system collects data from vendors on Saipan, where the DFW estimates more than 90% of the Commonwealth's commercial landings are made. Since 1983, these data have been adjusted to represent 100% coverage. These adjusted values are referenced as "Estimated Commercial Landings" in the tables and charts.

Information collected from fish vendors by DFW staff includes the following:

- Date of Purchase
- Buyer's Name (dealer)
- Seller's Name (fisherman)
- Species
- Invoice Number
- Weight (pounds by species)
- Price per Pound (by species)
- Total Sales Value

These data elements are collected for all purchases of fishery products. However, it should be noted that "species" identification is frequently made only to a family or higher taxonomic group level, especially for reef fishes.

DATA PROCESSING

At the beginning of each month, a DFW employee visits each of the fish vendors on Saipan to collect the previous month's invoices, resolve problems, and answer any questions the dealers may have. The invoices are returned to the office for an initial visual quality control check and are then entered into the Commercial Purchase System database. After data entry, reports are generated using software developed by WPacFIN to help identify and further check their accuracy. On a quarterly basis, a copy of the database is sent to the Pacific Islands Fisheries Science Center (PIFSC), in Honolulu, where the WPacFIN central office is located. The data are uploaded to a central computer system and subjected to additional quality control and validation steps, before generating the non-confidential summary reports used by WPacFIN participants and clients, including the public. The confidential data, warehoused at WPacFIN Central, remains the property of the DFW, but can be provided to authorized users with DFW approval and appropriate nondisclosure agreements in place.

DATA REPORTING

After all editing, adjustment, and quality control activities have been completed, monthly and annual summaries are generated by species. Please note that commercial landings data have been adjusted to an estimated 100%, referred to as "Estimated Commercial Landings" in the charts and tables.

Each table contains the common name, estimated weight (in pounds), estimated value (in dollars), and the average price per pound by species or group. The monthly tables contain estimated subtotals for each species. The annual table contains the estimated total commercial landings for each species for the calendar year. Graphs of statistics for some of the more important commercial species or groups are also provided. To see the most current charts and tables, please visit the WPacFIN website, http://www.pifsc.noaa.gov/wpacfin.

SPECIES CATEGORIES

The species, families, and other groups used in the tables and graphs of DFW data for the CNMI are described, based on the most commonly used local (island area) names in this section. Differences in local vernacular may result in different common names for the same species across the region, but to ensure these summaries are clearly understood by local clients, the most common local names are used throughout this section. Because of the nature of vendor data, several species (even several families), are sometimes reported together. This occurs often with bottomfishes and some reef species. Vendors may not take the time to weigh lots (or coolers) of common fish separately, but will if a separate species is of high value and will command a higher price. The use of common names varies throughout the Pacific, and some of the names commonly used in the CNMI market data are derived spellings of Hawaiian (and Japanese) names, since portions of the market were first developed in Hawaii. This publication will gradually evolve to provide a comprehensive species table that includes Chamorro and Carolinian names (indigenous languages). This PIR effort is a work in progress. As with other changes, for the time being the usual categories will be maintained for ease of comparison with historical volumes of this report.

The common names and corresponding scientific names are provided in the following tables. It should be noted that some of the species in this report have been included in different groups over the years. For example, the Magnuson Fishery Conservation and Management Act of 1976 was amended in 1992 to include tunas in the category Pelagic Management Unit Species (PMUS). However, this report will maintain the original species categories from previous volumes for easy comparison, until a comprehensive update can be completed. As such, tunas are kept in a separate category. To see the most current taxonomic information for species caught commercially in the CNMI and other U.S.-associated Pacific island areas, please visit the WPacFIN website, http://www.pifsc.noaa.gov/wpacfin.

I. Pelagic Management Unit Species (PMUS)

Blue marlin *(Makaira mazara)*
Mahimahi *(Coryphaena hippurus)*
Sailfish *(Istiophorus platypterus)*
Sharks *(Isurus oxyrinchus, Isurus paucus,* various *Carcharhinus* spp.)
Spearfish *(Tetrapturus angustirostris)*
Wahoo *(Acanthocybium solandri)*

II. Bottomfish Management Unit Species (BMUS)

Alfonsin *(Beryx decadactylus)*
Amberjack *(Seriola dumerili)*
Black jack *(Caranx lugubris)*
Blacktip grouper *(Epinephelus fasciatus)*
Blue-lined snapper *(Lutjanus kasmira)*
Ehu/Red snapper *(Etelis carbunculus)*
Giant trevally *(Caranx ignobilis)*
Gindai/Flower snapper, *Pristipomoides zonatus)*
Jobfish/Uku *(Aprion virescens)*
Kalikali/Yellowtail *(Pristipomoides auricilla)*
Lyretail grouper *(Variola louti)*
Onaga/Red snapper *(Etelis coruscans)*
Opakapaka/Pink snapper *(Pristipomoides filamentosus)*
Redgill emperor *(Lethrinus lentjan)*
Silvermouth /Deep lehi *(Aphareus rutilans)*
Yelloweye opakapaka *(Pristipomoides flavipinnis)*

III. Billfishes

Blue marlin *(Makaira mazara)*
Sailfish *(Istiophorus platypterus)*
Spearfish *(Tetrapturus angustirostris)*

IV. Tunas

Kawakawa/Saba *(Euthynnus affinis)*
Skipjack tuna *(Katsuwonus pelamis)*
Tunas (unspecified)[1]
Yellowfin tuna *(Thunnus albacares)*

V. Other Scombrids

Dogtooth tuna *(Gymnosarda unicolor)*
(See footnote 1)

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[1] This group includes species that comprise a very small portion of the catch, unidentified tunas, and apparent misidentifications. Because of the small amount of catch, and the tendency of vendors to throw in the dogtooth tuna with this group (although it is not actually a tuna), this group is combined with "other scombrids" in some of the charts.

VI. Fisheries Categories

A. *Pelagic Fishes*

Barracudas *up to 5 species (Sphyraena spp.)*
Blue marlin *(Makaira mazara)*
Dogtooth tuna *(Gymnosarda unicolor)*
Kawakawa/Saba *(Euthynnus affinis)*
Mahimahi *(Coryphaena hippurus)*
Pelagic fishes (unspecified)
Rainbow runner *(Elagatis bipinnulata)*
Sailfish *(Istiophorus platypterus)*
Sharks *(Isurus oxyrinchus, Isurus paucus*, various *Carcharhinus* spp.)
Skipjack tuna *(Katsuwonus pelamis)*
Spearfish *(Tetrapturus angustirostris)*
Tunas/Unspecified *(See footnote 1)*
Wahoo *(Acanthocybium solandri)*
Yellowfin tuna *(Thunnus albacares)*

B. *Bottomfishes*

Alfonsin *(Beryx decadactylus)*
Amberjack *(Seriola dumerili)*
Bigeye emperor *(Monotaxis grandoculis)*
Bigeye trevally *(Caranx sexfasciatus)*
Black jack *(Caranx lugubris)*
Blackspot emperor *(Lethrinus harak)*
Blacktip grouper *(Epinephelus fasciatus)*
Blue-lined gindai *(Pristipomoides argyrogrammicus)*
Blue-lined snapper *(Lutjanua kasmira)*
Bluefin trevally *(Caranx melampygus)*
Bottomfishes (unspecified[2])
Brassy trevally *(Caranx papuensis)*
Ehu/Red snapper *(Etelis carbunculus)*
Eight banded grouper *(Hyporthodus octofasciatus)*
Emperors (various Lethrindae)
Flagtail grouper *(Cephalopholis urodeta)*
Flametail snapper *(Lutjanus fulvus*)[3]
Kalikali/Yellowtail *(Pristipomoides auricilla)*
Longnose emperor *(Lethrinus olivaceus)*
Lyretail grouper *(Variola louti)*
Marbled grouper *(Epinephelus polyphekadion)*
Onaga/Red snapper *(Etelis coruscans*)
Onespot snapper *(Lutjanus monostigma)*
Opakapaka/Pink snapper *(Pristipomoides filamentosus)*
Orangespotted trevally *(Carangoides bajad)*
Orangefin emperor *(Lethrinus erythracanthus)*
Peacock grouper *(Cephalopholis argus)*
Pink grouper *(Saloptia powelli)*
Red snapper (various Etelinae)
Redgill emperor *(Lethrinus lentjan)*
Saddleback grouper/Giant coral trout *(Plectropomus laevis)*
Sickle pomfret *(Taractichthys steindachneri)*
Silvermouth/Deep lehi *(Aphareus rutilans)*
Smalltooth jobfish *(Aphareus furca)*

[2] May include various deep bottom snappers (most Etelinae, some *Lutjanus* spp. listed above), groupers (Serranidae), emperors (Lethridae), deep jacks, and trevallies (Carangidae).

Giant trevally *(Caranx ignobilis)*
Gindai/Flower snapper *(Pristipomoides zonatus)*
Groupers (various Serranidae)
Highfin grouper *(Epinephelus maculatus)*
Honeycomb grouper *(Epinephelus merra)*
Humpback snapper *(Lutjanus gibbus)*
Jacks (various Carangidae)
Jobfish/Uku *(Aprion virescens)*
Stout emperor (*Gymnocranius* sp.)
Tomato grouper (Cephalopholis sonnerati)
White lyretail grouper *(Variola albimarginata)*
Yellow-banded grouper *(Cephalopholis igarashiensis)*
Yellowspotted trevally *(Carangoides fulvoguttatus)*
Yelloweye opakapaka *(Pristipomoides flavipinnis)*
Yellowlip emperor *(Lethrinus xanthochilus)*
Yellowstripe emperor *(Lethrinus obsoletus)*

C. *Reef Fishes*

Bigeyes/glasseyes *(Priacanthus* spp. and *Heteropriacanthus cruentatus)*
Blue-banded surgeonfish *(Acanthurus lineatus)*
Bluespine unicornfish *(Naso unicornis)*
Butterflyfishes (various Chaetodontidae)
Convict tang *(Acanthurus triostegus)*[4]
Dash & dot goatfish *(Parupeneus barberinus)*
Fusiliers (*Caesio* spp, *Pterocaesi*o spp.)
Goatfishes (various Mullidae)
Highfin rudderfish, brown *(Kyphosus vaigiensis)*
Highfin rudderfish, silver *(Kyphosus cinerascens)*
Humphead wrasse *(Cheilinus undulatus)*
Orangespine unicornfish *(Naso lituratus)*
Parrotfishes (various Scaridae)
Rabbitfishes (*Siganus* spp.)
Reef fishes (multiple families, unspecified)
Shallow snappers (generally *Lutjanus* spp.)
Soldierfishes (*Myripristis* spp., *Ostichthys* spp.)
Squirrelfishes (*Sargocentron* spp., *Neoniphon* spp.)
Surgeonfishes (various Acanthuridae)
Sweetlips (various Haemulidae)
Triggerfishes (various Balistidae)
Tripletail wrasse *(Cheilinus trilobatus)*
Two-barred goatfish *(Parupeneus bifasciatus)*
Unicornfishes (various *Naso* spp.)
Wrasses (various Labridae)
Yellowfin surgeonfish *(Acanthurus xanthopterus)*
Yellowstripe goatfish *(Mulloidichthys flavolineatus)*

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[3] Mistakenly referred to as a flametail "emperor" (by vendors and in previous volumes of this report), also known in the literature as blacktail snapper.

[4] May include a small amount of the mimic convict surgeonfish *Acanthurus chronixis.*

D. *Other Fishes, Algae & Invertebrates*

Bigeye scad/Atulai *(Selar crumenophthalmus)*
Clams/bivalves (various Bivalvia)
Coconut crab *(Birgus latro)*
Crabs (various Brachyura)
Invertebrates (various, unspecified)
Lemu/Seaweeds (various, unspecified)
Milkfish *(Chanos chanos)*
Mullet (various Mugilidae)
Octopus (most Octopus spp.)
Sea cucumbers (Holothuroidea)
Shrimp (saltwater Caridea)
Slipper lobster (various *Scyllarides*, *Scyllarus*, and *Parribacus* spp.)
Spiny lobster (various Panulirus spp.)
Squids (various Teuthoidea)
Trochus (*Trochus* spp.)

Table B-1
CNMI Annual 2012 Estimated Commercial Landings

Species	Pounds	Value ($)	Price/Lb ($)
Bigeye scad	19,538	44,394	2.27
Bottomfishes (unspecified)	150	317	2.11
Dogtooth tuna	5,072	12,210	2.41
Emperor, longnose	27	67	2.50
Emperor, bigeye	62	123	2.00
Emperors (unspecified)	2,127	5,952	2.80
Goatfishes (unspecified)	734	1,951	2.66
Groupers (unspecified)	869	2,604	2.99
Jack, amberjack	809	2,358	2.92
Jack, black	181	468	2.59
Jacks (unspecified)	320	842	2.63
Mahimahi	18,826	41,046	2.18
Marlin, blue	2,010	4,385	2.18
Miscellaneous (unspecified)	1,590	3,878	2.44
Parrotfishes (unspecified)	6,459	21,226	3.29
Rabbitfishes (unspecified)	1,746	5,282	3.02
Rainbow runner	368	803	2.18
Reef fishes (unspecified)	18,785	49,642	2.64
Sailfish	25	49	2.00
Sickle pomfret	493	1,040	2.11
Snapper, blue-lined	675	1,711	2.54
Snapper, ehu (red)	696	2,632	3.78
Snapper, gindai (flower)	287	1,100	3.84
Snapper, kalikali (yellowtail)	1,619	4,456	2.75
Snapper, onaga (red)	4,637	24,071	5.19
Snapper, opakapaka (pink)	1,296	3,980	3.07
Snapper, jobfish (uku)	347	808	2.33
Snapper, silvermouth (deep lehi)	1,200	4,053	3.38
Squirrelfishes (unspecified)	136	356	2.61
Surgeonfishes (unspecified)	822	2,122	2.58
Triggerfishes (unspecified)	12	34	2.75
Tuna, kawakawa (saba)	774	1,599	2.07
Tuna, skipjack	99,348	193,133	1.94
Tunas (unspecified)	5,842	9,673	1.66
Tuna, yellowfin	19,447	41,633	2.14
Unicornfish, orangespine	451	1,160	2.57
Unicornfishes (unspecified)	1,062	2,830	2.67
Wahoo	8,677	19,363	2.23
Wrasses (unspecified)	77	179	2.33
Invertebrates (unspecified)	1,587	10,321	6.50
Octopus	1,015	2,438	2.40
Squid	45	99	2.21
TOTAL	230,245	526,386	2.29

Table B-2
CNMI January 2012 Estimated Commercial Landings

Species	Pounds	Value ($)	Price/Lb ($)
Bigeye scad	338	1,008	2.98
Bottomfishes (unspecified)	150	317	2.11
Dogtooth tuna	101	202	2.00
Emperors (unspecified)	274	728	2.66
Goatfishes (unspecified)	228	570	2.50
Groupers (unspecified)	280	732	2.62
Mahimahi	2,020	4,230	2.09
Parrotfishes (unspecified)	467	1,406	3.01
Rabbitfishes (unspecified)	181	542	3.00
Rainbow runner	71	177	2.50
Reef fishes (unspecified)	2,350	6,983	2.97
Snapper, ehu (red)	133	519	3.90
Snapper, gindai (flower)	28	108	3.92
Snapper, blue-lined	318	796	2.50
Snapper, kalikali (yellowtail)	307	844	2.75
Snapper, opakapaka (pink)	208	625	3.00
Snapper, silvermouth (deep lehi)	158	443	2.80
Surgeonfishes (unspecified)	37	92	2.50
Tuna, kawakawa (saba)	7	17	2.50
Tuna, skipjack	3,665	7,420	2.02
Tuna, yellowfin	1,012	2,109	2.08
Tunas (unspecified)	366	732	2.00
Wahoo	2,276	4,836	2.12
Invertebrates (unspecified)	171	1,153	6.75
Octopus	162	331	2.04
TOTAL	15,309	36,922	2.41

Table B-3
CNMI February 2012 Estimated Commercial Landings

Species	Pounds	Value ($)	Price/Lb ($)
Bigeye scad	145	361	2.48
Dogtooth tuna	81	173	2.14
Emperors (unspecified)	15	42	2.75
Jacks (unspecified)	66	182	2.75
Mahimahi	3,257	6,595	2.02
Parrotfishes (unspecified)	750	2,392	3.19
Rabbitfishes (unspecified)	32	95	3.00
Reef fishes (unspecified)	1,936	5,598	2.89
Sickle pomfret	148	334	2.25
Snapper, blue-lined	84	211	2.51
Snapper, ehu (red)	170	648	3.81
Snapper, kalikali (yellowtail)	118	326	2.75
Snapper, onaga (red)	57	285	5.00
Snapper, opakapaka (pink)	98	291	2.98
Snapper, jobfish (uku)	19	38	2.00
Snapper, silvermouth (deep lehi)	37	112	3.00
Tuna, skipjack	6,544	13,127	2.01
Tuna, yellowfin	1,691	3,877	2.29
Wahoo	675	1,396	2.07
Wrasses (unspecified)	43	86	2.00
Octopus	64	144	2.25
TOTAL	16,031	36,310	2.27

Table B-4
CNMI March 2012 Estimated Commercial Landings

Species	Pounds	Value ($)	Price/Lb ($)
Bigeye scad	143	393	2.75
Dogtooth tuna	15	35	2.25
Emperors (unspecified)	45	123	2.75
Groupers (unspecified)	46	162	3.50
Jacks (unspecified)	38	58	1.50
Mahimahi	3,592	7,735	2.15
Marlin, blue	125	249	2.00
Rainbow runner	36	80	2.21
Reef fishes (unspecified)	1,212	3,812	3.15
Sickle pomfret	66	149	2.25
Snapper, ehu (red)	111	418	3.78
Snapper, kalikali (yellowtail)	164	424	2.58
Snapper, opakapaka (pink)	43	118	2.75
Tuna, skipjack	8,011	15,547	1.94
Tuna, yellowfin	2,444	5,364	2.19
Tunas (unspecified)	46	69	1.50
Wahoo	832	2,003	2.41
Wrasses (unspecified)	34	93	2.75
Octopus	18	42	2.25
TOTAL	17,021	36,875	2.17

Table B-5
CNMI April 2012 Estimated Commercial Landings

Species	Pounds	Value ($)	Price/Lb ($)
Bigeye scad	435	1,213	2.79
Emperors (unspecified)	250	629	2.52
Goatfishes (unspecified)	82	224	2.75
Jack, amberjack	31	92	3.00
Mahimahi	2,512	4,865	1.94
Parrotfishes (unspecified)	512	1,626	3.18
Rabbitfishes (unspecified)	144	435	3.02
Rainbow runner	92	185	2.00
Reef fishes (unspecified)	2,666	6,653	2.50
Snapper, blue-lined	53	133	2.50
Snapper, jobfish (uku)	11	22	2.00
Snapper, silvermouth (deep lehi)	15	39	2.53
Squirrelfishes (unspecified)	17	47	2.75
Surgeonfishes (unspecified)	107	289	2.71
Triggerfishes (unspecified)	12	34	2.75
Tunas (unspecified)	2,732	4,827	1.77
Tuna, skipjack	7,469	12,198	1.63
Tuna, yellowfin	2,143	4,213	1.97
Unicornfish, orangespine	45	121	2.71
Unicornfishes (unspecified)	161	408	2.54
Wahoo	1,858	3,622	1.95
Octopus	126	292	2.32
TOTAL	21,471	42,167	1.96

Table B-6
CNMI May 2012 Estimated Commercial Landings

Species	Pounds	Value ($)	Price/Lb ($)
Bigeye scad	102	295	2.88
Emperors (unspecified)	109	302	2.76
Goatfishes (unspecified)	8	21	2.75
Groupers (unspecified)	182	545	3.00
Jack, amberjack	14	38	2.75
Jack, black	25	68	2.75
Mahimahi	26	26	1.00
Parrotfishes (unspecified)	1,222	4,109	3.36
Rainbow runner	7	14	2.00
Reef fishes (unspecified)	2,712	6,785	2.50
Rabbitfishes (unspecified)	280	896	3.20
Snapper, blue-lined	22	58	2.68
Snapper, ehu (red)	5	19	3.50
Snapper, gindai (flower)	5	16	3.50
Snapper, kalikali (yellowtail)	132	343	2.60
Snapper, onaga (red)	221	1,051	4.76
Snapper, opakapaka (pink)	20	56	2.81
Snapper, silvermouth (deep lehi)	51	128	2.52
Surgeonfishes (unspecified)	63	173	2.75
Tuna, skipjack	7,199	11,198	1.56
Tuna, yellowfin	2,162	4,141	1.92
Tunas (unspecified)	2,636	3,921	1.49
Unicornfish, orangespine	52	142	2.71
Unicornfishes (unspecified)	225	612	2.72
Wahoo	80	148	1.85
Invertebrates (unspecified)	24	153	6.50
Octopus	119	302	2.54
TOTAL	17,701	35,559	2.01

Table B-7
CNMI June 2012 Estimated Commercial Landings

Species	Pounds	Value ($)	Price/Lb ($)
Bigeye scad	1,139	3,156	2.77
Emperors (unspecified)	243	637	2.62
Goatfishes (unspecified)	75	218	2.90
Jack, amberjack	7	17	2.50
Jacks (unspecified)	12	32	2.75
Jack, black	12	37	3.00
Parrotfishes (unspecified)	1,903	6,612	3.48
Rabbitfishes (unspecified)	68	226	3.30
Reef fishes (unspecified)	2,222	5,554	2.50
Sickle pomfret	202	403	2.00
Snapper, blue-lined	35	97	2.75
Snapper, ehu (red)	48	182	3.81
Snapper, gindai (flower)	15	58	4.00
Snapper, kalikali (yellowtail)	114	312	2.73
Snapper, onaga (red)	353	1,647	4.66
Snapper, opakapaka (pink)	176	504	2.86
Snapper, jobfish (uku)	40	80	2.00
Snapper, silvermouth (deep lehi)	20	61	3.00
Squirrelfishes (unspecified)	26	72	2.75
Surgeonfishes (unspecified)	87	233	2.69
Tuna, kawakawa (saba)	8	17	2.00
Tuna, skipjack	4,784	8,126	1.70
Tuna, yellowfin	1,879	3,758	2.00
Unicornfish, orangespine	130	360	2.76
Unicornfishes (unspecified)	186	502	2.70
Wahoo	68	135	2.00
Invertebrates (unspecified)	668	4,402	6.59
Octopus	74	185	2.50
TOTAL	14,593	37,623	2.58

Table B-8
CNMI July 2012 Estimated Commercial Landings

Species	Pounds	Value ($)	Price/Lb ($)
Bigeye scad	4,023	8,724	2.17
Dogtooth tuna	34	68	2.00
Emperors (unspecified)	327	827	2.53
Goatfishes (unspecified)	5	13	2.75
Jacks (unspecified)	5	12	2.50
Parrotfishes (unspecified)	376	1,300	3.46
Rabbitfishes (unspecified)	13	38	2.87
Reef fishes (unspecified)	1,698	4,246	2.50
Sickle pomfret	18	37	2.00
Snapper, ehu (red)	36	136	3.77
Snapper, gindai (flower)	8	31	4.00
Snapper, kalikali (yellowtail)	47	119	2.54
Snapper, onaga (red)	97	400	4.13
Snapper, opakapaka (pink)	55	165	3.00
Snapper, jobfish (uku)	40	80	2.00
Snapper, blue-lined	4	11	2.75
Squirrelfishes (unspecified)	6	17	2.75
Surgeonfishes (unspecified)	14	38	2.75
Tuna, skipjack	6,842	13,715	2.00
Tuna, yellowfin	1,253	2,506	2.00
Unicornfish, orangespine	12	35	3.00
Unicornfishes (unspecified)	56	154	2.75
Wahoo	18	35	2.00
Invertebrates (unspecified)	503	3,270	6.50
Octopus	24	60	2.50
TOTAL	15,512	36,035	2.32

Table B-9
CNMI August 2012 Estimated Commercial Landings

Species	Pounds	Value ($)	Price/Lb ($)
Bigeye scad	4,868	9,424	1.94
Emperor, bigeye	62	123	2.00
Emperors (unspecified)	98	258	2.62
Groupers (unspecified)	221	662	3.00
Goatfishes (unspecified)	5	13	2.75
Jacks (unspecified)	11	27	2.50
Jack, black	75	188	2.50
Mahimahi	13	26	2.00
Rabbitfishes (unspecified)	18	52	2.92
Rainbow runner	17	34	2.00
Reef fishes (unspecified)	1,091	2,727	2.50
Sickle pomfret	9	18	2.00
Snapper, blue-lined	34	87	2.56
Snapper, ehu (red)	85	320	3.76
Snapper, gindai (flower)	108	412	3.80
Snapper, kalikali (yellowtail)	298	764	2.56
Snapper, onaga (red)	267	1,131	4.24
Snapper, opakapaka (pink)	198	564	2.85
Snapper, jobfish (uku)	51	102	2.00
Snapper, silvermouth (deep lehi)	80	240	3.00
Squirrelfishes (unspecified)	12	34	2.75
Parrotfishes (unspecified)	244	810	3.32
Surgeonfishes (unspecified)	14	38	2.75
Tuna, skipjack	9,202	17,632	1.92
Tuna, yellowfin	432	878	2.04
Unicornfish, orangespine	23	69	3.00
Unicornfishes (unspecified)	44	121	2.75
Wahoo	35	71	2.00
Invertebrates (unspecified)	66	430	6.50
Octopus	59	148	2.50
TOTAL	17,740	37,402	2.11

Table B-10
CNMI September 2012 Estimated Commercial Landings

Species	Pounds	Value ($)	Price/Lb ($)
Bigeye scad	3,715	8,926	2.40
Dogtooth tuna	808	1,980	2.45
Emperors (unspecified)	602	1,987	3.30
Goatfishes (unspecified)	59	168	2.85
Groupers (unspecified)	64	209	3.29
Jack, amberjack	78	255	3.25
Jacks (unspecified)	102	270	2.64
Jack, black	31	81	2.60
Mahimahi	68	175	2.59
Marlin, blue	559	1,115	1.99
Parrotfishes (unspecified)	58	189	3.25
Rabbitfishes (unspecified)	38	115	2.99
Rainbow runner	66	143	2.16
Reef fishes (unspecified)	919	2,333	2.54
Snapper, blue-lined	46	122	2.65
Snapper, ehu (red)	65	243	3.75
Snapper, gindai (flower)	122	469	3.85
Snapper, kalikali (yellowtail)	255	682	2.68
Snapper, onaga (red)	1,548	8,085	5.22
Snapper, opakapaka (pink)	405	1,403	3.47
Snapper, jobfish (uku)	58	117	2.00
Snapper, silvermouth (deep lehi)	376	1,397	3.71
Squirrelfishes (unspecified)	8	19	2.50
Surgeonfishes (unspecified)	87	216	2.50
Tuna, kawakawa (saba)	174	396	2.28
Tuna, skipjack	10,660	21,930	2.06
Tuna, yellowfin	906	1,858	2.05
Unicornfish, orangespine	16	40	2.57
Unicornfishes (unspecified)	91	249	2.75
Wahoo	124	303	2.45
Octopus	50	125	2.50
Squid	12	23	1.95
TOTAL	22,170	55,626	2.51

Table B-11
CNMI October 2012 Estimated Commercial Landings

Species	Pounds	Value ($)	Price/Lb ($)
Bigeye scad	1,309	2,897	2.21
Dogtooth tuna	1,635	3,947	2.41
Emperors (unspecified)	23	56	2.42
Goatfishes (unspecified)	101	267	2.65
Groupers (unspecified)	25	61	2.45
Jack, amberjack	135	384	2.85
Mahimahi	960	2,092	2.18
Marlin, blue	866	2,032	2.35
Miscellaneous (unspecified)	318	796	2.50
Parrotfishes (unspecified)	275	807	2.94
Rabbitfishes (unspecified)	256	723	2.83
Sailfish	25	49	2.00
Snapper, ehu (red)	7	26	3.75
Snapper, gindai (flower)	2	5	3.50
Snapper, kalikali (yellowtail)	123	492	4.00
Snapper, onaga (red)	1,133	6,205	5.48
Snapper, opakapaka (pink)	21	57	2.75
Snapper, jobfish (uku)	50	145	2.89
Snapper, silvermouth (deep lehi)	208	782	3.75
Squirrelfishes (unspecified)	47	108	2.30
Surgeonfishes (unspecified)	192	471	2.46
Tuna, kawakawa (saba)	205	409	2.00
Tuna, skipjack	11,739	24,457	2.08
Tuna, yellowfin	1,647	3,681	2.23
Tunas (unspecified)	62	123	2.00
Unicornfish, orangespine	78	176	2.25
Unicornfishes (unspecified)	151	387	2.56
Wahoo	620	1,570	2.53
Invertebrates (unspecified)	142	879	6.18
Octopus	196	509	2.60
Squid	28	65	2.28
TOTAL	22,577	54,658	2.42

Table B-12
CNMI November 2012 Estimated Commercial Landings

Species	Pounds	Value ($)	Price/Lb ($)
Bigeye scad	2,012	4,787	2.38
Dogtooth tuna	1,398	3,404	2.43
Emperor, longnose	11	27	2.50
Emperors (unspecified)	49	126	2.55
Goatfishes (unspecified)	101	271	2.69
Groupers (unspecified)	2	5	2.50
Jack, amberjack	254	650	2.56
Jack, black	38	94	2.50
Jacks (unspecified)	26	65	2.50
Mahimahi	2,395	5,928	2.48
Marlin, blue	460	988	2.15
Miscellaneous (unspecified)	979	2,353	2.40
Parrotfishes (unspecified)	417	1,286	3.08
Rabbitfishes (unspecified)	530	1,637	3.09
Rainbow runner	42	97	2.30
Reef fishes (unspecified)	1,980	4,951	2.50
Snapper, blue-lined	7	18	2.50
Snapper, kalikali (yellowtail)	22	54	2.50
Snapper, onaga (red)	338	1,862	5.50
Snapper, opakapaka (pink)	57	156	2.75
Snapper, jobfish (uku)	52	154	2.96
Snapper, silvermouth (deep lehi)	171	613	3.58
Squirrelfishes (unspecified)	4	10	2.50
Surgeonfishes (unspecified)	83	213	2.56
Tuna, skipjack	11,287	21,023	1.86
Tuna, yellowfin	2,149	5,291	2.46
Unicornfish, orangespine	36	83	2.29
Unicornfishes (unspecified)	68	184	2.68
Wahoo	791	2,037	2.58
Invertebrates (unspecified)	14	35	2.50
Octopus	95	231	2.42
TOTAL	25,868	58,632	2.27

Table B-13
CNMI December 2012 Estimated Commercial Landings

Species	Pounds	Value ($)	Price/Lb ($)
Bigeye scad	1,307	3,210	2.46
Dogtooth tuna	1,000	2,403	2.40
Emperor, longnose	16	40	2.50
Emperors (unspecified)	91	238	2.63
Goatfishes (unspecified)	71	186	2.61
Groupers (unspecified)	51	228	4.50
Jack, amberjack	290	921	3.17
Jacks (unspecified)	61	198	3.25
Mahimahi	3,984	9,372	2.35
Miscellaneous (unspecified)	293	728	2.48
Parrotfishes (unspecified)	237	689	2.91
Rabbitfishes (unspecified)	187	525	2.80
Rainbow runner	37	74	2.00
Sickle pomfret	50	99	2.00
Snapper, blue-lined	71	178	2.50
Snapper, ehu (red)	37	123	3.32
Snapper, kalikali (yellowtail)	38	95	2.50
Snapper, onaga (red)	623	3,404	5.47
Snapper, opakapaka (pink)	16	40	2.50
Snapper, jobfish (uku)	26	72	2.74
Snapper, silvermouth (deep lehi)	82	237	2.88
Squirrelfishes (unspecified)	16	49	3.08
Surgeonfishes (unspecified)	139	358	2.57
Tuna, kawakawa (saba)	380	759	2.00
Tuna, skipjack	11,946	26,759	2.24
Tuna, yellowfin	1,728	3,956	2.29
Unicornfish, orangespine	59	134	2.27
Unicornfishes (unspecified)	80	213	2.67
Wahoo	1,302	3,206	2.46
Octopus	28	71	2.50
Squid	4	11	2.50
TOTAL	24,251	58,577	2.42

The following are summary charts of the major species and species groups by month:

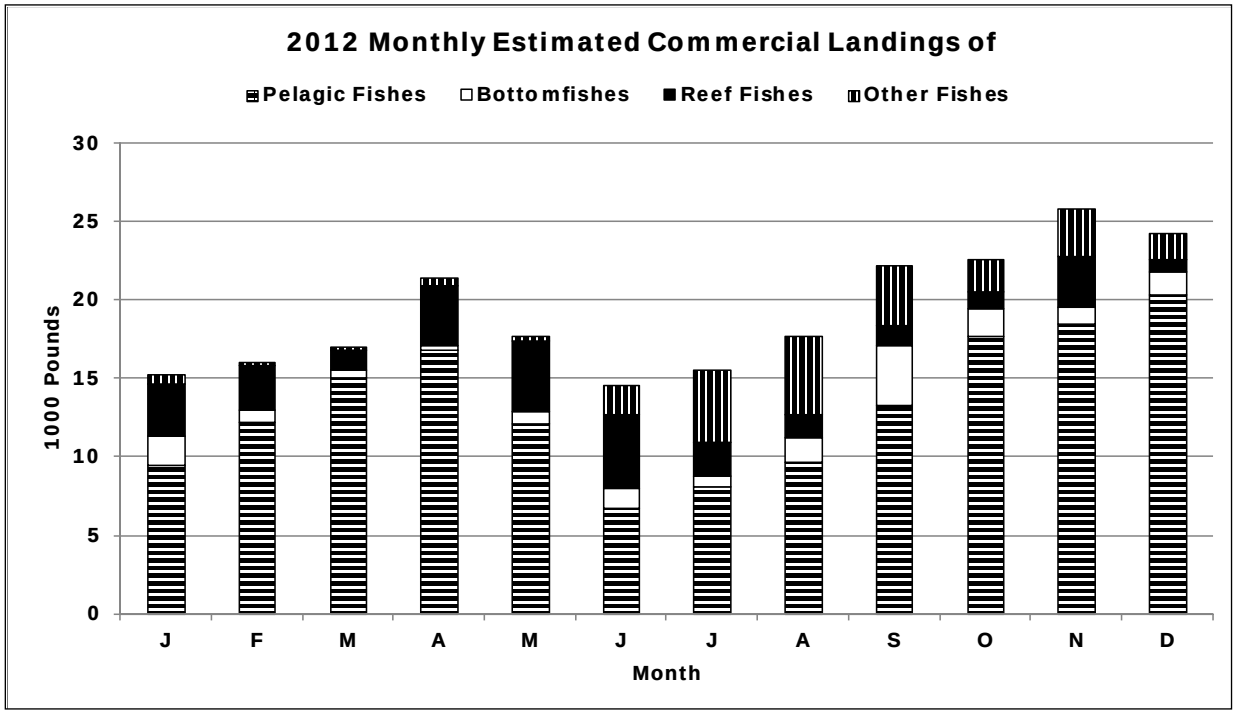


Figure B-1-1

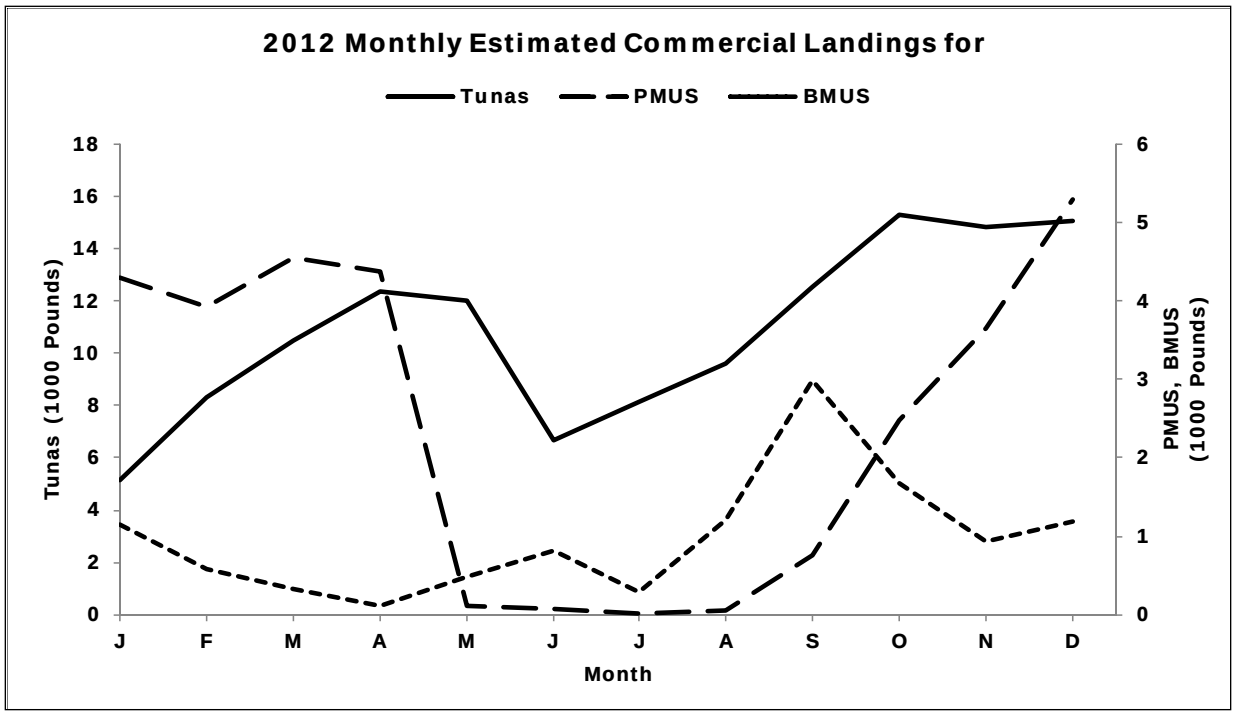


Figure B-1-2

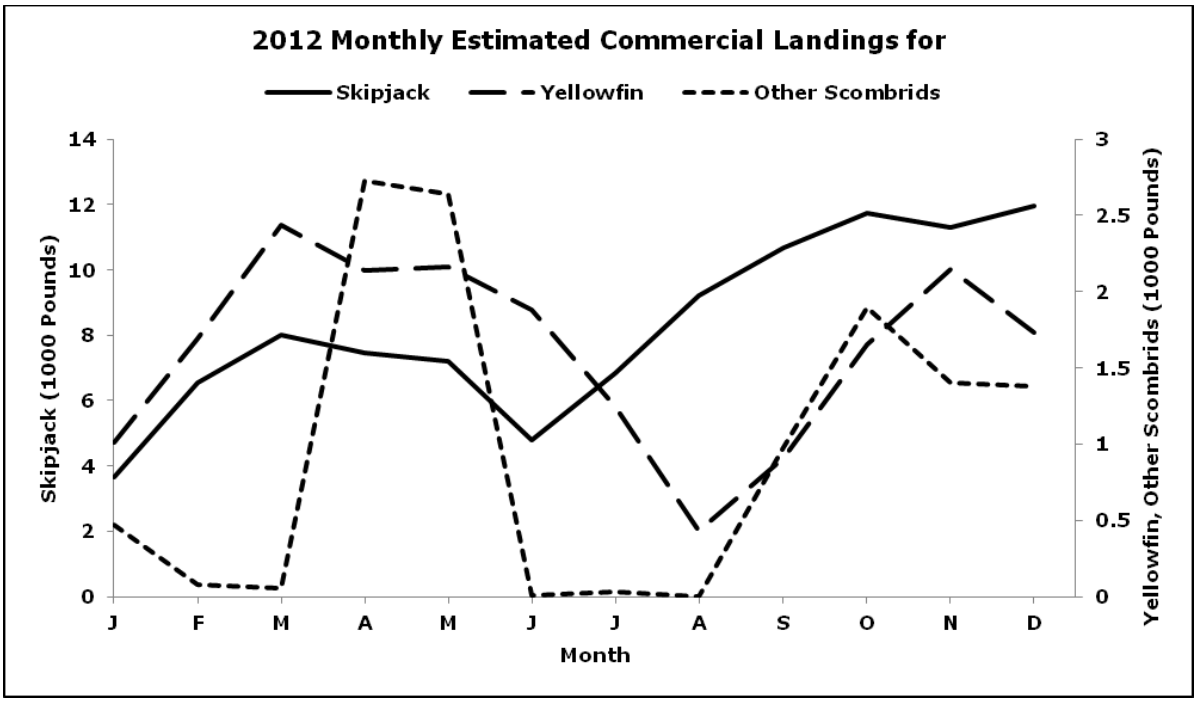


Figure B-1-3

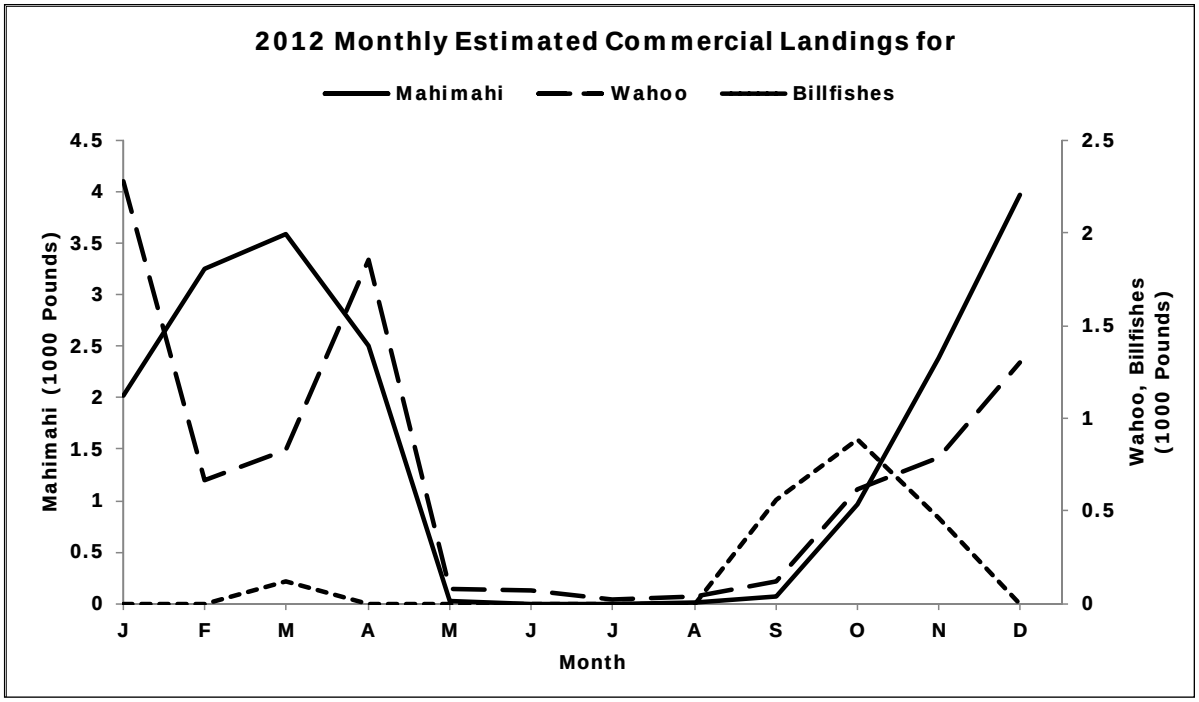


Figure B-1-4

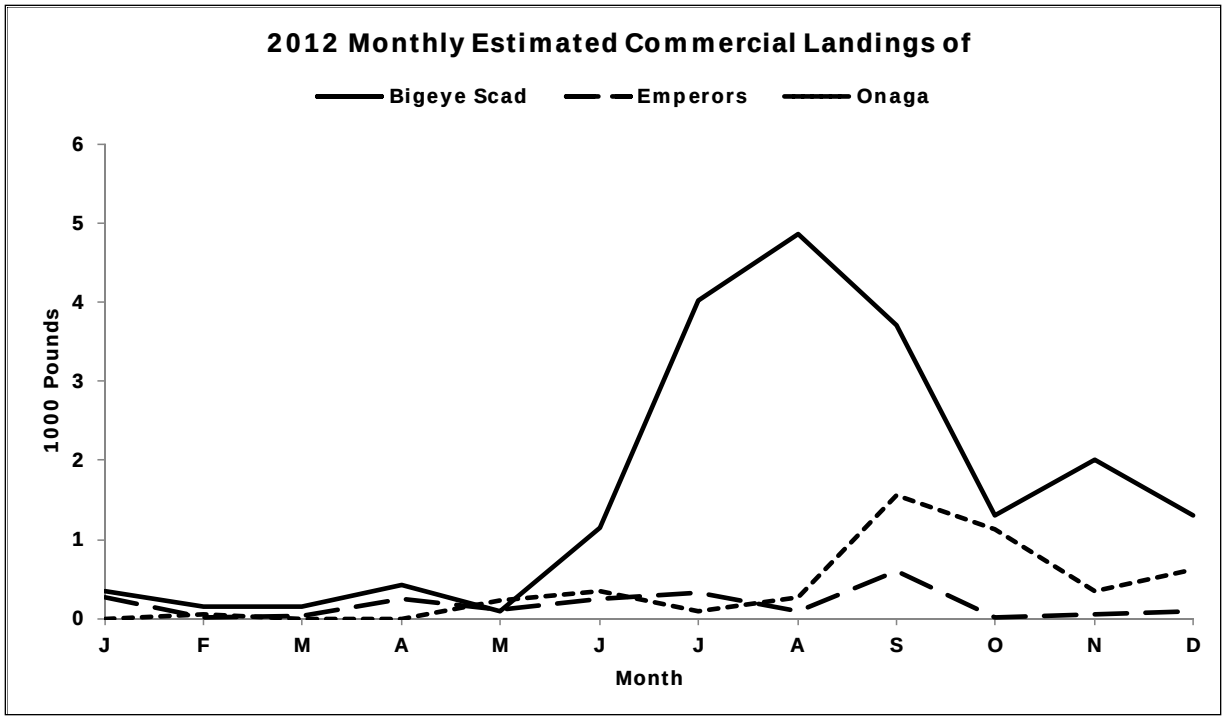

2012 Monthly Estimated Commercial Landings of
Bigeye Scad
Emperors
Onaga
1000 Pounds
0
1
2
3
4
5
6
J
F
M
A
M
J
J
A
S
O
N
D
Month

Figure B-1-5

The following are seasonality plots for the major species or species groups, showing the average weight landed during each month for all years combined:

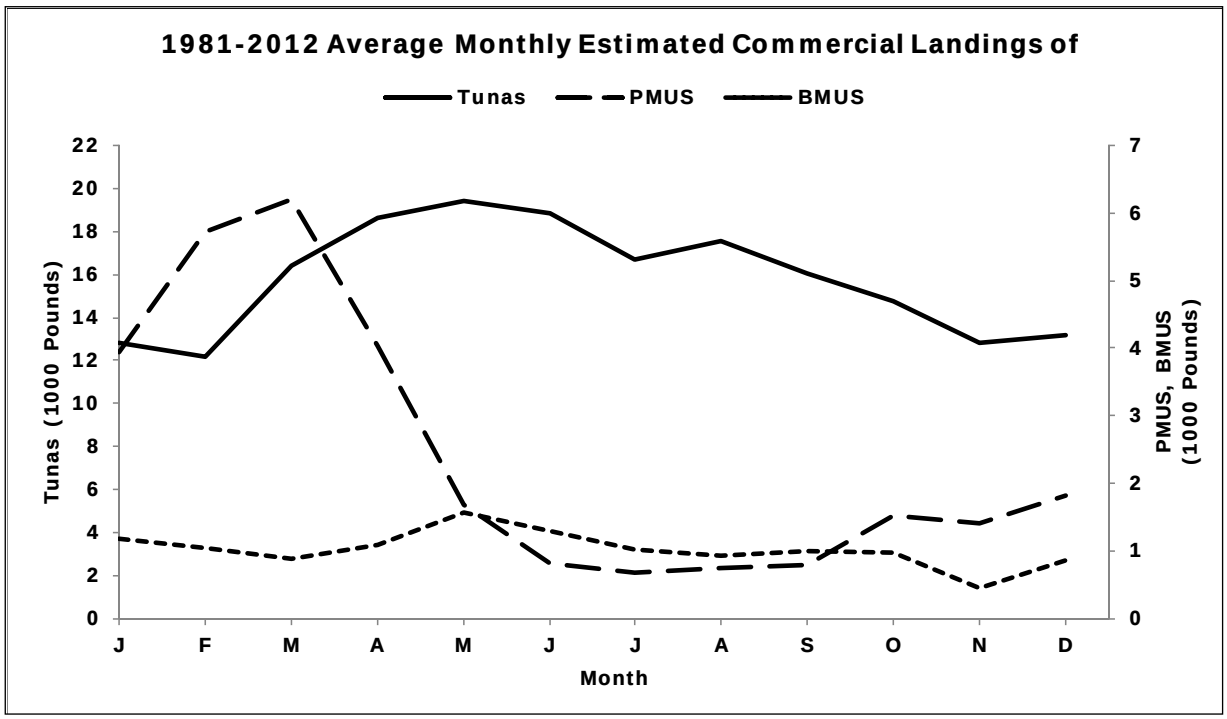


Figure B-2-1

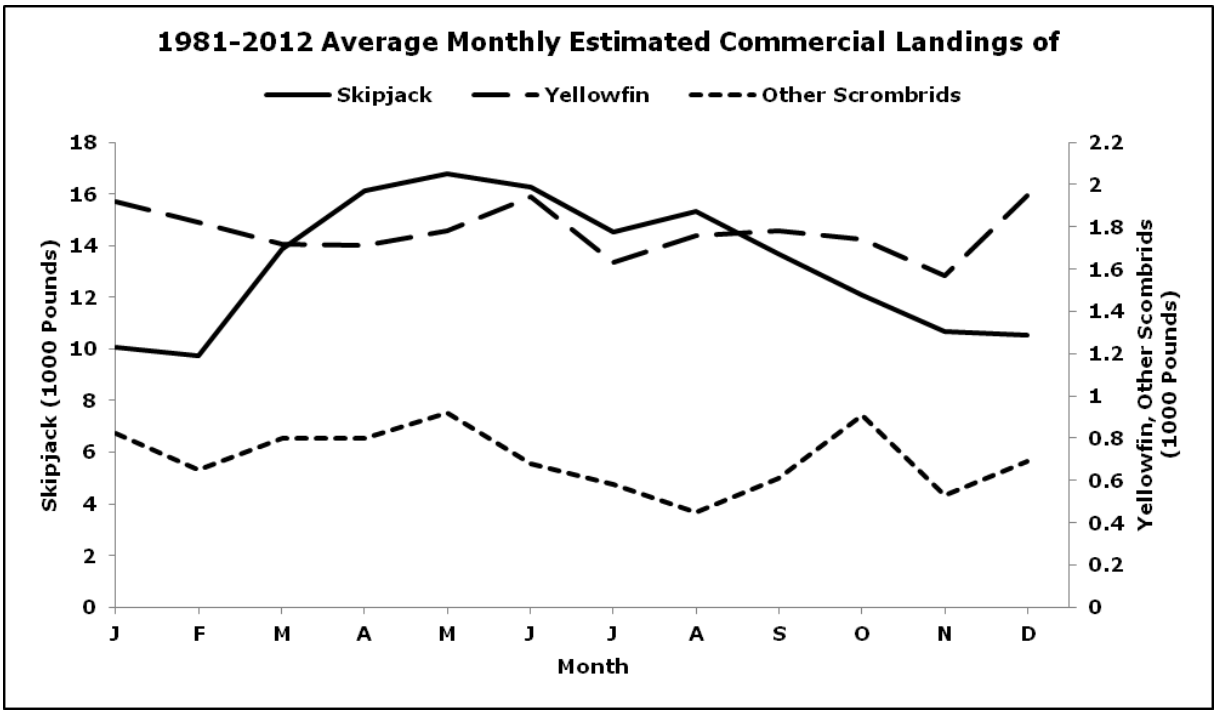


Figure B-2-2

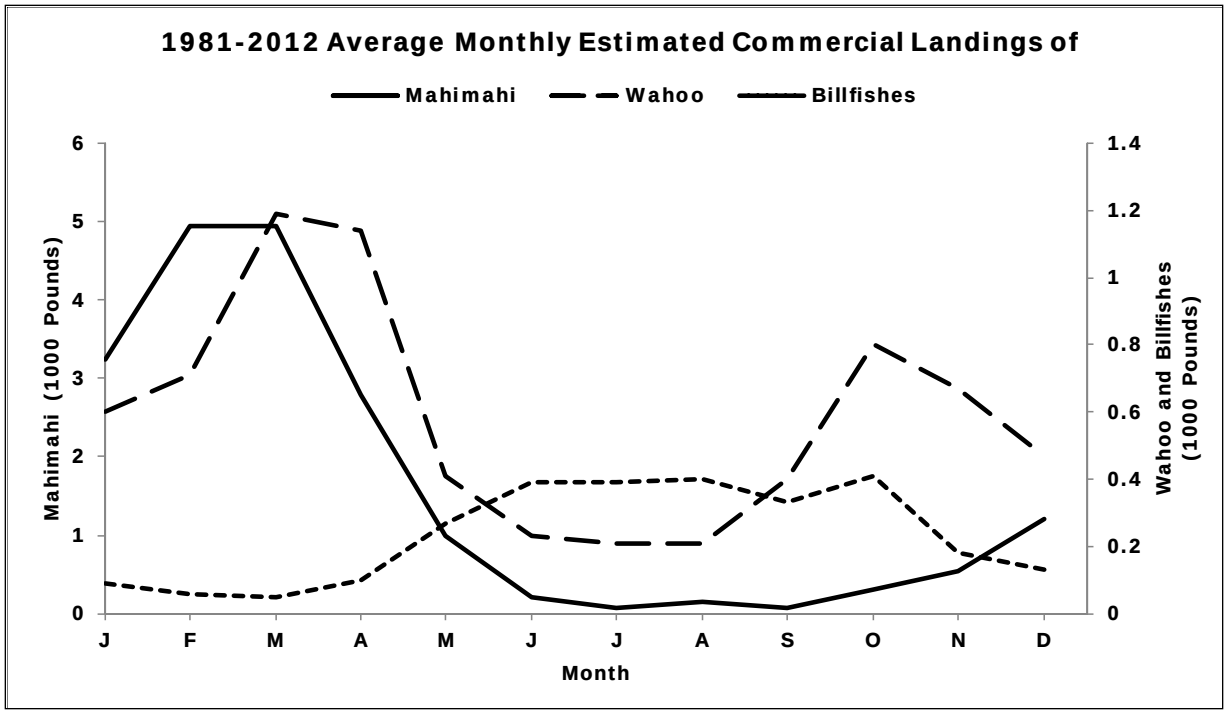


Figure B-2-3

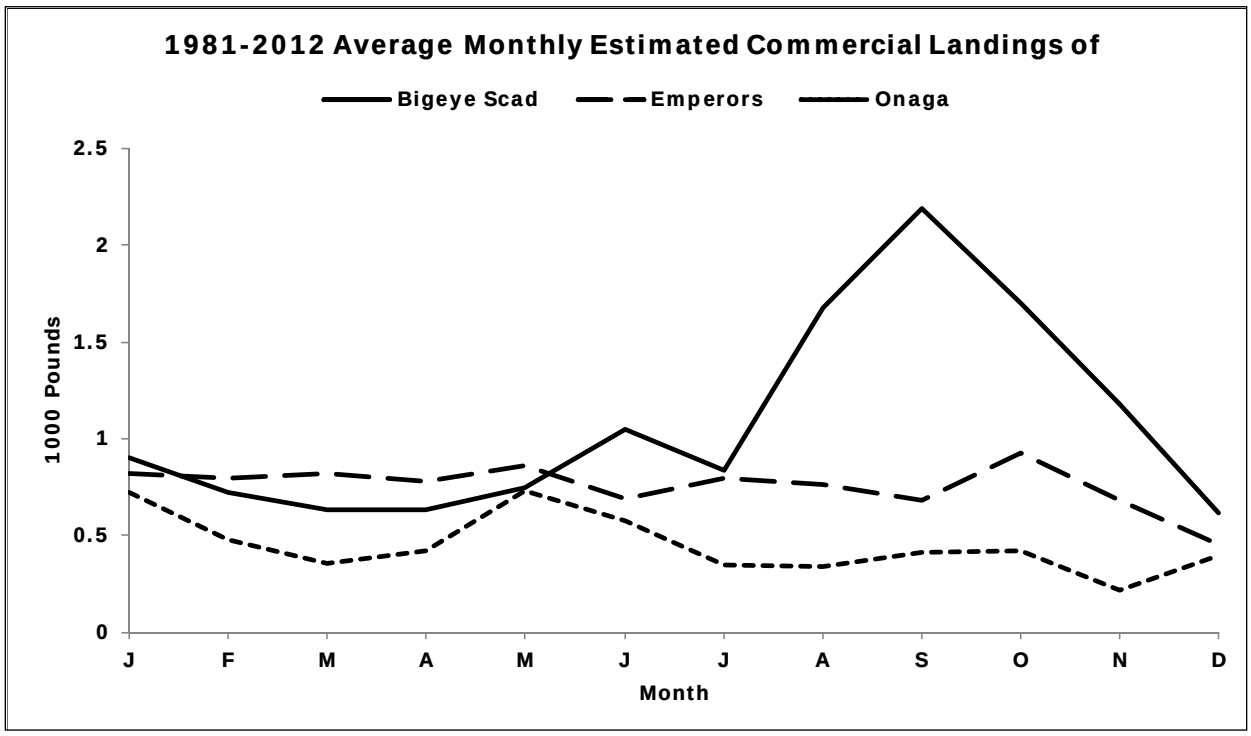


Figure B-2-4

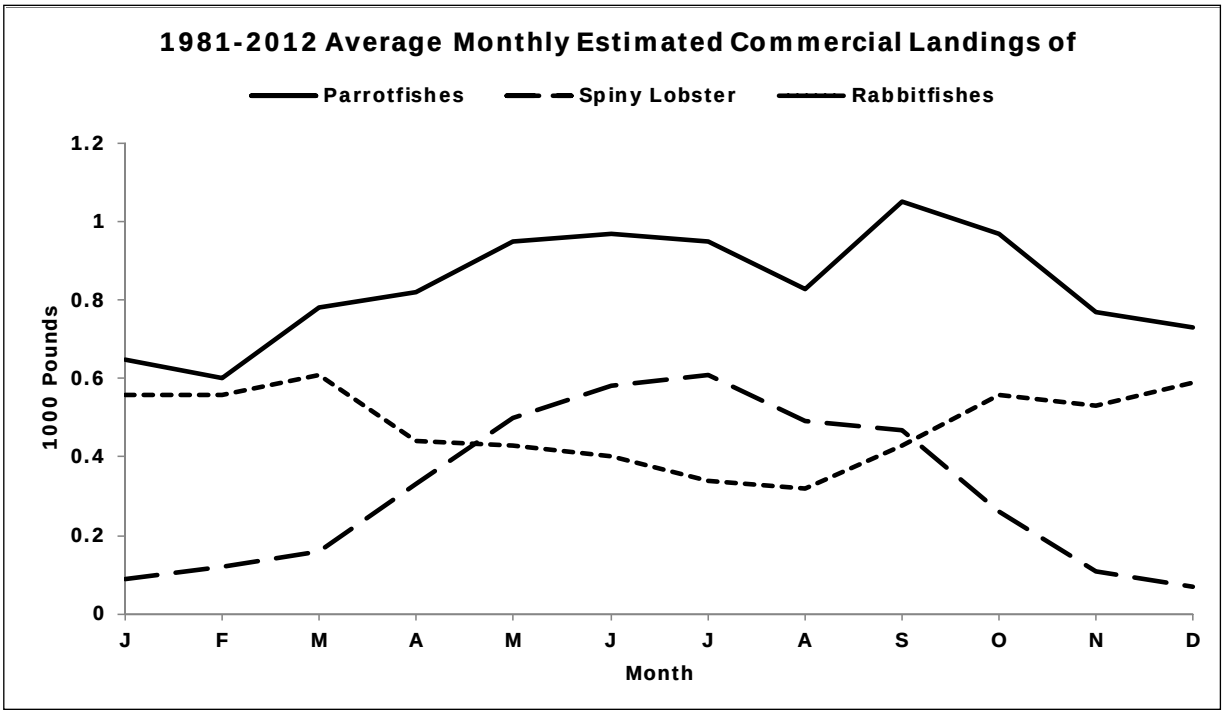

1981-2012 Average Monthly Estimated Commercial Landings of
Parrotfishes
Spiny Lobster
Rabbitfishes
1000 Pounds
1.2
1
0.8
0.6
0.4
0.2
0
J
F
M
A
M
J
J
A
S
O
N
D
Month

Figure B-2-5

The following graphs plot annual summary statistics to illustrate inter-annual variability:

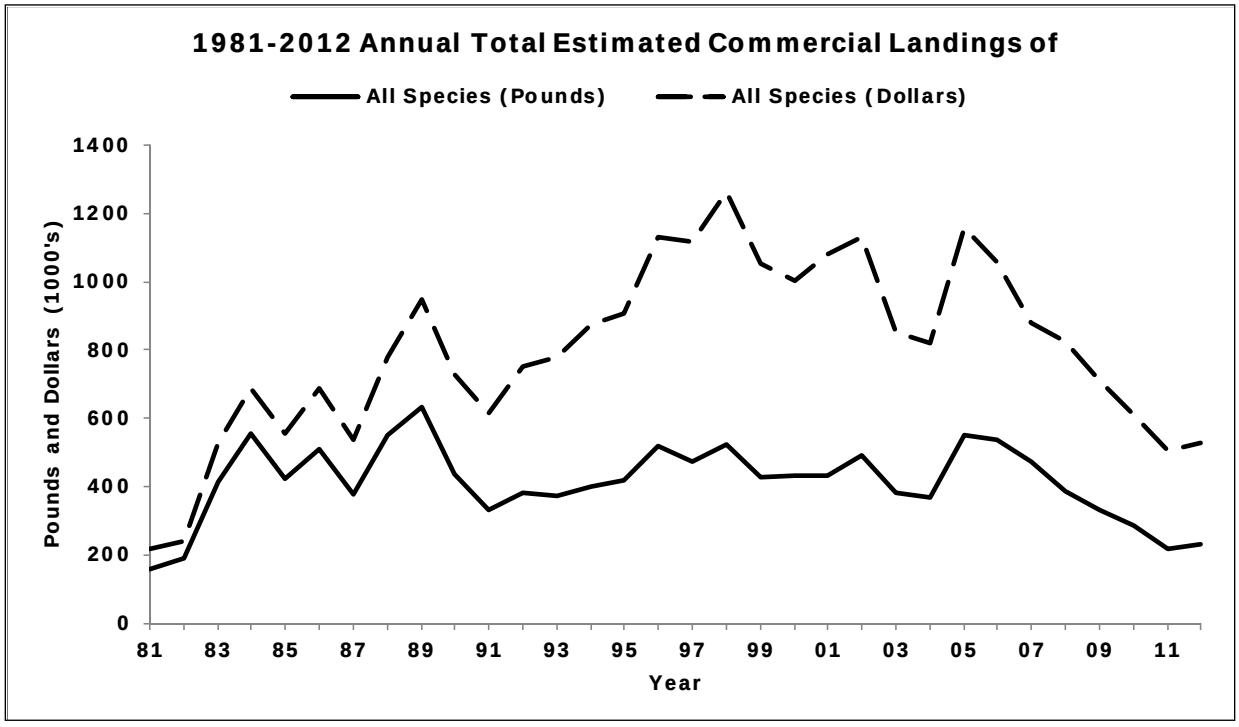


Figure B-3-1

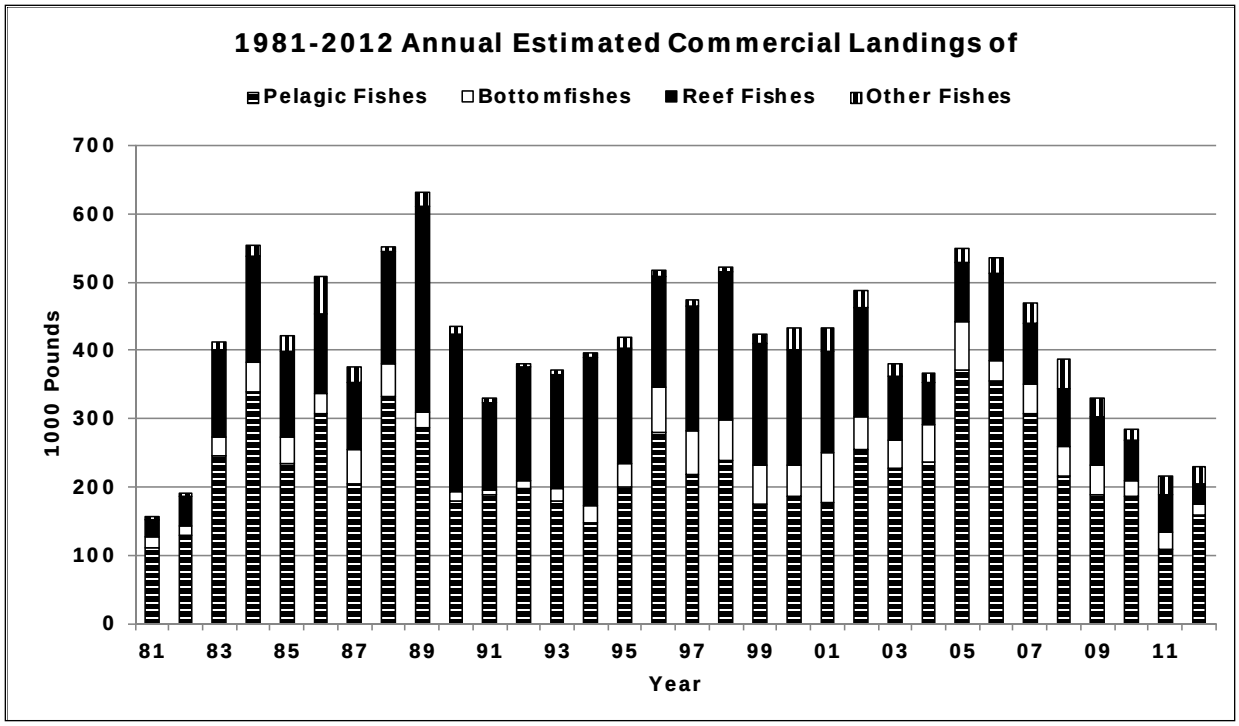


Figure B-3-2

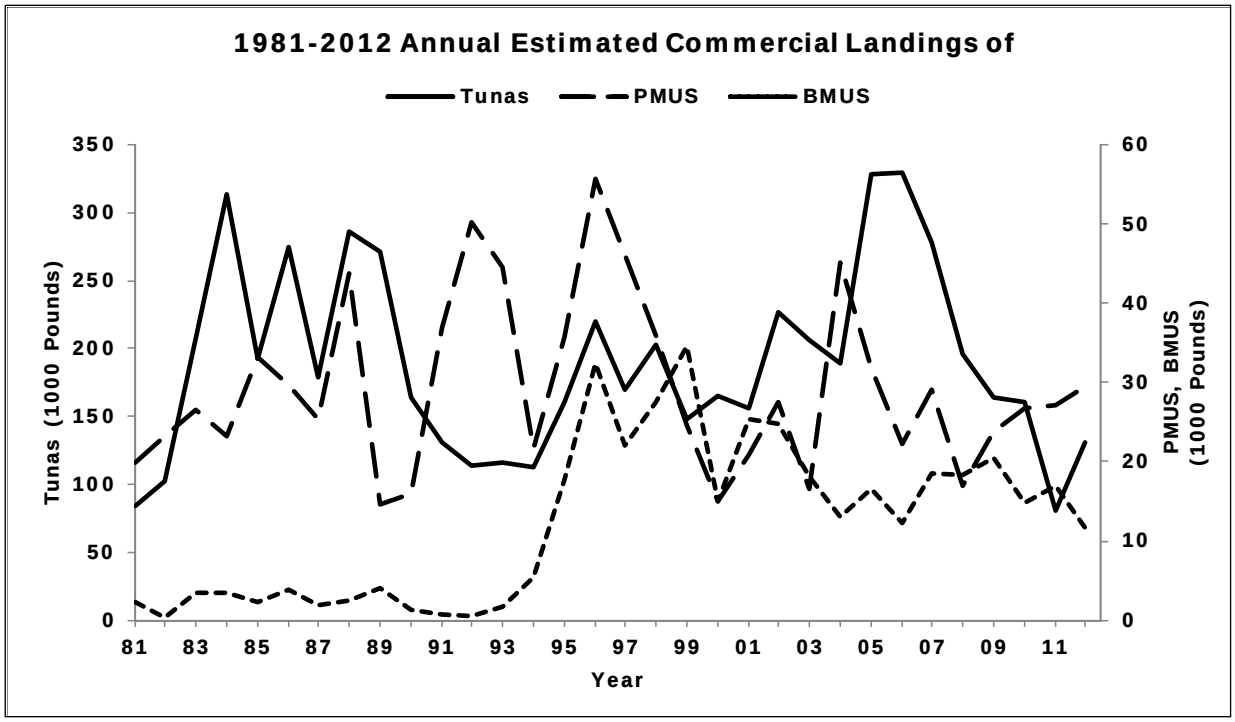


Figure B-3-3

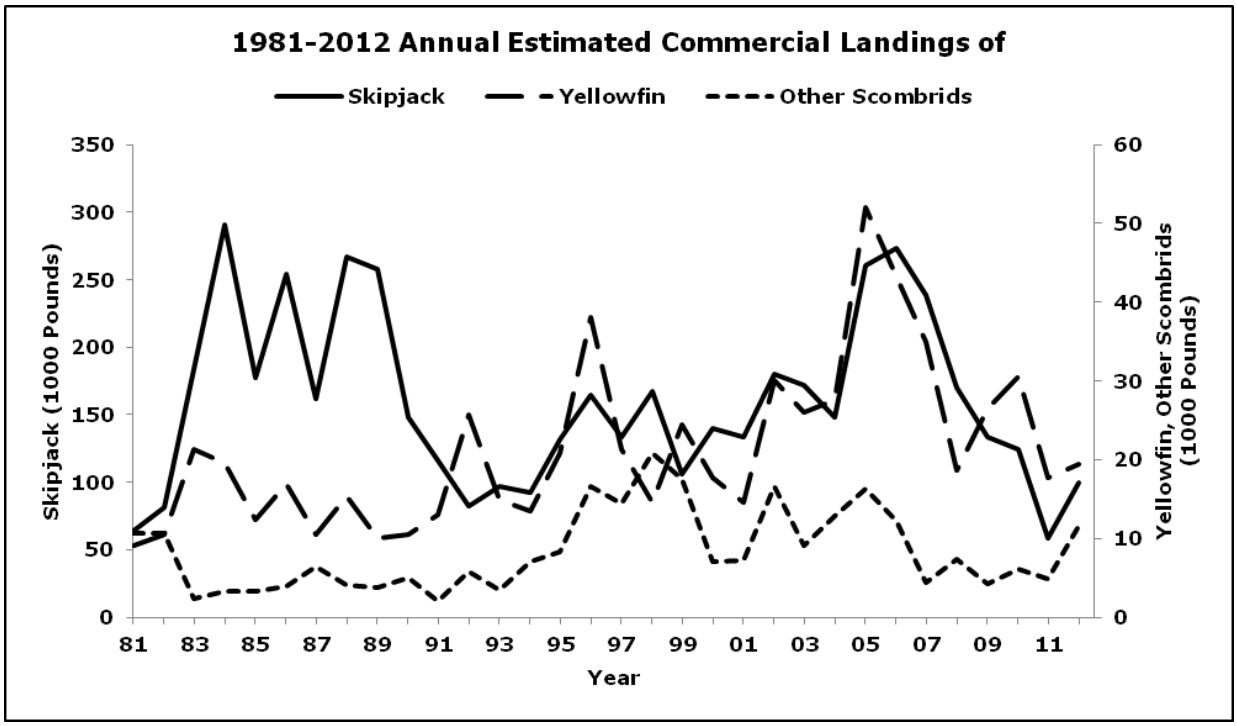


Figure B-3-4

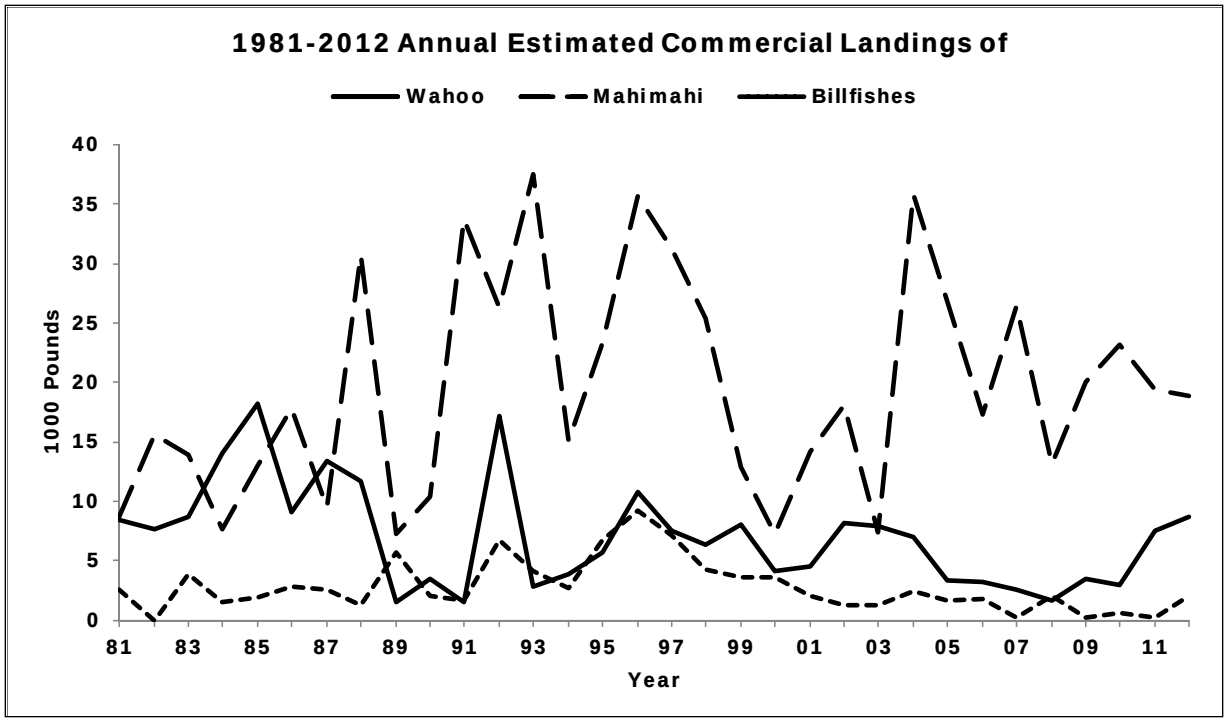


Figure B-3-5

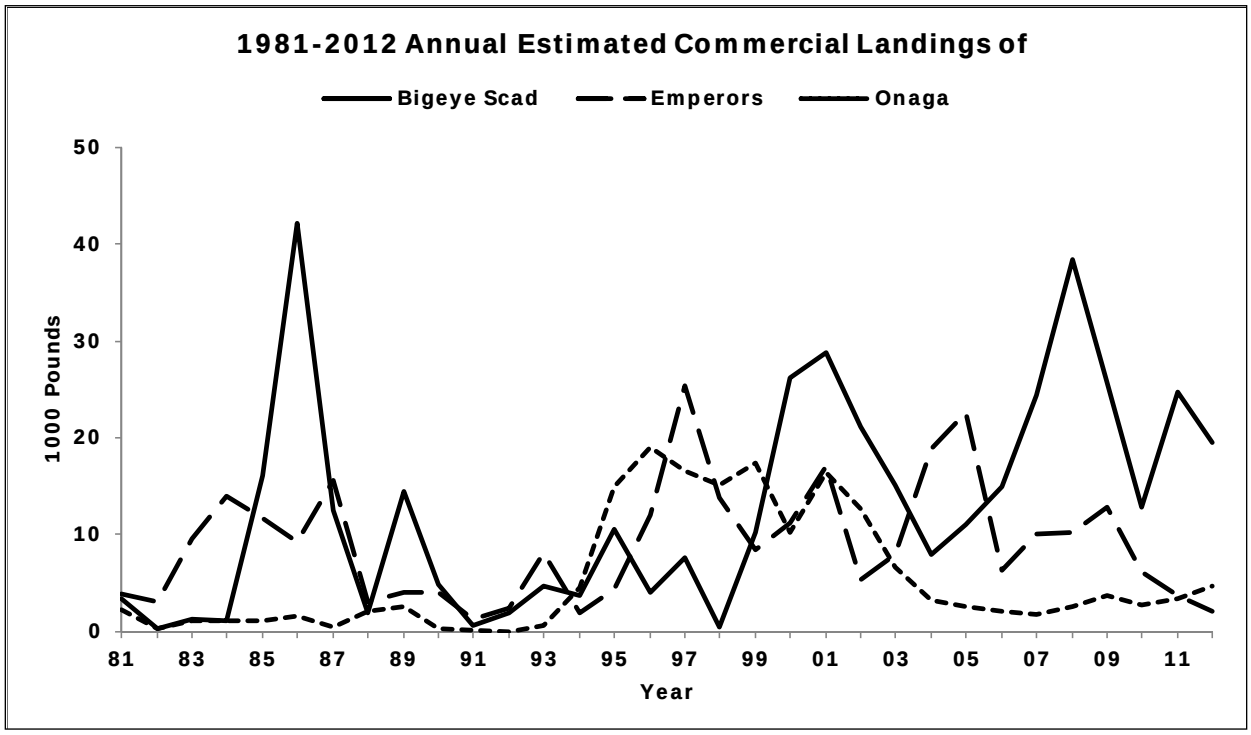


Figure B-3-6

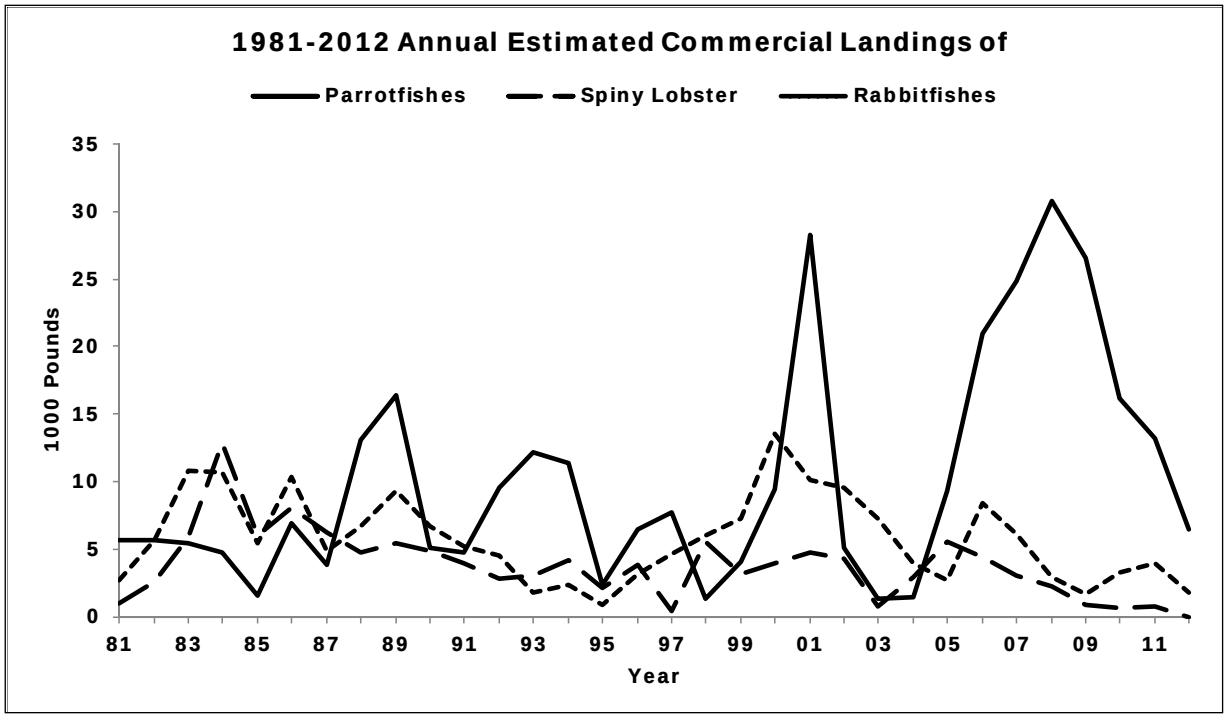

1981-2012 Annual Estimated Commercial Landings of
Parrotfishes
Spiny Lobster
Rabbitfishes
1000 Pounds
35
30
25
20
15
10
5
0
81
83
85
87
89
91
93
95
97
99
01
03
05
07
09
11
Year

Figure B-3-7

The following graphs plot the monthly landings of some of the major commercially important species and document monthly fluctuations in landings of these species over the time series:

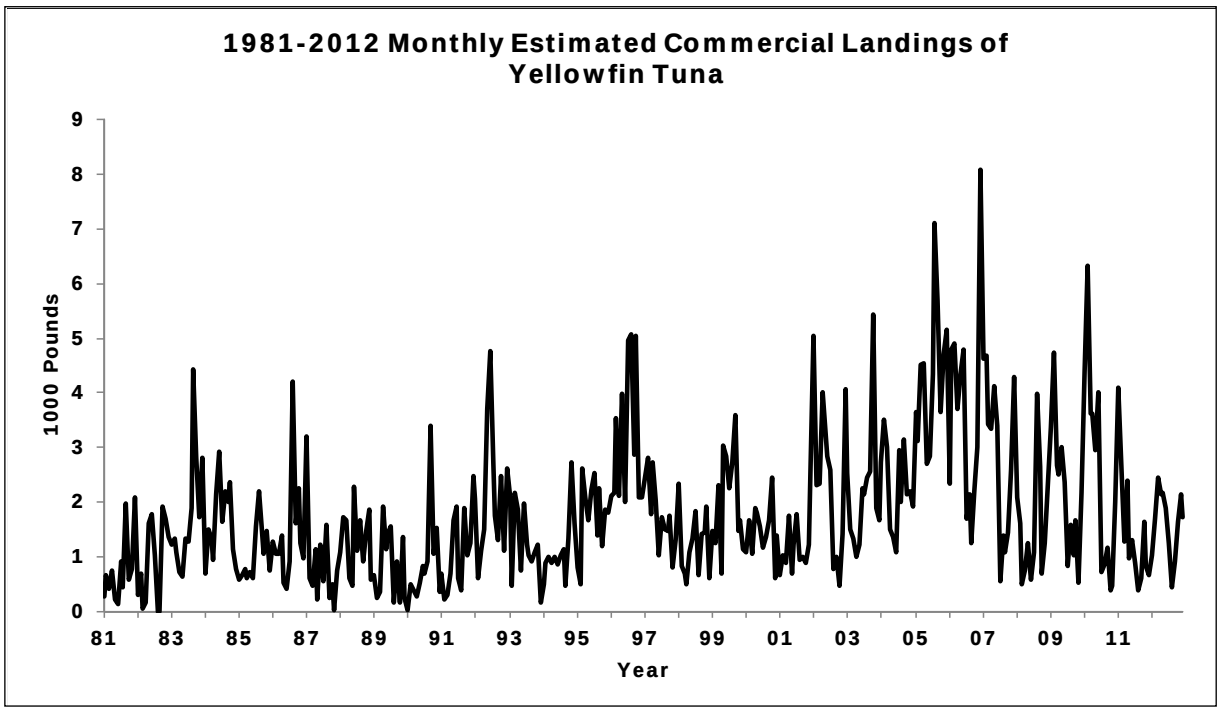


Figure B-4-1

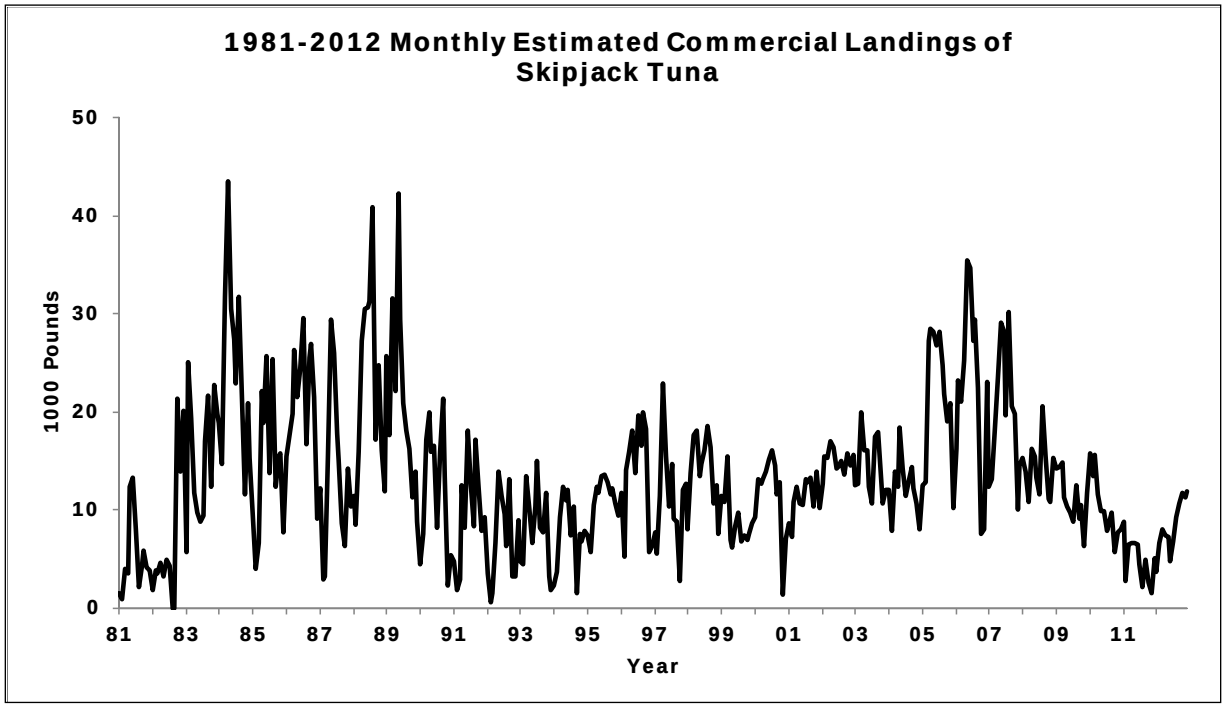


Figure B-4-2

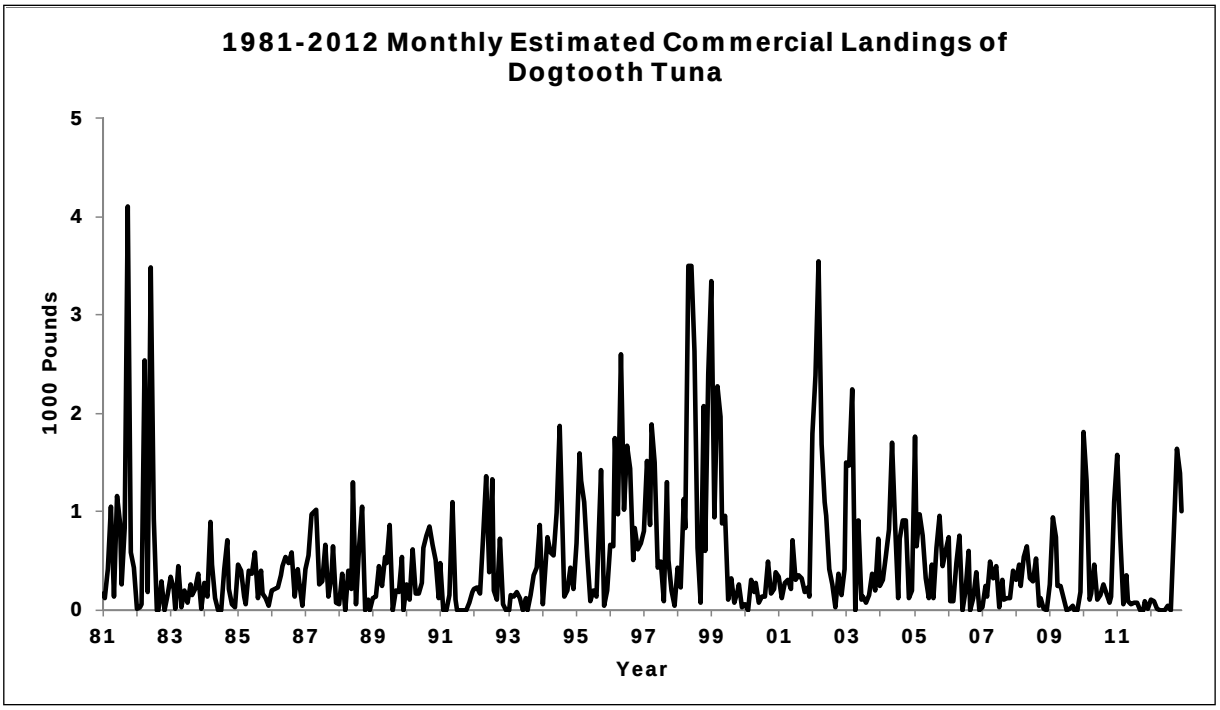


Figure B-4-3

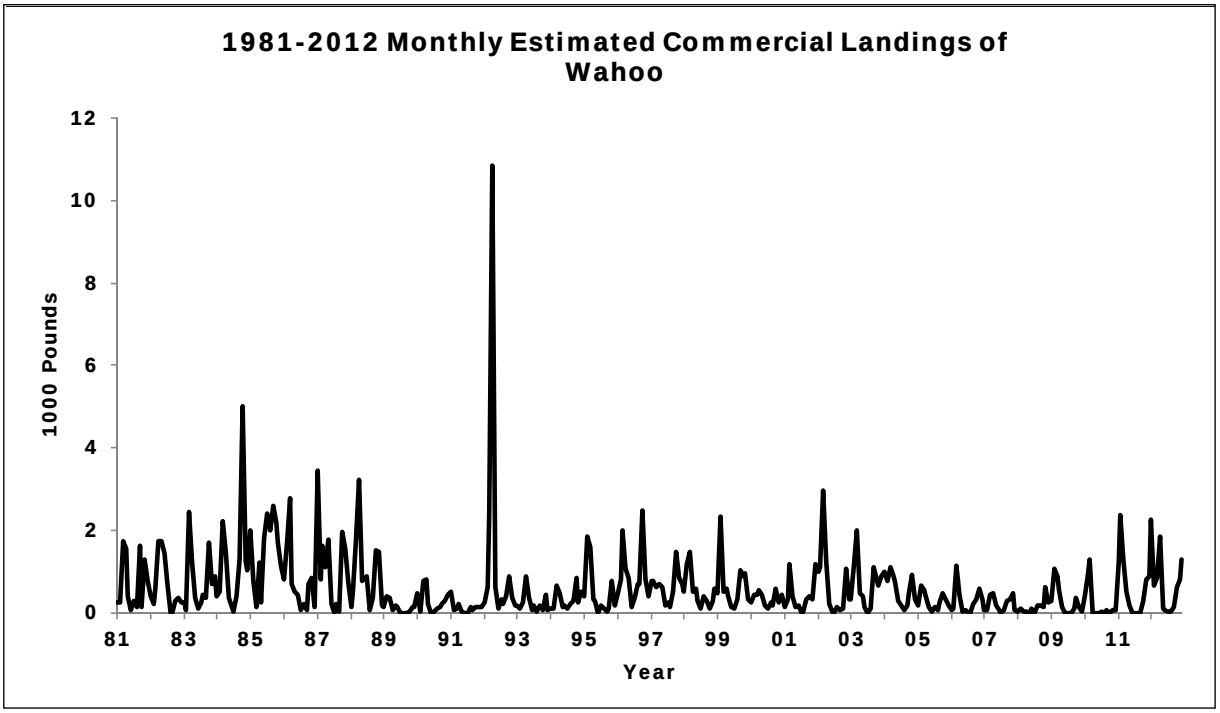


Figure B-4-4

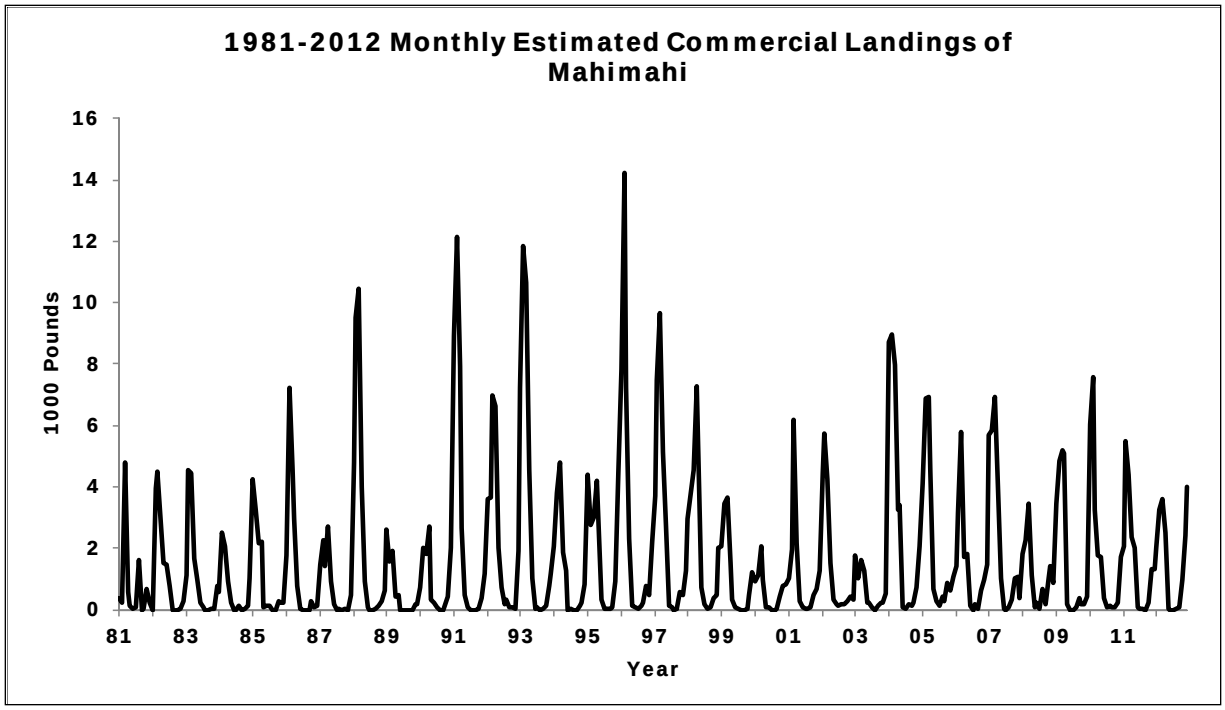
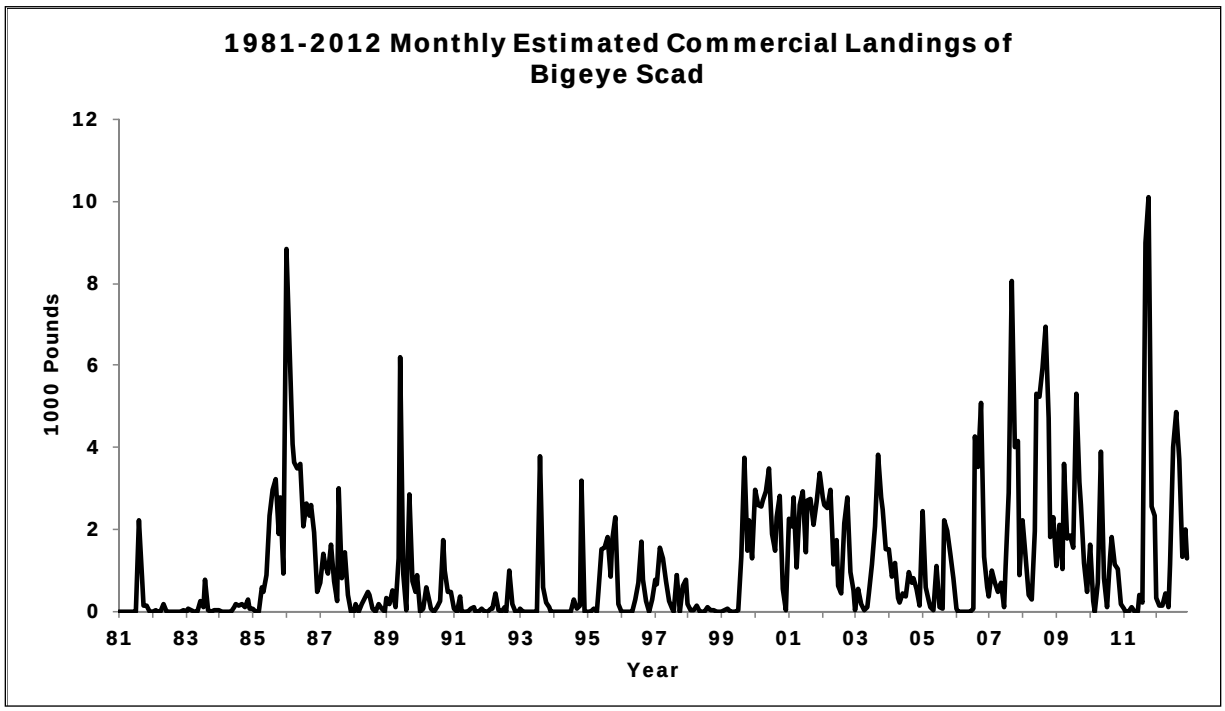


Figure B-4-5



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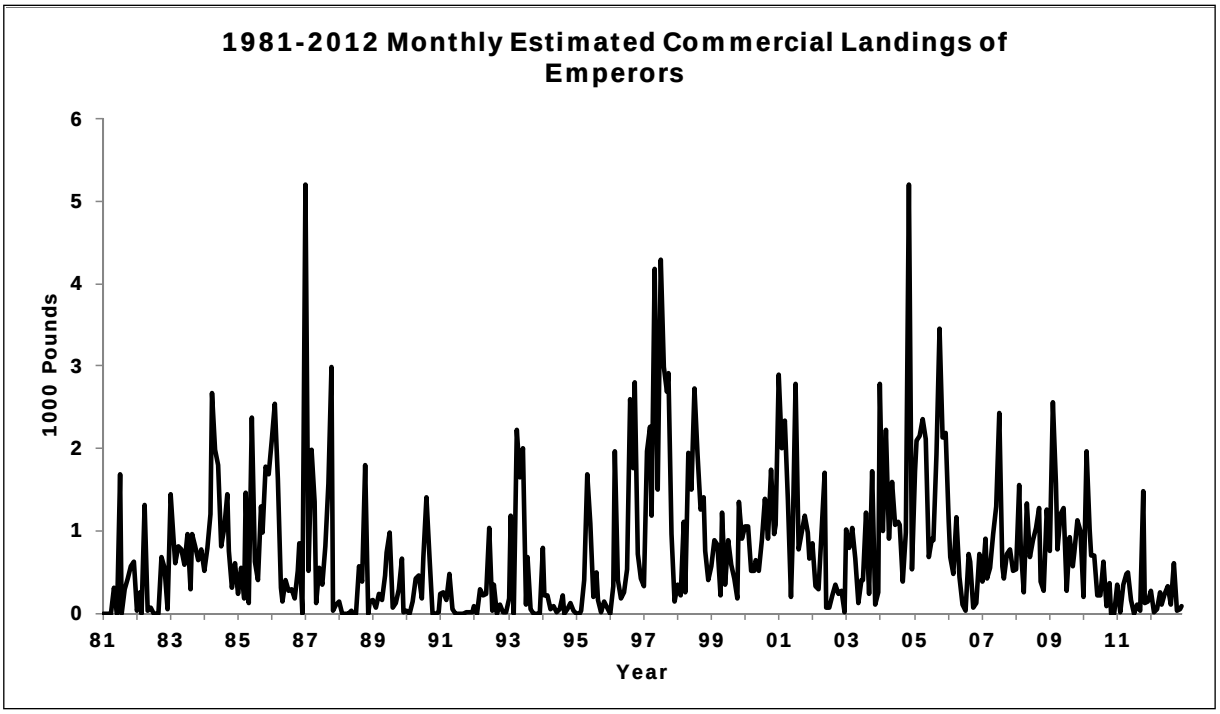

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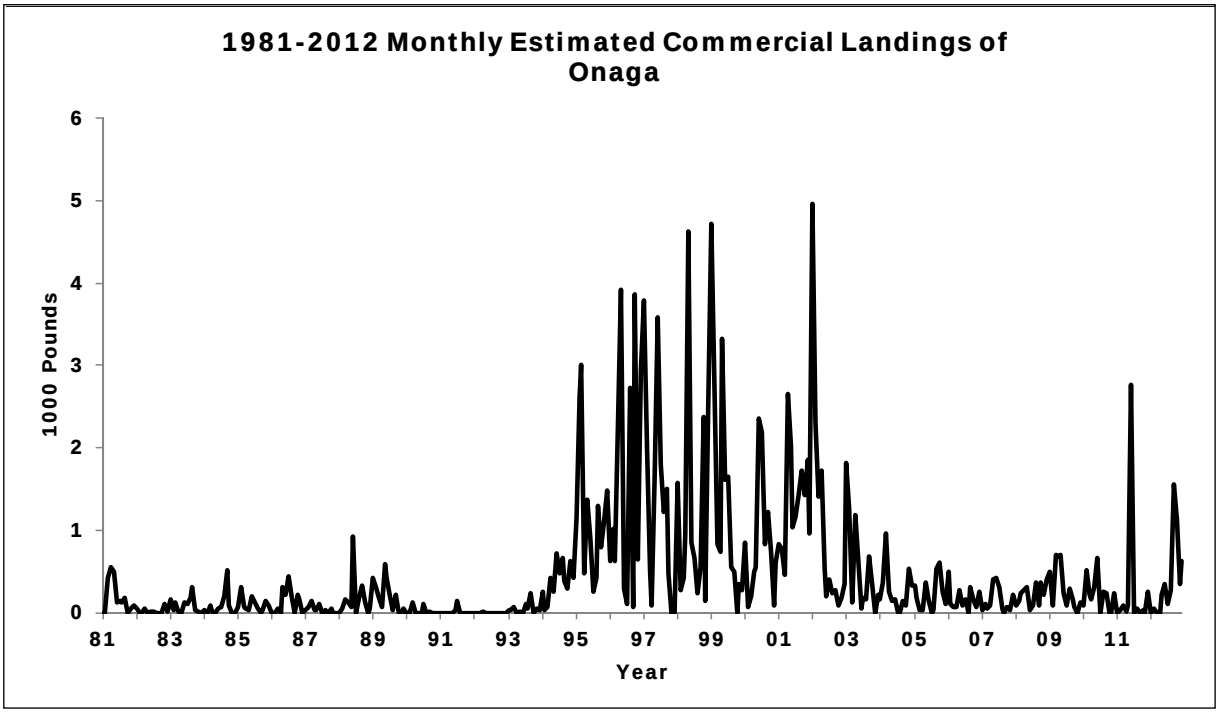

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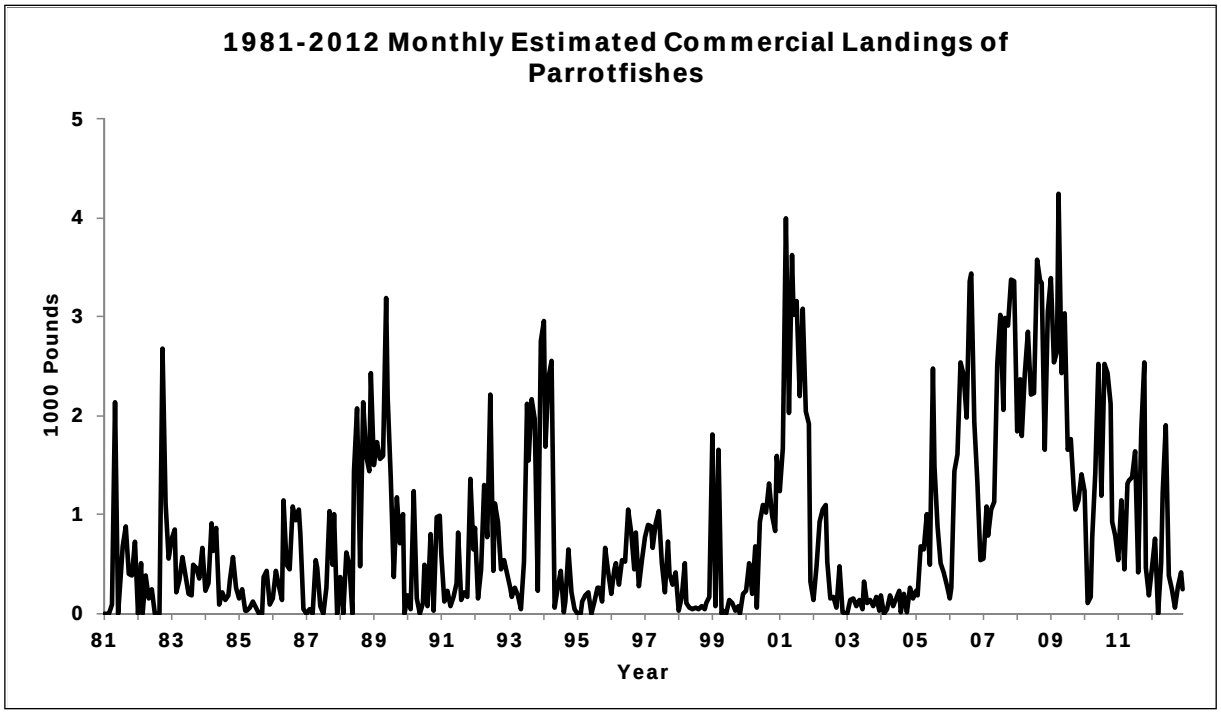

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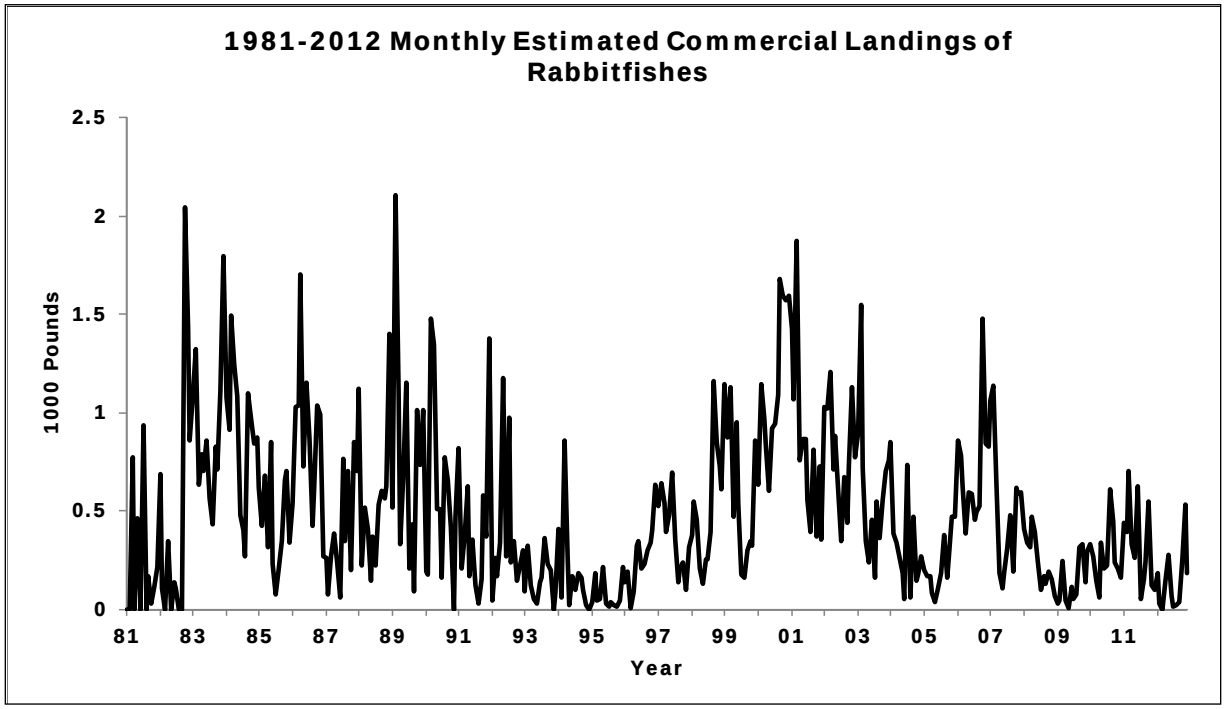

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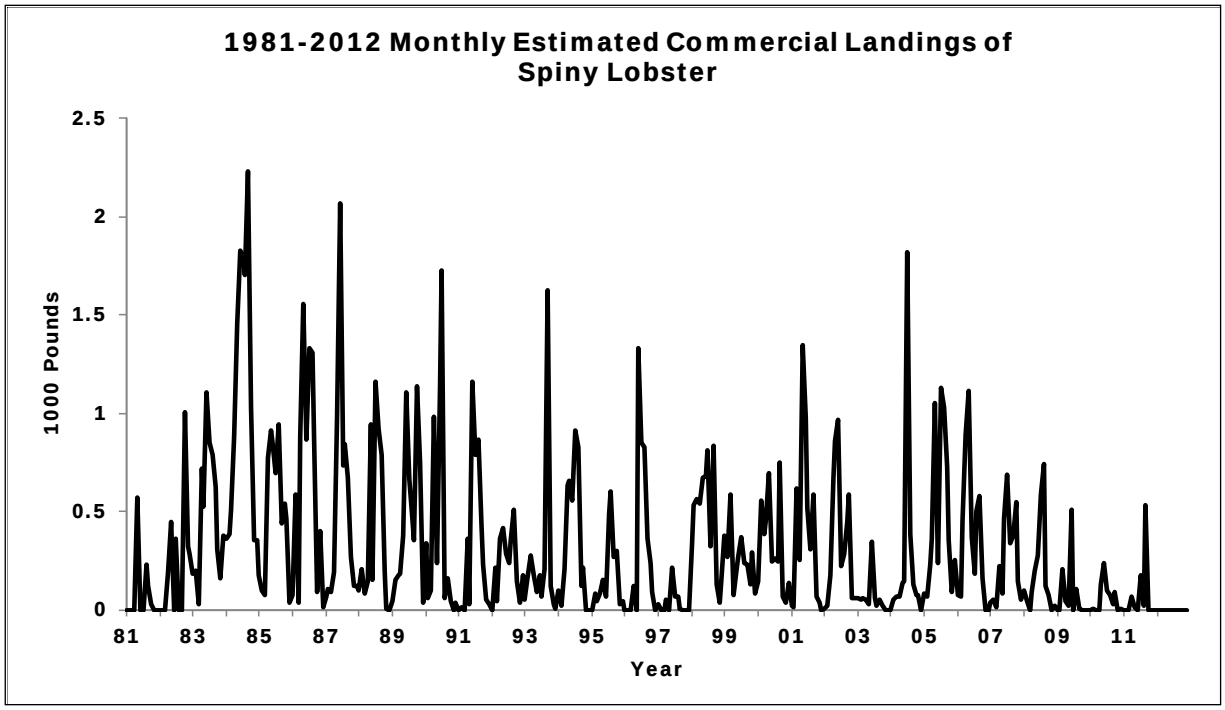
1981-2012 Monthly Estimated Commercial Landings of Spiny Lobster
1000 Pounds
2.5
2
1.5
1
0.5
0
81
83
85
87
89
91
93
95
97
99
01
03
05
07
09
11
Year

Figure B-4-11

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GUAM 2012 FISHERY STATISTICS

Compiled by

Guam, Department of Agriculture,

Division of Aquatic and Wildlife Resources

and the

Western Pacific Fishery Information Network

March 2016

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GUAM 2012 FISHERY STATISTICS

INTRODUCTION

The Territory of Guam is made up of the southernmost, largest, and most populous island in the Mariana Archipelago and its surrounding banks, fringing and barrier reefs and islets.

Location: 13.3ºN latitude, 144.5ºE longitude

Population: about 161,001 (*The World Factbook*, July 2014 estimate)

Economy: largely based on U.S. military and international tourism

Guam:
Source: https://www.cia.gov/library/publications/the-world-factbook/maps/gq-map.gif;
The World Factbook

Fishing activities on Guam are divided into two basic categories, offshore and inshore fishing. Offshore fishing typically involves small boats (12-48 feet in length), which engage in 1-to-2-day trolling and bottomfishing trips to nearby banks, isles, and pelagic areas. These trips usually originate from 1 of 3 principal harbors (Hagåtña Boat Basin, Agat Marina or Merizo Pier), located on the west coast and southern tip of the island (leeward shores during the prevailing March-August trade winds). Inshore fishing is usually conducted without the use of a boat and consists mainly of shore casting (rod & reel fishing), throw-netting, and spearfishing.

Besides imports, there are three sources of fish in Guam's commercial markets: 1) full-time commercial fishers, 2) part-time commercial fishers, and 3) subsistence or recreational "expense fishers," who frequently sell part of their catch to help defray costs. A license is not required to sell fish on Guam, nor are there any reporting requirements for those who sell fish to the markets.

DATA COLLECTION

In 1982, the NMFS WPacFIN program began working with the Guam Department of Agriculture, Division of Aquatic and Wildlife Resources (DAWR), and local fish dealers to obtain information on commercial landings through voluntary use of a fish receipt form

provided by WPacFIN. This form has been referred to as a “trip ticket.” because it generally represents the catch delivered to a vendor from one fishing trip. Although there is no requirement that fishermen sell to only one vendor, the existence of a major fishing cooperative on Guam, with an excellent relationship amongst its members, provides a fairly stable and reliable trip-level reporting basis for many members of the fishing community.

In July 1979, the Guam Fishermen’s Cooperative Association (GFCA) was established in Hagåtña (Agana) through government funding. The GFCA subsequently became the central distribution center for fresh local fish. Prior to 1979, there was no central place to sell fish, and fishers had to develop their own markets and peddle fish after each trip. In 1982, WPacFIN began working with GFCA to improve their invoicing system and obtain data on all fish purchases. A system was established, whereby GFCA would use forms and coding schemes designed by WPacFIN, and supply copies of all invoices to WPacFIN for computer data entry. In return, WPacFIN would provide GFCA with document quality control and computer-generated summary statistics. All purchase data, going back to July 1979, were also coded and computerized.

Over time, other fish markets began to operate, and DAWR and WPacFIN have continued to work with them to obtain data through the voluntary receipt book program. The tables and graphs in this section are based on data summarized from receipts submitted by all participating fish dealers on Guam. The values recorded have been adjusted to create an estimate of total commercial landings, based on an annually-estimated proportion of the local commercial market represented in voluntary monitoring data.

Data collected on commercial receipt forms include:

- Date of Sale
- Number of Fishermen
- Area Fished
- Number Caught by Species
- Fisherman Code (primary seller)
- Hours Fished
- Pounds Caught by Species
- Price per Pound by Species

Although a proposed law has been introduced several times over the years that would require reporting by dealers, and possibly commercial fishers, the proposal has never made it through the legislative process. Therefore, commercial fisheries landings data collection on Guam remains voluntary.

The Guam DAWR has also implemented boat-based and shore-based creel surveys over the years. Although the field work is funded through the US Fish and Wildlife Service’s Federal Aid in Sportfish Restoration Program, data entry and data processing activities are supported through Information Technology (IT) support, staffing, and software development from the WPacFIN program. Comparisons of total landings estimates, based on expanded commercial and non-commercial data from creel surveys, are useful to put historical commercial landings estimates into perspective. This comparison is a focus of recent monitoring research by fisheries scientists, to help put modern fisheries management mandates into perspective in light of available data.

DATA PROCESSING

Initially, in the early 1980s to the mid-1990s, Guam fisheries monitoring data were processed at the PIFSC WPacFIN central office in Honolulu. Since 1994, DAWR has taken over this task, using a computer, software, and staff support from WPacFIN. The processing system for commercial landings data collected from fish dealers is fairly simple. Dealers complete a purchase form whenever they purchase fish directly from a fisherman. The form helps categorize the catch, and records the weight and sales value by species or major group. When possible, the number of pieces is also recorded by species or group.

DATA REPORTING

Once data entry is completed, WPacFIN software programs assist with editing, quality control, and weight adjustment for factors such as condition of sale (e.g., gilled/gutted weights, conversion to whole weight, etc.). The software also generates monthly and annual summary reports by species, based on the estimated percentage of commercial sales registered on a monthly basis. WPacFIN customized software creates various standardized reports, which assist the DAWR and WPacFIN Central with quality control, and automate summary reporting to clients, such as the Council and the public.

Please note that the commercial landings data have been adjusted to reflect an estimated 100% of commercial landings, based on the proportion of commercial vendors and landings data available via Guam's voluntary monitoring system. The adjusted totals are referenced as "Estimated Commercial Landings" in the charts and tables. Only non-confidential estimates of monthly and annual commercial landings by species are provided in this document. Confidential data reported voluntarily remain the property of WPacFIN partners, including individual vendors and the GFCA.

Each table contains the common name, estimated weight (in pounds), estimated value (in dollars), and the average price per pound by species or group. The monthly tables contain estimated subtotals for each species. The annual table contains the estimated total commercial landings for each species for the calendar year. Graphs of statistics for some of the more important commercial species or groups are also provided. To see the most current charts and estimates, please visit the WPacFIN website, http://www.pifsc.noaa.gov/wpacfin.

SPECIES CATEGORIES

The species and taxonomic groups used in the tables and graphs for Guam are defined in this section. Many of these species and groups have been placed into different management categories over the years. For example, in 1992, the Magnuson Fishery Conservation and Management Act of 1976, was amended to include tunas in the Pelagic Management Unit Species (PMUS). However, to make comparison across these reports more intuitive, this summary maintains the original species categories from previous FSWP volumes. As such, tunas are kept in a separate category. To see the most current taxonomic information and groupings for species caught commercially in Guam, and in other U.S.-associated Pacific island areas, please visit the WPacFIN website, http://www.pifsc.noaa.gov/wpacfin.

I. Pelagic Management Unit Species (PMUS)

Mahimahi *(Coryphaena hippurus)*
Marlins *(Makaira mazara, Kajikia audax, Istiompax indica)*
Sailfish *(Istiophorus platypterus)*
Sharks *(Isurus oxyrinchus, Isurus paucus, Carcharhinus* spp.)
Spearfish *(Tetrapturus angustirostris)*
Swordfish *(Xiphias gladius)*
Wahoo *(Acanthocybium solandri)*

II. Bottomfish Management Unit Species (BMUS)

Alfonsin *(Beryx decadactylus)*
Amberjack *(Seriola dumerili)*
Black jack *(Caranx lugubris)*
Ehu/Red snapper *(Etelis carbunculus)*
Gindai/Flower snapper, *Pristipomoides zonatus)*
Groupers (various Serranidae)
Jacks (various Carangidae)
Kalikali/Pink snapper *(Pristipomoides sieboldii*[1]*)*
Lehi/Silverjaw *(Aphareus rutilans)*
Mafute/Emperor (various Lethrinidae)
Onaga/Red snapper *(Etelis coruscans)*
Opakapaka/Pink snapper *(Pristipomoides filamentosus)*
Snappers (most Etelinae, some *Lutjanus* spp.)
Uku/Gray snapper *(Aprion virescens)*

III. Billfishes

Marlins *(Makaira mazara, Kajikia audax, Istiompax indica)*
Sailfish *(Istiophorus platypterus)*
Spearfish *(Tetrapturus angustirostris)*
Swordfish *(Xiphias gladius)*

IV. Tunas

Kawakawa *(Euthynnus affinis)*
Skipjack tuna *(Katsuwonus pelamis)*
Tunas (unspecified)[2]
Yellowfin tuna *(Thunnus albacares)*

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[1] Please note that in the CNMI, the kalikali is typically the "yellowtail Kalikali," *Pristipomoides auricilla*, but on Guam this market category refers to the "pink Kalikali," *Pristipomoides sieboldii*. This is one of the reasons scientific names are provided as a reference for common names used for each island area throughout this report.

[2] This group includes species that comprise a very small portion of the catch, unidentified tunas, and apparent misidentifications. Because of the small amount of catch, and the tendency of vendors to throw in the dogtooth tuna with this group (although it is not actually a tuna), this group is combined with "other scombrids" in some of the charts.

V. Other Scombrids

Dogtooth tuna *(Gymnosarda unicolor)* *(See footnote 2)*

VI. Fisheries Categories

A. *Pelagic Fishes*

Barracudas *up to 7 species (Sphyraena spp.)*
Dogtooth tuna *(Gymnosarda unicolor)*
Kawakawa *(Euthynnus affinis)*
Mahimahi *(Coryphaena hippurus)*
Marlins *(Makaira mazara, Kajikia audax, Istiompax indica)*
Monchong *(Taractichthys steindachneri)*
Pelagic fishes (unspecified)[3]
Rainbow runner *(Elagatis bipinnulata)*
Sailfish *(Istiophorus platypterus)*
Sharks *(Isurus oxyrinchus, Isurus paucus*, various *Carcharhinus* spp.)
Skipjack tuna *(Katsuwonus pelamis)*
Spearfish *(Tetrapturus angustirostris)*
Swordfish *(Xiphias gladius)*
Tunas/Unspecified *(see footnote 2)*
Wahoo *(Acanthocybium solandri)*
Yellowfin tuna *(Thunnus albacares)*

B. *Bottomfishes*

Alfonsin *(Beryx decadactylus)*
Amberjack *(Seriola dumerili)*
Black jack *(Caranx lugubris)*
Bottomfishes (unspecified)[4]
Deep bottomfishes (unspecified)[5]
Ehu/Red snapper *(Etelis carbunculus)*
Gindai/Flower snapper, *(Pristipomoides zonatus)*
Groupers/Unspecified (various Serranidae)
Jacks/Unspecified (various Carangidae)
Kalikali/Pink snapper *(Pristipomoides sieboldii)*
Lehi/Silverjaw *(Aphareus rutilans)*
Mafute/Emperor (various Lethrinidae)
Onaga/Red snapper *(Etelis coruscans)*
Opakapaka/Pink snapper *(Pristipomoides filamentosus)*
Tagafi/Red snapper *(Etelis* spp. *Pristipomoides* spp.)
Uku/Gray snapper *(Aprion virescens)*

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[3] May include any of the members of the larger group, which the vendor weighed as a lot to save time.

[4] May include various deep bottom snappers (most Etelinae, some *Lutjanus* spp. listed above), groupers (Serranidae), emperors (Lethridae), deep jacks and trevallies (Carangidae).

[5] Another catch all group, not necessarily distinct from "Bottomfishes."

C. *Reef Fishes*

Goatfishes (various Mullidae)
Humphead parrotfish *(Bolbometopon muricatum)*
Napoleon wrasse *(Cheilinus undulatus)*
Parrotfishes (various Scaridae)
Rabbitfishes (*Siganus* spp.)
Reef fishes/Unspecified (diverse fish taxa)
Rudderfish/Guilli *(Kyphosus* spp.)
Snappers *(Lutjanus* spp.[6])
Squirrelfishes (*Sargocentron* spp., *Neoniphon* spp.)
Surgeonfishes (various Acanthuridae)
Sweetlips (various Haemulidae)
Unicornfishes (various *Naso* spp.)
Wrasses (various Labridae)

D. *Other Fishes, Algae & Invertebrates*

Bigeye scad/Atulai *(Selar crumenophthalmus)*
Lobsters (various Scyllaridae & Palinuridae)
Milkfish *(Chanos chanos)*
Mullets (various Mugilidae)
Octopus (mainly *Octopus* spp.)
Squid (various Teuthoidea)

[6] Eteline snappers are found only in bottomfishing catch; inshore near reefs, they are mainly species of *Lutjanus*.

Table C-1

Guam Annual 2012 Estimated Commercial Landings

Species	Pounds	Value ($)	Price/Lb ($)
Barracudas (unspecified)	1,440	2,860	1.99
Bigeye scad (atulai)	6,260	15,488	2.47
Bottomfishes (unspecified)	233	563	2.42
Dogtooth tuna	1,742	2,826	1.62
Emperors/Mafute (unspecified)	2,113	6,005	2.84
Goatfishes (unspecified)	69	225	3.25
Groupers (unspecified)	1,322	4,007	3.03
Jack, amberjack	103	315	3.07
Jack, black	78	235	3.00
Jacks (unspecified)	2,364	6,885	2.91
Mahimahi	29,852	68,669	2.30
Marlins (unspecified)	20,151	32,874	1.63
Milkfish	10	32	3.25
Miscellaneous (unspecified)	130	391	3.01
Monchong	94	240	2.55
Napoleon wrasse	1,516	4,249	2.80
Parrotfishes (unspecified)	13,816	44,790	3.24
Rabbitfishes (unspecified)	202	1,166	5.78
Rainbow runner	1,449	3,256	2.25
Reef fishes (unspecified)	19,505	62,739	3.22
Rudderfishes/Guilli (unspecified)	155	505	3.25
Sailfish	687	1,033	1.50
Snapper, ehu (red)	586	2,433	4.15
Snapper, gindai (flower)	577	2,419	4.19
Snapper, kalikali (pink)	1,130	4,469	3.96
Snapper, lehi (silverjaw)	728	2,840	3.90
Snapper, onaga (red)	1,523	7,846	5.15
Snapper, opakapaka (pink)	814	3,349	4.11
Snapper, uku (gray)	369	1,069	2.90
Snappers (unspecified)	139	413	2.97
Spearfish	58	140	2.40
Squirrelfishes (unspecified)	141	748	5.30
Surgeonfishes (unspecified)	2,782	8,525	3.06
Sweetlips (unspecified)	160	481	3.00
Tuna, skipjack	42,574	83,572	1.96
Tuna, yellowfin	8,164	16,912	2.07
Tunas (unspecified)	26	68	2.59
Unicornfishes (unspecified)	32,210	102,704	3.19
Wahoo	24,404	56,429	2.31
Lobsters (unspecified)	1,076	3,986	3.70
Octopus (unspecified)	2,712	8,156	3.01
Squid (unspecified)	3	8	3.00
TOTAL	223,470	565,921	2.53

Table C-2

Guam January 2012 Estimated Commercial Landings

Species	Pounds	Value ($)	Price/Lb ($)
Barracudas (unspecified)	174	347	2.00
Bigeye scad (atulai)	645	1,291	2.00
Dogtooth tuna	201	259	1.29
Goatfishes (unspecified)	69	225	3.25
Groupers (unspecified)	33	100	3.00
Jacks (unspecified)	209	525	2.51
Mahimahi	4,005	9,000	2.25
Marlins (unspecified)	367	826	2.25
Parrotfishes (unspecified)	842	2,736	3.25
Rainbow runner	61	122	2.00
Reef fishes (unspecified)	1,688	5,090	3.02
Sailfish	55	82	1.50
Snapper, ehu (red)	58	231	4.00
Snapper, gindai (flower)	9	36	4.00
Snapper, kalikali (pink)	45	178	4.00
Snapper, onaga (red)	118	591	5.00
Snapper, opakapaka (pink)	15	62	4.00
Snapper, uku (gray)	9	27	3.00
Surgeonfishes (unspecified)	213	638	3.00
Tuna, skipjack	1,131	2,259	2.00
Tuna, yellowfin	315	627	1.99
Unicornfishes (unspecified)	2,417	7,261	3.00
Wahoo	877	1,995	2.27
Lobsters (unspecified)	34	127	3.75
Octopus (unspecified)	81	243	3.00
TOTAL	13,671	34,876	2.55

Table C-3

Guam February 2012 Estimated Commercial Landings

Species	Pounds	Value ($)	Price/Lb ($)
Barracudas (unspecified)	239	447	1.87
Bigeye scad (atulai)	372	791	2.13
Dogtooth tuna	65	96	1.49
Groupers (unspecified)	10	30	3.12
Jacks (unspecified)	153	375	2.45
Mahimahi	8,389	18,876	2.25
Marlins (unspecified)	116	215	1.85
Parrotfishes (unspecified)	575	1,868	3.25
Rainbow runner	60	121	2.00
Reef fishes (unspecified)	1,098	3,507	3.19
Rudderfishes/Guilli (unspecified)	105	340	3.25
Sailfish	146	198	1.36
Snapper, ehu (red)	10	38	4.00
Snapper, gindai (flower)	4	17	4.00
Snapper, kalikali (pink)	14	55	4.00
Snapper, lehi (silverjaw)	3	11	4.00
Snapper, opakapaka (pink)	19	76	4.00
Snapper, uku (gray)	27	76	2.75
Snappers (unspecified)	5	11	2.50
Squirrelfishes (unspecified)	12	35	3.00
Surgeonfishes (unspecified)	130	390	3.00
Tuna, skipjack	1,758	3,516	2.00
Tuna, yellowfin	909	1,829	2.01
Unicornfishes (unspecified)	1,733	5,631	3.25
Wahoo	2,859	6,400	2.24
Lobsters (unspecified)	12	44	3.75
Octopus (unspecified)	117	352	3.00
TOTAL	18,939	45,346	2.39

Table C-4

Guam March 2012 Estimated Commercial Landings

Species	Pounds	Value ($)	Price/Lb ($)
Barracudas (unspecified)	24	47	2.00
Bigeye scad (atulai)	438	1,095	2.50
Dogtooth tuna	144	215	1.50
Emperors/Mafute (unspecified)	10	33	3.25
Jacks (unspecified)	385	1,221	3.18
Mahimahi	3,662	8,215	2.24
Marlins (unspecified)	238	441	1.85
Milkfish	10	32	3.25
Napoleon wrasse	198	560	2.82
Parrotfishes (unspecified)	708	2,301	3.25
Rainbow runner	45	91	2.00
Reef fishes (unspecified)	1,141	3,681	3.23
Snapper, gindai (flower)	4	17	4.00
Snapper, kalikali (pink)	4	17	3.75
Snapper, opakapaka (pink)	13	51	4.00
Snapper, uku (gray)	9	25	2.75
Squirrelfishes (unspecified)	23	74	3.25
Surgeonfishes (unspecified)	97	300	3.08
Tuna, yellowfin	537	1,093	2.04
Tuna, skipjack	1,125	2,234	1.98
Tunas (unspecified)	15	46	3.00
Unicornfishes (unspecified)	2,910	9,385	3.23
Wahoo	2,788	6,232	2.24
Lobsters (unspecified)	28	106	3.75
Octopus (unspecified)	119	357	3.00
TOTAL	14,677	37,868	2.58

Table C-5

Guam April 2012 Estimated Commercial Landings

Species	Pounds	Value ($)	Price/Lb ($)
Barracudas (unspecified)	275	536	1.95
Dogtooth tuna	254	380	1.50
Emperors/Mafute (unspecified)	126	357	2.84
Groupers (unspecified)	41	122	2.96
Jacks (unspecified)	188	511	2.72
Mahimahi	3,035	6,651	2.19
Marlins (unspecified)	755	1,182	1.57
Miscellaneous (unspecified)	10	31	3.09
Napoleon wrasse	171	513	3.00
Parrotfishes (unspecified)	703	2,285	3.25
Rabbitfishes (unspecified)	165	993	6.00
Rainbow runner	65	133	2.04
Reef fishes (unspecified)	1,812	5,863	3.24
Rudderfishes/Guilli (unspecified)	16	53	3.25
Sailfish	165	241	1.46
Snapper, ehu (red)	4	17	4.00
Snapper, gindai (flower)	29	115	4.00
Snapper, kalikali (pink)	6	22	4.00
Snapper, lehi (silverjaw)	49	173	3.55
Snapper, onaga (red)	158	791	5.00
Snapper, uku (gray)	24	65	2.75
Snappers (unspecified)	12	35	3.00
Spearfish	30	98	3.25
Surgeonfishes (unspecified)	67	206	3.07
Sweetlips (unspecified)	20	60	3.00
Tuna, skipjack	4,106	7,622	1.86
Tuna, yellowfin	395	798	2.02
Unicornfishes (unspecified)	4,360	13,733	3.15
Wahoo	2,513	5,672	2.26
Lobsters (unspecified)	11	41	3.75
Octopus (unspecified)	86	259	3.00
TOTAL	19,651	49,560	2.52

Table C-6

Guam May 2012 Estimated Commercial Landings

Species	Pounds	Value ($)	Price/Lb ($)
Barracudas (unspecified)	48	86	1.77
Bigeye scad (atulai)	8	16	2.00
Bottomfishes (unspecified)	143	350	2.45
Dogtooth tuna	136	192	1.41
Emperors/Mafute (unspecified)	669	1,775	2.65
Groupers (unspecified)	342	988	2.89
Jack, amberjack	26	73	2.75
Jacks (unspecified)	204	560	2.75
Mahimahi	346	779	2.25
Marlins (unspecified)	1,493	2,013	1.35
Miscellaneous (unspecified)	80	240	3.00
Napoleon wrasse	598	1,645	2.75
Parrotfishes (unspecified)	2,435	7,841	3.22
Rainbow runner	335	670	2.00
Reef fishes (unspecified)	2,491	8,073	3.24
Sailfish	64	102	1.60
Snapper, ehu (red)	106	425	4.00
Snapper, gindai (flower)	50	201	4.00
Snapper, kalikali (pink)	87	331	3.83
Snapper, lehi (silverjaw)	173	628	3.63
Snapper, onaga (red)	181	905	5.00
Snapper, opakapaka (pink)	119	448	3.76
Snapper, uku (gray)	89	248	2.78
Snappers (unspecified)	25	80	3.25
Squirrelfishes (unspecified)	71	425	6.00
Surgeonfishes (unspecified)	445	1,357	3.05
Tuna, yellowfin	1,110	2,341	2.11
Tuna, skipjack	7,734	14,951	1.93
Tunas (unspecified)	7	15	2.00
Unicornfishes (unspecified)	2,947	9,061	3.07
Wahoo	868	1,698	1.96
Lobsters (unspecified)	102	382	3.75
TOTAL	23,532	58,896	2.50

Table C-7

Guam June 2012 Estimated Commercial Landings

Species	Pounds	Value ($)	Price/Lb ($)
Barracudas (unspecified)	57	111	1.93
Bigeye scad (atulai)	4	8	2.00
Bottomfishes (unspecified)	71	175	2.45
Dogtooth tuna	99	141	1.43
Emperor/Mafute (unspecified)	568	1,578	2.78
Groupers (unspecified)	292	876	3.00
Jack, amberjack	25	76	3.09
Jacks (unspecified)	181	514	2.84
Mahimahi	234	531	2.27
Marlins (unspecified)	1,433	2,364	1.65
Miscellaneous (unspecified)	40	120	3.00
Monchong	19	51	2.75
Napoleon wrasse	318	875	2.75
Parrotfishes (unspecified)	2,072	6,692	3.23
Rabbitfishes (unspecified)	5	18	3.25
Rainbow runner	290	673	2.32
Reef fishes (unspecified)	2,211	7,164	3.24
Sailfish	32	51	1.60
Snapper. ehu (red)	96	394	4.11
Snapper, gindai (flower)	64	267	4.14
Snapper, kalikali (pink)	104	407	3.91
Snapper, lehi (silverjaw)	99	368	3.71
Snapper. onaga (red)	218	1,119	5.14
Snapper. opakapaka (pink)	110	438	3.98
Snapper. uku (gray)	59	167	2.83
Snappers (unspecified)	30	89	2.98
Squirrelfishes (unspecified)	35	213	6.00
Surgeonfishes (unspecified)	426	1,295	3.04
Sweetlips (unspecified)	47	140	3.00
Tuna, skipjack	8,288	16,078	1.94
Tuna, yellowfin	1,469	3,026	2.06
Tunas (unspecified)	4	7	2.00
Unicornfishes (unspecified)	3,357	10,609	3.16
Wahoo	681	1,463	2.15
Lobsters (unspecified)	85	320	3.75
Octopus (unspecified)	72	217	3.00
TOTAL	23,195	58,635	2.53

Table C-8

Guam July 2012 Estimated Commercial Landings

Species	Pounds	Value ($)	Price/Lb ($)
Barracudas (unspecified)	66	137	2.06
Dogtooth tuna	61	91	1.50
Emperors/Mafute (unspecified)	466	1,384	2.97
Groupers (unspecified)	242	768	3.17
Jack, amberjack	23	80	3.50
Jacks (unspecified)	159	471	2.97
Napoleon wrasse	38	105	2.75
Mahimahi	122	285	2.34
Marlins (unspecified)	1,373	2,718	1.98
Monchong	37	103	2.75
Parrotfishes (unspecified)	1,709	5,555	3.25
Rabbitfishes (unspecified)	11	35	3.25
Rainbow runner	245	677	2.76
Reef fishes (unspecified)	1,931	6,270	3.25
Snapper, ehu (red)	86	363	4.25
Snapper, gindai (flower)	79	333	4.24
Snapper, kalikali (pink)	122	484	3.98
Snapper, lehi (silverjaw)	25	108	4.25
Snapper, onaga (red)	255	1,336	5.25
Snapper, opakapaka (pink)	101	429	4.25
Snapper, uku (gray)	29	87	3.00
Snappers (unspecified)	35	99	2.80
Surgeonfishes (unspecified)	406	1,234	3.04
Sweetlips (unspecified)	94	281	3.00
Tuna, skipjack	8,842	17,260	1.95
Tuna, yellowfin	1,827	3,723	2.04
Unicornfishes (unspecified)	3,767	12,196	3.24
Wahoo	494	1,237	2.51
Lobsters (unspecified)	69	259	3.75
Octopus (unspecified)	145	434	3.00
TOTAL	22,858	58,543	2.56

Table C-9

Guam August 2012 Estimated Commercial Landings

Species	Pounds	Value ($)	Price/Lb ($)
Barracudas (unspecified)	140	297	2.12
Bigeye scad (atulai)	256	778	3.03
Dogtooth tuna	298	588	1.97
Emperors/Mafute (unspecified)	14	44	3.25
Groupers (unspecified)	56	173	3.10
Jacks (unspecified)	133	423	3.18
Mahimahi	440	695	1.58
Marlins (unspecified)	8,618	13,427	1.56
Monchong	38	86	2.25
Napoleon wrasse	87	262	3.00
Parrotfishes (unspecified)	1,331	4,326	3.25
Rainbow runner	185	404	2.19
Reef fishes (unspecified)	1,821	5,916	3.25
Rudderfishes/Guilli (unspecified)	14	44	3.25
Snapper, ehu (red)	81	344	4.25
Snapper, gindai (flower)	99	420	4.25
Snapper, kalikali (pink)	329	1,317	4.00
Snapper, lehi (silverjaw)	188	762	4.05
Snapper, onaga (red)	169	888	5.25
Snapper, opakapaka (pink)	248	1,050	4.24
Snapper, uku (gray)	25	74	3.00
Snappers (unspecified)	33	98	3.00
Surgeonfishes (unspecified)	373	1,142	3.06
Tuna, skipjack	3,378	6,732	1.99
Tuna, yellowfin	704	1,372	1.95
Unicornfishes (unspecified)	2,388	7,762	3.25
Wahoo	978	2,399	2.45
Lobsters (unspecified)	152	572	3.75
Octopus (unspecified)	408	1,235	3.03
TOTAL	22,983	53,630	2.33

Table C-10

Guam September 2012 Estimated Commercial Landings

Species	Pounds	Value ($)	Price/Lb ($)
Barracudas (unspecified)	91	195	2.15
Bigeye scad (atulai)	2,320	6,056	2.61
Bottomfishes (unspecified)	19	38	2.00
Dogtooth tuna	233	465	2.00
Emperors/Mafute (unspecified)	122	396	3.25
Groupers (unspecified)	245	761	3.11
Jack, amberjack	29	87	3.00
Jack, black	78	235	3.00
Jacks (unspecified)	156	485	3.10
Mahimahi	253	502	1.99
Marlins (unspecified)	3,863	5,962	1.54
Parrotfishes (unspecified)	806	2,619	3.25
Rainbow runner	7	16	2.25
Reef fishes (unspecified)	1,351	4,389	3.25
Sailfish	84	146	1.75
Snapper, ehu (red)	59	249	4.25
Snapper, gindai (flower)	102	435	4.25
Snapper, kalikali (pink)	309	1,213	3.93
Snapper, lehi (silverjaw)	153	631	4.12
Snapper, onaga (red)	339	1,772	5.22
Snapper, opakapaka (pink)	151	636	4.21
Snapper, uku (gray)	59	177	3.00
Surgeonfishes (unspecified)	195	586	3.00
Tuna, skipjack	1,799	3,617	2.01
Tuna, yellowfin	405	945	2.33
Unicornfishes (unspecified)	1,876	6,098	3.25
Wahoo	964	2,387	2.48
Lobsters (unspecified)	188	673	3.58
Octopus (unspecified)	228	691	3.03
TOTAL	16,486	42,464	2.58

Table C-11

Guam October 2012 Estimated Commercial Landings

Species	Pounds	Value ($)	Price/Lb ($)
Barracudas (unspecified)	113	225	2.00
Bigeye scad (atulai)	882	2,243	2.54
Dogtooth tuna	18	27	1.50
Emperors/Mafute (unspecified)	135	425	3.15
Groupers (unspecified)	28	92	3.25
Jacks (unspecified)	469	1,417	3.02
Mahimahi	430	1,065	2.48
Marlins (unspecified)	685	1,268	1.85
Napoleon wrasse	105	290	2.75
Parrotfishes (unspecified)	929	3,019	3.25
Rainbow runner	47	106	2.25
Reef fishes (unspecified)	1,490	4,831	3.24
Rudderfishes/Guilli (unspecified)	21	68	3.25
Sailfish	142	213	1.50
Snapper, ehu (red)	53	224	4.25
Snapper, gindai (flower)	110	468	4.25
Snapper, kalikali (pink)	97	389	4.00
Snapper, lehi (silverjaw)	37	158	4.25
Snapper, onaga (red)	80	417	5.22
Snapper, opakapaka (pink)	25	107	4.25
Snapper, uku (gray)	39	123	3.16
Surgeonfishes (unspecified)	233	744	3.19
Tuna, skipjack	2,268	4,786	2.11
Tuna, yellowfin	370	873	2.36
Unicornfishes (unspecified)	2,046	6,644	3.25
Wahoo	2,098	5,209	2.48
Lobsters (unspecified)	227	835	3.67
Octopus (unspecified)	423	1,271	3.01
TOTAL	13,601	37,541	2.76

Table C-12

Guam November 2012 Estimated Commercial Landings

Species	Pounds	Value ($)	Price/Lb ($)
Barracudas (unspecified)	84	181	2.17
Bigeye scad (atulai)	805	1,986	2.47
Dogtooth tuna	221	343	1.55
Groupers (unspecified)	32	95	3.00
Jacks (unspecified)	115	342	2.97
Mahimahi	5,724	14,090	2.46
Marlins (unspecified)	601	1,070	1.78
Parrotfishes (unspecified)	1,075	3,495	3.25
Rabbitfishes (unspecified)	20	120	6.00
Rainbow runner	47	106	2.25
Reef fishes (unspecified)	1,445	4,633	3.21
Snapper, ehu (red)	24	104	4.25
Snapper, gindai (flower)	12	52	4.25
Snapper, kalikali (pink)	4	14	4.00
Snapper, onaga (red)	5	28	5.25
Snapper, opakapaka (pink)	12	53	4.25
Surgeonfishes (unspecified)	101	325	3.22
Tuna, skipjack	923	1,944	2.10
Tuna, yellowfin	87	205	2.35
Unicornfishes (unspecified)	2,501	8,128	3.25
Wahoo	7,365	17,156	2.33
Lobsters (unspecified)	119	445	3.75
Octopus (unspecified)	775	2,324	3.00
Squid (unspecified)	3	8	3.00
TOTAL	22,100	57,247	2.59

Table C-13

Guam December 2012 Estimated Commercial Landings

Species	Pounds	Value ($)	Price/Lb ($)
Barracudas (unspecified)	129	250	1.94
Bigeye scad (atulai)	529	1,224	2.31
Dogtooth tuna	14	27	2.00
Emperors/Mafute (unspecified)	4	12	3.25
Jacks (unspecified)	14	41	3.00
Mahimahi	3,213	7,980	2.48
Marlins (unspecified)	609	1,389	2.28
Parrotfishes (unspecified)	632	2,053	3.25
Rainbow runner	61	137	2.25
Reef fishes (unspecified)	1,026	3,321	3.24
Snapper, ehu (red)	10	43	4.25
Snapper, gindai (flower)	14	59	4.25
Snapper, kalikali (pink)	10	41	4.00
Spearfish	28	42	1.50
Surgeonfishes (unspecified)	95	307	3.25
Tuna, skipjack	1,222	2,573	2.11
Tuna, yellowfin	35	80	2.25
Unicornfishes (unspecified)	1,906	6,196	3.25
Wahoo	1,920	4,581	2.39
Lobsters (unspecified)	49	182	3.75
Octopus (unspecified)	258	775	3.00
TOTAL	11,778	31,315	2.66

The following are summary charts of the major species and species groups by month:

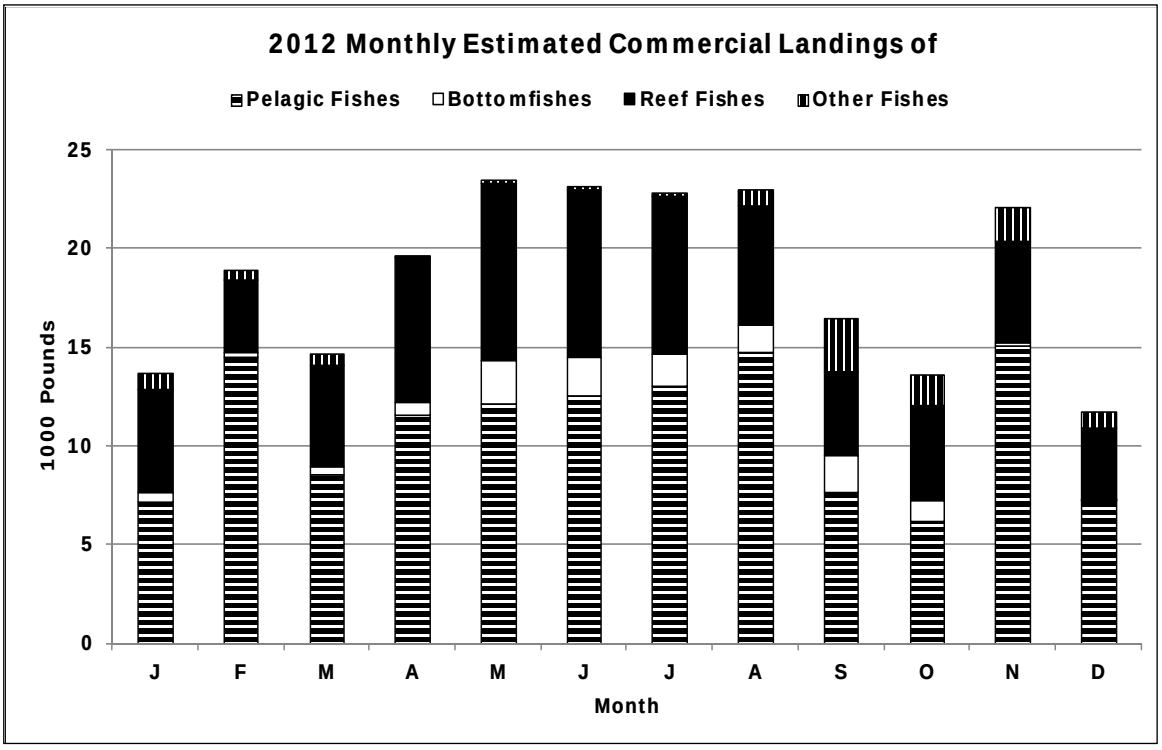

Figure C-1-1

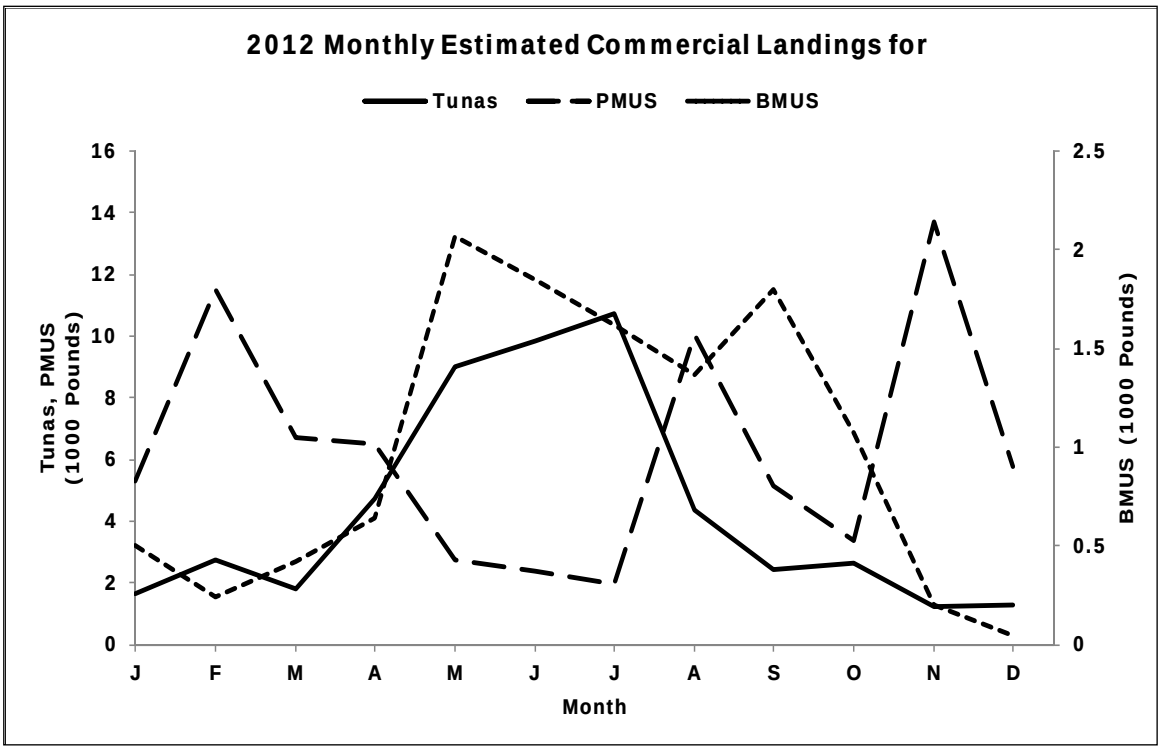

Figure C-1-2

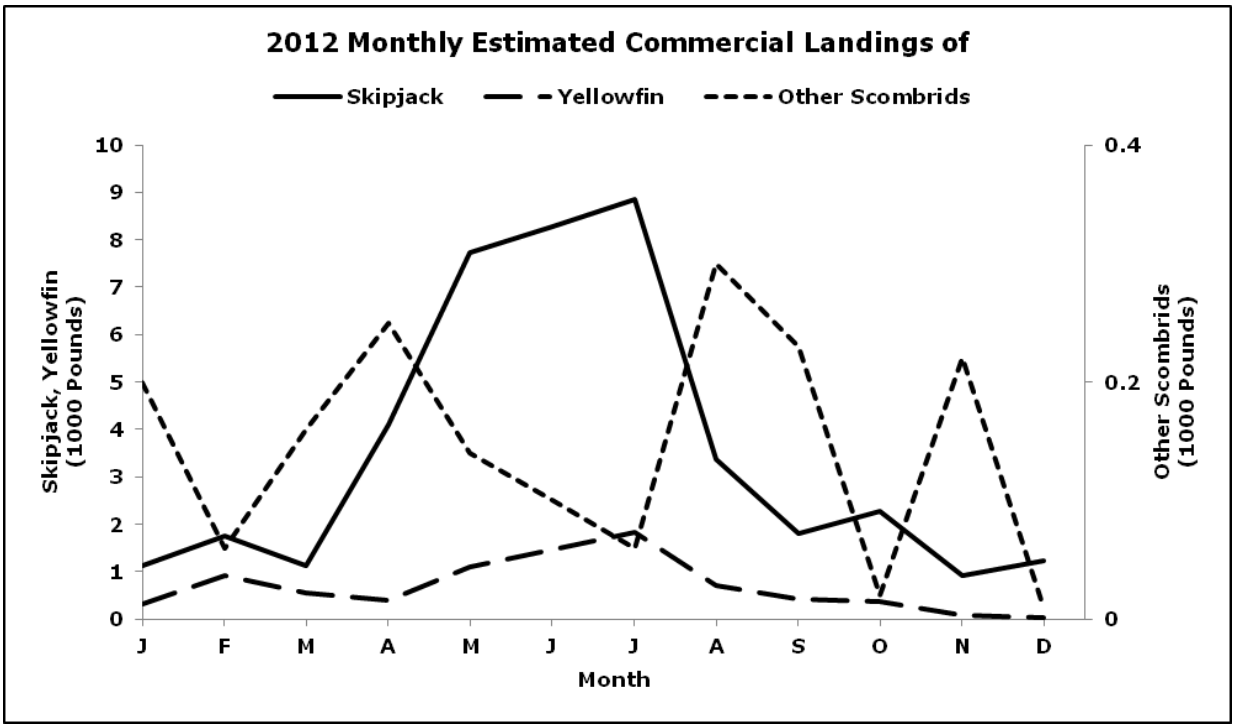

Figure C-1-3

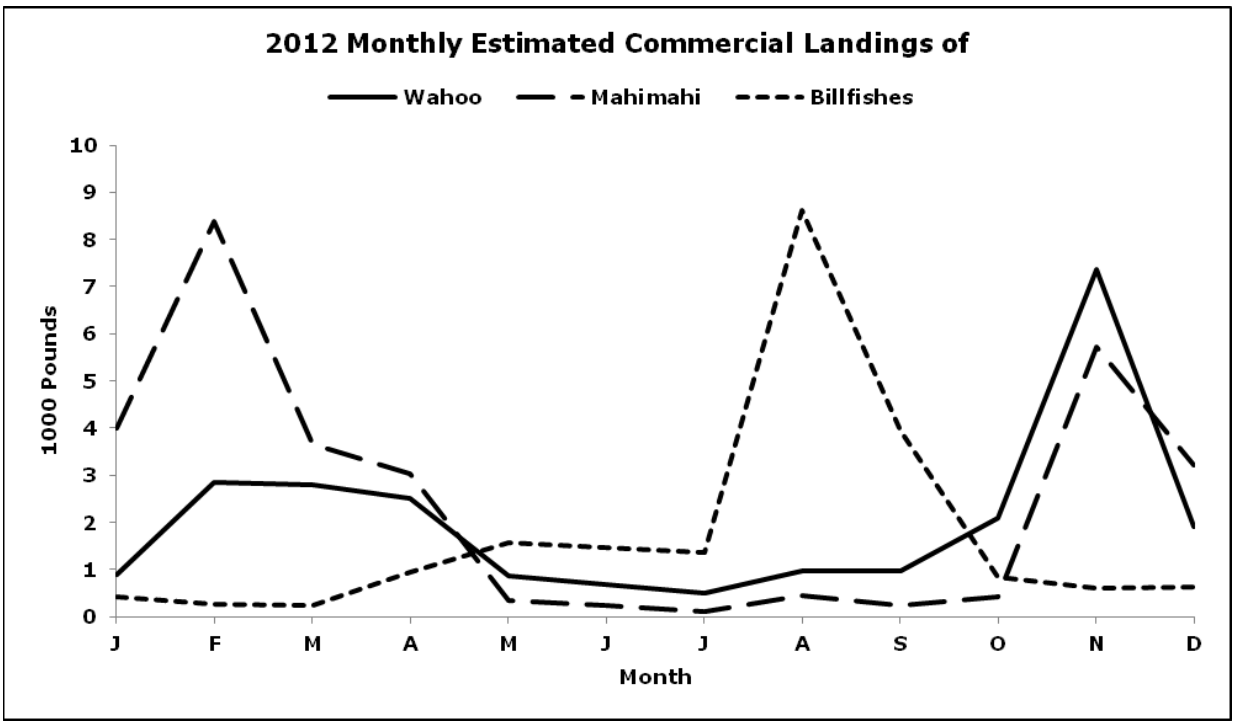

Figure C-1-4

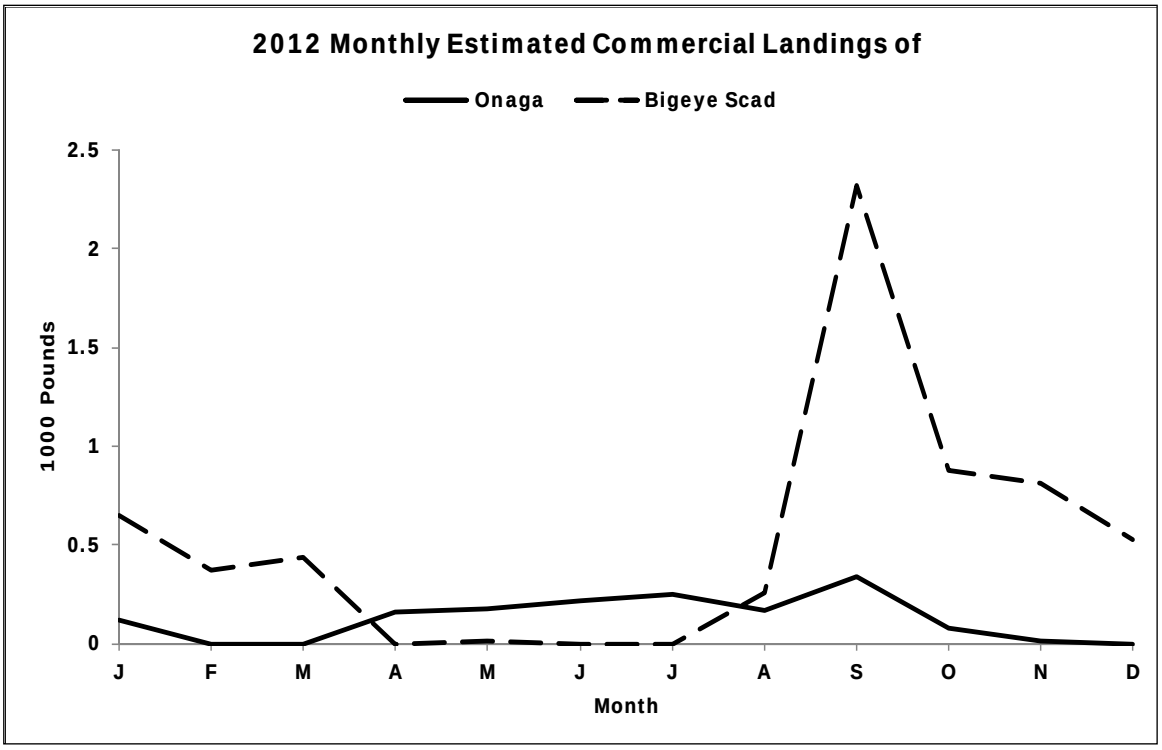
2012 Monthly Estimated Commercial Landings of
Onaga
Bigeye Scad
1000 Pounds
2.5
2
1.5
1
0.5
0
J
F
M
A
M
J
J
A
S
O
N
D
Month

Figure C-1-5

The following are seasonality plots for the major species or species groups, showing the average weight landed during each month for all years combined:

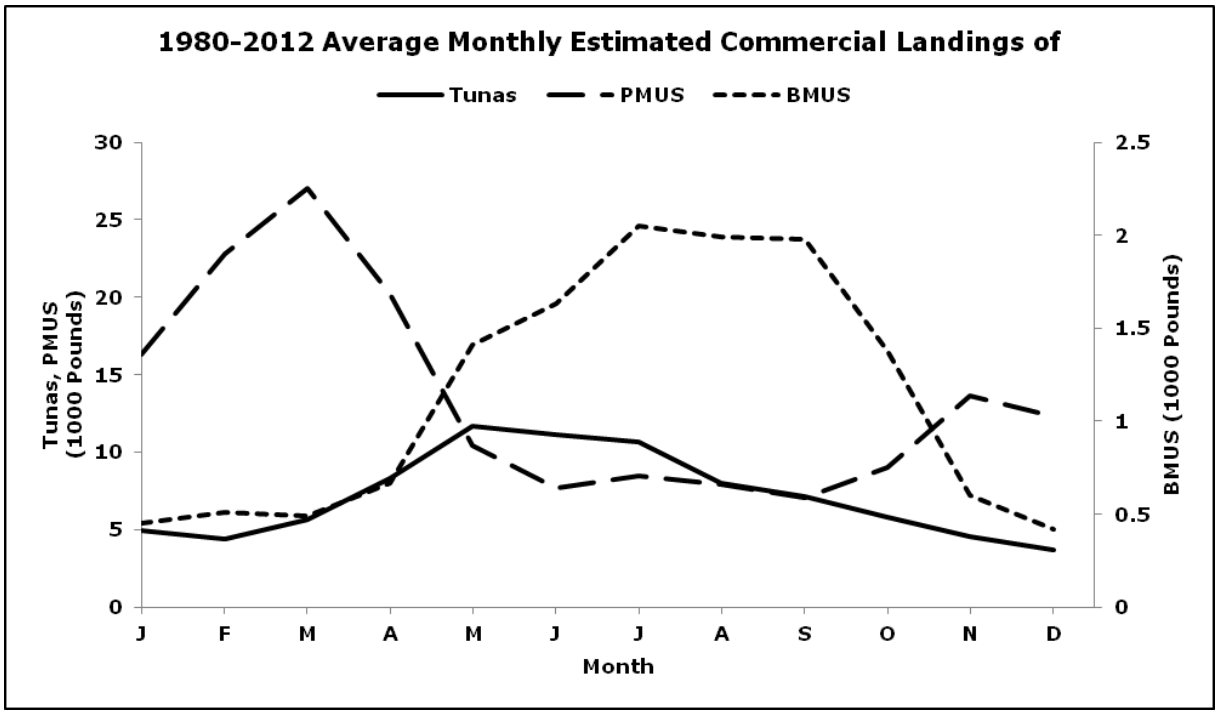

Figure C-2-1

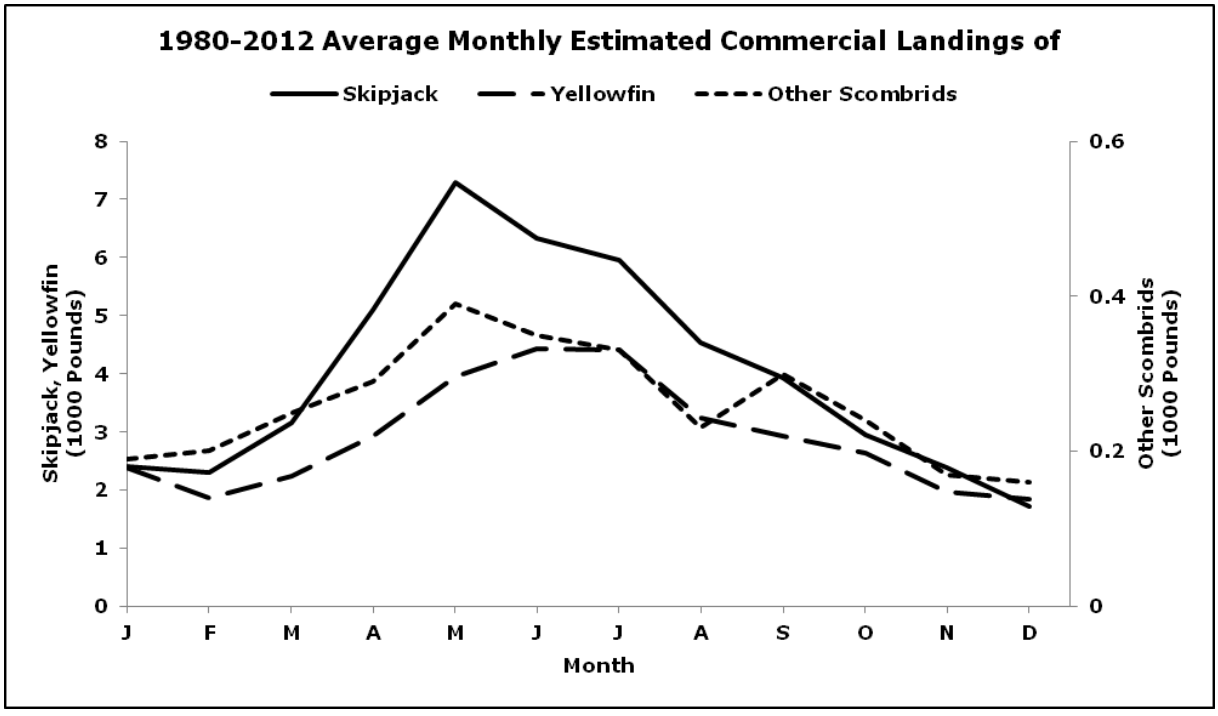

Figure C-2-2

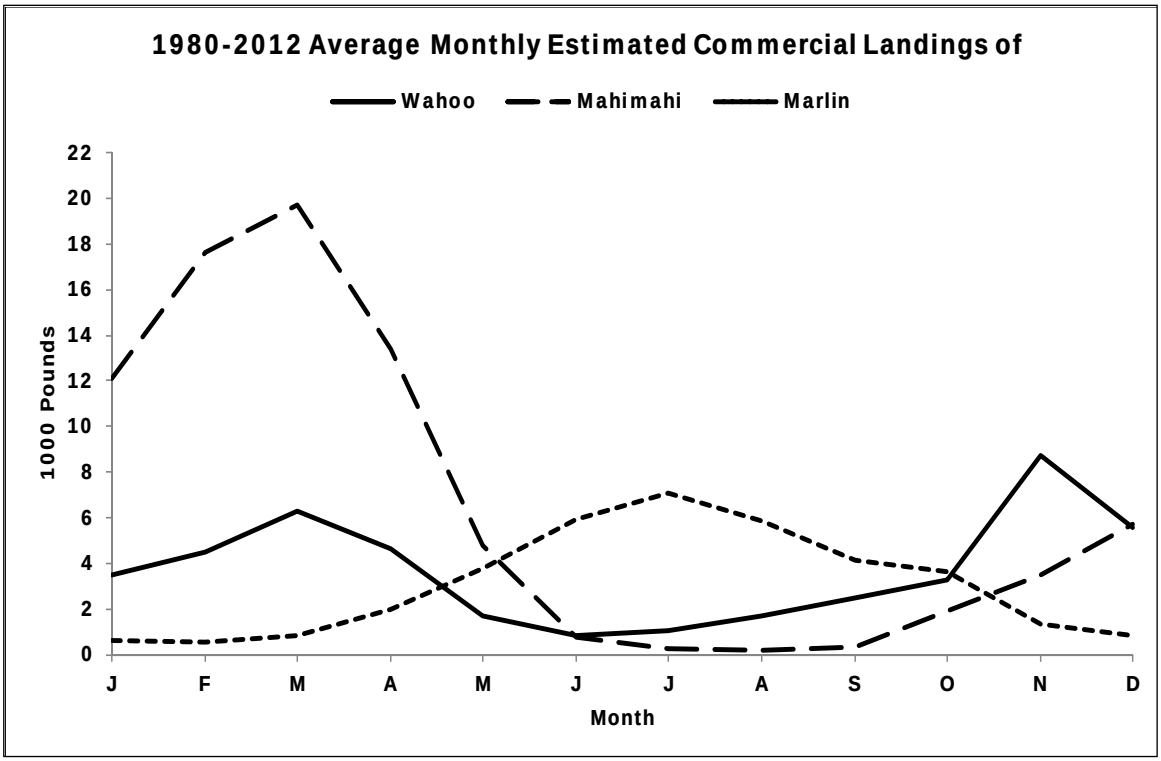

Figure C-2-3

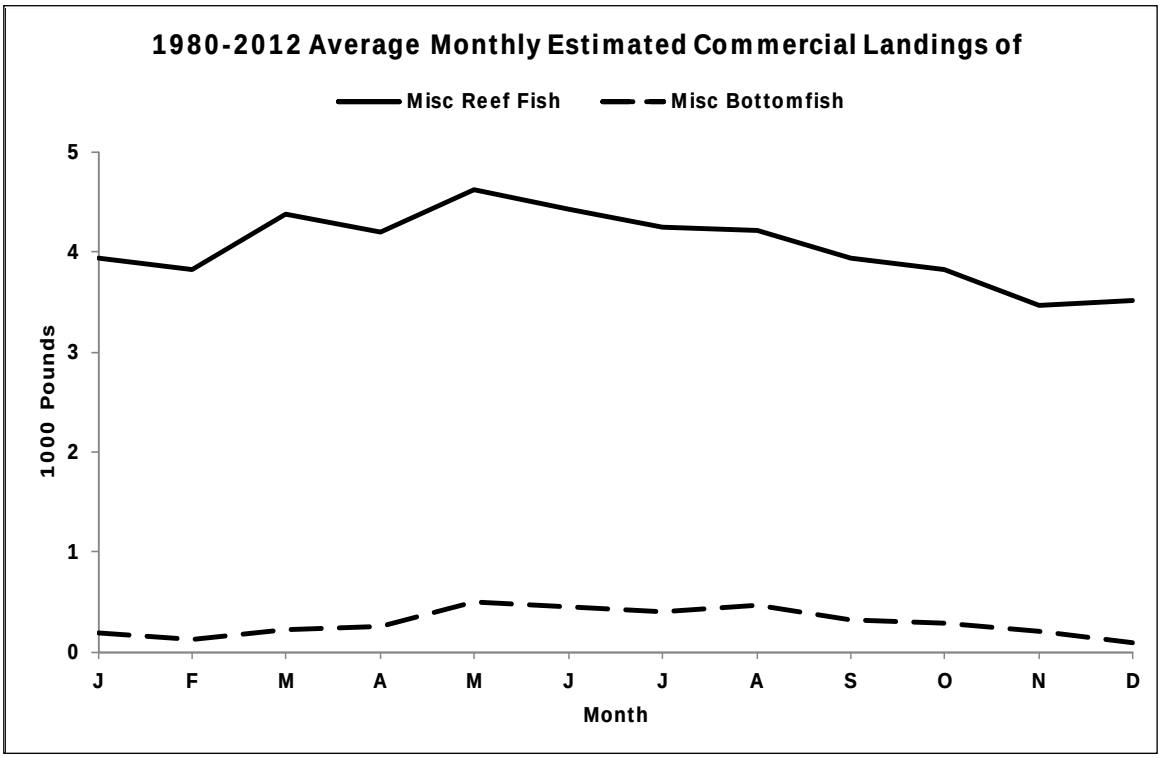

Figure C-2-4

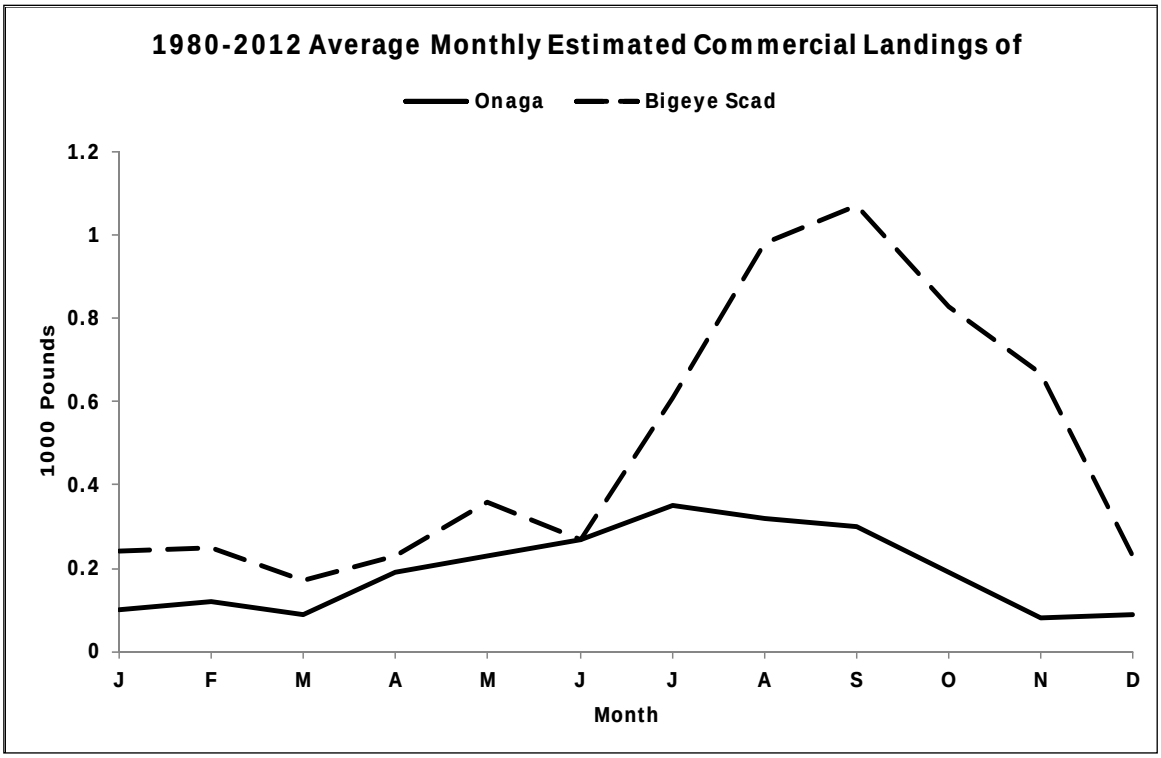
1980-2012 Average Monthly Estimated Commercial Landings of
Onaga
Bigeye Scad
1000 Pounds
1.2
1
0.8
0.6
0.4
0.2
0
J
F
M
A
M
J
J
A
S
O
N
D
Month

Figure C-2-5

The following graphs plot annual summary statistics to illustrate the variability among years:

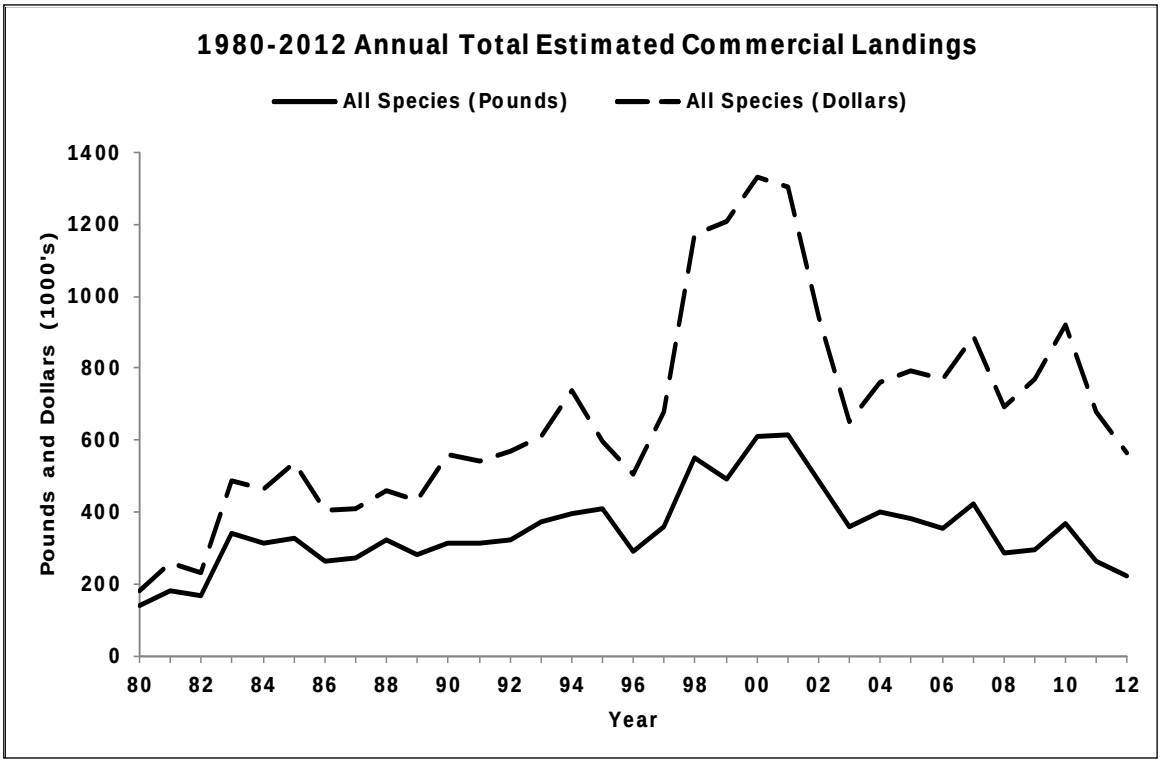

Figure C-3-1

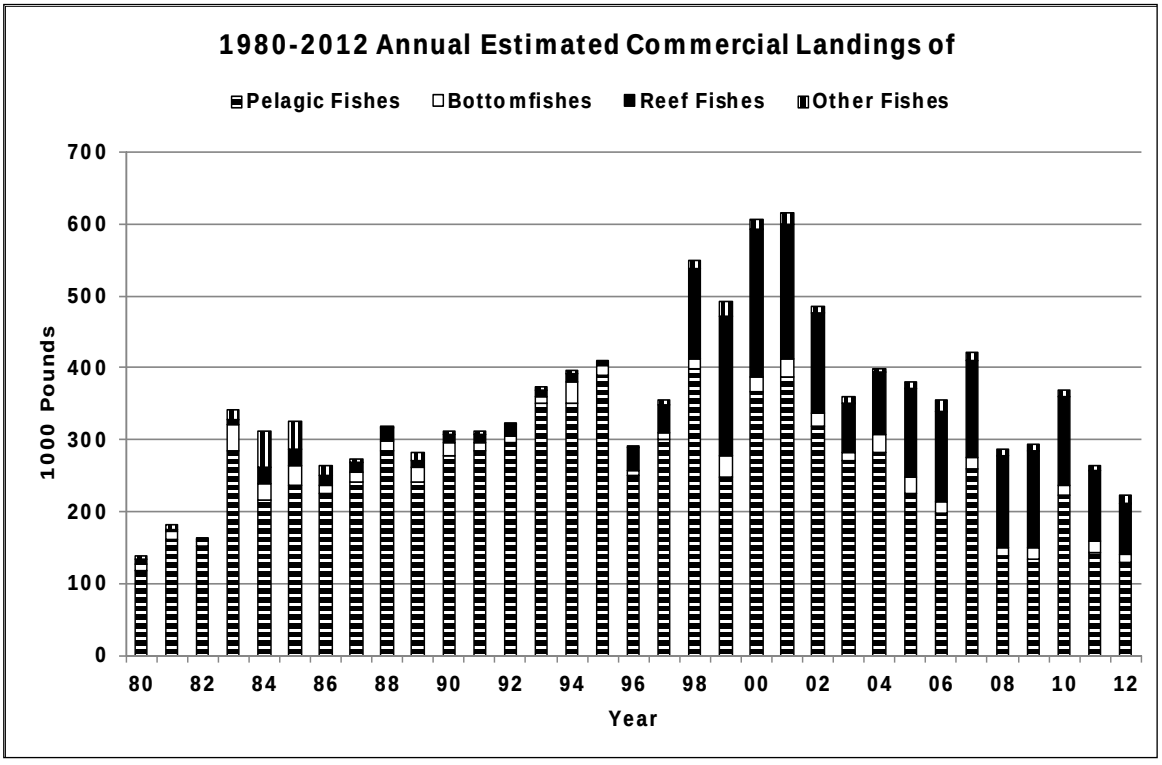

Figure C-3-2

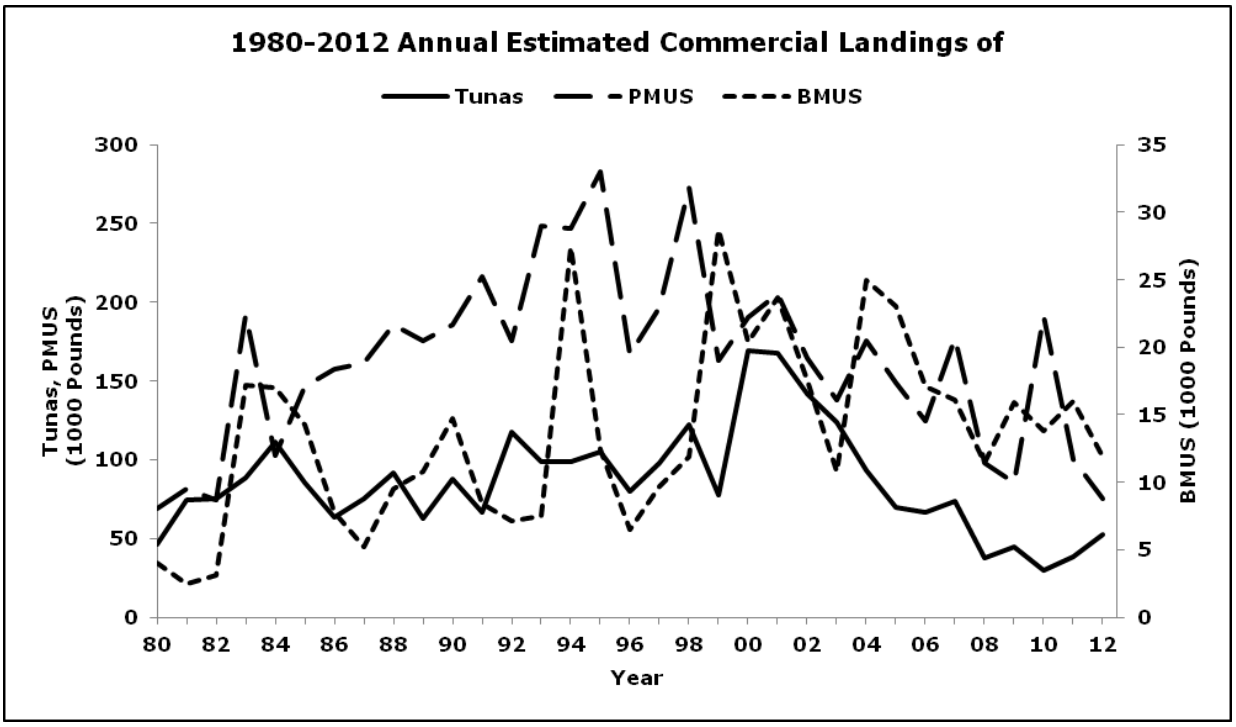

Figure C-3-3

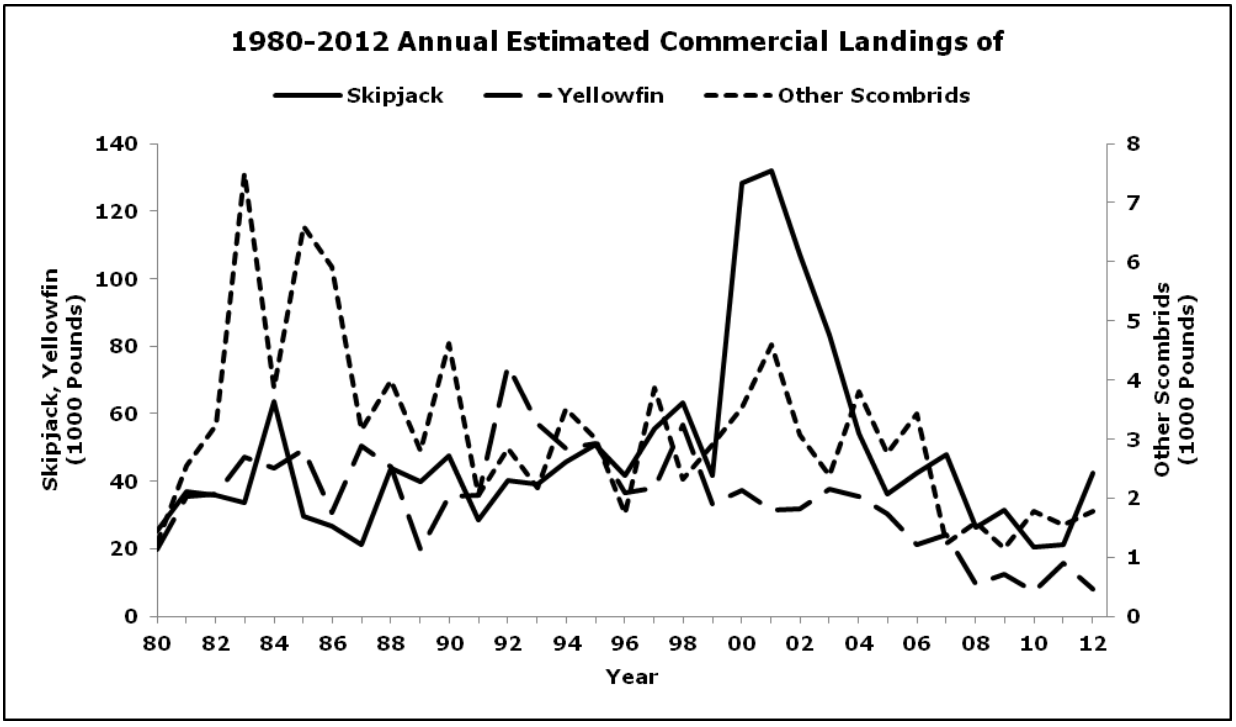

Figure C-3-4

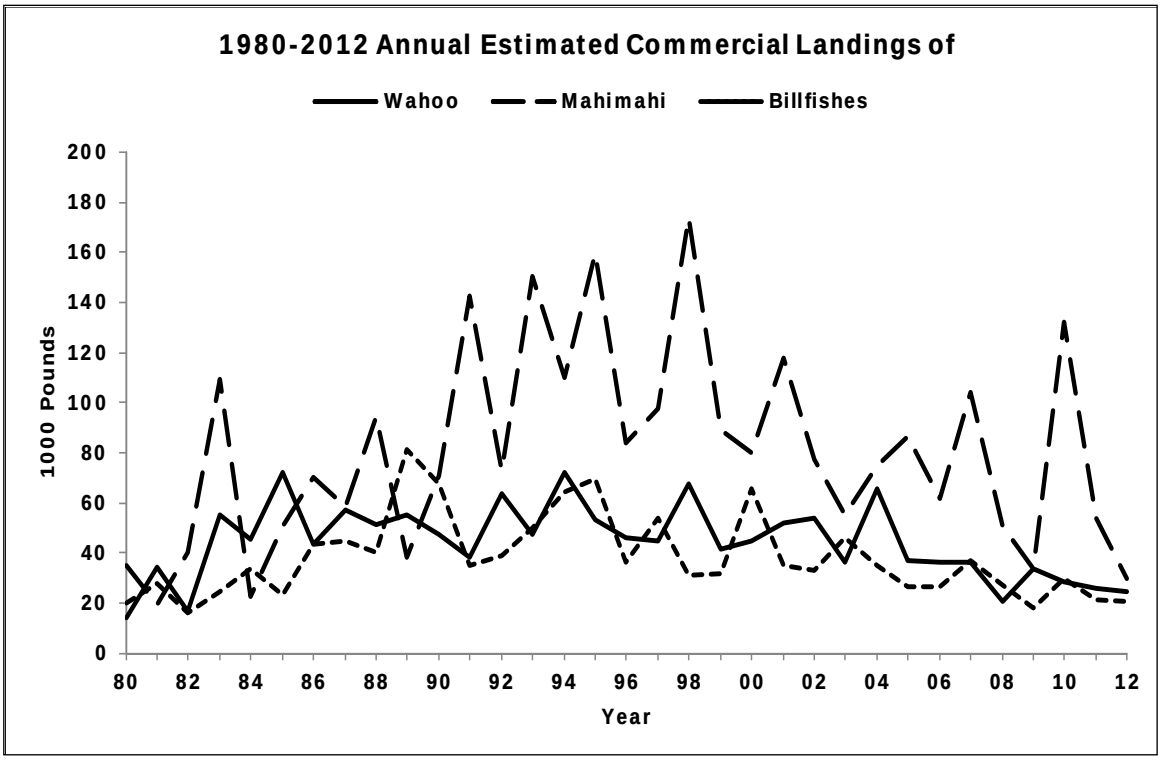

Figure C-3-5

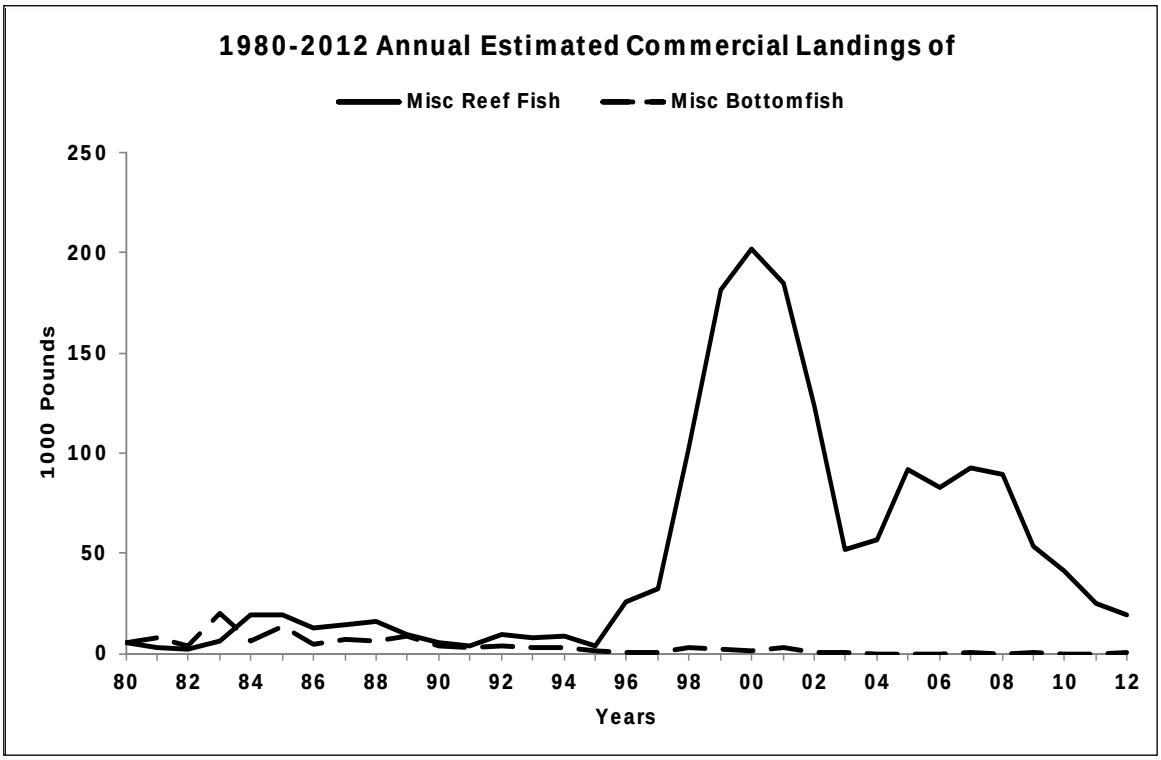

Figure C-3-6

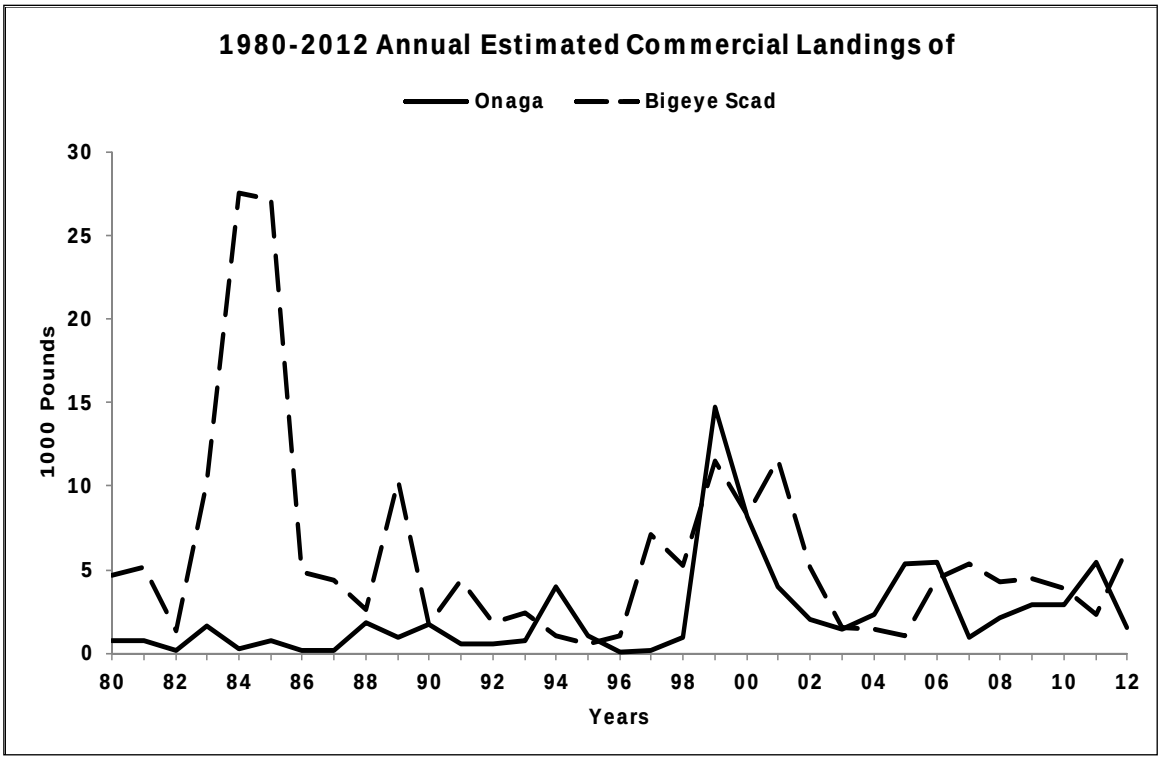
1980-2012 Annual Estimated Commercial Landings of
Onaga
Bigeye Scad
1000 Pounds
30
25
20
15
10
5
0
80
82
84
86
88
90
92
94
96
98
00
02
04
06
08
10
12
Years

Figure C-3-7

The following graphs plot monthly landings of some commercially important species and document monthly fluctuations over the time series:

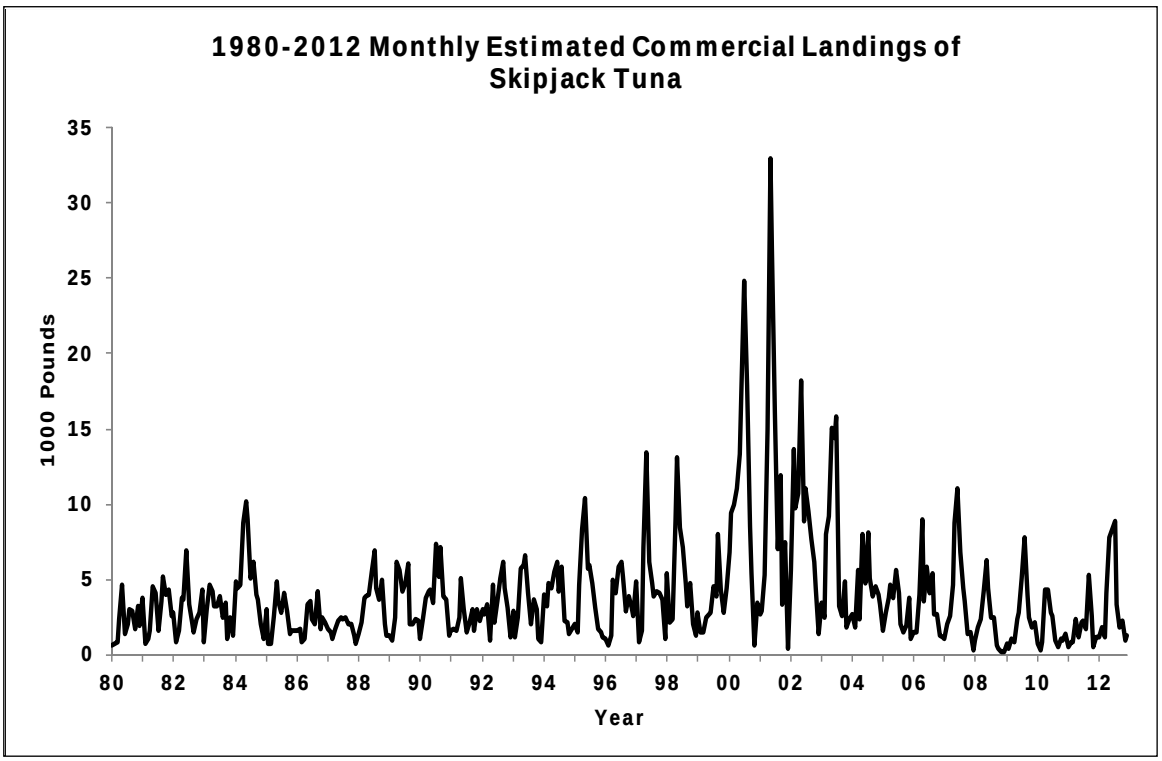

Figure C-4-1

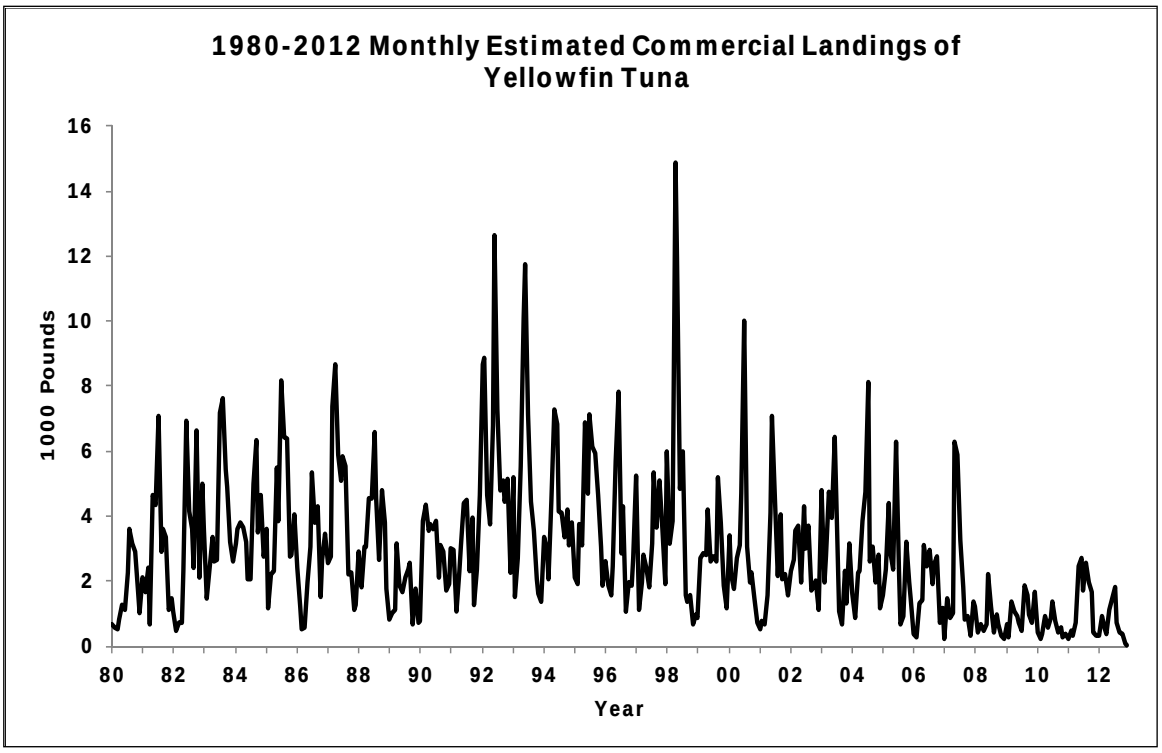

Figure C-4-2

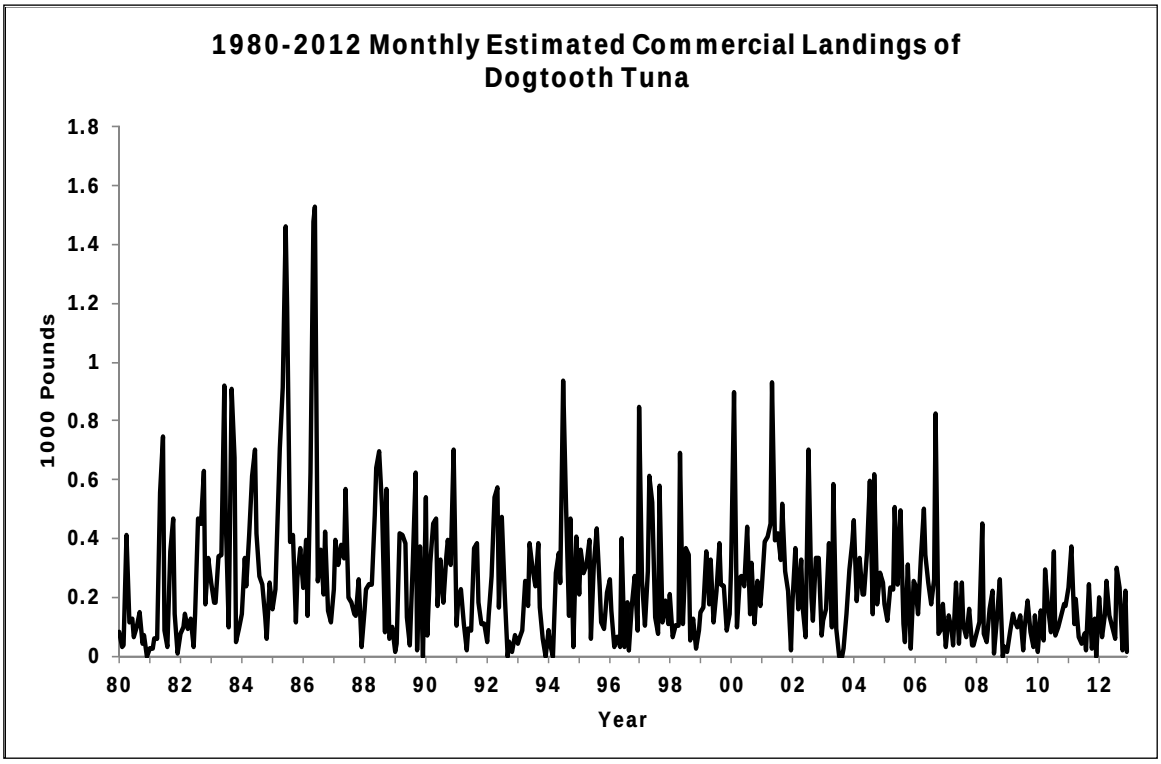

Figure C-4-3

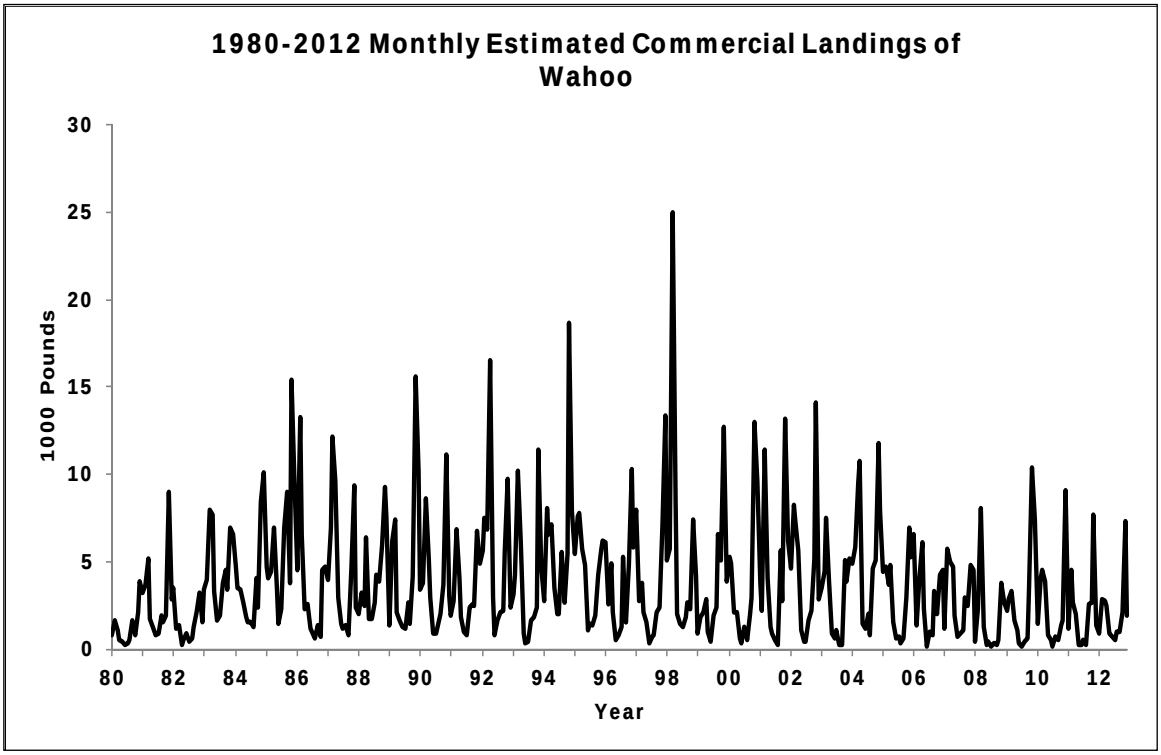

Figure C-4-4

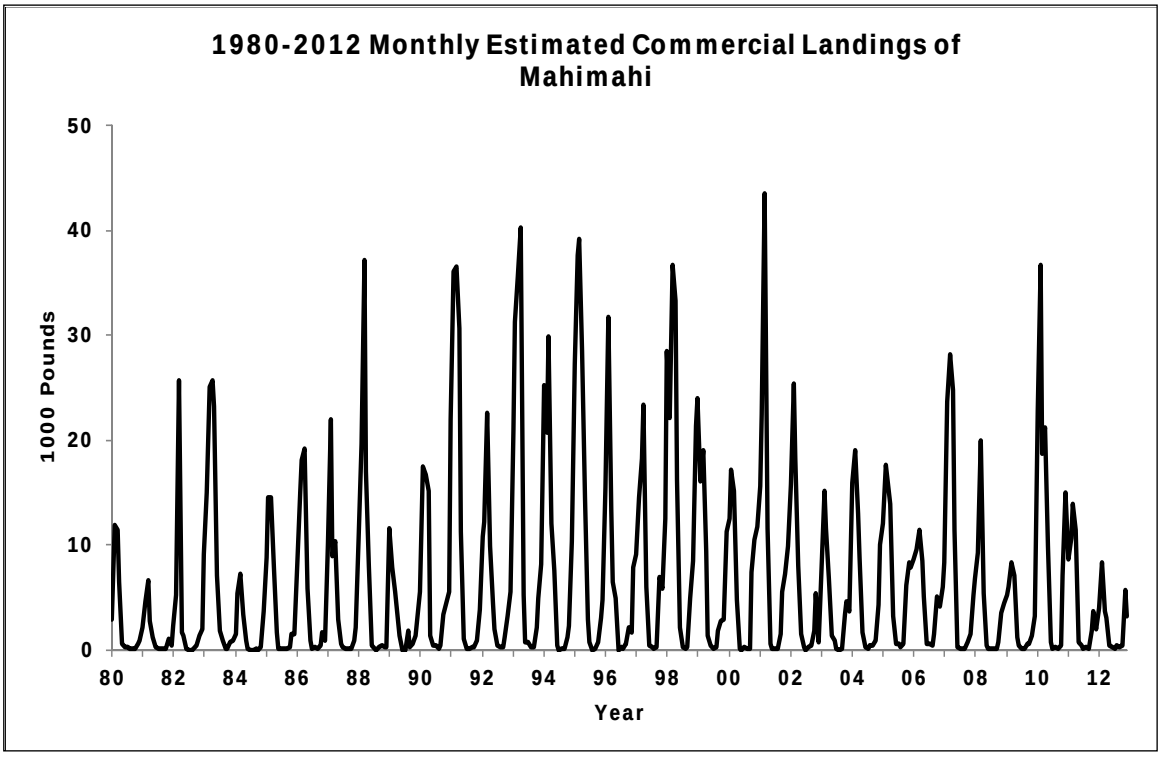

Figure C-4-5

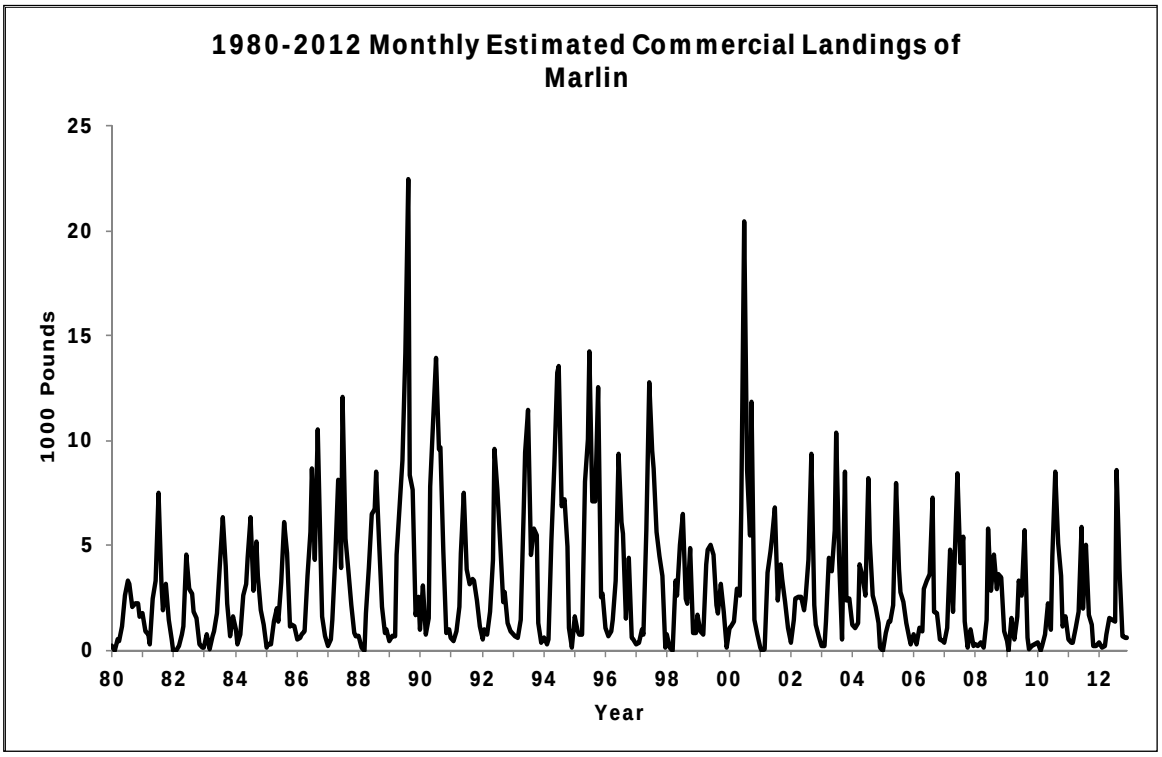

Figure C-4-6

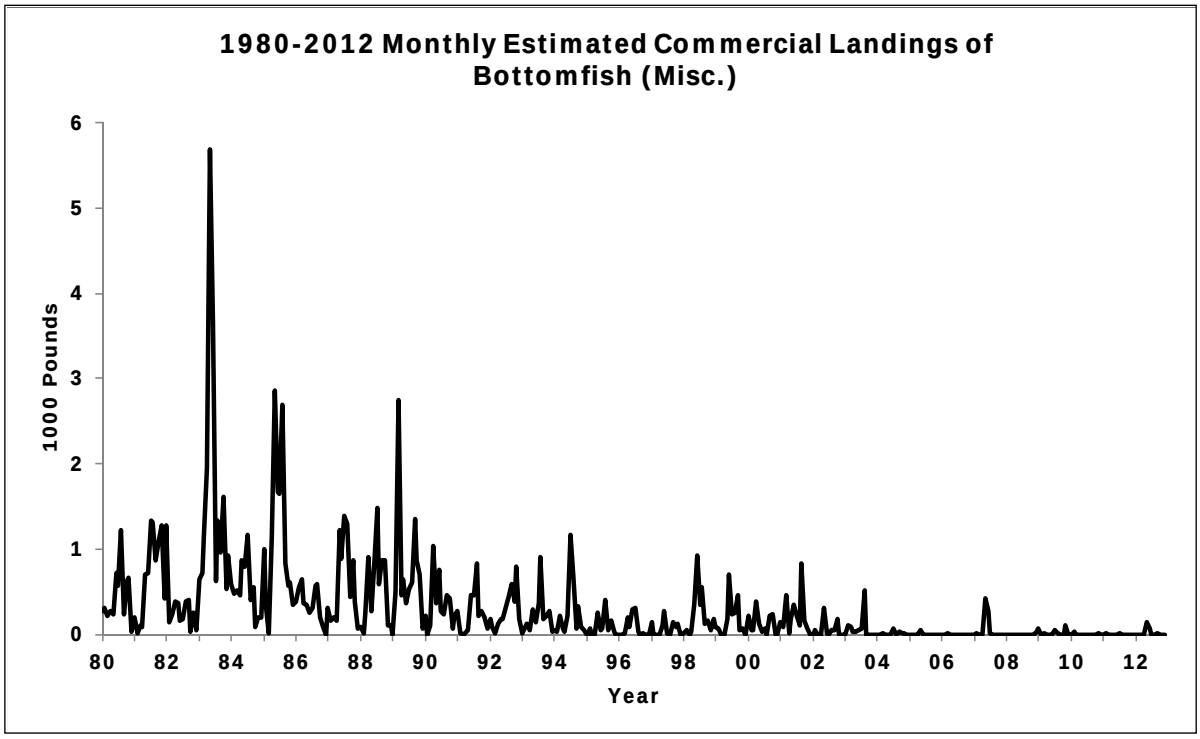

Figure C-4-7

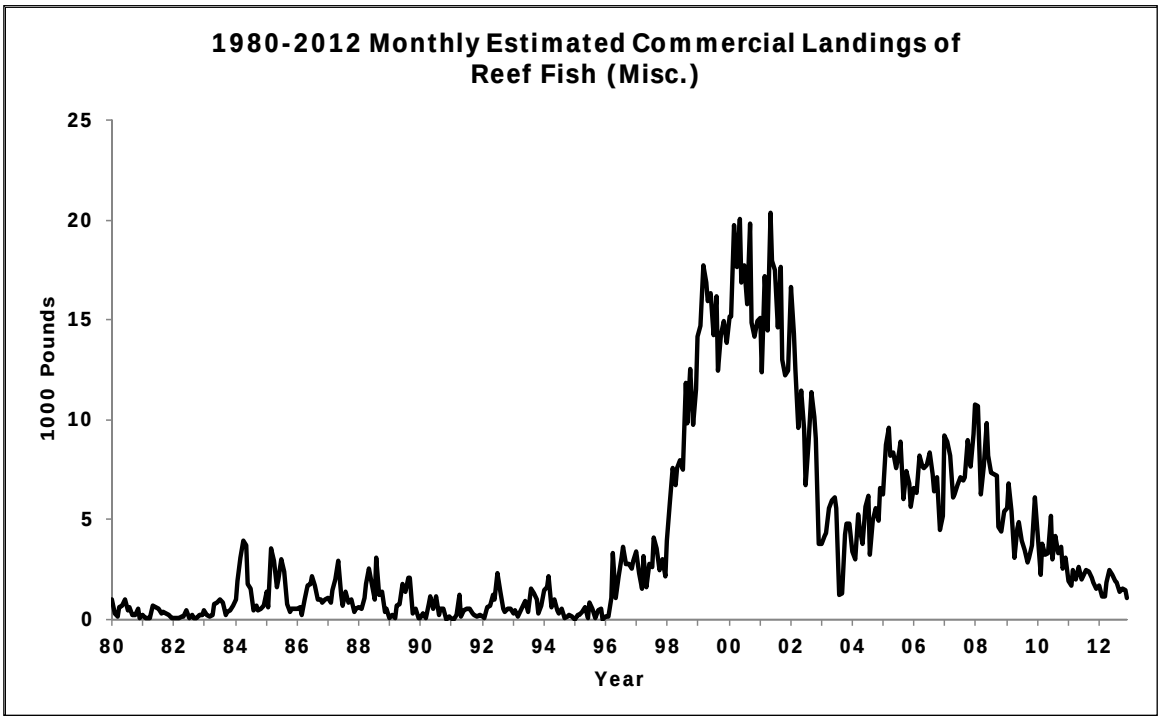

Figure C-4-8

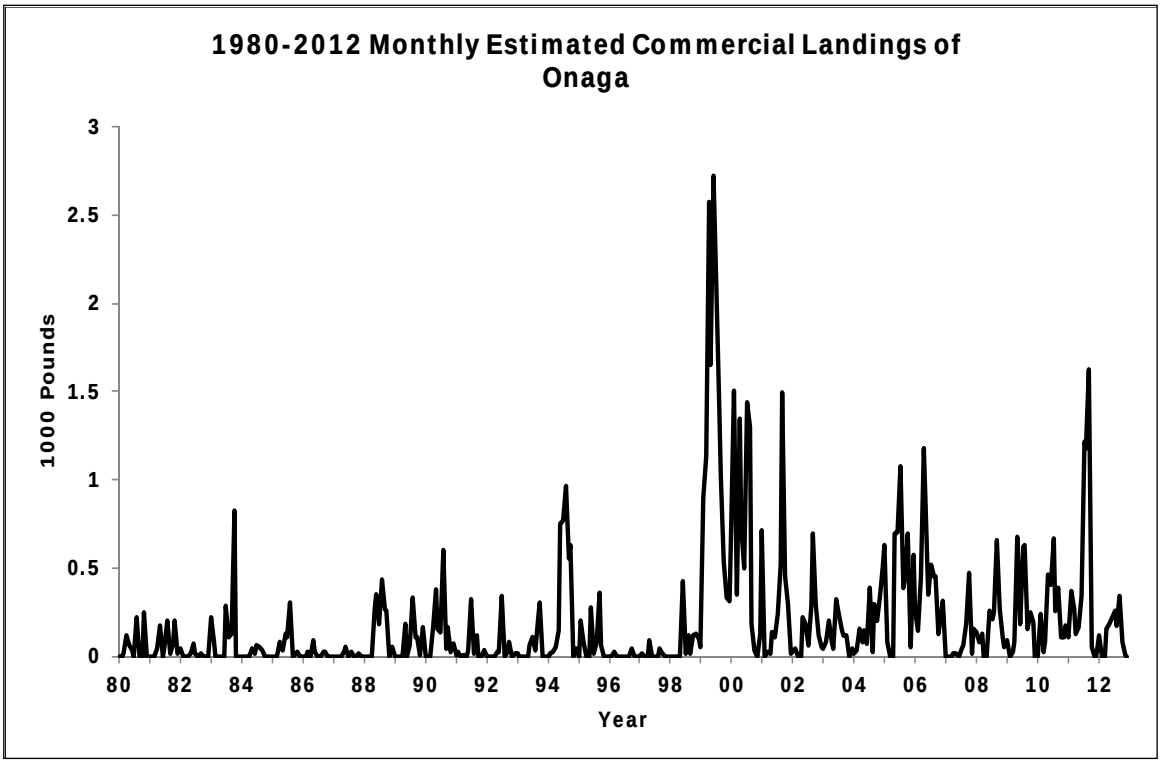

Figure C-4-9

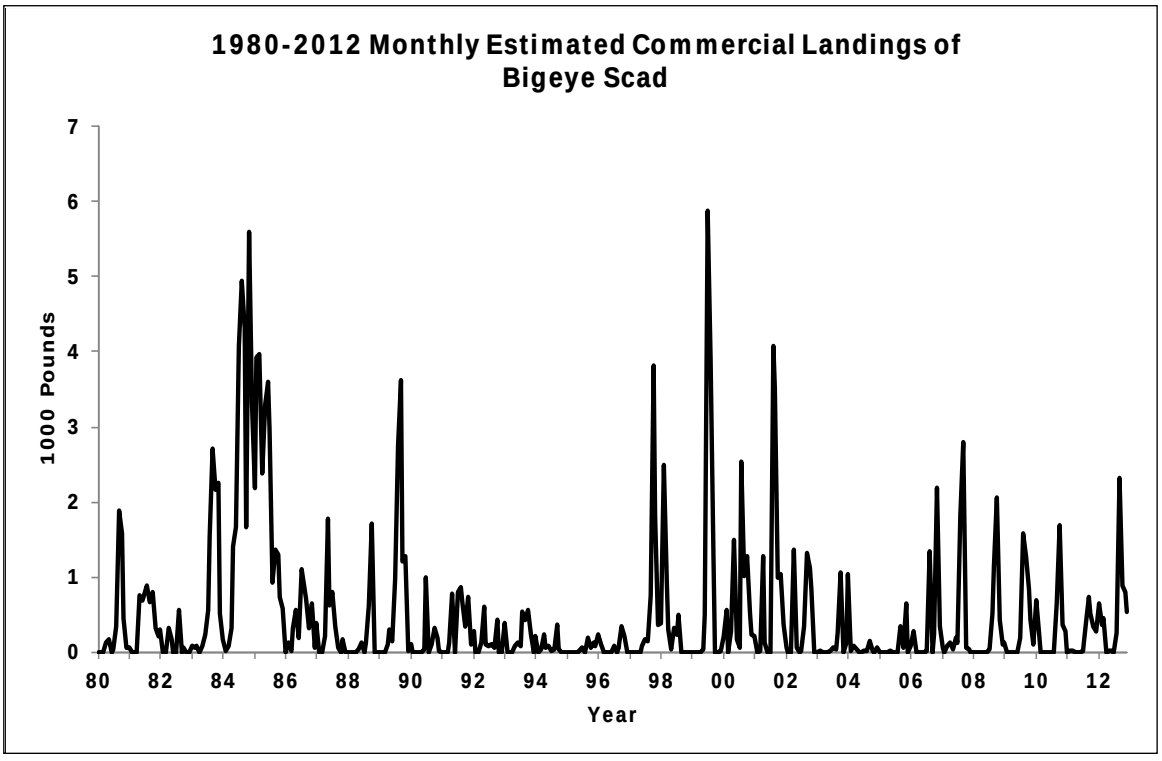

Figure C-4-10

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STATE OF HAWAII 2012 FISHERY STATISTICS

Compiled by

Hawaii Department of Land & Natural Resources,

Division of Aquatic Resources

and the

Western Pacific Fishery Information Network

March 2016

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LIST OF HAWAII FIGURES (continued)

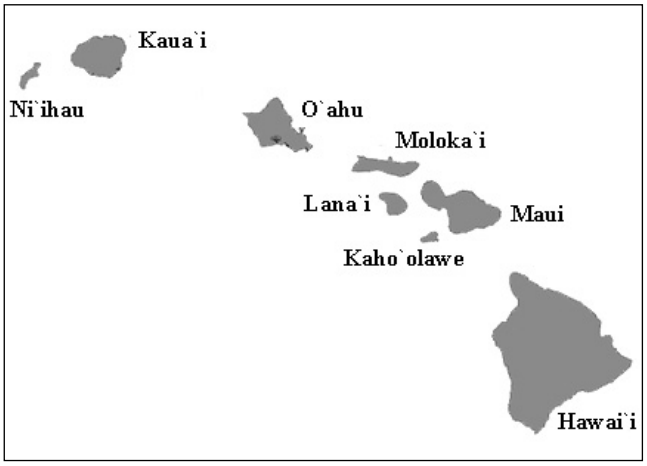
STATE OF HAWAII 2012 FISHERY STATISTICS

INTRODUCTION

The Hawaiian Archipelago stretches across about 1,500 miles in the Northwestern Pacific, from its most northwestern remote atoll (Kure) to its most southeastern and largest island (Hawai'i).

Location: 19^{o} N latitude, 155^{o} W longitude to about 28^{o} N latitude and 178^{o} W longitude

Main Hawaiian Islands: Hawai'i, Maui, Lana'i, Moloka'i, O'ahu, Kaua'i, Kaho'olawe, and Ni'ihau (the eight islands at the southeast end of the Archipelago that include over 99% of the total land area and population)



Main Hawaiian Islands: copied and modified from: http://satftp.soest.hawaii.edu/space/hawaii/maps/All_Islands_map.710x509.gif *SOEST Satlab Server*

Population: 1,392,313 (https://data.hawaii.gov, July 2012)

Commercial Catch Breakdown by Island (lbs):

About 98% landed on O'ahu, nearly 1% on Hawai'i ("the Big Island"), and less than 1% on each of the other islands (or in some cases amount unspecified)

The commercial fisheries of the State of Hawaii are quite diverse. They vary from shore-based harvesting of *limu* (marine algae) and invertebrates by hand, to large vessel-based offshore fisheries, such as the high seas pelagic longline fishery. There are several major fisheries (highest volume and economic value), including various types of tuna fishing (longline and a variety of smaller pelagic gears); deepwater hook-and-line (bottomfishing) using hydraulic reals for snappers, carangids, and an endemic Hawaiian grouper; various forms of net fishing that target near-shore pelagic and reef fishes; and trolling for pelagic species such as tuna, billfishes, *ono* (wahoo), and mahimahi.

Hawaii Revised Statutes (HRS §189-2 and §189-3) define commercial fishing to include anyone who sells any portion of their catch (even a single fish), including charter fishing services. Commercial fishers have been required for decades to purchase an annually renewable commercial marine license and report their catch and effort to the Hawaii Department of Land and Natural Resources (DLNR), Division of Aquatic Resources (DAR), on a monthly basis. Since 1999, commercial fish dealers have also had reporting requirements to DAR. In 2012, there were 3,978 licensed commercial fishers. The summary catch data presented in this volume for 2012 were created from a combination of fisher and dealer reported data, processed through the DAR Dealer Reporting System (DRS), the DAR Fisherman Reporting System (FRS), and the federal longline logbook data processed by PIFSC.

Since October 2007, Federal and State fisheries management mandates required implementation of a fishing quota to end overfishing of seven deepwater bottomfish species within the main Hawaiian Islands (MHI). Known as the "Deep 7," these species include six eteline snappers and the endemic Hawaiian grouper. They are listed individually in the Species Categories section *(page D.9)*. This additional management required DAR and NOAA Fisheries to develop a system to closely monitor the fishery, and forecast when the cumulative landings limit would be reached, with associated uncertainty related to the delay in receiving monthly fishing reports as required by law. For the fishing years 2008 through 2011, the quota was referred to as Total Allowable Catch (TAC). In each of the first 4 fishing years under the TAC management quota, the TAC was exceeded by the cumulative Deep 7 landings, and therefore the fishery was closed.

Beginning in September 2011, in accordance with the Magnuson-Stevenson Reauthorization Act of 2006, the MHI Deep 7 bottomfish fishery came under management via an Annual Catch Limit (ACL), with more rigorous constraints than existed under the TAC. An Annual Catch Target (ACT) was set at 6% below the ACL and used to monitor and manage the fishery, to avoid exceeding the ACL. In 2011, DAR also implemented a bottomfish trip-level reporting requirement, with a 5-day deadline for reporting after the end of each trip. Trip reporting requirements, earlier deadlines (than monthly reporting), and measures such as online reporting were developed to increase timeliness and make it possible to track bottomfish landings on a near-real-time basis, reducing uncertainty and making it more feasible to avoid exceeding the ACL. Since the ACL management has been established, the fishery has never been closed.

In 2012, NOAA Fisheries set the ACL at 346,000 pounds and the ACT at 325,000 pounds. The fishing season opened on September 1, 2012, and closed at midnight on August 31, 2013. The fishery reopened on September 1, 2013 (the next day), with an ACL of 346,000 and remained open during the entire bottomfish fishing year, since only 239,034 pounds were landed (73.5%, of the ACT). For more information about this fishery, please visit http://www.hawaiibottomfish.info.

NORTHWESTERN HAWAIIAN ISLANDS MARINE NATIONAL MONUMENT

On June 15, 2006, a Presidential Proclamation established the Northwestern Hawaiian Islands (NWHI) as the Papahānaumokuākea Marine National Monument. The NWHI bottomfish fishery was slated to close in June 2011, under the Executive Orders that created the NWHI Coral Reef Ecosystem Reserve. However, a "buyout" program for fishing permits was completed in January 2010, which effectively closed the fishery when all of the permit holders surrendered their permits in return for federal compensation. For more information about the Monument, please visit http://www.papahanaumokuakea.gov.

DATA COLLECTION

Prior to 2002, data processed in the Reported Landings tables and charts presented in this section were collected from various Fishermen's Reporting System (FRS) forms. Beginning in October 2002, DAR implemented several new FRS forms that no longer required sales information from fishermen. At the same time, fishermen submitting the FRS forms were asked to provide

more detailed catch, effort, and bycatch statistics. Sales and value data collection from fish dealers (instead of fishermen) were phased in, over roughly the same time period. The FRS data processing and summary system was modified to accommodate the use of these new forms.

In February 2010, DAR launched an Online Fishing Report system that allows licensed commercial fishers to file the Monthly Fishing Report electronically. The Monthly Fishing Report accounts for about 95% of the landing reports received by DAR. In 2012, nearly 59% of the monthly fishing reports were filed online. This has produced benefits for both fishers and DAR. Online reporting has reduced paper work and postage for both parties, and has reduced printing expenses for DAR. It has also encouraged fishers to file their monthly reports on time and receive instant confirmation that the report was received and credited. DAR has less fishing reports to enter into the FRS, and the electronic fish report records have fewer discrepancies, because data validation tables are built into the online application. This reduces the need for follow up by staff to correct or verify reporting issues. Commercial fishers are also able to file the MHI Deep 7 bottomfish fishing trip reports online. About 73% of the Deep 7 trip reports were filed electronically in 2012.

The fishing reports collect data on catch (by species) and fishing effort for each day, method, and area fished. These data are processed in the FRS. Information collected includes:

- Fisherman's Name and Commercial License Number
- Boat's Name and Registration/USCG Number
- Day, Month, and Year Fished
- Charter Trip (y/n)
- Buoy (fish aggregation device) or Area Fished
- Fishing Method
- Hours Fished per Method/Area
- Number of Net Sets
- Number of Fishing Lines or Traps
- Net Length (if applicable)
- Port of Landing
- Species
- Number Landed
- Pounds Landed (estimated by fisher)
- Number Lost
- Number Released

Other FRS data collection forms include the Net, Trap, and Dive Activity Report, Tuna Handline Trip Report, Deep Sea Handline Trip Report, Aku Boat Report, NWHI Bottomfish Trip Sales Report, and the NWHI Bottomfish Trip Daily Log. These forms can be viewed on the WPacFIN website *(referenced at the end of the Data Reporting section).* In September 2011, the use of a MHI Deep 7 Bottomfishing Trip Report form was implemented, to help track and validate landings of Deep 7 species more quickly and manage the ACL. A copy of this report form, which records data listed above (fields applicable to bottomfishing), can also be found on the WPacFIN website.

The Dealer Reporting System (DRS) went digital in 2000, and is now a major source of sales data used to create the tables and charts provided in this publication. Dealers are required to submit a Commercial Marine Dealer's Report under DLNR Administrative Rules (authorized under HRS §189-10) for each month that they are in the business of purchasing marine life. Information collected includes:

- Dealer Name
- Dealer License Number
- Date, Month, and Year
- First and Last Name from Whom Fish was Bought
- Fisherman's Commercial Marine License Number
- Condition Sold (whole, gilled, gutted, fillet, etc.)
- Species
- Pounds Purchased
- Number of Pieces
- Amount Paid

Since 1975, commercial collectors of tropical marine fishes and invertebrates have been required to have an aquarium permit. If they intend to sell their harvest, they are also required to obtain a commercial marine license and submit monthly catch reports, using the Aquarium Fish (C-6) Catch Report form (also found on the WPacFIN website). In January 2012, the commercial Aquarium Fish Trip Report was amended to include percentage-based fishing method effort information, including barrier-net length and vessel identification. At this time, DAR made some revisions to the fishing area map used in reporting for this fishery, which subdivided fishing zones for reporting purposes on the northwestern and western coast of the island of Hawai'i. In addition, aquarium collectors must now report their total harvest and the portion of the catch that is sold. The fishing effort data for aquarium collecting and other commercial fisheries collects important catch and effort data that DLNR uses to monitor and manage this important coral reef ecosystem fishery. Although some organisms harvested for the aquarium industry are juveniles and adults of species that are also caught for food, the majority are smaller ornamental species. Historically, trends in this fishery have been considered separately from non-aquarium fisheries. Therefore, currently aquarium fish catches are not included in the statistics contained in this report.

Data from the NOAA Fisheries Longline Logbook Program are integrated with DRS and FRS data to create the summaries presented in this report, using the best available data. The dealer data are used to estimate weight and value of the catch. This report assumes that the data submitted by fishers are complete and accurate. DAR and PIFSC continually strive to improve the quality and decrease time lags in receiving and processing the data. For more information on Hawaii fisher and fish dealer licensing and reporting requirements, please visit http://hawaii.gov/dlnr/dar. For more information on federal longline logbooks, please visit http://www.pifsc.noaa.gov/frmd.

CIVIL RESOURCES VIOLATION SYSTEM

When fishers obtain a commercial marine license, they are required by Hawaii Administrative Rules (HAR) to report their fishing activities within 10 days after the end of the month[1]. Prior to 2009, nearly 67% of licensed fishers failed to comply with the report submission deadline. In June 2009, DLNR-DAR implemented a Civil Resources Violation System (CRVS), to issue citations to

[1] Only the MHI Deep 7 Bottomfishing Trip Reports are required to be submitted within 5 days after the trip ends.

licensed fishers who either did not comply with the deadline or submitted inaccurate data. The fishers who report late are assessed a small fine for the first offense, which increases progressively for subsequent offenses.

By 2012, about 76% of the fishing reports were submitted on or before the report deadline. The compliance rate increases to about the mid-90th percentile by the following month. The CRVS is also used for noncompliance with MHI Deep 7 bottomfish fishing trip reporting requirements. In 2012, over 76% of bottomfish trip reports were received on or before the deadline. Based upon this information, a reduction in the fish catch reporting delinquency rate, one of the primary goals of the CRVS, has been achieved.

DLNR-DAR plans to pursue the secondary goal of the CRVS, which was to increase the accuracy of fish catch reporting. Policies and procedures, designed to match the fish catch reports (FRS) with the commercial fish dealer reports (DRS), and to contact both fishers and dealers to correct reporting discrepancies are being established. Fishers who do not cooperate or comply with the fish report data accuracy requirement may be subject to CRVS action. DLNR-DAR is attempting to establish HAR to issue the commercial marine dealer license. When this is accomplished, DLNR will be able to use the CRVS to monitor and enforce accurate fish sales reporting requirements for dealers as well.

DATA PROCESSING

When DAR receives fishing report forms, staff reviews and enters the data into the FRS. Data entered online are imported into the FRS electronically. Once the data are in the system, the staff checks and edits the data, as necessary. Reports that fail initial quality control screening and editing are returned for correction and resubmittal, or minor problems may be cleared up over the telephone. The CRVS issues citations to fishers who are either delinquent or have reported inaccurate data. When the data are considered to be reasonably complete and error-free, they are ready for use in producing various summary reports.

DATA REPORTING

More than 150 marine species and/or groups are recorded in DAR's monthly landings reports, many of which represent an insignificant portion of the total catch. To help reduce this document's size and improve the utility of the tables, WPacFIN staff have combined some of the lower volume and value species into groups, reorganized the order of presentation, and created a system to translate these groupings from the database (which is now under review). The current data summary system has 100 species or groups, based on flexible ecological and phylogenetic criteria. Data are reported separately for most commercially important pelagic and bottomfish species, and unique groups. Some of the other higher taxonomic categories (e.g. herrings/sardines), are the sum of the totals by species reported by fishermen. This is distinctive from reports for the other island areas, where groups generally represent data not identified to species by fishermen or vendors (referenced as "unspecified" throughout all sections of this report).

The monthly and annual tables included in this document contain the common name, pounds caught, pounds sold, estimated sales value (rounded to the nearest dollar), and average price per pound for each species. Pounds caught data are based on the numbers reported by fishermen in federal longline logbooks and fisherman catch reports. Weights for non-longline data are cross-checked, using FRS and DRS data. The value and price/pound data are calculated from DRS data. Each monthly report contains a subtotal for the sum of all species for that month. Several types of graphs are also included. Please note that some of the charts in this volume are new or have been modified from earlier volumes. To see the most current data and charts, please visit the WPacFIN website, http://www.pifsc.noaa.gov/wpacfin.

SPECIES CATEGORIES

The species and/or groups used in the tables and graphs are described in the following section. Many of the species included in this report have been placed into different management categories over the years. For example, the Magnuson Fishery Conservation and Management Act of 1976 was amended in 1992 to include tunas in the Pelagic Management Unit Species (PMUS) category. However, this report maintains the original species categories from previous FSWP reports for ease of comparison across historical volumes. As such, tunas are kept in a separate category. To see the most current taxonomic information for species caught commercially in Hawaii, and in other U.S.-associated Pacific island areas, please visit the WPacFIN website, http://www.pifsc.noaa.gov/wpacfin.

I. Pelagic Management Unit Species (PMUS)

Billfishes/Unspecified *(includes marlins, swordfish, sailfish and shortnose spearfish)*
Black marlin *(Istiompax indica)*
Blue marlin *(Makaira mazara)*
Mahimahi (most *Coryphaena hippurus*, some *C. equiselis*)
Sailfish *(Istiophorus platypterus)*
Sharks (mainly *Isurus oxyrinchus, Isurus paucus, Carcharhinus* spp.)
Shortnose spearfish *(Tetrapturus angustirostris)*
Striped marlin *(Kajikia audax)*
Swordfish *(Xiphias gladius)*
Wahoo *(Acanthocybium solandri)*

II. Bottomfish Management Unit Species (BMUS[2])

Armorhead *(Pseudopentaceros wheeleri)* [3]
Butaguchi/Pig-lipped ulua *(Pseudocaranx dentex)*
Ehu/Red snapper *(Etelis carbunculus)*
Gindai/Flower snapper *(Pristipomoides zonatus)*
Gunkin/Black ulua *(Caranx lugubris)*
Hapu'upu'u/Hawaiian grouper *(Hyporthodus quernus)*
Kahala/Amberjack *(Seriola dumerili)*
Kalekale *(Pristipomoides sieboldii)*
Lehi/Silverjaw *(Aphareus rutilans)*
Onaga/Red snapper *(Etelis coruscans)*
Opakapaka/Pink snapper *(Pristipomoides filamentosus)*
Ta'ape/Blue-lined snapper *(Lutjanus kasmira)*
Uku/Gray snapper *(Aprion virescens)*
White ulua/Giant trevally *(Caranx ignoblis)*
Yellow-tail kali *(Pristipomoides auricilla)*

III. Billfishes

Billfishes/Unspecified *(described above in PMUS)*
Black marlin *(Istiompax indica)*
Blue marlin *(Makaira mazara)*
Sailfish *(Istiophorus platypterus)*
Shortnose spearfish *(Tetrapturus angustirostris)*
Striped marlin *(Kajikia audax)*
Swordfish *(Xiphias gladius)*

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[2] *Ulua* is a general term for adult jacks and trevallies.

[3] Armorhead are seamount groundfish, formerly managed along with BMUS.

IV. Tunas

Albacore tuna *(Thunnus alalunga)*
Bigeye tuna *(Thunnus obesus)*
Kawakawa *(Euthynnus affinis)*
Skipjack tuna *(Katsuwonus pelamis)*
Tunas (unspecified)[4]
Yellowfin tuna *(Thunnus albacares)*

V. Other Scombrids

Dogtooth tuna *(Gymnosarda unicolor)* *(See footnote 4)*

VI. Fisheries Categories

A. *Pelagic Fishes*

Albacore tuna *(Thunnus alalunga)*
Barracudas (various *Spyraena* spp.)
Bigeye tuna *(Thunnus obesus)*
Billfishes/Unspecified *(described above in PMUS and Billfishes)*
Black marlin *(Istiompax indica*)
Blue marlin *(Makaira mazara)*
Japanese mackerel *(Scomber japonicus)*
Kawakawa *(Euthynnus affinis)*
Mahimahi (*Coryphaena hippurus*, *C. equiselis)*
Moonfish/Opah *(Lampris guttatus)*
Oilfish (*Ruvettus pretiosus*, *Thyrisitoides marleyi*)
Pelagic fishes (unspecified)
Pomfret *(Taractichthys steindachneri*, *Eumegistus illustris*, *Bramma* spp.*)*
Rainbow runner *(Elagatis bipinnulata)*
Rays (most common *Aetobatus narinari)*
Sailfish *(Istiophorus platypterus)*
Sharks *(described above in PMUS)*
Shortnose spearfish *(Tetrapturus angustirostris)*
Skipjack tuna *(Katsuwonus pelamis)*
Striped marlin *(Kajikia audax)*
Swordfish *(Xiphias gladius)*
Tunas/Unspecified *(See footnote 4)*
Wahoo *(Acanthocybium solandri)*
Yellowfin tuna *(Thunnus albacares)*

[4] This group includes species that comprise a very small portion of the tuna catch, including unidentified tunas. Because DAR has a single code for "miscellaneous tunas,"which is also used for dogtooth "tuna" (which are actually not tunas), this group is combined with "other scombrids" in some of the charts.

B. *Bottomfishes (and one Seamount Groundfish)* "Deep-7 Bottomfish" are marked with an asterisk (*)

Armorhead *(Pseudopentaceros wheeleri)*
Blue trevally *(Carangoides ferdau)*
Butaguchi/Pig-lipped ulua *(Pseudocaranx dentex)*
Dobe ulua *(Uraspis helvola)*
*Ehu/Red snapper (*Etelis carbunculus*)
*Gindai/Flower snapper (*Pristipomoides zonatus*)
Golden kalekale *(Erythrocles schlegelii, E. scintillans)*
Gunkin/Black ulua *(Caranx lugubris)*
*Hapu'upu'u/Hawaiian grouper (*Hyporthodus quernus*)
Jacks/Unspecified (various Carangids)
Kahala/Amberjack *(Seriola dumerili)*
*Kalekale (*Pristipomoides seiboldii*)
*Lehi/Silverjaw (*Aphareus rutilans*)
*Onaga/Red snapper (*Etelis coruscans*)
*Opakapaka/Pink snapper (*Pristipomoides filamentosus*)
Papa ulua *(Caranx orthogrammus)*
Porgy/Mu/Bigeye emperor *(Monotaxis grandoculis)*
Roi/Blue spot grouper *(Cephalopholis argus)*
Sasa ulua *(Caranx sexfasciatus)*
Snake mackerel (various Gempylids)
Snappers (unspecified) (various Lutjanids)
Ta'ape/Blue-lined snapper *(Lutjanus kasmira)*
Uku/Gray snapper *(Aprion virescens)*
White ulua /Giant trevally *(Caranx ignobilis)*
Yellow-tail kali *(Pristipomoides auricilla)*

C. *Reef Fishes*

Aholehole/Hawaiian flagtail *(Kuhlia sandvicensis)*
Bigeyes/glasseyes *(Heteropriacanthus cruentatus*, and various *Priacanthus* spp.)
Damselfishes (Abudefduf sordidus, A. vaigiensis, A. abdominalis)
Filefishes (various Monacanthidae)
Flounders (Bothus mancus, Bothus pantherinus)
Goatfishes (various Mullidae)
Gobies (various Gobiidae, including endemics)
Hawkfish (Cirrhitus pinnulatus)
Parrotfishes (various Scaridae)
Pufferfishes (Diodontidae and Tetraodontidae)
Reef fishes (multiple families, unspecified)
Reef jacks *(Caranx melampygus, Gnathanodon speciosus, Alectis ciliaris*, various other *Caranx* spp.)
Rudderfishes (up to six *Kyphosus* spp.)
Scorpionfishes (various Scorpaenidae)
Squirrelfishes (*Sargocentron* spp., *Neoniphon* spp.)
Surgeonfishes/tangs (many Acanthuridae)
Tilapia (Oreochromis sp., introduced)
Trumpetfishes (various Aulostomidae & Fistulariidae)
Wrasses (diverse Labridae)

D. *Other Fishes, Algae & Invertebrates*

Algae/Limu (*mainly Asparagopsis taxiformis*, various *Gracilaria* spp.)
Bigeye scad/Akule *(Selar crumenophthalmus)*
Bonefishes (up to four *Albula* spp.)
Clams (various Bivalvia)
Crabs (*Ranina ranina*, various Brachyura)
Eels (mainly *Gymnothorax* spp.)
Flying fishes (various Exocoetidae)
Herrings/sardines *(Etrumeus sadina*, various Clupeidae)
Invertebrates/Other (black coral, various urchins, holothurians, gastropods, etc.)
Leatherjacket (Scomberoides lysan)
Milkfish *(Chanos chanos)*
Mullets (mainly *Mugil cephalus)*
Needlefishes (various Belonidae)
Octopus (mainly *Octopus cyanea)*
Opihi/Limpets (saltwater *Cellana* spp.)
‘Opelu/Mackerel scad *(Decapterus macarellus)*
Shrimp, saltwater *(Heterocarpus laevigatus, Heterocarpus ensifer)*
Silversides *(Iso hawaiiensis)*
Slipper lobsters (mainly *Scyllarides squammosus)*
Spiny lobsters *(Panulirus marginatus, P. penicillatus)*
Squid (various Teuthoidea)
Ten pounder *(Elops hawaiensis)*
Threadfin *(Polydactylus sexfilis)*

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Table D-1
Hawaii Annual 2012 Reported Commercial Landings

Species	Caught	Sold	Value ($)	Price/Lb ($)
Aholehole (Hawaiian flagtail)	1,824	1,203	4,969	4.13
Barracudas	27,784	24,911	39,860	1.60
Bigeyes/Glasseyes	3,844	3,468	12,959	3.74
Bonefishes	15,035	9,964	11,993	1.20
Damselfishes	3,111	2,592	7,796	3.01
Eels	1,552	397	433	1.09
Filefishes	2,743	1,829	2,081	1.14
Flounders	40	33	67	2.03
Flying fishes	11	3	7	2.00
Goatfishes	55,149	47,512	225,641	4.75
Grouper, Hapu'upu'u (Hawaiian)	10,869	9,758	54,991	5.64
Grouper, Roi (blue spot)	5,084	4,465	14,035	3.14
Hawkfish	996	931	3,210	3.45
Herrings/sardines	2,340	1,046	2,092	2.00
Jacks	2,375	2,120	6,228	2.94
Jacks, (reef species)	28	27	108	3.97
Jacks, Blue trevally	8,261	2,889	8,928	3.09
Jacks, Butaguchi (pig-lipped ulua)	998	599	2,575	4.30
Jacks, Dobe ulua	7,874	5,790	12,598	2.18
Jacks, Gunkin/Black ulua	977	434	1,145	2.64
Jacks, Kahala (amberjack)	17,593	2,331	4,392	1.88
Jacks, Papa ulua	11,450	10,079	47,597	4.72
Jacks, Sasa ulua	787	344	887	2.58
Jacks, White ulua/Giant Trevally	20,570	12,675	33,169	2.62
Leatherjacket	482	459	1,134	2.47
Mackerel, Japanese	33	3	10	3.00
Mackerel, Snake	10	0	0	0.00
Mahimahi	2,016,322	1,746,616	5,307,361	3.04
Milkfish	2,330	2,157	2,714	1.26
Miscellaneous (unspecified)	4,275	3,873	5,294	1.37
Moonfish (opah)	1,634,765	1,549,415	3,161,688	2.04
Mullets	9,031	7,421	33,119	4.46
Needlefishes	2,269	2,060	5,583	2.71
Oilfish	602,361	601,592	850,117	1.41
Rainbow runner	4,099	2,757	5,237	1.90
Rays	26	0	0	0.00
Reef fishes (unspecified)	966	167	123	0.74
Rudderfishes	32,598	29,608	44,314	1.50
Parrotfishes	86,122	79,751	288,761	3.62
Pelagic fishes (unspecified)	670	24	2	0.10
Pomfret	735,318	730,826	2,096,169	2.87
Porgy	5,811	4,828	15,705	3.25
Pufferfishes	1,070	0	0	0.00
Scad, bigeye (akule)	284,673	212,386	711,409	3.35
Scad, mackerel ('opelu)	247,238	176,673	503,096	2.85
Scorpionfishes	3,811	2,737	16,278	5.95
Sharks	285,465	154,260	130,506	0.85
Silversides	109	109	271	2.50

Table D-1 (continued)
Hawaii Annual 2012 Reported Commercial Landings

Species	Caught	Sold	Value ($)	Price/Lb ($)
Snappers (unspecified)	6,183	4,317	17,518	4.06
Snapper, Ta'ape (blue-lined)	33,003	18,284	32,547	1.78
Snapper, Ehu (red)	27,995	20,085	124,622	6.20
Snapper, Gindai (flower)	3,899	2,665	12,213	4.58
Snapper, Golden kalekale	254	40	159	3.98
Snapper, Kalekale	13,338	10,145	43,278	4.27
Snapper, Lehi (silverjaw)	10,124	8,790	40,802	4.64
Snapper, Onaga (red snapper)	61,160	56,596	451,491	7.98
Snapper, Opakapaka (pink)	109,611	95,707	608,493	6.36
Snapper, Uku (gray)	116,769	92,404	418,055	4.52
Snapper, Yellow-tail kali	67	8	25	3.29
Squirrelfishes	54,376	48,202	214,206	4.44
Surgeonfishes/tangs	136,168	129,029	234,886	1.82
Ten pounder	1,565	923	1,632	1.77
Threadfin	667	199	1,291	6.50
Tilapia	2,158	356	1,030	2.89
Trumpetfishes	262	247	413	1.67
Wahoo	807,936	655,434	2,343,590	3.58
Wrasses	8,096	6,466	25,818	3.99
Tunas (unspecified)	49,354	49,354	197,600	4.00
Tuna, Skipjack	863,794	535,980	929,402	1.73
Tuna, Yellowfin	4,143,431	3,681,364	13,450,477	3.65
Tuna, Albacore	2,076,539	1,932,337	4,098,836	2.12
Tuna, Bigeye	14,415,995	13,966,891	64,648,558	4.63
Tuna, Kawakawa	6,910	3,746	11,449	3.06
Billfishes (unspecified)	1,851	722	1,778	2.46
Swordfish	2,813,382	2,380,853	6,689,694	2.81
Marlin, Blue	953,444	800,195	1,454,379	1.82
Marlin, Black	8,315	2,191	3,861	1.76
Marlin, Striped	688,906	657,056	1,427,788	2.17
Spearfish, Shortnosed	390,178	365,250	671,371	1.84
Sailfish	24,135	19,210	35,555	1.85
Other Invertebrates (includes black coral)	-	-	51,496	-
Crabs	39,879	33,722	147,958	4.39
Lobsters, Spiny	9,976	8,265	98,007	11.9
Lobsters, Slipper	89	19	95	5.00
Shrimp (saltwater)	11,894	2,646	20,947	7.92
Limpets/Opihi (saltwater)	18,093	7,368	53,335	7.24
Octopus	35,500	24,173	107,726	4.46
Squid	4,229	3,763	11,286	3.00
Limu/Marine Algae	22,657	6,252	44,291	7.08
TOTAL	34,134,690	31,085,079	112,404,610	3.62

Table D-2
Hawaii January 2012 Reported Commercial Landings

Species	Caught	Sold	Value ($)	Price/Lb ($)
Aholehole (Hawaiian flagtail)	189	186	733	3.94
Barracudas	905	408	801	1.96
Bigeyes/Glasseyes	238	238	882	3.71
Bonefishes	1,784	1,603	1,663	1.04
Damselfishes	82	68	204	3.02
Eels	68	0	0	0.00
Filefishes	208	208	255	1.22
Goatfishes	5,038	4,987	23,746	4.76
Grouper, Hapu'upu'u (Hawaiian)	2,184	1,852	9,927	5.36
Grouper, Roi (blue spot)	731	306	1,225	4.00
Hawkfish	86	86	402	4.67
Herrings/sardines	218	0	0	0.00
Jacks	82	82	247	3.00
Jacks, Blue trevally	678	99	293	2.95
Jacks, Butaguchi (pig-lipped ulua)	376	376	1,601	4.25
Jacks, Dobe ulua	294	83	247	2.98
Jacks, Gunkin/Black ulua	156	156	422	2.71
Jacks, Kahala (amberjack)	3,848	928	1,660	1.79
Jacks, Papa ulua	756	514	2,025	3.94
Jacks, Sasa ulua	103	7	25	3.83
Jacks, White ulua/Giant Trevally	3,236	2,043	5,949	2.91
Leatherjacket	35	35	83	2.39
Mahimahi	78,432	65,637	200,990	3.06
Milkfish	46	20	30	1.50
Miscellaneous (unspecified)	136	2	13	6.50
Moonfish (opah)	93,903	92,155	220,725	2.40
Mullets	18	18	53	3.00
Needlefishes	90	12	21	1.73
Oilfish	61,935	61,935	65,935	1.06
Parrotfishes	8,977	8,039	28,131	3.50
Pufferfishes	88	0	0	0.00
Pomfret	52,258	52,258	176,181	3.37
Porgy	262	209	595	2.85
Rainbow runner	515	186	367	1.97
Reef fishes (unspecified)	97	0	0	0.00
Rudderfishes	2,100	1,612	2,392	1.48
Scad, bigeye (akule)	20,926	20,926	50,803	2.43
Scad, mackerel ('opelu)	24,286	19,218	52,035	2.71
Scorpionfishes	518	307	2,276	7.40
Sharks	21,641	14,731	7,910	0.54
Mackerel, Snake	5	0	0	0.00
Snappers (unspecified)	224	192	705	3.67
Snapper, Ehu (red)	4,478	3,115	16,158	5.19
Snapper, Gindai (flower)	668	383	1,761	4.60
Snapper, Golden kalekale	30	3	11	3.50
Snapper, Kalekale	1,844	1,292	4,794	3.71
Snapper, Lehi (silverjaw)	1,359	1,206	5,367	4.45
Snapper, Onaga (red)	11,334	10,795	77,219	7.15
Snapper, Opakapaka (pink)	21,790	19,087	116,378	6.10

Table D-2 (continued)
Hawaii January 2012 Reported Commercial Landings

Species	Caught	Sold	Value ($)	Price/Lb ($)
Snapper, Ta'ape (blue-lined)	2,511	1,653	3,006	1.82
Snapper, Uku (gray)	12,175	9,400	40,827	4.34
Squirrelfishes	4,435	3,877	16,152	4.17
Ten pounder	242	242	284	1.18
Threadfin	77	20	160	8.00
Trumpetfishes	18	18	28	1.58
Wahoo	32,346	25,295	112,886	4.46
Wrasses	983	743	3,877	5.22
Billfishes (unspecified)	90	0	0	0.00
Marlin, Black	138	0	0	0.00
Marlin, Blue	49,424	29,481	63,385	2.15
Marlin, Striped	96,032	96,032	191,662	2.00
Sailfish	1,449	422	675	1.60
Spearfish, Shortnosed	64,867	57,920	86,016	1.49
Surgeonfishes/tangs	8,974	8,252	15,774	1.91
Swordfish	169,101	148,331	504,262	3.40
Tunas (unspecified)	4,637	4,637	15,366	3.31
Tuna, Albacore	122,763	106,908	270,231	2.53
Tuna, Bigeye	1,431,850	1,325,384	5,845,807	4.41
Tuna, Kawakawa	409	119	320	2.69
Tuna, Skipjack	33,618	10,257	17,719	1.73
Tuna, Yellowfin	349,857	289,116	1,160,732	4.01
Crabs	1,739	1,739	7,728	4.44
Lobsters, Slipper	25	0	0	0.00
Lobsters, Spiny	1,391	1,127	13,144	11.7
Shrimp (saltwater)	805	0	0	0.00
Limpets/Opihi (saltwater)	1,309	1,110	6,675	6.01
Octopus	3,890	1,835	7,546	4.11
Squid	167	161	571	3.55
Limu/Marine Algae	718	497	5,740	11.5
TOTAL	2,825,290	2,512,176	9,473,813	3.77

Table D-3
Hawaii February 2012 Reported Commercial Landings

Species	Caught	Sold	Value ($)	Price/Lb ($)
Aholehole (Hawaiian flagtail)	160	140	773	5.52
Barracudas	835	596	1,094	1.83
Bigeyes/Glasseyes	261	236	946	4.00
Bonefishes	1,340	1,064	1,069	1.00
Damselfishes	118	118	350	2.96
Eels	68	36	50	1.38
Filefishes	219	172	188	1.09
Goatfishes	2,391	1,897	9,961	5.25
Grouper, Hapu'upu'u (Hawaiian)	682	682	3,456	5.06
Grouper, Roi (blue spot)	250	176	500	2.85
Hawkfish	26	26	100	3.80
Herrings/sardines	1,522	1,046	2,092	2.00
Jacks	165	165	498	3.02
Jacks, Blue trevally	529	61	125	2.05
Jacks, Butaguchi (pig-lipped ulua)	137	0	0	0.00
Jacks, Dobe ulua	76	22	55	2.50
Jacks, Gunkin/Black ulua	92	37	111	3.00
Jacks, Kahala (amberjack)	2,775	377	754	2.00
Jacks, Papa ulua	546	376	1,555	4.14
Jacks, Sasa ulua	7	3	12	4.00
Jacks, White ulua/Giant Trevally	1,505	799	2,045	2.56
Leatherjacket	25	25	53	2.09
Mahimahi	114,858	103,685	356,177	3.44
Milkfish	10	10	17	1.75
Miscellaneous (unspecified)	82	81	169	2.09
Moonfish (opah)	57,022	56,124	185,770	3.31
Mullets	26	26	93	3.56
Needlefishes	88	85	248	2.92
Oilfish	58,824	58,824	114,954	1.95
Parrotfishes	5,894	4,895	16,309	3.33
Pelagic fishes (unspecified)	132	8	1	0.10
Pomfret	57,514	57,514	214,250	3.73
Porgy	224	182	551	3.03
Rainbow runner	325	292	417	1.43
Rays	26	0	0	0.00
Reef fishes (unspecified)	98	33	17	0.50
Rudderfishes	2,871	1,440	2,713	1.88
Parrotfishes	5,894	4,895	16,309	3.33
Pelagic fishes (unspecified)	132	8	1	0.10
Pomfret	57,514	57,514	214,250	3.73
Porgy	224	182	551	3.03
Rainbow runner	325	292	417	1.43
Rays	26	0	0	0.00
Reef fishes (unspecified)	98	33	17	0.50
Rudderfishes	2,871	1,440	2,713	1.88
Scad, bigeye (akule)	12,992	10,348	37,967	3.67

Table D-3 (continued)
Hawaii February 2012 Reported Commercial Landings

Species	Caught	Sold	Value ($)	Price/Lb ($)
Scad, mackerel (‘opelu)	10,530	7,107	19,202	2.70
Scorpionfishes	229	162	1,073	6.63
Sharks	26,160	12,690	9,804	0.77
Snapper, Ehu (red)	2,368	1,991	10,581	5.32
Snapper, Gindai (flower)	481	335	1,521	4.54
Snapper, Golden kalekale	36	0	0	0.00
Snapper, Kalekale	1,340	1,075	4,393	4.09
Snapper, Lehi (silverjaw)	1,314	1,294	6,161	4.76
Snapper, Onaga (red)	5,043	4,823	35,525	7.37
Snapper, Opakapaka (pink)	10,952	9,640	59,669	6.19
Snapper, Ta’ape (blue-lined)	2,280	1,490	2,544	1.71
Snapper, Uku (gray)	7,961	5,753	27,041	4.70
Snapper, Yellow-tail kali	1	1	4	4.00
Snappers (unspecified)	142	127	448	3.53
Squirrelfishes	2,891	2,452	10,300	4.20
Surgeonfishes/tangs	7,486	6,507	11,746	1.81
Ten pounder	48	48	57	1.19
Threadfin	68	16	112	7.23
Trumpetfishes	34	29	44	1.52
Wahoo	35,974	33,683	151,141	4.49
Wrasses	574	574	1,261	2.20
Tunas (unspecified)	5,382	5,382	19,303	3.59
Tuna, Skipjack	16,041	3,456	6,983	2.02
Tuna, Yellowfin	419,751	419,751	1,683,648	4.01
Tuna, Albacore	233,362	233,362	506,726	2.17
Tuna, Bigeye	1,093,520	1,093,520	5,011,937	4.58
Tuna, Kawakawa	568	274	921	3.36
Billfishes (unspecified)	185	185	370	2.00
Swordfish	488,259	270,420	851,114	3.15
Marlin, Blue	46,001	35,241	82,512	2.34
Marlin, Black	98	0	0	0.00
Marlin, Striped	77,600	77,600	185,534	2.39
Spearfish, Shortnosed	57,421	57,421	100,726	1.75
Sailfish	1,717	791	1,872	2.36
Crabs	2,009	2,009	8,792	4.38
Lobsters, Spiny	1,092	910	10,536	11.6
Lobsters, Slipper	3	0	0	0.00
Shrimp (saltwater)	630	0	0	0.00
Octopus	2,503	1,511	6,666	4.41
Limpets/Opihi (saltwater)	736	41	257	6.29
Limu/Marine Algae	227	118	1,251	10.6
TOTAL	2,887,727	2,593,389	9,787,211	3.77

Table D-4
Hawaii March 2012 Reported Commercial Landings

Species	Caught	Sold	Value ($)	Price/Lb ($)
Aholehole (Hawaiian flagtail)	75	47	229	4.85
Barracudas	1,352	1,352	3,214	2.38
Bigeyes/Glasseyes	270	270	993	3.68
Bonefishes	1,287	775	996	1.28
Damselfishes	85	43	137	3.16
Eels	65	4	4	1.10
Filefishes	407	344	383	1.12
Goatfishes	3,731	3,479	15,921	4.58
Grouper, Hapu'upu'u (Hawaiian)	197	145	754	5.20
Grouper, Roi (blue spot)	216	211	738	3.49
Hawkfish	53	53	156	2.93
Herrings/sardines	600	0	0	0.00
Jacks	140	140	402	2.88
Jacks, Blue trevally	591	43	130	3.01
Jacks, Butaguchi (pig-lipped ulua)	16	0	0	0.00
Jacks, Dobe ulua	5,269	5,162	10,513	2.04
Jacks, Gunkin/Black ulua	60	21	58	2.75
Jacks, Kahala (amberjack)	973	79	158	2.00
Jacks, Papa ulua	912	802	3,752	4.68
Jacks, Sasa ulua	44	4	10	2.50
Jacks, White ulua/Giant Trevally	910	776	1,871	2.41
Leatherjacket	7	5	13	2.50
Mahimahi	212,603	178,363	662,057	3.71
Milkfish	237	140	192	1.38
Miscellaneous (unspecified)	430	234	483	2.07
Moonfish (opah)	76,304	76,304	220,264	2.89
Mullets	32	32	94	2.95
Needlefishes	48	48	125	2.60
Oilfish	60,559	60,559	129,980	2.15
Parrotfishes	5,067	4,006	13,783	3.44
Pomfret	57,355	57,355	205,392	3.58
Porgy	354	320	926	2.90
Pufferfishes	14	0	0	0.00
Rainbow runner	333	207	277	1.34
Reef fishes (unspecified)	49	4	6	1.50
Rudderfishes	1,244	924	1,721	1.86
Scad, bigeye (akule)	17,405	13,275	48,966	3.69
Scad, mackerel ('opelu)	22,425	15,040	44,641	2.97
Scorpionfishes	184	141	710	5.04
Sharks	23,974	15,564	12,558	0.81
Snapper, Ehu (red)	1,013	849	6,088	7.17
Snapper, Gindai (flower)	78	69	387	5.60
Snapper, Golden kalekale	2	0	0	0.00
Scorpionfishes	184	141	710	5.04
Snapper, Kalekale	593	425	2,136	5.03
Snapper, Lehi (silverjaw)	991	934	4,779	5.12

Table D-4 (continued)
Hawaii March 2012 Reported Commercial Landings

Species	Caught	Sold	Value ($)	Price/Lb ($)
Snapper, Onaga (red)	2,078	1,963	16,200	8.25
Snapper, Opakapaka (pink)	5,362	4,778	31,014	6.49
Snapper, Ta'ape (blue-lined)	931	864	1,566	1.81
Snapper, Uku (gray)	4,435	2,398	12,355	5.15
Snapper, Yellow-tail kali	1	1	2	4.00
Snappers (unspecified)	227	218	849	3.90
Squirrelfishes	3,542	3,129	13,718	4.38
Surgeonfishes/tangs	10,479	8,981	17,005	1.89
Ten pounder	100	45	56	1.25
Threadfin	48	14	101	7.36
Trumpetfishes	42	42	53	1.25
Wahoo	61,503	48,415	216,503	4.47
Tunas (unspecified)	421	421	1,566	3.72
Tuna, Skipjack	33,070	9,829	20,202	2.06
Tuna, Yellowfin	265,596	252,084	1,129,441	4.48
Tuna, Albacore	196,213	196,213	647,679	3.30
Tuna, Bigeye	880,880	880,880	4,868,817	5.53
Tuna, Kawakawa	315	95	352	3.72
Billfishes (unspecified)	171	171	494	2.89
Swordfish	500,983	426,367	1,295,974	3.04
Marlin, Blue	55,489	48,951	125,816	2.57
Marlin, Black	246	0	0	0.00
Marlin, Striped	49,826	49,826	156,375	3.14
Spearfish, Shortnosed	27,178	25,255	81,088	3.21
Sailfish	745	539	1,320	2.45
Crabs	2,191	2,191	9,459	4.32
Lobsters, Spiny	1,357	1,112	14,331	12.9
Lobsters, Slipper	18	11	55	5.00
Shrimp (saltwater)	504	0	0	0.00
Limpets/Opihi (saltwater)	1,901	723	4,383	6.07
Octopus	3,242	2,557	11,312	4.42
Squid	2	0	0	0.00
Limu/Marine Algae	778	602	5,709	9.48
TOTAL	2,608,928	2,407,712	10,081,456	4.19

Table D-5
Hawaii April 2012 Reported Commercial Landings

Species	Caught	Sold	Value ($)	Price/Lb ($)
Aholehole (Hawaiian flagtail)	81	26	102	3.95
Barracudas	3,342	3,342	6,548	1.96
Bigeyes/Glasseyes	311	173	682	3.94
Bonefishes	715	506	648	1.28
Damselfishes	197	196	573	2.92
Eels	108	17	19	1.10
Filefishes	732	282	327	1.16
Goatfishes	4,180	3,079	13,898	4.51
Grouper, Hapu'upu'u (Hawaiian)	685	538	3,043	5.66
Grouper, Roi (blue spot)	512	476	1,056	2.22
Hawkfish	82	55	192	3.47
Jacks	414	414	1,201	2.90
Jacks, (reef species)	3	3	14	4.50
Jacks, Blue trevally	509	285	731	2.56
Jacks, Butaguchi (pig-lipped ulua)	71	42	128	3.05
Jacks, Dobe ulua	163	39	114	2.95
Jacks, Gunkin/Black ulua	119	13	26	2.00
Jacks, Kahala (amberjack)	1,377	73	167	2.28
Jacks, Papa ulua	902	720	2,711	3.77
Jacks, Sasa ulua	76	3	10	3.00
Jacks, White ulua/Giant Trevally	2,670	1,322	3,069	2.32
Leatherjacket	150	150	395	2.63
Mahimahi	255,198	215,924	675,826	3.13
Milkfish	593	593	724	1.22
Miscellaneous (unspecified)	58	13	21	1.55
Moonfish (opah)	84,115	52,266	147,310	2.82
Mullets	3,903	2,884	12,951	4.49
Needlefishes	35	35	78	2.26
Oilfish	51,746	51,592	89,873	1.74
Parrotfishes	6,686	5,921	20,483	3.46
Pelagic fishes (unspecified)	96	0	0	0.00
Pomfret	80,279	80,279	174,227	2.17
Porgy	129	121	370	3.05
Pufferfishes	16	0	0	0.00
Rainbow runner	525	347	575	1.66
Reef fishes (unspecified)	69	0	0	0.00
Rudderfishes	1,620	1,595	2,998	1.88
Scad, bigeye (akule)	26,944	19,271	72,132	3.74
Scad, mackerel ('opelu)	20,295	15,122	45,432	3.00
Scorpionfishes	299	246	1,468	5.97
Sharks	24,465	11,505	8,886	0.77
Snapper, Ehu (red)	2,180	1,526	9,820	6.43
Snapper, Gindai (flower)	387	387	1,080	2.79
Snapper, Golden kalekale	38	4	18	4.53
Snapper, Kalekale	1,083	818	3,846	4.70
Snapper, Lehi (silverjaw)	1,208	1,136	5,648	4.97

Table D-5 (continued)
Hawaii April 2012 Reported Commercial Landings

Species	Caught	Sold	Value ($)	Price/Lb ($)
Snapper, Onaga (red)	1,979	1,825	15,002	8.22
Snapper, Opakapaka (pink)	12,836	11,622	74,049	6.37
Snapper, Ta'ape (blue-lined)	1,757	1,496	3,031	2.03
Snapper, Uku (gray)	8,925	7,107	32,271	4.54
Snappers (unspecified)	420	373	1,479	3.97
Squirrelfishes	2,741	2,508	10,800	4.31
Surgeonfishes/tangs	11,916	11,271	20,026	1.78
Ten pounder	148	74	93	1.25
Threadfin	66	32	269	8.50
Tilapia	17	17	26	1.50
Trumpetfishes	13	6	9	1.50
Wahoo	135,699	118,364	317,304	2.68
Wrasses	523	379	2,018	5.33
Tunas (unspecified)	2,064	2,064	6,535	3.17
Tuna, Skipjack	53,477	20,990	49,263	2.35
Tuna, Yellowfin	356,758	307,127	1,076,520	3.51
Tuna, Albacore	149,209	142,221	310,550	2.18
Tuna, Bigeye	858,982	799,379	3,925,137	4.91
Tuna, Kawakawa	969	518	1,369	2.64
Billfishes (unspecified)	40	40	140	3.50
Swordfish	673,772	673,772	1,545,377	2.29
Marlin, Blue	69,447	67,363	123,462	1.83
Marlin, Black	614	614	893	1.45
Marlin, Striped	52,051	44,477	95,251	2.14
Spearfish, Shortnosed	27,405	24,855	41,951	1.69
Sailfish	1,679	1,679	2,264	1.35
Crabs	2,673	2,673	13,481	5.04
Lobsters, Spiny	967	720	8,103	11.3
Lobsters, Slipper	19	0	0	0.00
Shrimp (saltwater)	445	0	0	0.00
Limpets/Opihi (saltwater)	2,056	578	3,879	6.72
Octopus	1,463	432	1,829	4.24
Squid	213	213	474	2.22
Limu/Marine Algae	1,852	596	5,032	8.45
TOTAL	3,012,556	2,718,722	8,997,306	3.31

Table D-6
Hawaii May 2012 Reported Commercial Landings

Species	Caught	Sold	Value ($)	Price/Lb ($)
Aholehole (Hawaiian flagtail)	254	188	703	3.75
Barracudas	6,255	6,255	6,565	1.05
Bigeyes/Glasseyes	388	254	1,003	3.94
Bonefishes	2,196	2,196	2,743	1.25
Damselfishes	250	221	677	3.06
Eels	97	23	23	1.02
Filefishes	402	270	300	1.11
Flounders	13	13	24	1.90
Goatfishes	5,208	4,748	21,679	4.57
Grouper, Hapu'upu'u (Hawaiian)	712	687	3,977	5.79
Grouper, Roi (blue spot)	482	449	1,398	3.11
Hawkfish	138	104	317	3.05
Jacks	147	15	45	3.00
Jacks, Blue trevally	688	479	1,474	3.08
Jacks, Butaguchi (pig-lipped ulua)	140	133	631	4.75
Jacks, Dobe ulua	30	4	12	3.00
Jacks, Gunkin/Black ulua	63	0	0	0.00
Jacks, Kahala (amberjack)	845	142	282	1.99
Jacks, Papa ulua	1,580	1,430	7,140	4.99
Jacks, Sasa ulua	58	15	49	3.35
Jacks, White ulua/Giant Trevally	1,518	1,096	2,680	2.45
Leatherjacket	38	38	98	2.58
Mackerel, Japanese	14	0	0	0.00
Mahimahi	177,428	148,011	512,780	3.46
Milkfish	145	145	187	1.29
Miscellaneous (unspecified)	127	127	162	1.27
Moonfish (opah)	145,227	138,992	251,227	1.81
Mullets	240	237	1,076	4.55
Needlefishes	63	62	194	3.15
Oilfish	53,597	53,597	83,142	1.55
Parrotfishes	6,765	6,765	25,050	3.70
Pomfret	99,721	99,686	181,401	1.82
Porgy	528	528	1,589	3.01
Pufferfishes	761	0	0	0.00
Rainbow runner	321	209	272	1.30
Reef fishes (unspecified)	74	0	0	0.00
Rudderfishes	1,880	1,795	3,325	1.85
Scad, bigeye (akule)	30,746	21,081	75,378	3.58
Scad, mackerel ('opelu)	10,598	8,989	27,002	3.00
Scorpionfishes	267	224	1,294	5.78
Sharks	22,732	10,034	7,253	0.72
Snapper, Ehu (red)	1,358	1,029	7,301	7.10
Snapper, Gindai (flower)	137	111	612	5.54
Snapper, Golden kalekale	14	0	0	0.00
Snapper, Kalekale	579	483	2,171	4.49
Snapper, Lehi (silverjaw)	634	634	2,675	4.22

Table D-6 (continued)
Hawaii May 2012 Reported Commercial Landings

Species	Caught	Sold	Value ($)	Price/Lb ($)
Snapper, Onaga (red)	1,844	1,761	14,774	8.39
Snapper, Opakapaka (pink)	5,129	5,129	31,153	6.07
Snapper, Ta'ape (blue-lined)	966	856	1,583	1.85
Snapper, Uku (gray)	10,706	9,041	36,405	4.03
Snapper, Yellow-tail kali	1	1	5	4.00
Snappers (unspecified)	401	400	1,657	4.14
Squirrelfishes	4,230	3,928	17,145	4.36
Surgeonfishes/tangs	12,667	12,431	23,260	1.87
Ten pounder	120	33	38	1.14
Threadfin	47	4	32	8.50
Trumpetfishes	10	9	15	1.60
Wahoo	119,830	101,255	311,576	3.08
Wrasses	528	389	1,796	4.62
Tunas (unspecified)	3,426	3,426	14,296	4.17
Tuna, Skipjack	98,221	47,676	93,036	1.95
Tuna, Yellowfin	375,429	329,944	1,104,484	3.35
Tuna, Albacore	137,821	119,418	289,900	2.43
Tuna, Bigeye	1,227,522	1,185,452	5,045,759	4.26
Tuna, Kawakawa	644	430	1,170	2.72
Billfishes (unspecified)	90	41	82	2.00
Swordfish	380,313	368,077	1,141,991	3.10
Marlin, Blue	97,069	75,424	124,091	1.65
Marlin, Black	198	0	0	0.00
Marlin, Striped	84,778	74,162	126,324	1.70
Spearfish, Shortnosed	39,040	35,643	52,378	1.47
Sailfish	1,414	1,414	1,945	1.38
Other Invertebrates (includes black corel)	-	-	960	-
Crabs	1,786	1,786	8,041	4.50
Shrimp (saltwater)	1,112	0	0	0.00
Limpets/Opihi (saltwater)	2,357	842	7,172	8.52
Octopus	2,264	1,647	7,828	4.75
Squid	370	370	703	1.90
Limu/Marine Algae	4,039	1,287	5,661	4.40
TOTAL	3,189,828	2,893,775	9,701,171	3.35

Table D-7
Hawaii June 2012 Reported Commercial Landings

Species	Caught	Sold	Value ($)	Price/Lb ($)
Aholehole (Hawaiian flagtail)	132	39	168	4.36
Barracudas	5,071	5,071	6,536	1.29
Bigeyes/Glasseyes	140	129	498	3.87
Bonefishes	1,549	726	894	1.23
Damselfishes	229	229	752	3.29
Eels	164	3	5	1.85
Filefishes	306	166	185	1.12
Goatfishes	3,964	2,902	13,795	4.75
Grouper, Hapu'upu'u (Hawaiian)	149	149	729	4.88
Grouper, Roi (blue spot)	283	236	732	3.11
Hawkfish	46	40	129	3.19
Jacks	370	370	1,112	3.01
Jacks, Blue trevally	757	430	1,479	3.44
Jacks, Butaguchi (pig-lipped ulua)	6	0	0	0.00
Jacks, Dobe ulua	70	34	101	3.00
Jacks, Gunkin/Black ulua	52	52	155	3.00
Jacks, Kahala (amberjack)	194	47	94	2.00
Jacks, Papa ulua	1,880	1,809	8,968	4.96
Jacks, Sasa ulua	111	69	167	2.42
Jacks, White ulua/Giant Trevally	1,159	614	1,835	2.99
Leatherjacket	31	31	76	2.43
Mahimahi	126,586	111,310	425,844	3.83
Milkfish	642	638	798	1.25
Miscellaneous (unspecified)	166	166	183	1.10
Moonfish (opah)	165,710	165,710	305,683	1.84
Mullets	752	718	3,264	4.55
Needlefishes	17	17	28	1.65
Oilfish	44,922	44,922	80,603	1.79
Parrotfishes	7,302	6,745	25,975	3.85
Pomfret	75,093	75,093	187,423	2.50
Porgy	565	565	1,996	3.54
Rainbow runner	235	224	284	1.27
Reef fishes (unspecified)	157	76	46	0.61
Rudderfishes	4,232	4,232	5,418	1.28
Scad, bigeye (akule)	47,065	32,373	105,672	3.26
Scad, mackerel ('opelu)	9,734	7,748	21,627	2.79
Scorpionfishes	231	159	799	5.04
Sharks	14,991	13,283	14,167	1.07
Snapper, Ehu (red)	764	735	5,538	7.54
Snapper, Gindai (flower)	119	110	603	5.51
Snapper, Golden kalekale	7	0	0	0.00
Snapper, Kalekale	211	201	884	4.39
Snapper, Lehi (silverjaw)	178	178	661	3.71
Snapper, Onaga (red)	1,407	1,381	13,537	9.80
Snapper, Opakapaka (pink)	2,334	2,334	16,217	6.95
Snapper, Ta'ape (blue-lined)	1,410	1,145	2,211	1.93

Table D-7 (continued)
Hawaii June 2012 Reported Commercial Landings

Species	Caught	Sold	Value ($)	Price/Lb ($)
Snapper, Uku (gray)	13,085	12,103	49,472	4.09
Snappers (unspecified)	256	256	1,039	4.06
Squirrelfishes	2,792	2,646	11,827	4.47
Surgeonfishes/tangs	11,036	9,183	15,815	1.72
Ten pounder	156	55	55	1.00
Threadfin	4	4	23	6.50
Tilapia	26	26	65	2.50
Trumpetfishes	3	3	6	1.79
Wahoo	94,128	78,995	277,841	3.52
Wrasses	490	339	1,122	3.31
Tunas (unspecified)	7,189	7,189	31,985	4.45
Tuna, Skipjack	112,202	71,839	127,819	1.78
Tuna, Yellowfin	361,622	299,083	1,076,167	3.60
Tuna, Albacore	180,017	180,017	383,419	2.13
Tuna, Bigeye	1,116,209	1,116,209	5,018,398	4.50
Tuna, Kawakawa	435	357	1,050	2.95
Billfishes (unspecified)	90	0	0	0.00
Swordfish	253,098	253,098	682,963	2.70
Marlin, Blue	131,955	128,398	174,374	1.36
Marlin, Black	1,654	430	677	1.58
Marlin, Striped	57,404	57,404	96,078	1.67
Spearfish, Shortnosed	30,757	30,757	53,261	1.73
Sailfish	2,432	2,432	3,035	1.25
Crabs	1,117	1,117	4,797	4.29
Shrimp (saltwater)	1,246	30	240	8.00
Limpets/Opihi (saltwater)	1,928	934	7,712	8.25
Octopus	1,299	618	2,730	4.42
Squid	76	76	376	4.94
Limu/Marine Algae	3,534	371	2,878	7.76
TOTAL	2,907,728	2,737,175	9,283,093	3.39

Table D-8
Hawaii July 2012 Reported Commercial Landings

Species	Caught	Sold	Value ($)	Price/Lb ($)
Aholehole (Hawaiian flagtail)	141	118	399	3.37
Barracudas	2,601	2,601	4,237	1.63
Bigeyes/Glasseyes	131	131	328	2.51
Bonefishes	1,225	307	360	1.17
Damselfishes	740	434	1,023	2.35
Eels	242	58	63	1.10
Filefishes	264	195	215	1.10
Flounders	5	5	13	2.50
Flying fishes	8	0	0	0.00
Goatfishes	3,178	3,178	14,019	4.41
Grouper, Hapu'upu'u (Hawaiian)	206	173	966	5.59
Grouper, Roi (blue spot)	454	454	1,399	3.08
Hawkfish	83	83	267	3.21
Jacks	308	308	810	2.63
Jacks, (reef species)	6	6	25	4.50
Jacks, Blue trevally	679	304	1,012	3.33
Jacks, Gunkin/Black ulua	229	42	83	2.00
Jacks, Kahala (amberjack)	234	20	39	2.00
Jacks, Papa ulua	1,064	1,064	5,522	5.19
Jacks, Sasa ulua	164	62	149	2.42
Jacks, White ulua/Giant Trevally	1,860	691	1,932	2.79
Leatherjacket	27	27	65	2.37
Mahimahi	191,571	170,924	452,817	2.65
Miscellaneous (unspecified)	120	93	130	1.41
Moonfish (opah)	204,987	196,062	304,862	1.55
Mullets	711	522	2,323	4.46
Needlefishes	82	82	299	3.64
Oilfish	61,597	61,597	64,466	1.05
Parrotfishes	6,909	6,575	25,707	3.91
Pomfret	62,050	59,279	168,084	2.84
Porgy	482	333	1,295	3.89
Rainbow runner	127	78	142	1.81
Reef fishes (unspecified)	56	6	6	1.00
Rudderfishes	4,939	4,581	5,885	1.28
Scad, bigeye (akule)	32,850	20,165	71,319	3.54
Scad, mackerel ('opelu)	13,993	11,206	30,679	2.74
Scorpionfishes	195	151	1,098	7.28
Sharks	24,976	17,203	18,945	1.10
Silversides	109	109	271	2.50
Snapper, Ehu (red)	812	663	5,723	8.64
Snapper, Gindai (flower)	78	60	342	5.74
Snapper, Golden kalekale	2	0	0	0.00
Snapper, Kalekale	336	308	1,609	5.22
Snapper, Lehi (silverjaw)	100	99	400	4.03
Snapper, Onaga (red)	1,463	1,433	14,417	10.1
Snapper, Opakapaka (pink)	2,405	2,300	16,659	7.24

Table D-8 (continued)
Hawaii July 2012 Reported Commercial Landings

Species	Caught	Sold	Value ($)	Price/Lb ($)
Snapper, Ta'ape (blue-lined)	3,862	1,164	1,871	1.61
Snapper, Uku (gray)	11,594	8,926	40,959	4.59
Snapper, Yellow-tail kali	2	2	6	4.00
Snappers (unspecified)	1,066	359	1,441	4.01
Squirrelfishes	3,217	3,174	14,210	4.48
Surgeonfishes/tangs	12,604	11,985	21,978	1.83
Ten pounder	59	21	26	1.23
Threadfin	8	0	0	0.00
Tilapia	267	0	0	0.00
Trumpetfishes	24	24	50	2.06
Wahoo	95,538	70,135	251,351	3.58
Wrasses	399	277	896	3.24
Tunas (unspecified)	5,048	5,048	21,405	4.24
Tuna, Skipjack	66,231	33,665	61,876	1.84
Tuna, Yellowfin	394,528	301,824	894,928	2.97
Tuna, Albacore	221,820	143,167	237,619	1.66
Tuna, Bigeye	1,583,160	1,516,080	5,530,260	3.65
Tuna, Kawakawa	520	303	937	3.10
Swordfish	142,870	142,766	339,430	2.38
Marlin, Blue	133,240	110,993	162,715	1.47
Marlin, Black	2,055	143	179	1.25
Marlin, Striped	48,418	42,027	85,133	2.03
Spearfish, Shortnosed	22,588	19,925	44,228	2.22
Sailfish	1,932	1,932	2,423	1.25
Other Invertebrates (includes black coral)	-	-	1,800	-
Crabs	1,947	1,947	7,881	4.05
Shrimp (saltwater)	1,821	656	4,719	7.19
Limpets/Opihi (saltwater)	1,153	470	4,868	10.4
Octopus	2,460	1,383	6,256	4.52
Squid	605	605	1,505	2.49
Limu/Marine Algae	4,302	642	5,028	7.83
TOTAL	3,388,129	2,983,731	8,966,381	3.01

Table D-9
Hawaii August 2012 Reported Commercial Landings

Species	Caught	Sold	Value ($)	Price/Lb ($)
Aholehole (Hawaiian flagtail)	118	62	245	3.93
Barracudas	2,244	2,244	4,764	2.12
Bigeyes/Glasseyes	145	145	576	3.96
Bonefishes	1,228	953	1,188	1.25
Damselfishes	610	493	1,607	3.26
Eels	186	25	25	1.00
Filefishes	68	59	61	1.03
Flounders	6	6	12	2.00
Goatfishes	5,743	4,694	22,063	4.70
Grouper, Hapu'upu'u (Hawaiian)	357	323	1,680	5.20
Grouper, Roi (blue spot)	874	874	2,932	3.35
Hawkfish	139	139	464	3.35
Jacks	164	164	553	3.38
Jacks, (reef species)	1	0	0	0.00
Jacks, Blue trevally	1,051	453	1,535	3.39
Jacks, Butaguchi (pig-lipped ulua)	9	0	0	0.00
Jacks, Dobe ulua	83	28	83	3.00
Jacks, Gunkin/Black ulua	30	30	90	3.00
Jacks, Kahala (amberjack)	194	0	0	0.00
Jacks, Papa ulua	829	829	3,922	4.73
Jacks, Sasa ulua	49	40	68	1.71
Jacks, White ulua/Giant Trevally	1,281	825	2,029	2.46
Leatherjacket	21	16	38	2.38
Mackerel, Snake	5	0	0	0.00
Mahimahi	241,060	228,886	593,968	2.60
Milkfish	9	0	0	0.00
Miscellaneous (unspecified)	226	226	314	1.39
Moonfish (opah)	206,597	206,597	389,419	1.88
Mullets	670	663	2,732	4.12
Needlefishes	225	225	865	3.85
Oilfish	34,253	34,253	62,683	1.83
Parrotfishes	7,568	7,152	27,544	3.85
Pomfret	39,129	38,517	158,631	4.12
Porgy	649	512	1,628	3.18
Pufferfishes	35	0	0	0.00
Rainbow runner	246	246	823	3.35
Reef fishes (unspecified)	96	26	26	1.00
Rudderfishes	1,431	1,380	2,376	1.72
Scad, bigeye (akule)	37,966	26,231	87,852	3.35
Scad, mackerel ('opelu)	24,705	16,948	47,831	2.82
Scorpionfishes	257	172	710	4.14
Sharks	26,906	12,569	16,715	1.33
Snapper, Ehu (red)	786	557	4,544	8.16
Snapper, Gindai (flower)	114	71	352	4.99
Snapper, Golden kalekale	12	1	3	2.90
Snapper, Kalekale	658	545	2,996	5.49

Table D-9 (continued)
Hawaii August 2012 Reported Commercial Landings

Species	Caught	Sold	Value ($)	Price/Lb ($)
Snapper, Lehi (silverjaw)	221	221	826	3.73
Snapper, Onaga (red)	1,431	1,373	15,024	10.9
Snapper, Opakapaka (pink)	2,194	1,982	14,362	7.25
Snapper, Ta'ape (blue-lined)	4,307	1,988	3,191	1.61
Snapper, Uku (gray)	10,763	9,570	51,121	5.34
Snappers (unspecified)	1,389	435	1,663	3.83
Squirrelfishes	4,623	4,623	20,831	4.51
Surgeonfishes/tangs	15,797	15,797	28,513	1.80
Ten pounder	143	85	106	1.25
Threadfin	1	1	8	8.51
Trumpetfishes	17	15	29	1.91
Wahoo	67,396	49,595	214,177	4.32
Wrasses	677	677	3,020	4.46
Tunas (unspecified)	4,420	4,420	19,195	4.34
Tuna, Skipjack	49,600	22,891	51,897	2.27
Tuna, Yellowfin	336,963	303,856	1,086,848	3.58
Tuna, Albacore	272,918	260,285	418,201	1.61
Tuna, Bigeye	1,197,586	1,197,586	6,672,348	5.57
Tuna, Kawakawa	1,101	626	2,221	3.55
Billfishes (unspecified)	286	286	692	2.42
Swordfish	49,894	49,894	161,891	3.24
Marlin, Blue	92,211	65,899	137,983	2.09
Marlin, Black	138	0	0	0.00
Marlin, Striped	24,258	21,459	68,848	3.21
Spearfish, Shortnosed	20,073	18,982	53,435	2.82
Sailfish	2,092	2,092	5,345	2.56
Crabs	3,362	3,362	12,757	3.79
Shrimp (saltwater)	789	182	1,383	7.60
Limpets/Opihi (saltwater)	2,542	174	1,251	7.19
Octopus	4,723	3,437	15,878	4.62
Squid	706	588	1,545	2.63
Limu/Marine Algae	3,810	582	2,605	4.48
TOTAL	2,815,462	2,631,138	10,513,141	4.00

Table D-10
Hawaii September 2012 Reported Commercial Landings

Species	Caught	Sold	Value ($)	Price/Lb ($)
Aholehole (Hawaiian flagtail)	77	47	194	4.16
Barracudas	1,217	1,080	2,442	2.26
Bigeyes/Glasseyes	309	240	953	3.97
Bonefishes	303	68	83	1.23
Damselfishes	295	294	914	3.11
Eels	190	95	101	1.06
Filefishes	44	44	56	1.28
Flounders	7	7	14	1.93
Flying fishes	3	3	7	2.00
Goatfishes	3,779	3,723	18,182	4.88
Grouper, Hapu'upu'u (Hawaiian)	504	405	2,185	5.40
Grouper, Roi (blue spot)	273	273	915	3.35
Hawkfish	81	81	238	2.94
Jacks	212	212	601	2.83
Jacks, Blue trevally	520	150	468	3.13
Jacks, Dobe ulua	127	109	391	3.60
Jacks, Gunkin/Black ulua	41	0	0	0.00
Jacks, Kahala (amberjack)	955	118	264	2.24
Jacks, Papa ulua	665	424	2,029	4.79
Jacks, Sasa ulua	69	64	168	2.64
Jacks, White ulua/Giant Trevally	1,382	745	1,778	2.39
Leatherjacket	14	13	30	2.40
Mackerel, Japanese	19	3	10	3.00
Mahimahi	189,885	164,306	435,445	2.65
Milkfish	146	132	161	1.22
Miscellaneous (unspecified)	248	248	293	1.18
Moonfish (opah)	210,238	186,395	325,419	1.75
Mullets	606	352	1,501	4.26
Needlefishes	143	123	552	4.50
Oilfish	21,315	20,699	51,581	2.49
Parrotfishes	6,976	6,976	24,754	3.55
Pomfret	49,493	48,419	162,147	3.35
Porgy	491	373	1,245	3.34
Rainbow runner	258	118	316	2.68
Reef fishes (unspecified)	97	0	0	0.00
Rudderfishes	1,866	1,815	3,083	1.70
Scad, bigeye (akule)	14,482	9,596	35,432	3.69
Scad, mackerel (‘opelu)	19,151	13,289	37,864	2.85
Scorpionfishes	373	253	1,217	4.80
Sharks	17,371	10,337	10,770	1.04
Snapper, Ehu (red)	2,009	1,399	8,376	5.99
Snapper, Gindai (flower)	243	131	690	5.28
Snapper, Golden kalekale	4	4	13	3.48
Snapper, Kalekale	866	665	3,209	4.83
Snapper, Lehi (silverjaw)	275	245	1,046	4.27
Snapper, Onaga (red)	4,730	3,763	30,574	8.12

Table D-10 (continued)
Hawaii September 2012 Reported Commercial Landings

Species	Caught	Sold	Value ($)	Price/Lb ($)
Snapper, Opakapaka (pink)	5,416	4,508	30,538	6.77
Snapper, Ta'ape (blue-lined)	2,873	1,158	1,933	1.67
Snapper, Uku (gray)	12,364	9,265	47,313	5.11
Snappers (unspecified)	435	435	1,880	4.32
Squirrelfishes	5,085	4,064	18,586	4.57
Surgeonfishes/tangs	13,940	13,940	23,562	1.69
Ten pounder	48	6	8	1.25
Threadfin	90	90	433	4.80
Tilapia	504	188	564	3.00
Trumpetfishes	9	7	11	1.58
Wahoo	45,620	27,604	121,005	4.38
Wrasses	733	598	2,423	4.05
Tunas (unspecified)	5,245	5,245	21,832	4.16
Tuna, Skipjack	56,698	35,486	75,808	2.14
Tuna, Yellowfin	269,373	232,280	900,451	3.88
Tuna, Albacore	252,333	252,333	358,552	1.42
Tuna, Bigeye	824,875	743,654	4,162,575	5.60
Tuna, Kawakawa	578	364	1,214	3.34
Billfishes (unspecified)	630	0	0	0.00
Swordfish	11,207	10,245	34,231	3.34
Marlin, Blue	83,886	72,776	134,440	1.85
Marlin, Black	1,344	0	0	0.00
Marlin, Striped	15,445	10,974	34,591	3.15
Spearfish, Shortnosed	18,113	14,872	34,748	2.34
Sailfish	2,455	2,455	5,622	2.29
Lobsters, Spiny	1,661	1,297	14,833	11.4
Lobsters, Slipper	14	0	0	0.00
Crabs	4,303	3,366	14,336	4.26
Shrimp (saltwater)	720	59	472	8.00
Limpets/Opihi (saltwater)	1,658	318	1,882	5.93
Octopus	3,472	2,517	11,304	4.49
Squid	1,491	1,491	5,231	3.51
Limu/Marine Algae	1,909	443	3,001	6.78
TOTAL	2,197,430	1,929,874	7,231,087	3.75

Table D-11
Hawaii October 2012 Reported Commercial Landings

Species	Caught	Sold	Value ($)	Price/Lb ($)
Aholehole (Hawaiian flagtail)	234	107	465	4.35
Barracudas	2,044	875	1,561	1.78
Bigeyes/Glasseyes	692	692	2,657	3.84
Bonefishes	1,184	589	806	1.37
Damselfishes	269	269	809	3.01
Eels	108	34	35	1.01
Filefishes	38	38	45	1.20
Flounders	1	0	0	0.00
Goatfishes	6,017	5,469	29,282	5.35
Grouper, Hapu'upu'u (Hawaiian)	2,360	2,360	13,871	5.88
Grouper, Roi (blue spot)	500	500	1,640	3.28
Hawkfish	69	69	237	3.43
Jacks	262	168	508	3.03
Jacks, Blue trevally	1,236	304	821	2.70
Jacks, Butaguchi (pig-lipped ulua)	167	0	0	0.00
Jacks, Dobe ulua	21	21	42	2.00
Jacks, Gunkin/Black ulua	18	15	34	2.25
Jacks, Kahala (amberjack)	1,660	203	404	1.99
Jacks, Papa ulua	714	713	3,152	4.42
Jacks, Sasa ulua	71	49	142	2.93
Jacks, White ulua/Giant Trevally	1,764	1,297	3,171	2.44
Leatherjacket	91	77	182	2.37
Mahimahi	198,444	185,966	479,669	2.58
Milkfish	76	76	113	1.47
Miscellaneous (unspecified)	1,912	1,912	2,681	1.40
Moonfish (opah)	174,939	174,939	299,805	1.71
Mullets	1,322	1,322	6,061	4.58
Needlefishes	1,147	1,147	2,606	2.27
Oilfish	41,368	41,368	52,286	1.26
Parrotfishes	10,379	10,379	36,225	3.49
Pomfret	57,698	57,698	146,957	2.55
Porgy	932	932	3,115	3.34
Rainbow runner	387	350	500	1.43
Reef fishes (unspecified)	53	0	0	0.00
Rudderfishes	5,281	5,190	7,126	1.37
Scad, bigeye (akule)	14,295	10,870	37,560	3.46
Scad, mackerel ('opelu)	33,171	23,527	66,291	2.82
Scorpionfishes	411	384	1,866	4.86
Sharks	27,497	11,956	9,567	0.80
Snapper, Ehu (red)	3,532	2,923	15,020	5.14
Snapper, Gindai (flower)	402	383	1,739	4.55
Snapper, Golden kalekale	17	3	8	2.93
Snapper, Kalekale	1,451	1,378	5,315	3.86
Snapper, Lehi (silverjaw)	607	607	2,786	4.59
Snapper, Onaga (red)	8,687	8,565	60,299	7.04
Snapper, Opakapaka (pink)	11,405	10,687	67,146	6.28

Table D-11 (continued)
Hawaii October 2012 Reported Commercial Landings

Species	Caught	Sold	Value ($)	Price/Lb ($)
Snapper, Ta'ape (blue-lined)	3,550	2,315	4,118	1.78
Snapper, Uku (gray)	11,022	8,735	35,544	4.07
Snapper, Yellow-tail kali	28	1	4	3.00
Snappers (unspecified)	775	775	3,088	3.98
Squirrelfishes	8,557	7,834	35,614	4.55
Surgeonfishes/tangs	12,018	11,796	22,182	1.88
Ten pounder	195	24	30	1.25
Threadfin	63	4	32	8.73
Tilapia	363	0	0	0.00
Trumpetfishes	27	27	42	1.54
Wahoo	42,095	36,457	147,957	4.06
Wrasses	1,122	888	2,472	2.78
Tunas (unspecified)	2,868	2,868	10,860	3.79
Tuna, Skipjack	39,990	24,698	57,699	2.34
Tuna, Yellowfin	236,621	236,621	899,222	3.80
Tuna, Albacore	113,469	113,469	257,299	2.27
Tuna, Bigeye	1,186,570	1,186,570	5,657,679	4.77
Tuna, Kawakawa	326	263	718	2.73
Billfishes (unspecified)	180	0	0	0.00
Swordfish	21,303	11,149	39,050	3.50
Marlin, Blue	73,122	72,162	130,093	1.80
Marlin, Black	826	0	0	0.00
Marlin, Striped	54,792	54,792	107,720	1.97
Spearfish, Shortnosed	23,744	21,463	38,866	1.81
Sailfish	3,672	3,672	7,969	2.17
Other Invertebrates (includes black coral)	-	-	23,881	-
Crabs	6,537	5,535	24,156	4.36
Lobsters, Spiny	1,349	1,149	14,597	12.7
Shrimp (saltwater)	904	365	3,150	8.63
Limpets/Opihi (saltwater)	961	687	4,281	6.23
Octopus	5,030	3,968	17,559	4.42
Squid	176	144	444	3.08
Limu/Marine Algae	492	455	2,548	5.60
TOTAL	2,468,042	2,375,662	8,913,477	3.75

Table D-12
Hawaii November 2012 Reported Commercial Landings

Species	Caught	Sold	Value ($)	Price/Lb ($)
Aholehole (Hawaiian flagtail)	242	183	689	3.76
Barracudas	617	398	766	1.93
Bigeyes/Glasseyes	586	586	2,020	3.45
Bonefishes	848	384	575	1.50
Damselfishes	105	94	323	3.45
Eels	193	56	59	1.06
Filefishes	24	22	25	1.16
Flounders	2	2	4	2.00
Goatfishes	4,996	4,016	19,048	4.74
Grouper, Hapu'upu'u (Hawaiian)	1,626	1,268	6,710	5.29
Grouper, Roi (blue spot)	267	267	849	3.18
Hawkfish	100	100	384	3.86
Jacks	53	24	82	3.40
Jacks, (reef species)	18	18	67	3.72
Jacks, Blue trevally	521	135	375	2.78
Jacks, Butaguchi (pig-lipped ulua)	56	33	149	4.50
Jacks, Dobe ulua	14	0	0	0.00
Jacks, Gunkin/Black ulua	118	69	167	2.42
Jacks, Kahala (amberjack)	1,896	129	253	1.96
Jacks, Papa ulua	615	615	2,982	4.85
Jacks, Sasa ulua	22	16	42	2.73
Jacks, White ulua/Giant Trevally	1,108	829	2,104	2.54
Leatherjacket	32	32	78	2.46
Mahimahi	166,411	116,855	343,311	2.94
Milkfish	411	388	485	1.25
Miscellaneous (unspecified)	282	282	299	1.06
Moonfish (opah)	109,219	105,153	249,107	2.37
Mullets	729	625	2,899	4.64
Needlefishes	138	32	99	3.09
Oilfish	44,743	44,743	20,185	0.45
Parrotfishes	6,440	6,174	22,191	3.59
Pelagic fishes (unspecified)	96	16	2	0.10
Pomfret	43,215	43,215	136,609	3.16
Porgy	556	349	1,121	3.21
Pufferfishes	155	0	0	0.00
Rainbow runner	478	153	593	3.87
Reef fishes (unspecified)	47	3	5	1.50
Rudderfishes	3,168	3,077	4,647	1.51
Scad, bigeye (akule)	19,200	19,200	56,521	2.94
Scad, mackerel ('opelu)	32,234	18,025	52,483	2.91
Scorpionfishes	396	211	1,473	6.97
Sharks	27,843	12,507	6,632	0.53
Snapper, Ehu (red)	3,412	1,431	8,369	5.85
Snapper, Gindai (flower)	461	206	1,002	4.87
Snapper, Golden kalekale	22	0	0	0.00
Snapper, Kalekale	2,211	1,034	4,052	3.92

Table D-12 (continued)
Hawaii November 2012 Reported Commercial Landings

Species	Caught	Sold	Value ($)	Price/Lb ($)
Snapper, Lehi (silverjaw)	1,139	626	2,902	4.64
Snapper, Onaga (red)	7,748	5,726	40,972	7.15
Snapper, Opakapaka (pink)	13,913	8,671	55,873	6.44
Snapper, Ta'ape (blue-lined)	4,617	2,547	4,696	1.84
Snapper, Uku (gray)	5,834	3,590	17,337	4.83
Snapper, Yellow-tail kali	3	0	0	0.00
Snappers (unspecified)	499	398	1,724	4.33
Squirrelfishes	7,836	5,920	27,215	4.60
Surgeonfishes/tangs	10,200	9,833	17,520	1.78
Ten pounder	268	252	831	3.30
Threadfin	99	10	86	8.50
Tilapia	429	0	0	0.00
Trumpetfishes	29	29	57	1.98
Wahoo	31,102	20,622	83,665	4.06
Wrasses	713	347	1,264	3.65
Tunas (unspecified)	7,784	7,784	32,484	4.17
Tuna, Skipjack	127,277	87,668	136,086	1.55
Tuna, Yellowfin	294,184	226,927	818,842	3.61
Tuna, Albacore	79,156	67,487	169,495	2.51
Tuna, Bigeye	1,333,015	1,240,350	5,667,728	4.57
Tuna, Kawakawa	408	239	727	3.04
Swordfish	23,107	7,185	26,189	3.65
Marlin, Blue	65,897	47,075	88,364	1.88
Marlin, Black	838	838	1,702	2.03
Marlin, Striped	59,896	59,896	124,877	2.08
Spearfish, Shortnosed	16,377	15,542	33,599	2.16
Sailfish	2,053	1,110	2,047	1.84
Other Invertebrates (includes black corel)	-	-	24,855	-
Lobsters, Spiny	1,105	1,105	13,070	11.8
Lobsters, Slipper	4	0	0	0.00
Crabs	6,495	4,710	21,425	4.55
Shrimp (saltwater)	835	567	4,819	8.51
Limpets/Opihi (saltwater)	894	894	7,506	8.40
Octopus	3,451	2,684	11,364	4.23
Squid	400	91	355	3.90
Limu/Marine Algae	638	431	2,989	6.94
TOTAL	2,584,493	2,214,438	8,392,500	3.79

Table D-13
Hawaii December 2012 Reported Commercial Landings

Species	Caught	Sold	Value ($)	Price/Lb ($)
Aholehole (Hawaiian flagtail)	121	60	267	4.48
Barracudas	1,303	691	1,332	1.93
Bigeyes/Glasseyes	374	374	1,422	3.80
Bonefishes	1,377	793	969	1.22
Damselfishes	132	132	426	3.24
Eels	64	47	50	1.07
Filefishes	32	30	40	1.32
Flounders	6	0	0	0.00
Goatfishes	6,926	5,338	24,048	4.51
Grouper, Hapu'upu'u (Hawaiian)	1,207	1,177	7,693	6.54
Grouper, Roi (blue spot)	243	243	652	2.68
Hawkfish	94	94	325	3.45
Jacks	59	59	168	2.83
Jacks, (reef species)	1	1	3	4.00
Jacks, Blue trevally	504	146	486	3.34
Jacks, Butaguchi (pig-lipped ulua)	20	15	66	4.50
Jacks, Dobe ulua	1,727	289	1,041	3.60
Jacks, Kahala (amberjack)	2,642	215	316	1.47
Jacks, Papa ulua	987	783	3,839	4.90
Jacks, Sasa ulua	15	15	45	3.12
Jacks, White ulua/Giant Trevally	2,177	1,638	4,705	2.87
Leatherjacket	12	10	23	2.28
Mahimahi	63,848	56,748	168,477	2.97
Milkfish	16	16	8	0.50
Miscellaneous (unspecified)	488	488	546	1.12
Moonfish (opah)	106,503	98,718	262,099	2.66
Mullets	23	23	72	3.11
Needlefishes	193	193	466	2.42
Oilfish	67,502	67,502	34,427	0.51
Parrotfishes	7,159	6,124	22,610	3.69
Pelagic fishes (unspecified)	346	0	0	0.00
Pomfret	61,514	61,514	184,868	3.01
Porgy	639	405	1,274	3.15
Pufferfishes	2	0	0	0.00
Rainbow runner	349	349	673	1.93
Reef fishes (unspecified)	74	18	18	0.97
Rudderfishes	1,965	1,965	2,630	1.34
Scad, bigeye (akule)	9,804	9,050	31,807	3.51
Scad, mackerel ('opelu)	26,117	20,454	58,009	2.84
Scorpionfishes	451	328	2,294	7.00
Sharks	26,911	11,879	7,300	0.61
Snapper, Ehu (red)	5,283	3,869	27,105	7.01
Snapper, Gindai (flower)	731	421	2,124	5.05
Snapper, Golden kalekale	71	25	106	4.18
Snapper, Kalekale	2,165	1,921	7,872	4.10
Snapper, Lehi (silverjaw)	2,098	1,610	7,552	4.69

Table D-13 (continued)
Hawaii December 2012 Reported Commercial Landings

Species	Caught	Sold	Value ($)	Price/Lb ($)
Snapper, Onaga (red)	13,417	13,188	117,949	8.94
Snapper, Opakapaka (pink)	15,877	14,970	95,434	6.38
Snapper, Ta'ape (blue-lined)	3,939	1,608	2,799	1.74
Snapper, Uku (gray)	7,905	6,515	27,410	4.21
Snapper, Yellow-tail kali	32	2	4	2.00
Snappers (unspecified)	350	350	1,546	4.41
Squirrelfishes	4,428	4,047	17,809	4.40
Surgeonfishes/tangs	9,051	9,051	17,504	1.93
Ten pounder	40	40	50	1.25
Threadfin	97	6	35	6.27
Tilapia	552	125	375	3.00
Trumpetfishes	37	37	70	1.90
Wahoo	46,705	45,015	138,185	3.07
Wrasses	848	763	4,003	5.24
Tunas (unspecified)	873	873	2,775	3.18
Tuna, Skipjack	177,370	167,526	231,014	1.38
Tuna, Yellowfin	482,751	482,751	1,619,194	3.35
Tuna, Albacore	117,459	117,459	249,165	2.12
Tuna, Bigeye	1,681,827	1,681,827	7,242,112	4.31
Tuna, Kawakawa	637	160	450	2.81
Billfishes (unspecified)	90	0	0	0.00
Swordfish	99,476	19,549	67,220	3.44
Marlin, Blue	55,703	46,432	107,144	2.31
Marlin, Black	165	165	411	2.49
Marlin, Striped	68,407	68,407	155,394	2.27
Spearfish, Shortnosed	42,617	42,617	51,076	1.20
Sailfish	2,496	672	1,039	1.55
Crabs	5,722	3,289	15,106	4.59
Lobsters, Spiny	1,055	845	9,392	11.1
Lobsters, Slipper	8	8	40	5.00
Limpets/Opihi (saltwater)	598	598	3,468	5.80
Shrimp (saltwater)	2,085	788	6,164	7.82
Octopus	1,705	1,584	7,454	4.71
Squid	25	25	82	3.35
Limu/Marine Algae	359	229	1,849	8.08
TOTAL	3,249,076	3,087,287	11,063,974	3.58

The following are summary charts of the major species and species groups by month:

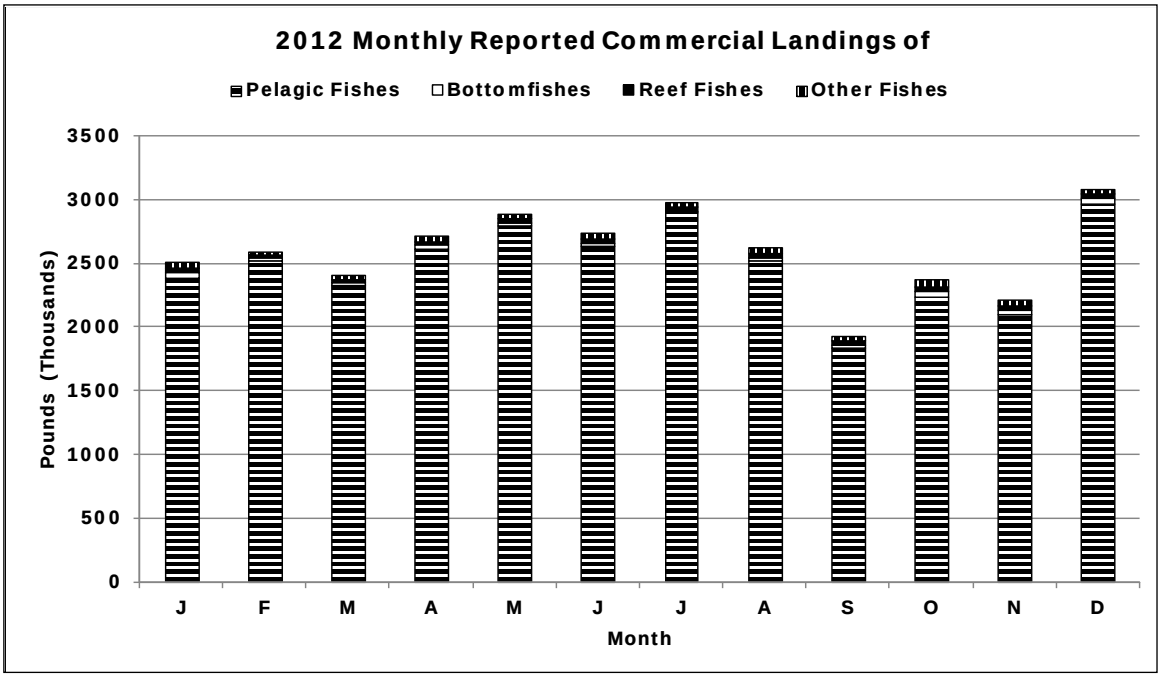


Figure D-1-1

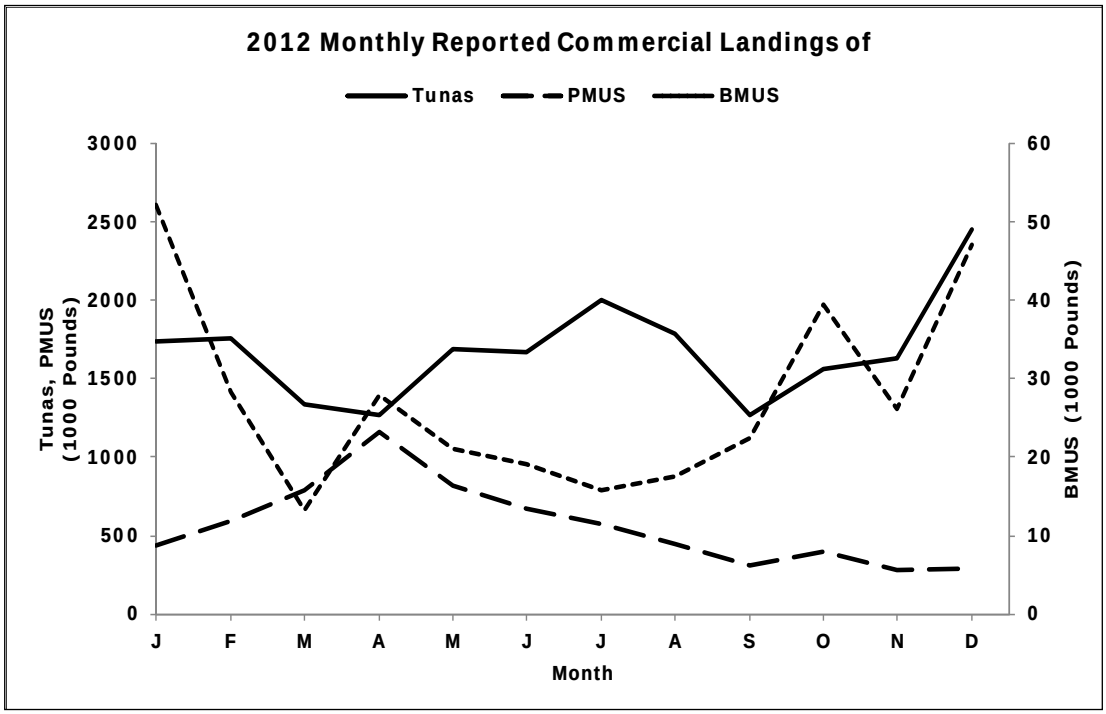


Figure D-1-2

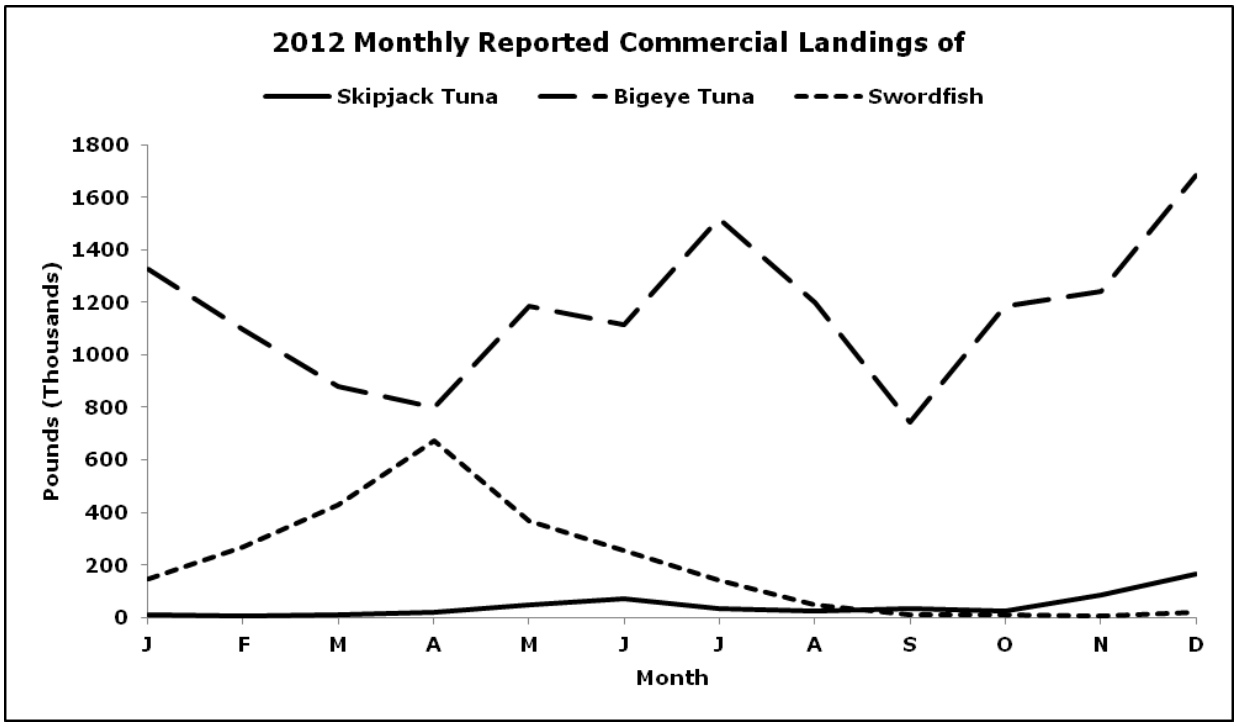


Figure D-1-3

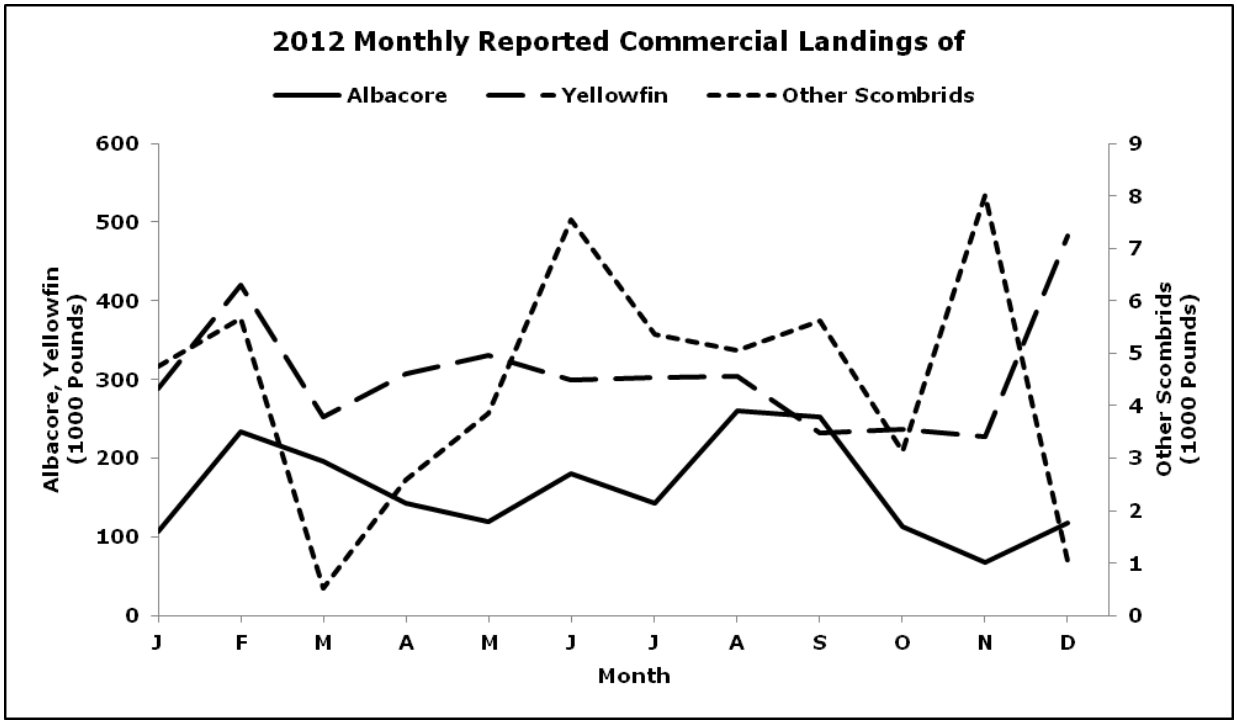


Figure D-1-4

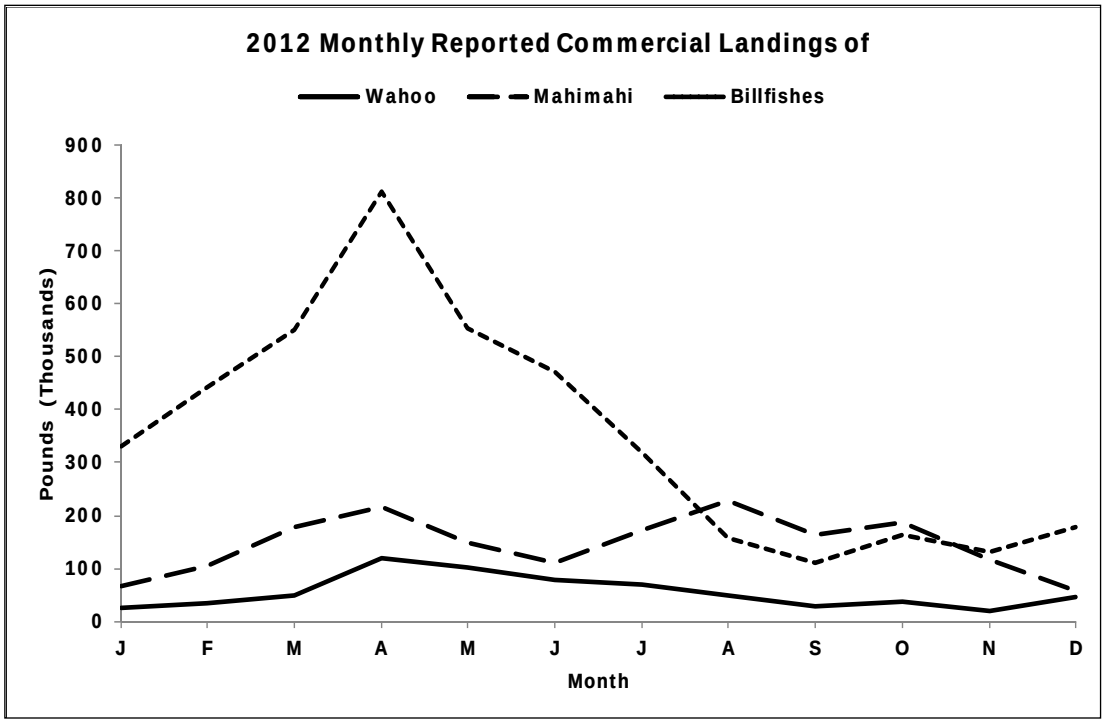

2012 Monthly Reported Commercial Landings of
Wahoo
Mahimahi
Billfishes
Pounds (Thousands)
900
800
700
600
500
400
300
200
100
0
J
F
M
A
M
J
J
A
S
O
N
D
Month

Figure D-1-5

The following are seasonality plots for the major species or species groups, showing the average weight landed during each month for all years combined:

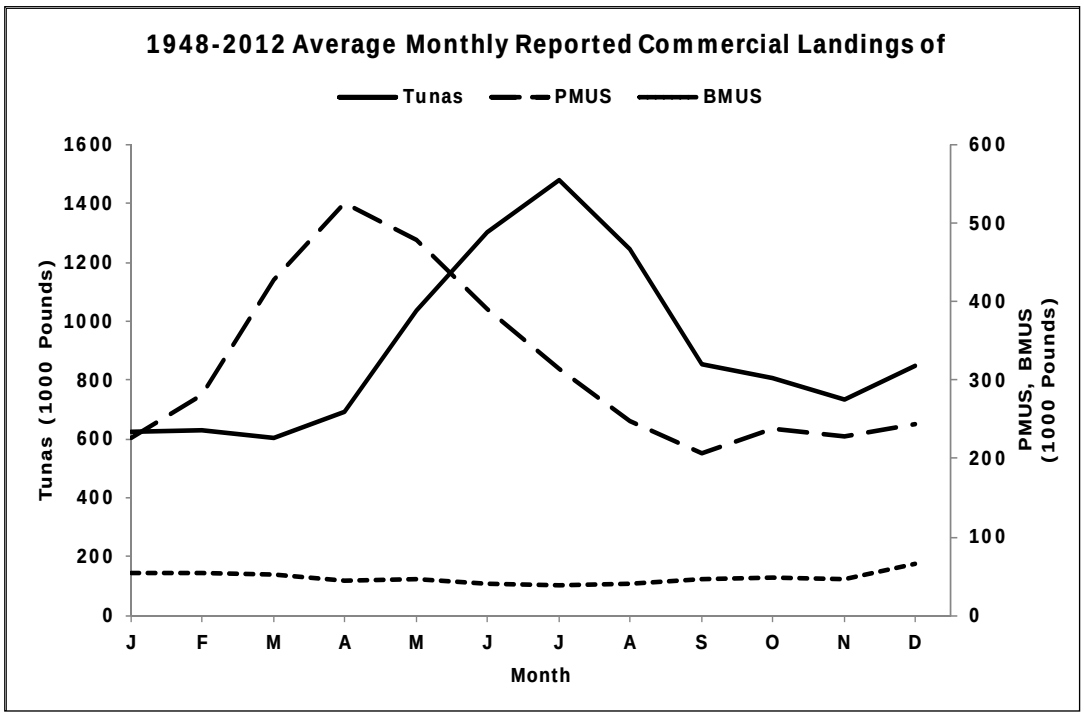


Figure D-2-1

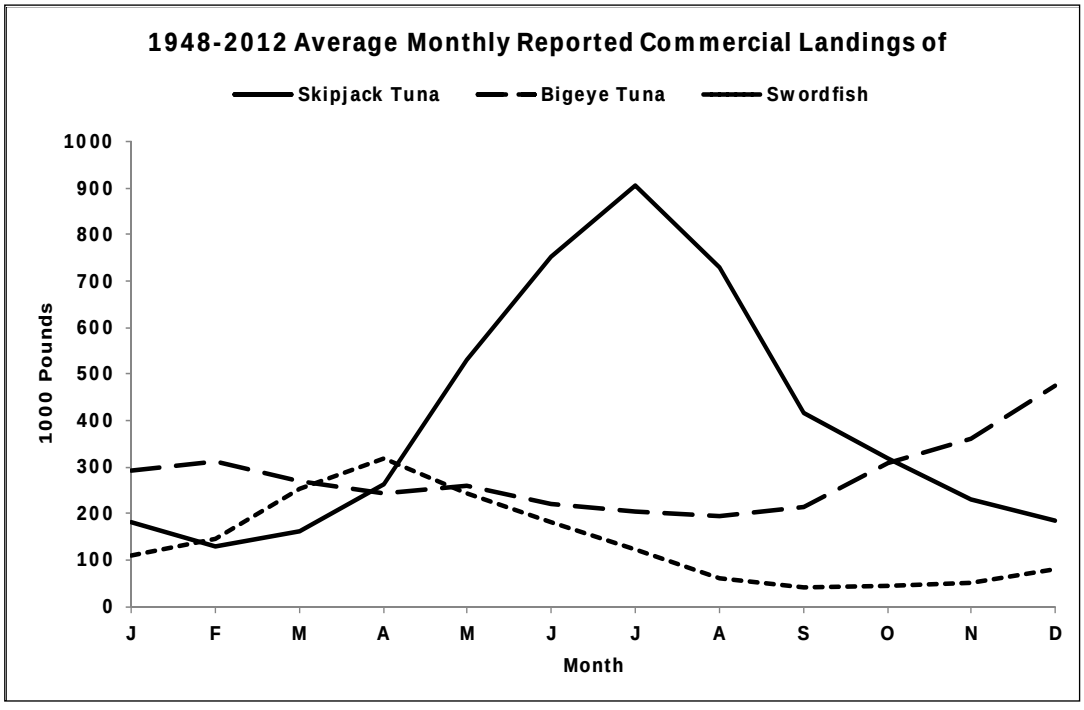


Figure D-2-2

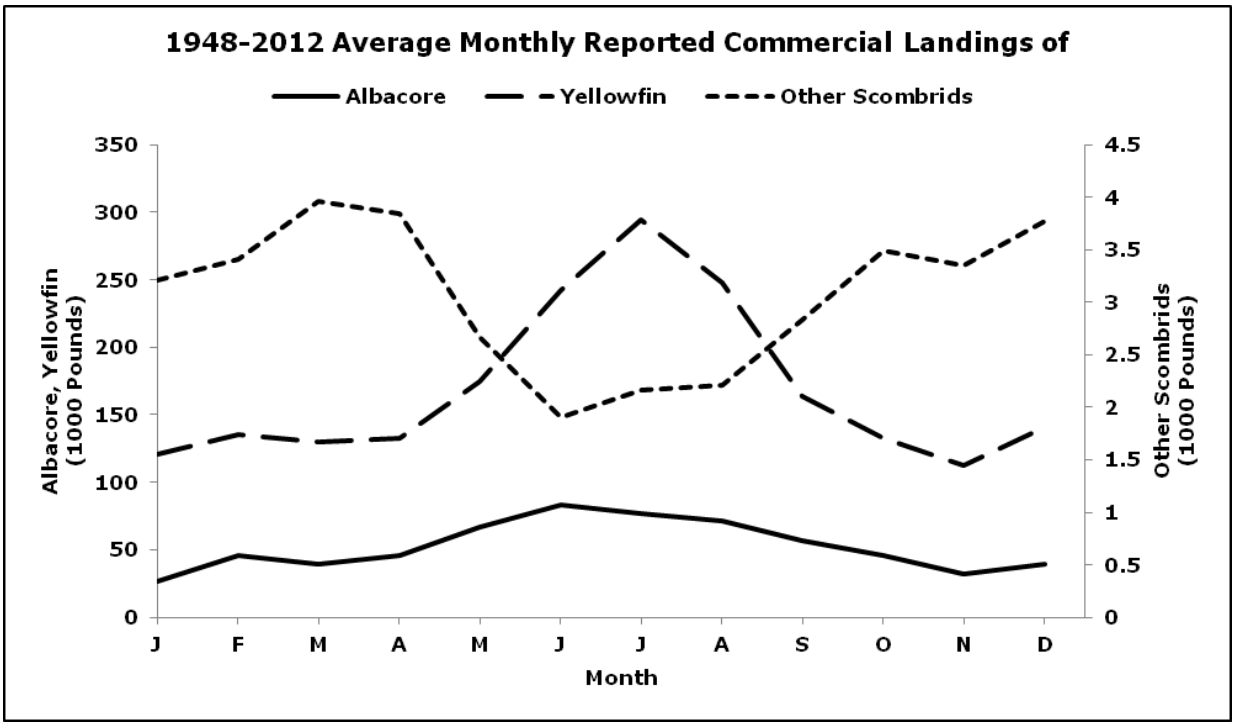


Figure D-2-3

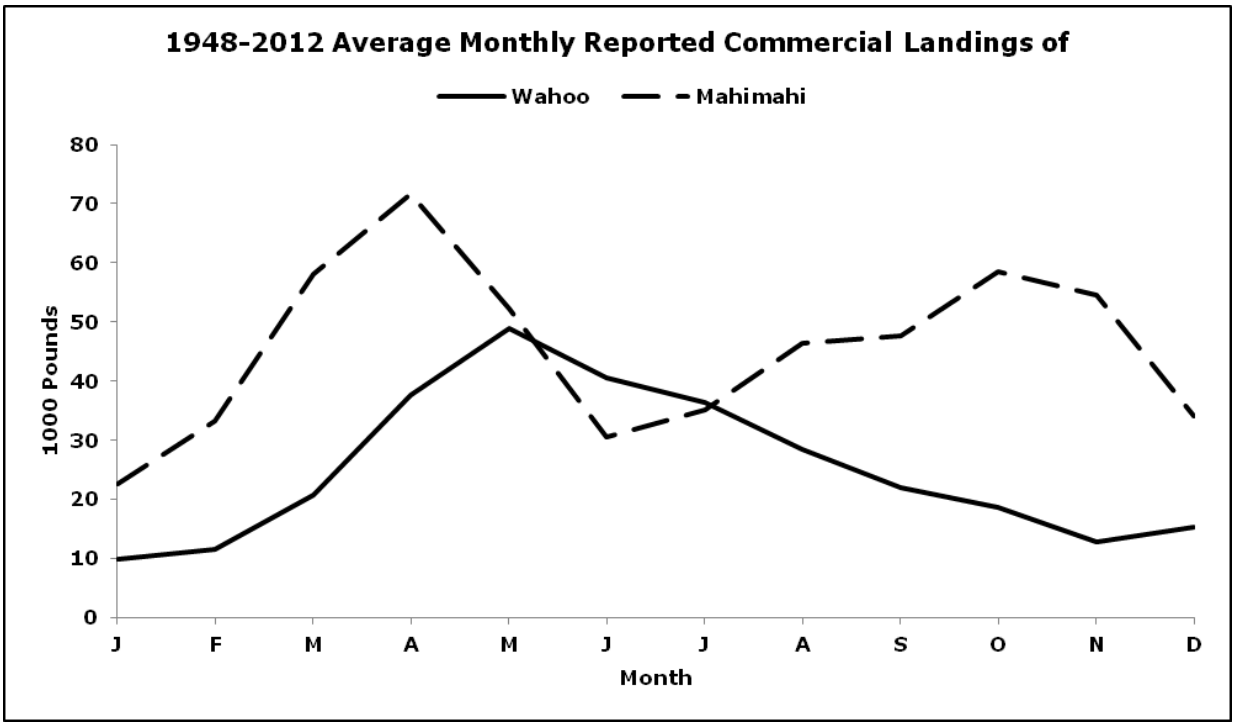


Figure D-2-4

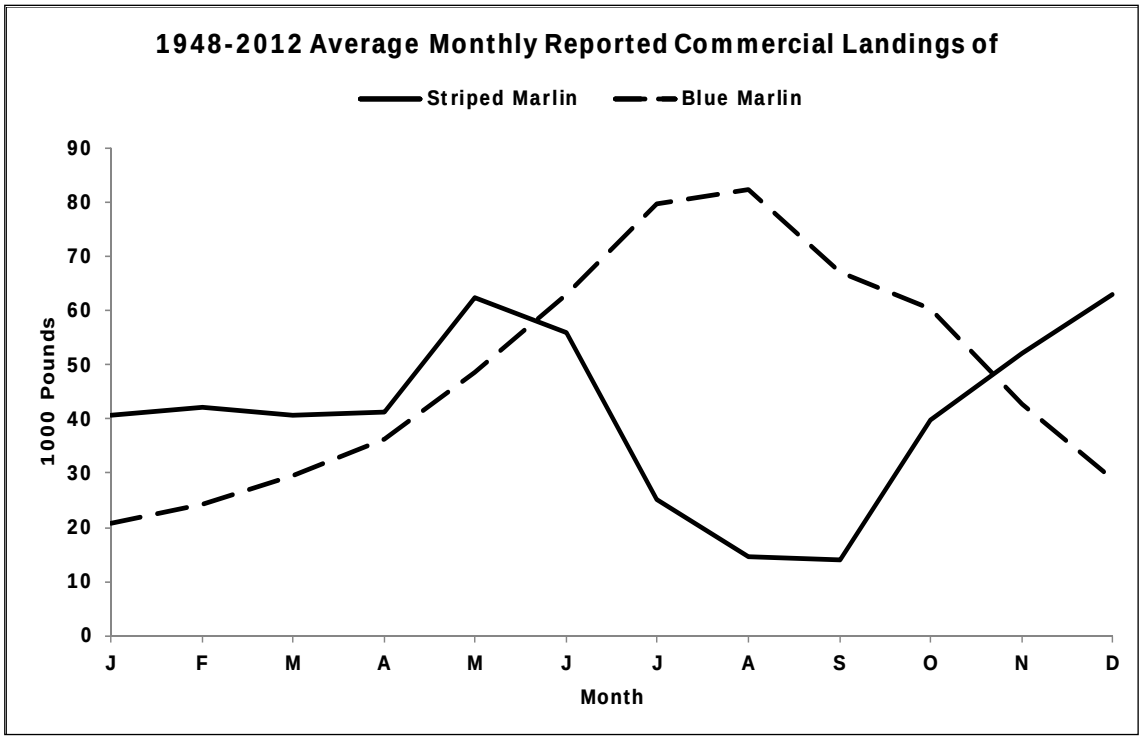


Figure D-2-5

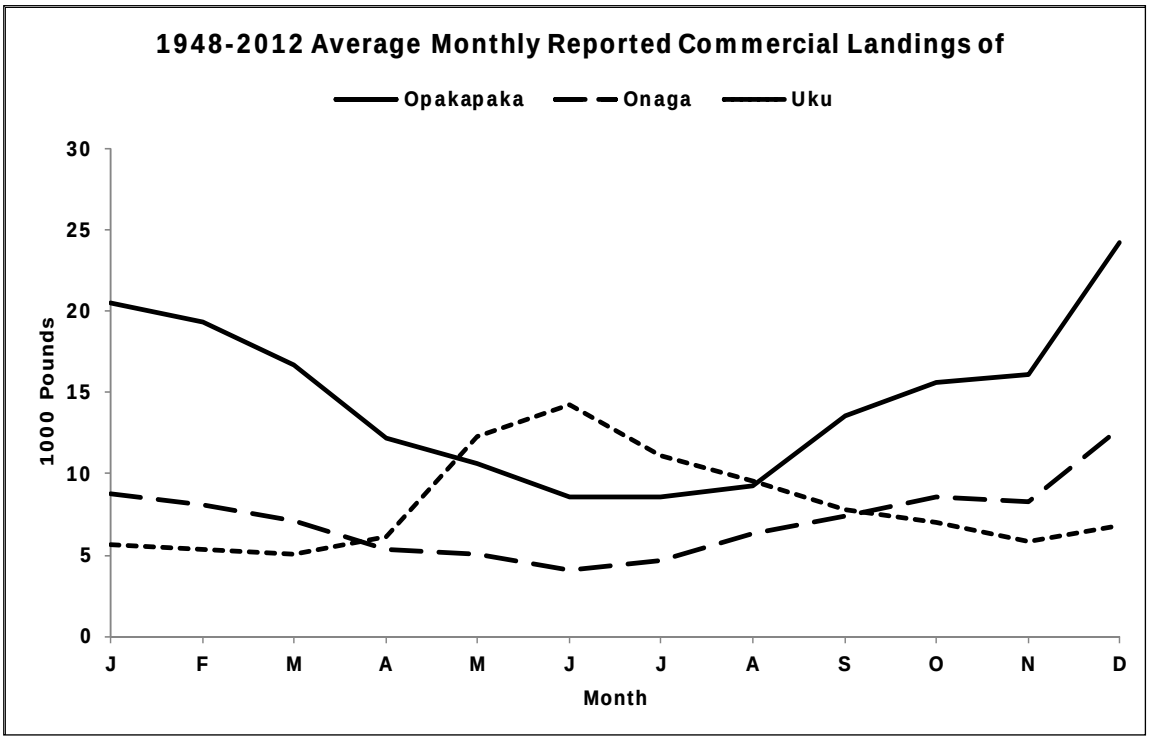


Figure D-2-6

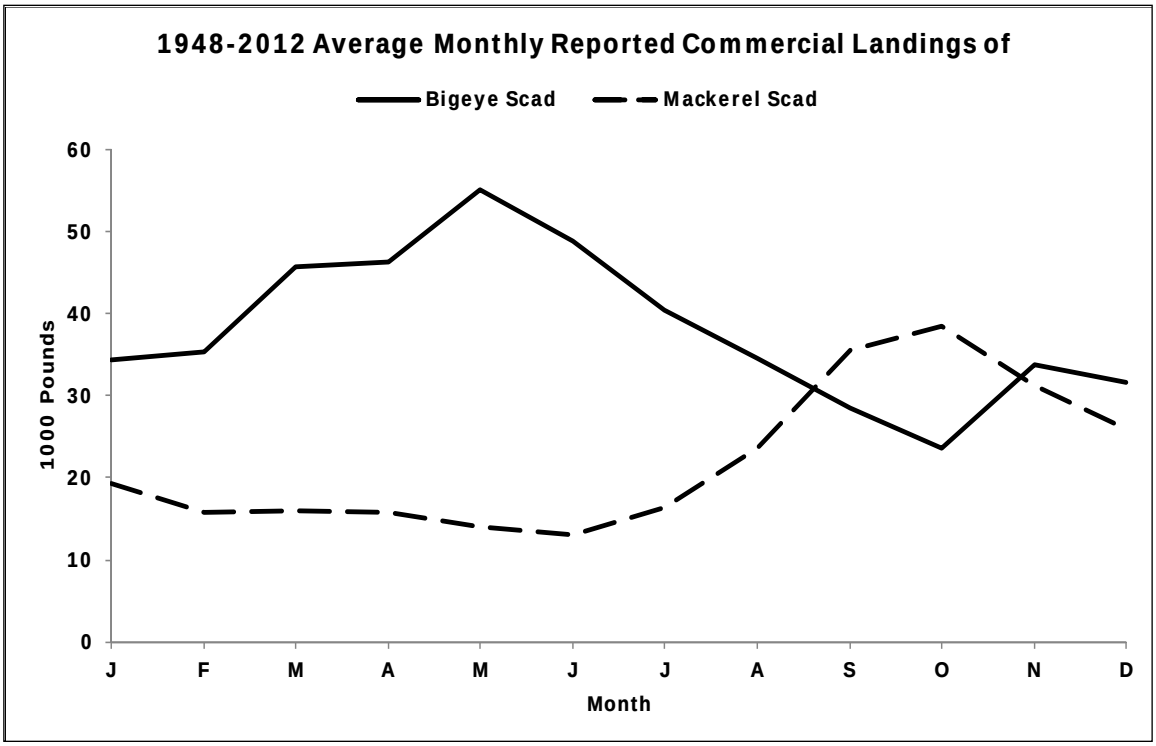


Figure D-2-7

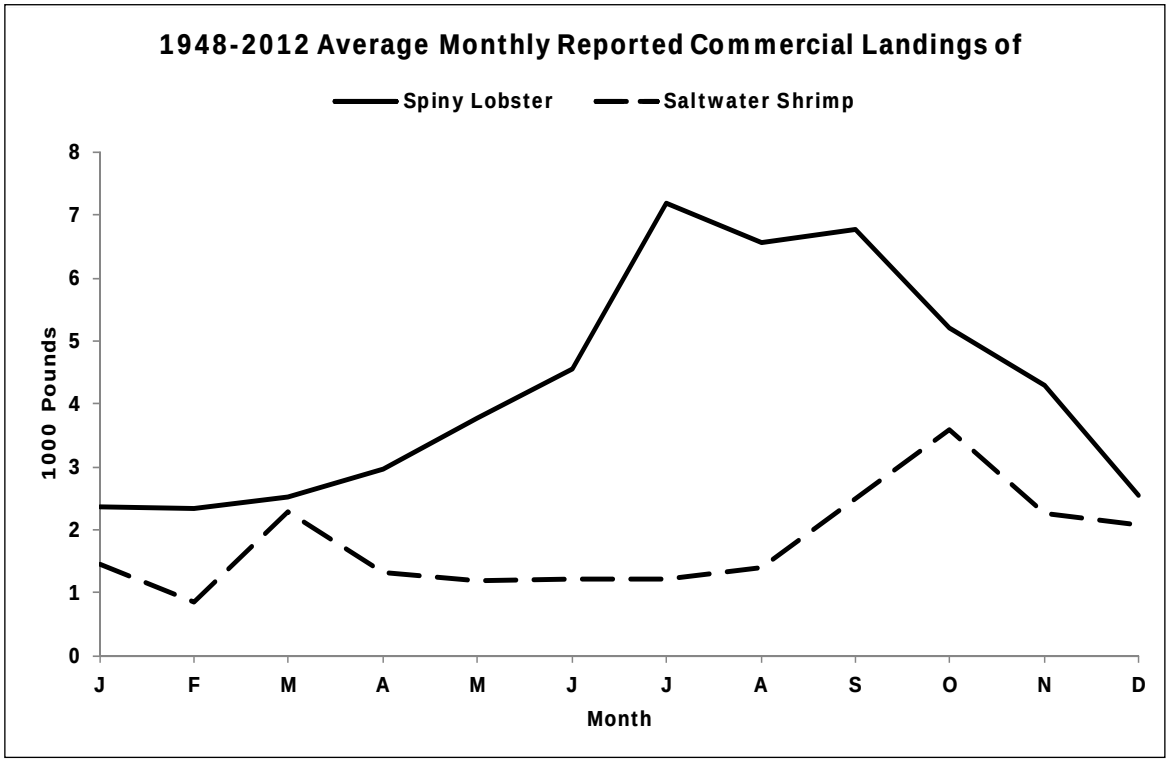


Figure D-2-8

The following graphs plot annual summary statistics to illustrate the variability among years:

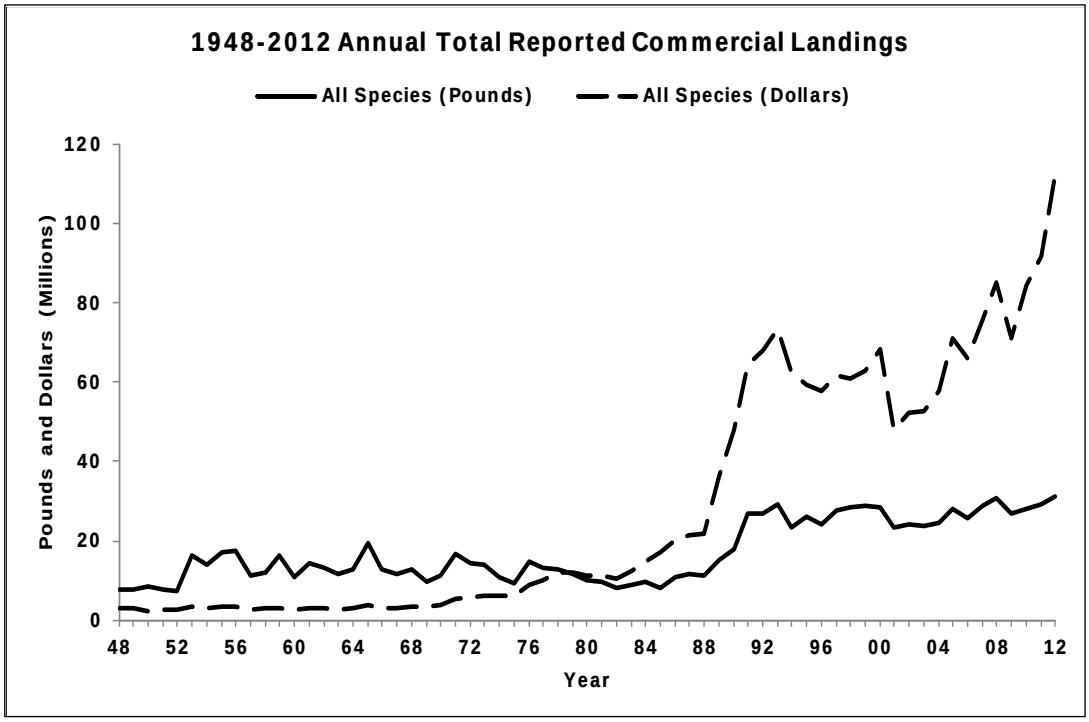


Figure D-3-1

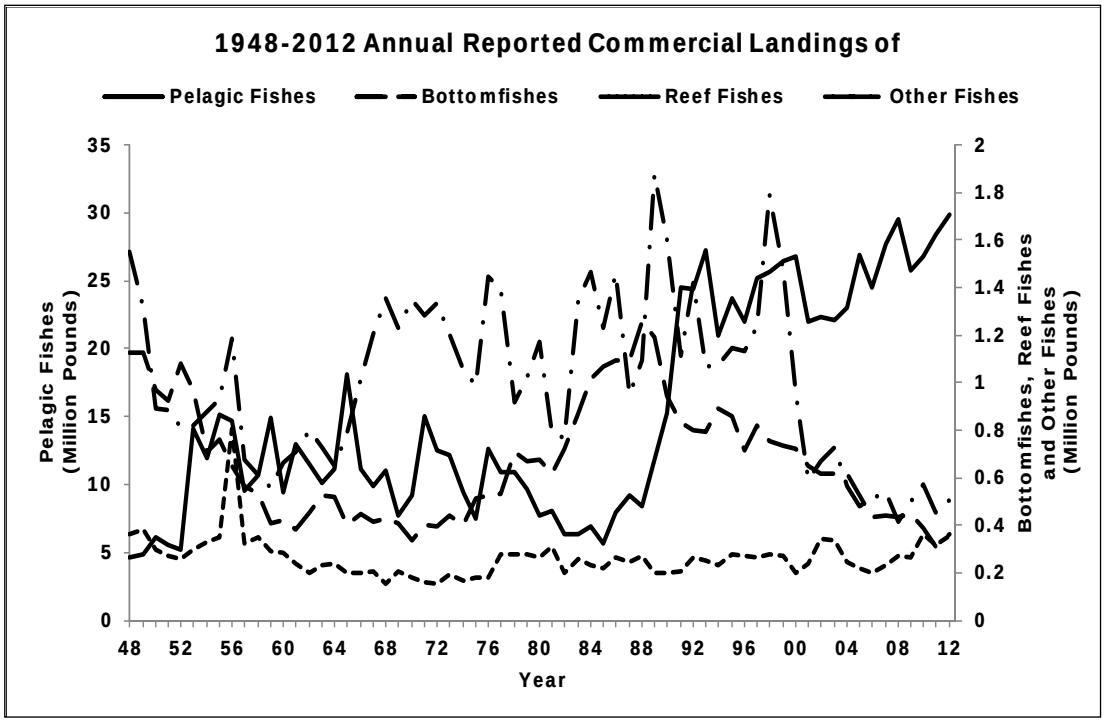


Figure D-3-2

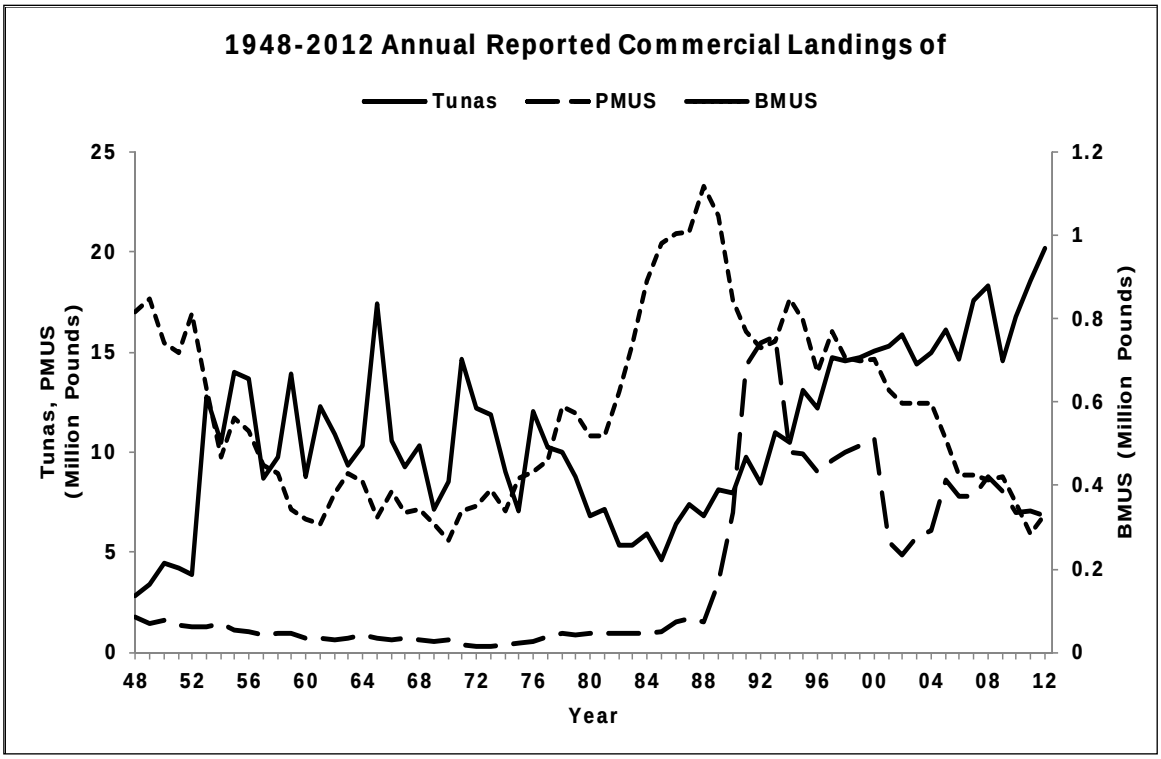


Figure D-3-3

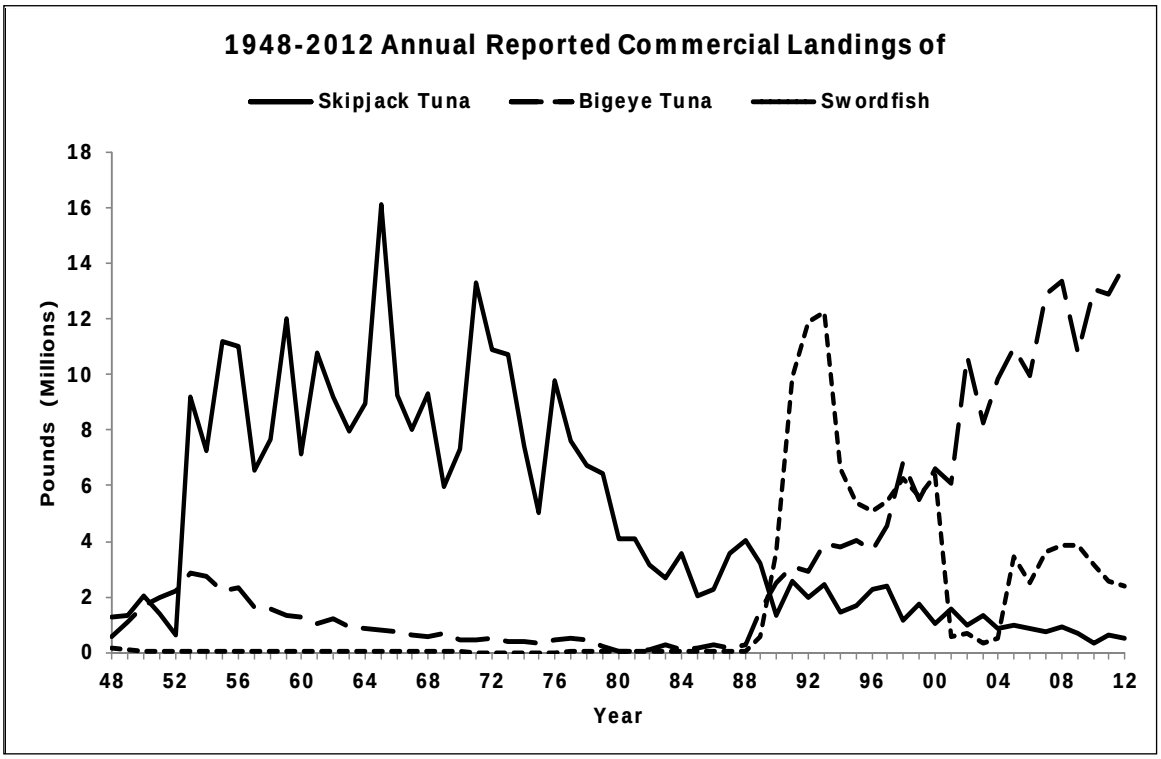


Figure D-3-4

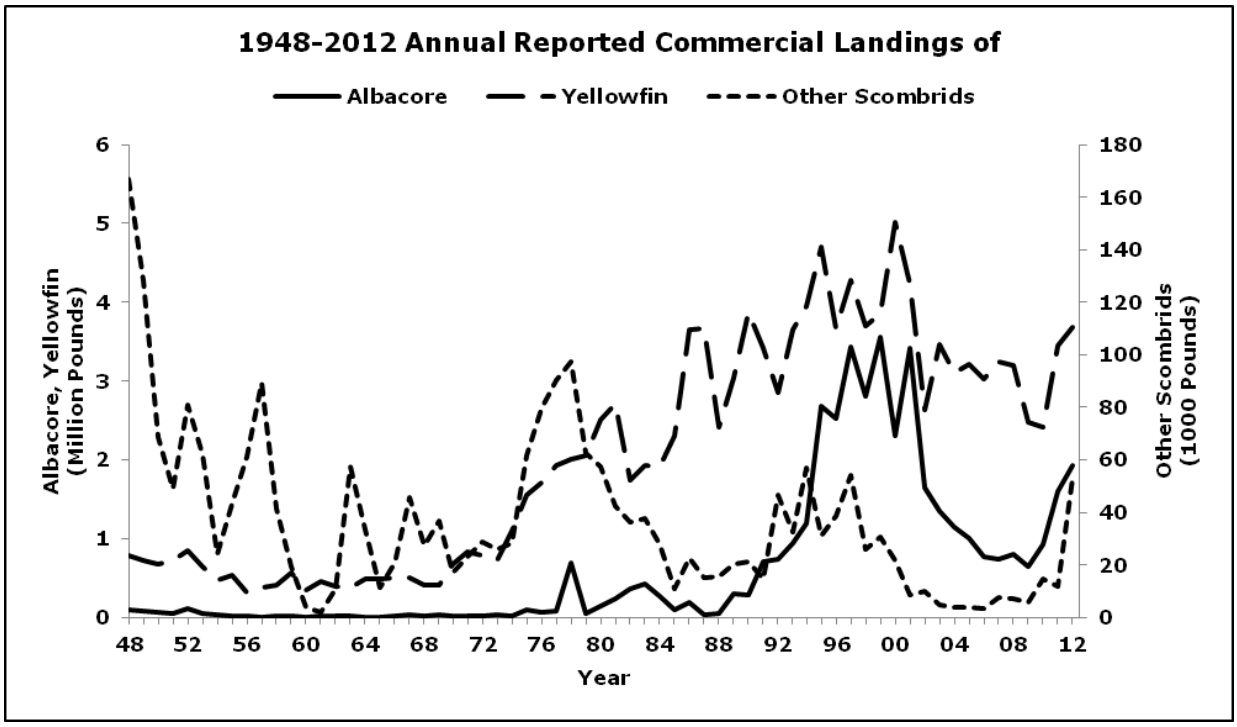


Figure D-3-5

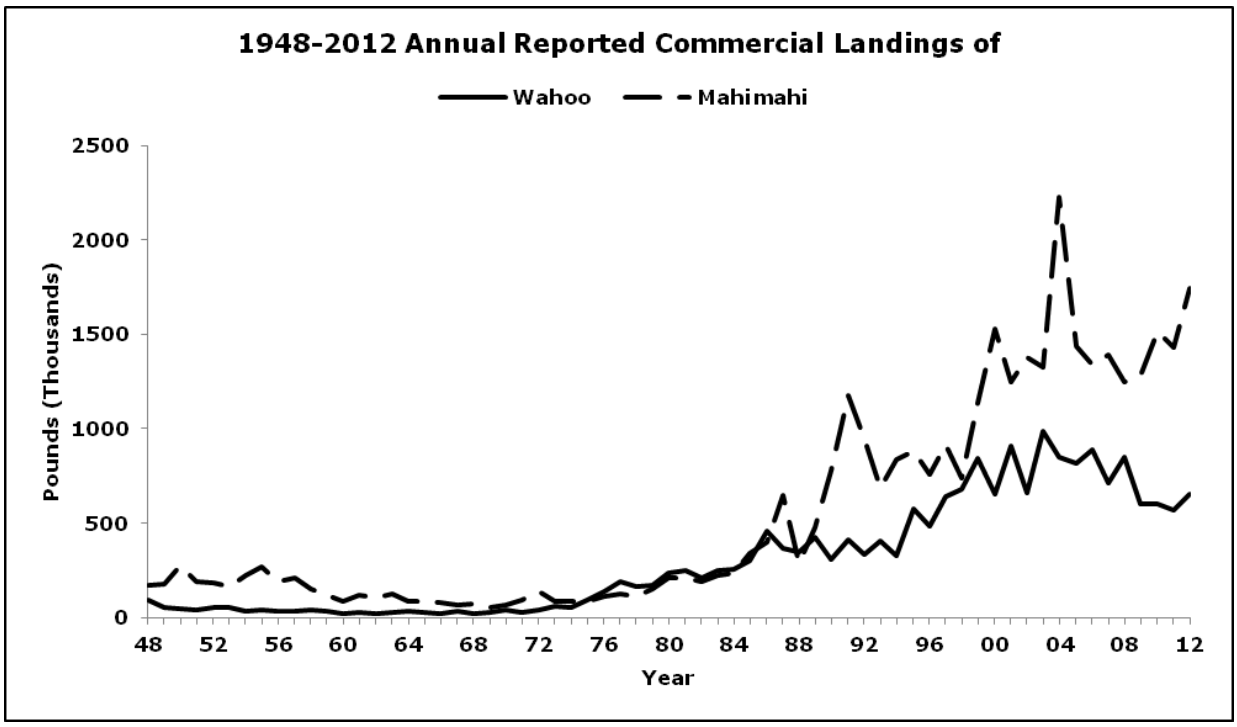


Figure D-3-6

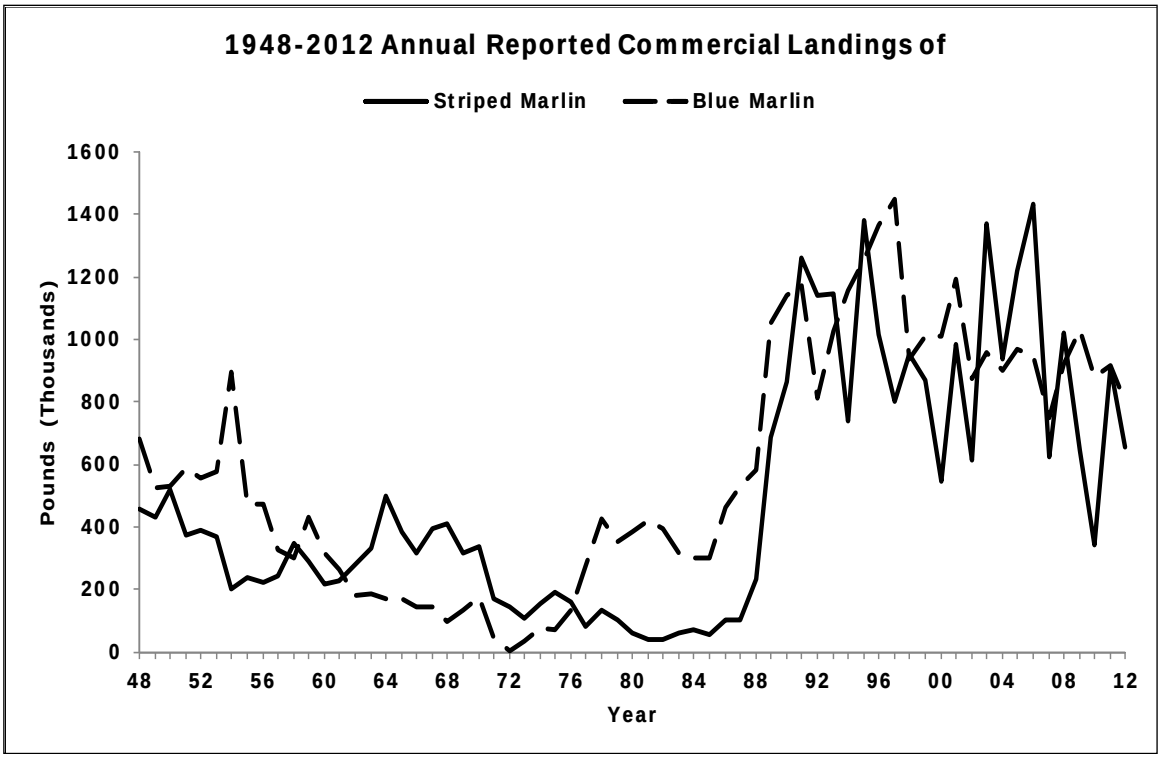
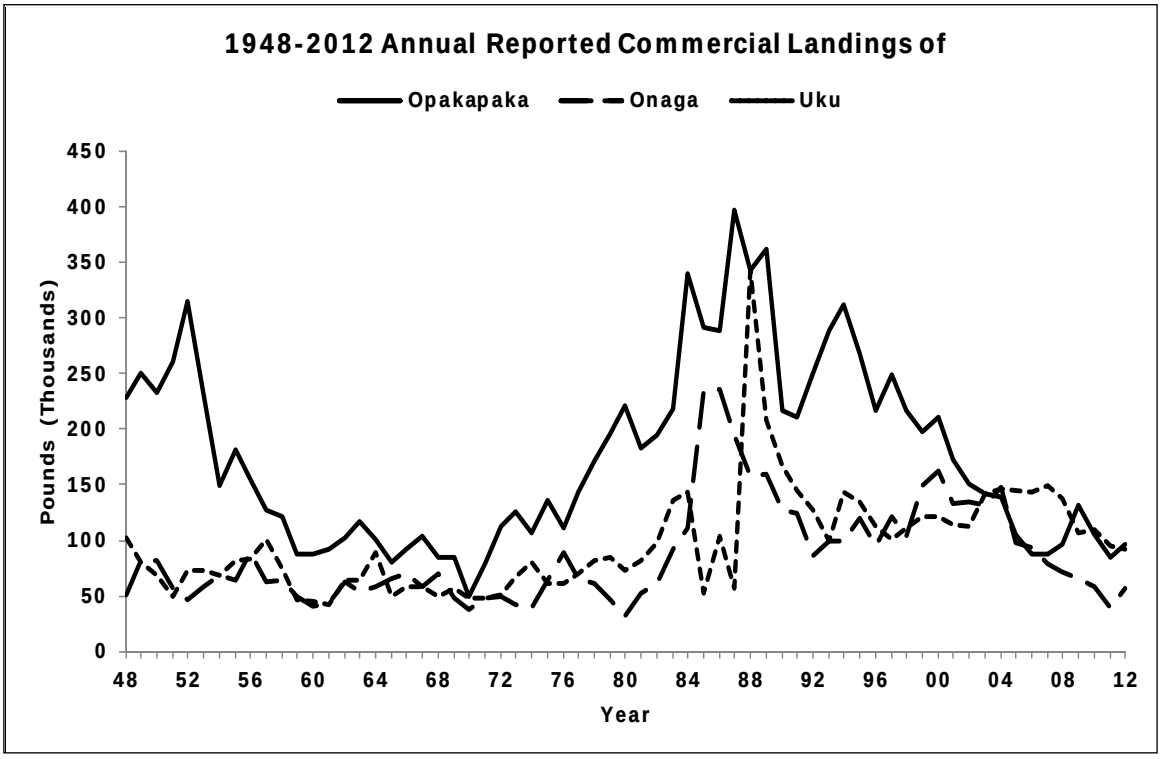


Figure D-3-7



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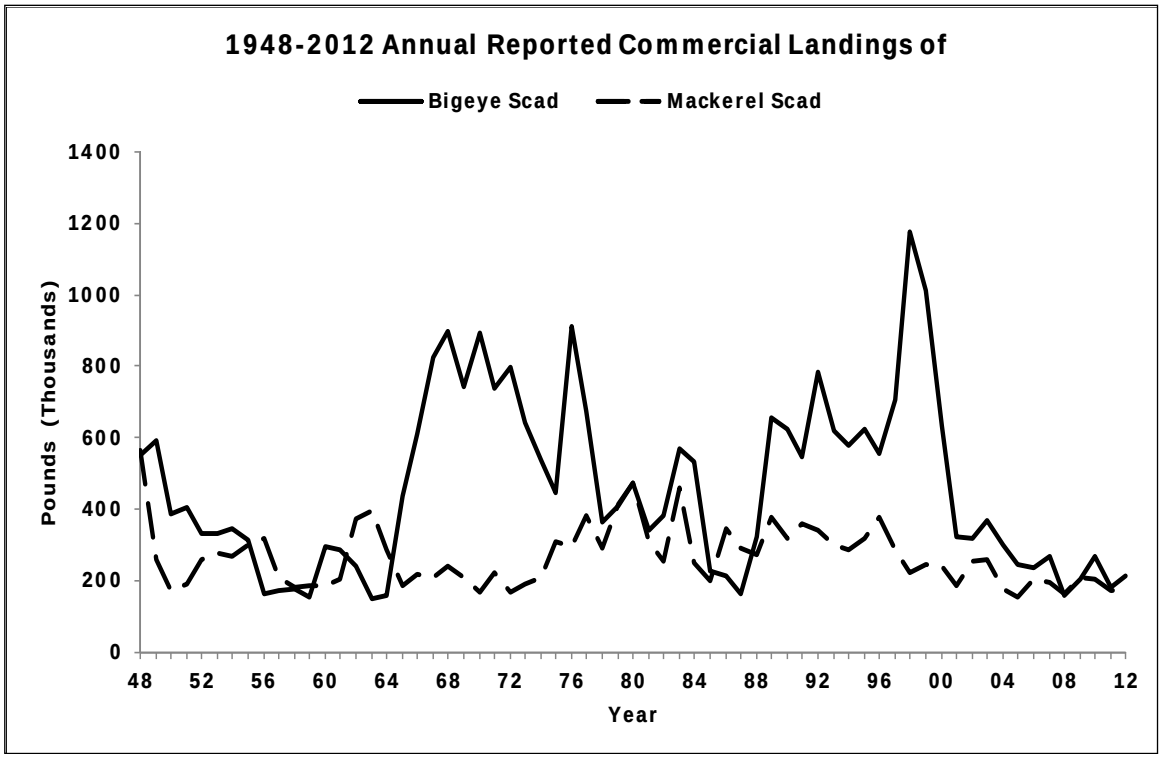

Figure D-3-9

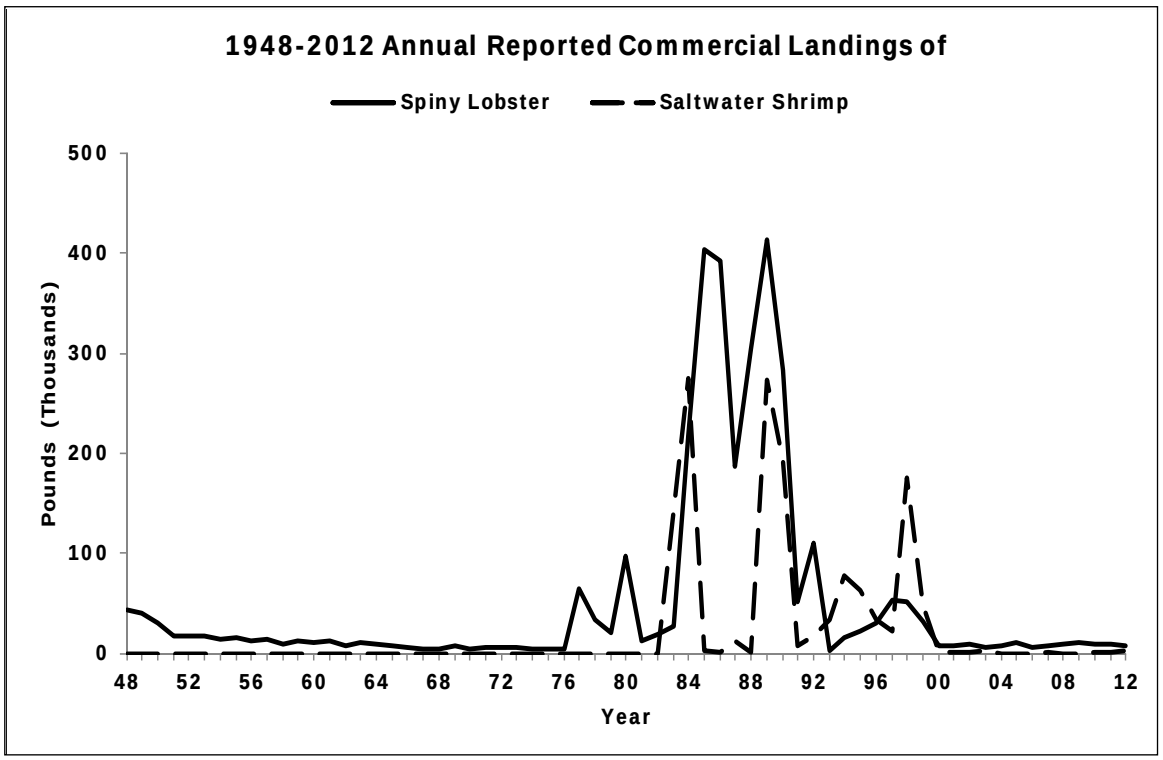

Figure D-3-10

The following graphs plot monthly landings of some commercially important species and document monthly fluctuations over the time series:

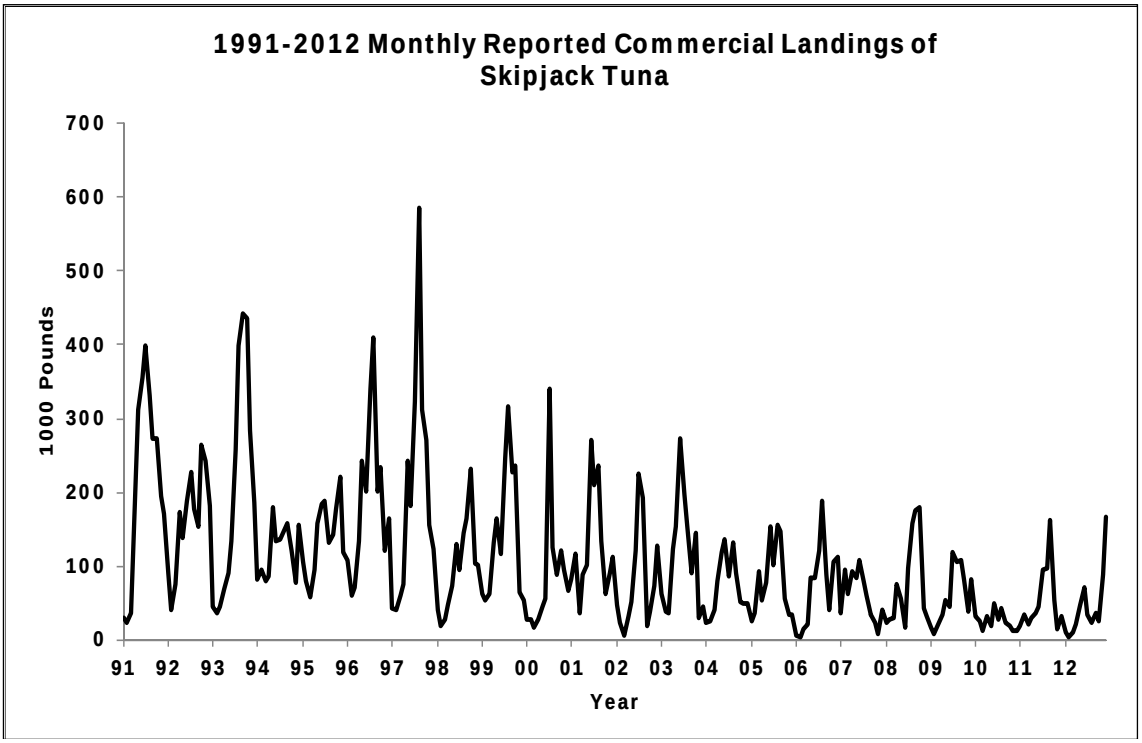

Figure D-4-1

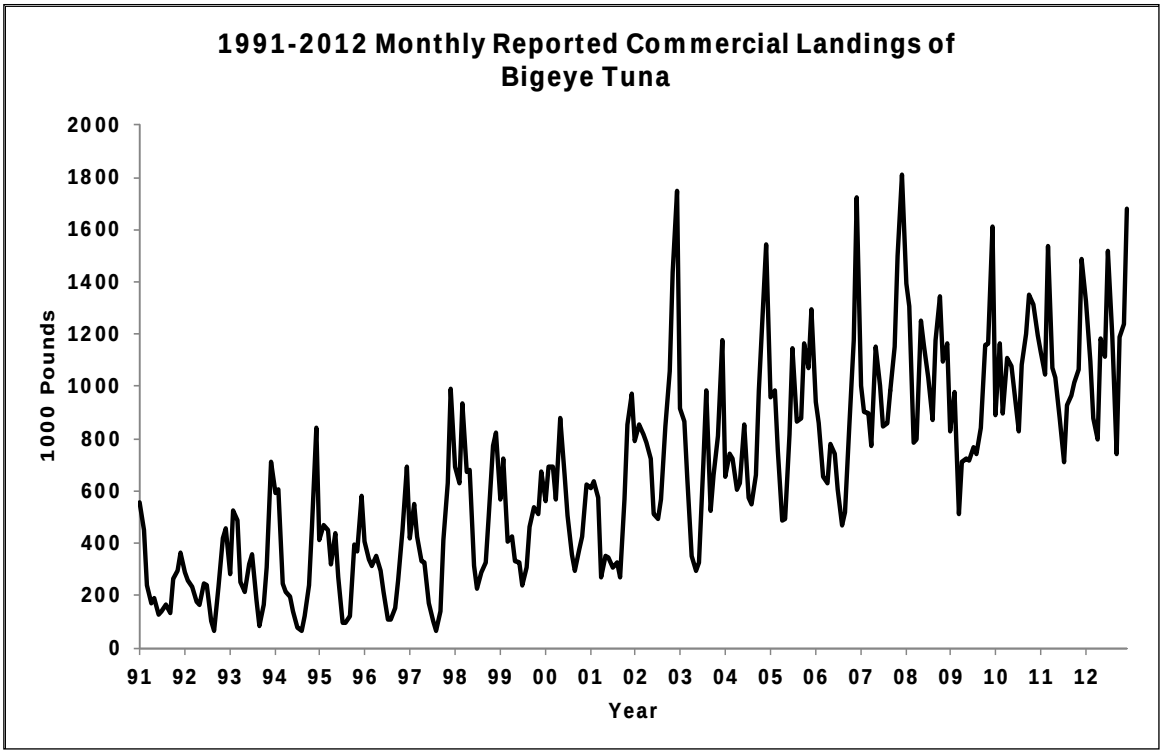

Figure D-4-2

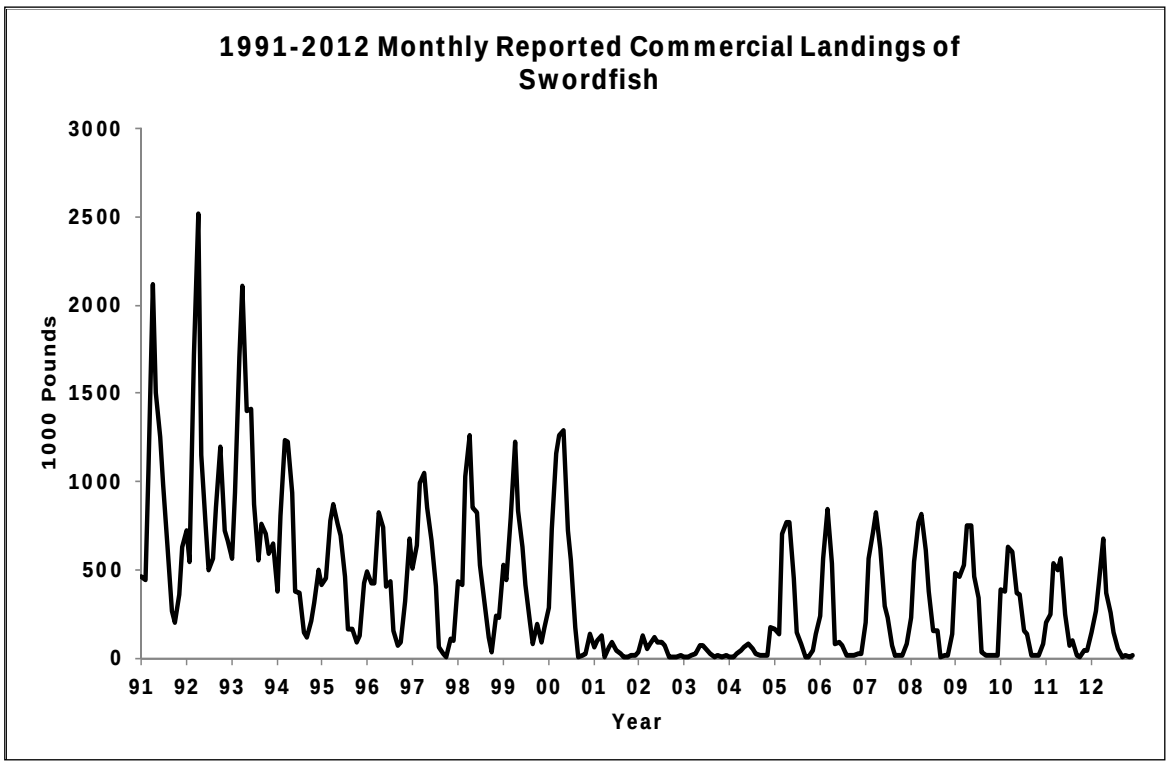

Figure D-4-3

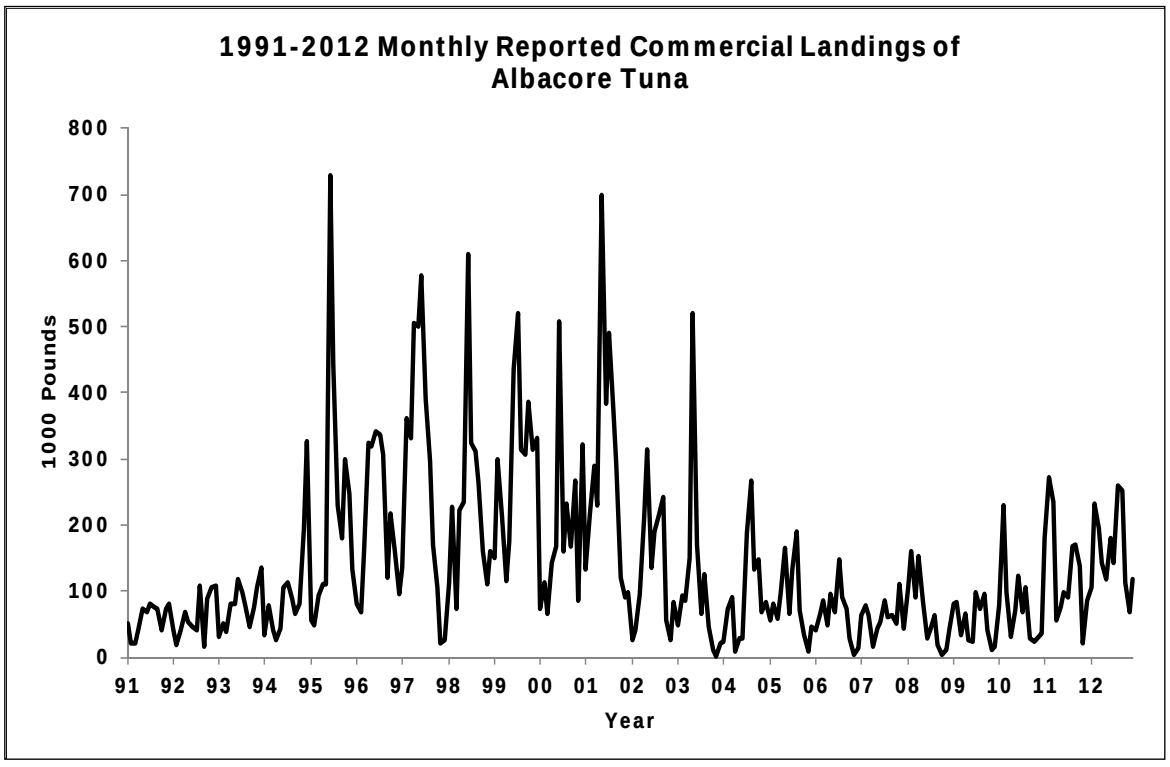

Figure D-4-4

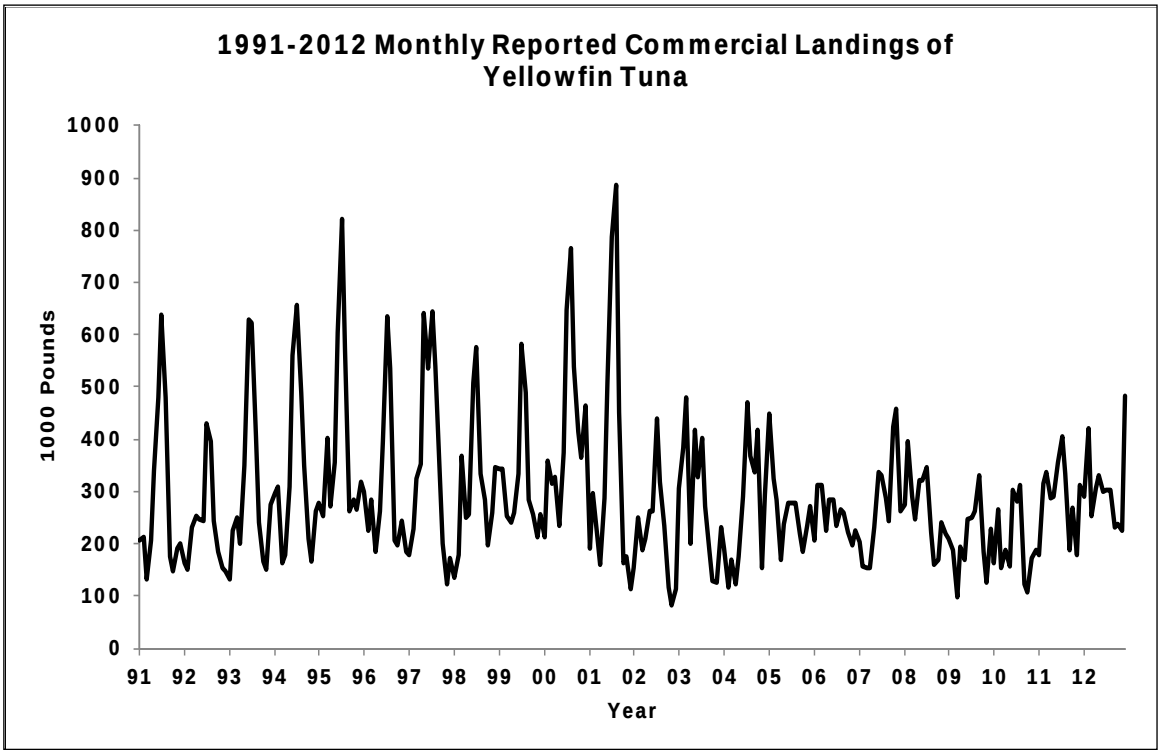

Figure D-4-5

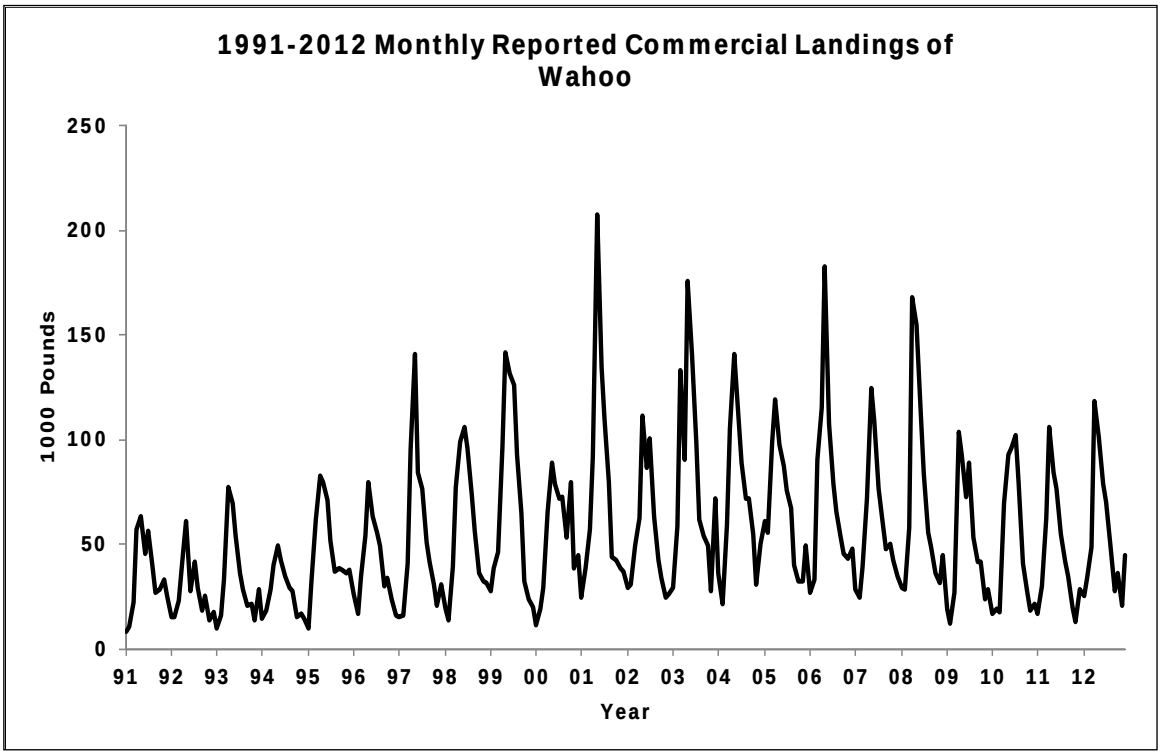

Figure D-4-6

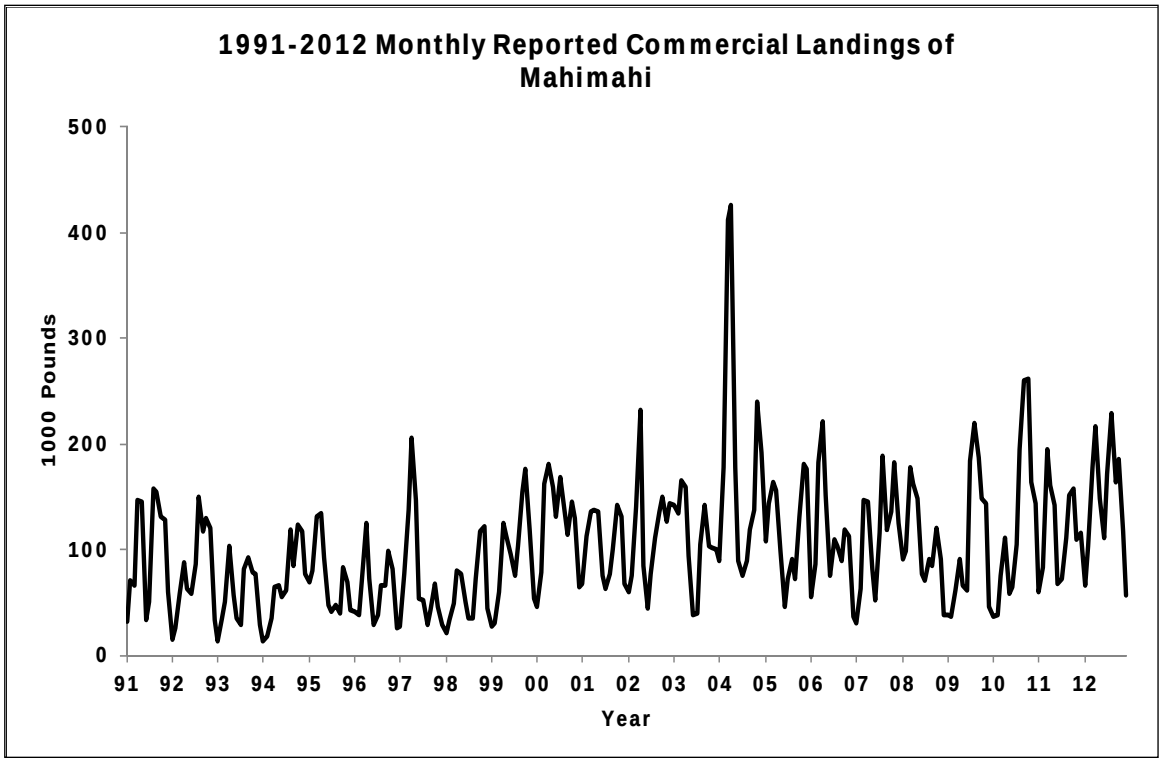

Figure D-4-7

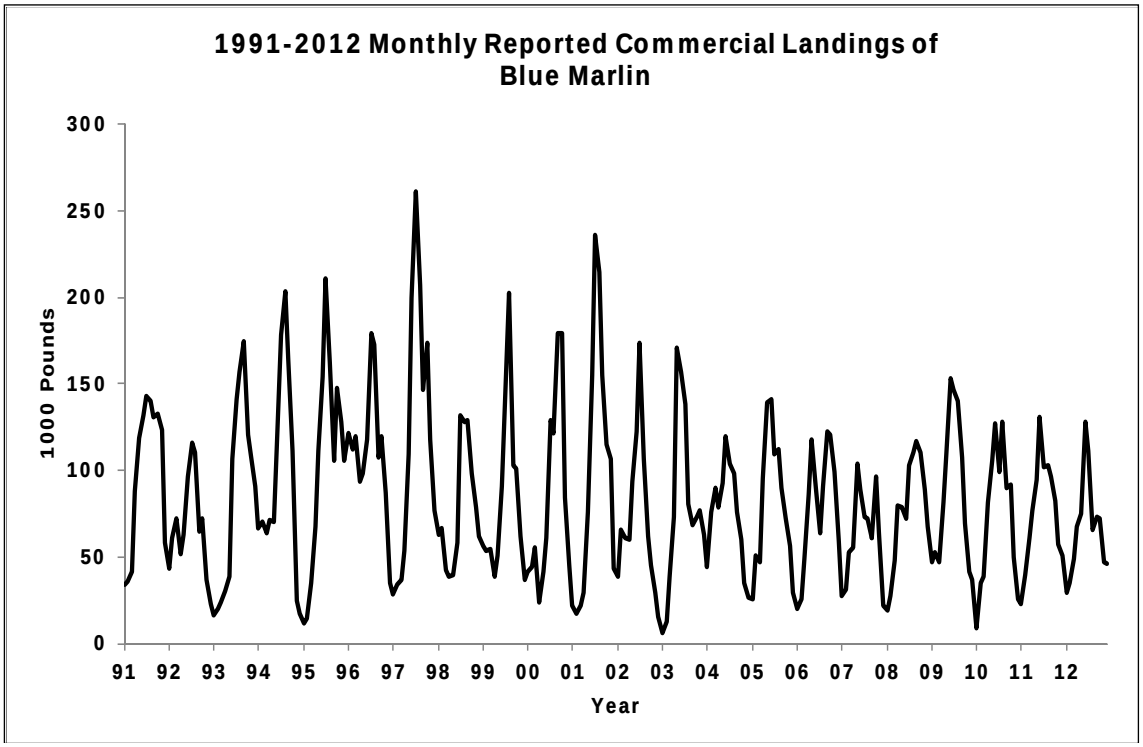

Figure D-4-8

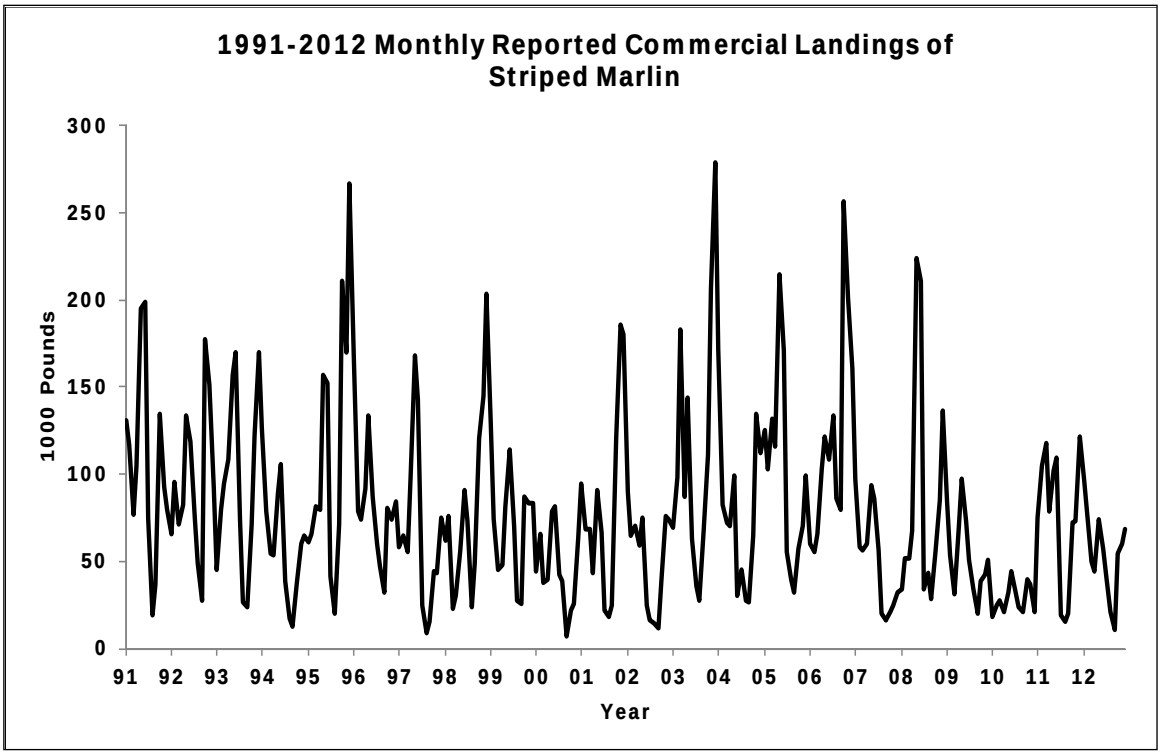

Figure D-4-9

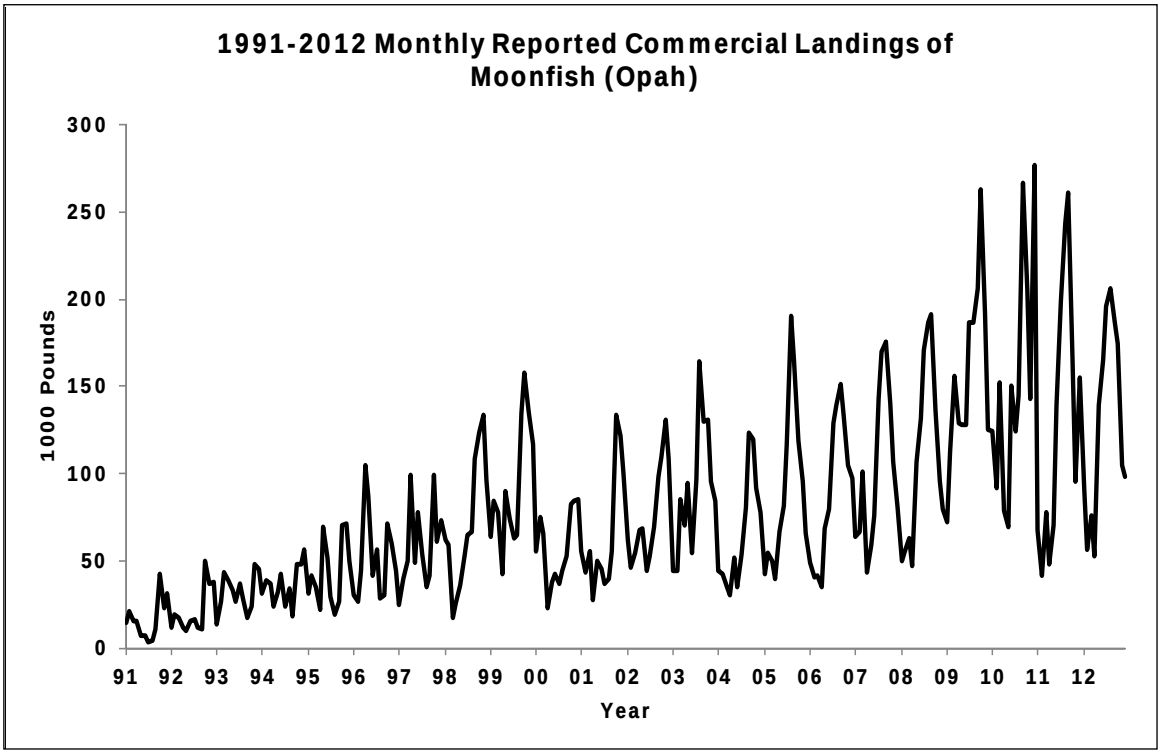

Figure D-4-10

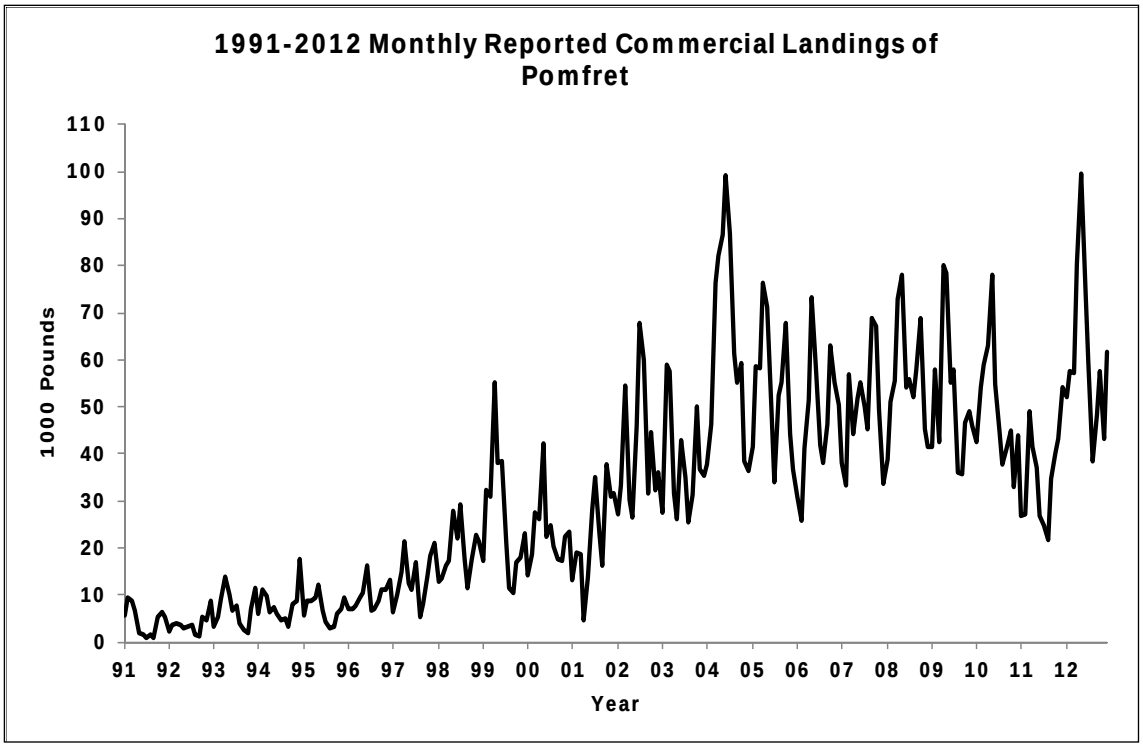

Figure D-4-11

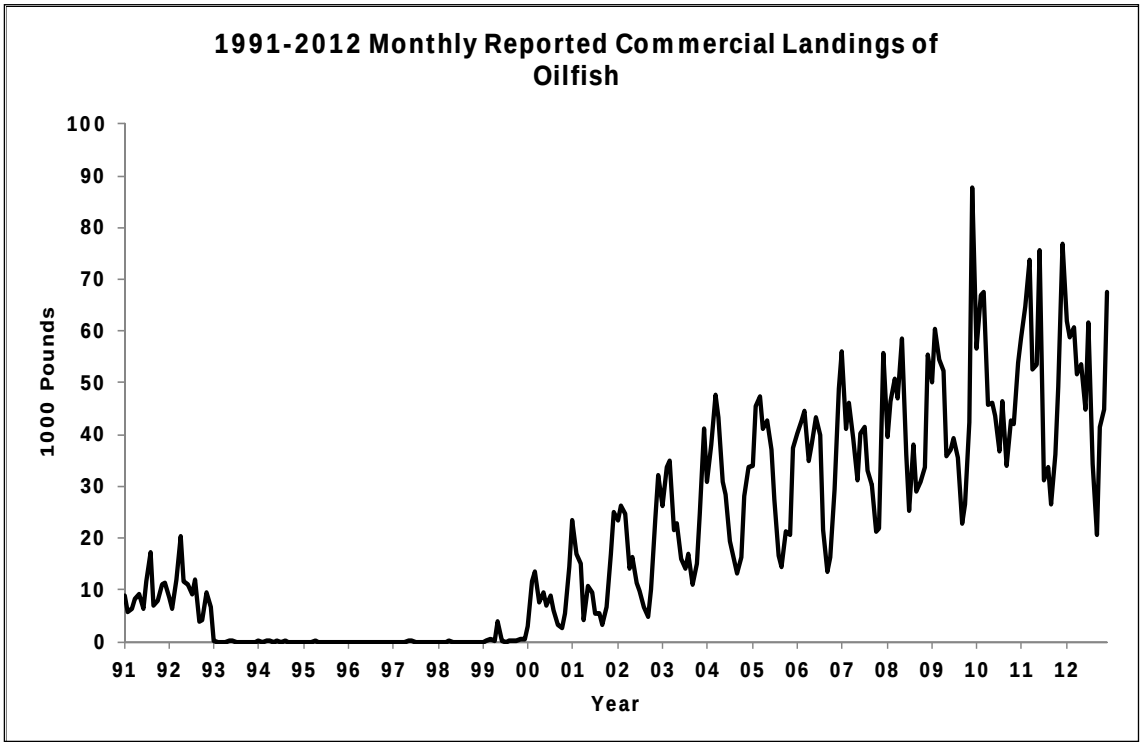

Figure D-4-12

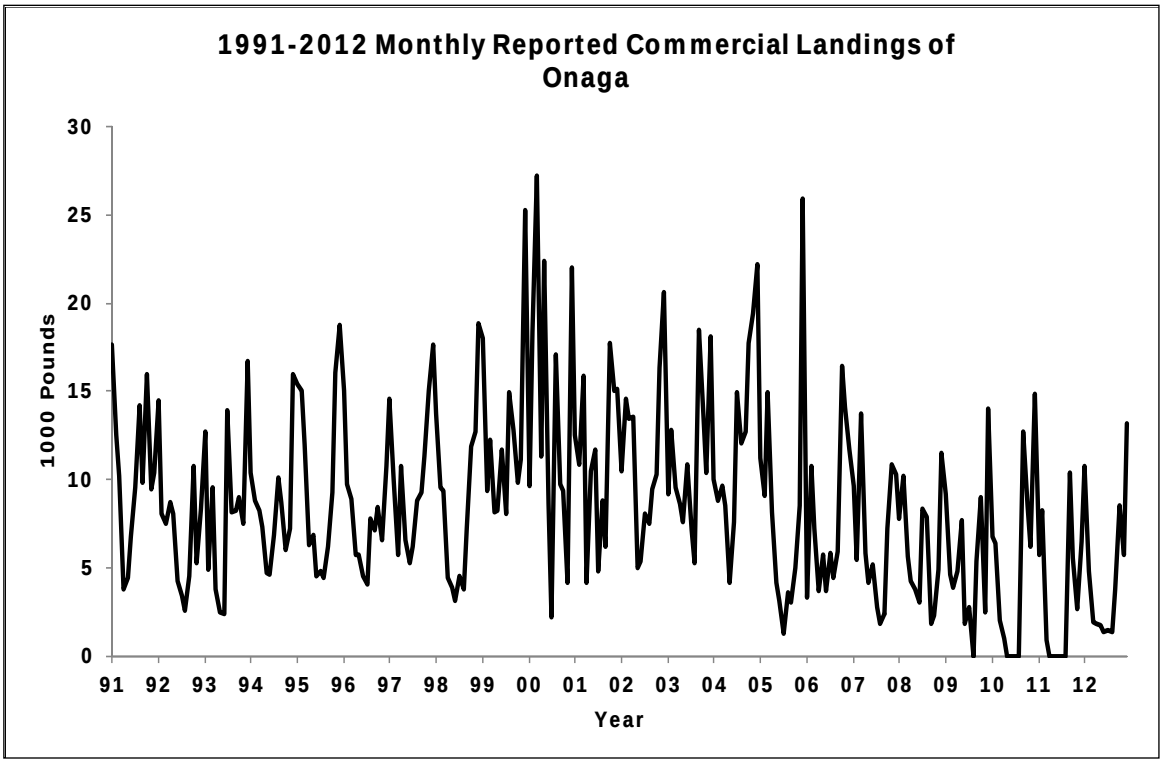

Figure D-4-13

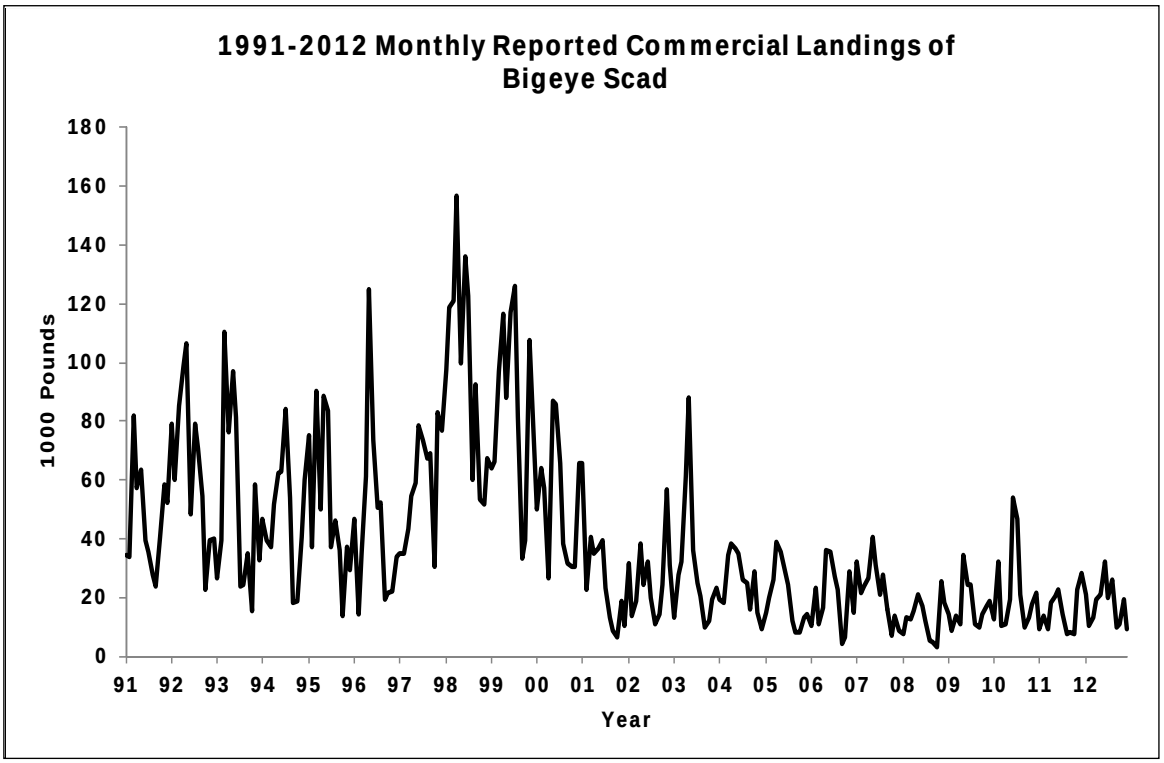

Figure D-4-14

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