

PACIFIC ISLANDS FISHERIES SCIENCE CENTER



Fishery Statistics of the Western Pacific

Volume 25

Territory of American Samoa (2008)
Commonwealth of the Northern Mariana Islands (2008)
Territory of Guam (2008)
State of Hawaii (2008)

Compiled by

David C. Hamm, Michael M. C. Quach, Karen R. Brousseau and
Craig J. Graham

August 2010



Administrative Report H-10-03

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PREFACE

Increasingly, there is a demand for data and information concerning marine fisheries. To help meet this need in the central and western Pacific areas, the National Marine Fisheries Services (NMFS) Southwest Fisheries Science Center (SWFSC) Honolulu Laboratory initiated the Western Pacific Fisheries Information Network (WPacFIN) to assist Pacific island fisheries agencies improve their data collecting, data processing, and reporting capabilities.

In 1982, these agencies formed a Fisheries Data Coordinating Committee (FDCC) and an FDCC Technical Subcommittee to help guide, coordinate, and monitor all of their fisheries data-related activities. Significant progress has been made by all participating agencies, particularly in the areas of upgrading data collection and processing systems.

In a major step to improve and coordinate the data reporting and distribution systems of the agencies, the FDCC agreed in May 1985 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 would supply the data required to produce the tables and graphs for its respective section, and central WPacFIN staff would produce and distribute the document as part of the Administrative Report Series.

In April 2003, NMFS created a new Pacific Islands Region composed 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). As such, this report is now affiliated with PIFSC rather than SWFSC.

This is the 25th 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 2008. As with previous volumes, it is divided into sections, with one for each of the major island areas. Each section contains reports about the monthly and annual landings by species and species groups for the commercial fleet.

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 the availability and dissemination of fisheries information. Participating groups include

American Samoa	Department of Marine and Wildlife Resources (DMWR)
	Pacific Islands Regional Office (PIRO) Fisheries Monitoring Field Office, American Samoa
Commonwealth of the Northern Mariana Islands (CNMI)	Division of Fish and Wildlife (DFW)
Guam	Division of Aquatic and Wildlife Resources (DAWR)
	Bureau of Statistics and Plans (BSAP; formerly Department of Commerce)
Hawaii	Hawaii Division of Aquatic Resources (HDAR)
	Pacific Islands Fisheries Science Center (PIFSC)
	Pacific Islands Regional Office (PIRO)
	Western Pacific Regional Fishery Management Council (WPFMC)

WPacFIN and these groups collect, computerize, edit, and 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.

Data from DMWR, DAWR, and DFW are supplied on portable computer media in established WPacFIN database formats. Data for Hawaii are provided by HDAR through telecommunications. Once data from all agencies are entered into the central WPacFIN computer and appropriate edit, adjustment, and verification procedures are completed, summary tables and charts are produced using software developed by WPacFIN staff and commercially available software.

PROGRESS

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 to their data collecting systems and have established sound, automated data processing systems. Most agencies can now provide preliminary fishery statistics to WPacFIN within 45 days of the date of collection.

In particular, HDAR has significantly improved its procedures for editing, updating, and processing Hawaii's data; it has reduced the lag time in data processing from about 2.5 years to less than 3 months for most data. The biggest problems still facing HDAR in improving its data systems are reducing the delinquency of fisher reporting and implementing a validation system to ensure that the information reported by fishers is accurate. A Dealer Reporting System has been implemented to augment the Fishermen's Reporting System and has helped address this issue, and efforts are continuing to develop and implement other improvements to the Hawaii fisheries monitoring programs.

CAVEATS

Data collecting and processing systems vary greatly among Pacific island fisheries agencies. Although much standardization has taken place and is a continuing effort, there remain unique aspects of each island's systems based on local needs and capabilities.

Interpretation of data from this report, especially for comparative purposes, requires recognition of several caveats. For example, Hawaii's commercial landings data are based on mandatory monthly reporting by fish dealers and licensed commercial fishers as well as NOAA Fisheries longline logbooks. In contrast, data for CNMI and Guam are based on voluntary reporting of major fish buyers using government-provided trip ticket invoices, adjusted to represent 100% coverage, and referenced as "estimated commercial landings." Finally, American Samoa's data are based on a complex integration of data from a boat-based creel survey and data expansion system for a portion of the fisheries, mandatory logbooks and a size-frequency sampling program for the longline fishery, and a mandatory trip ticket invoice reporting system for local sales. Each system has advantages and disadvantages, and the reader should be aware of them when comparing or interpreting data. In addition, WPacFIN staff and the island agencies are continually improving the data collecting and processing systems in each area. Because the improvements usually result in updates to the estimates of total and commercial landings, the data in this volume may not match exactly with data in previous volumes of this report series.

The reader should also be aware that species assemblages vary among island groups, as do cultural preferences and principal fishing techniques and gear. The population of the island group is relevant to the interpretation of the relative value and importance of the fisheries. Descriptions of data collecting and processing systems are included in each island's section.

DEFINITIONS OF SPECIES CATEGORIES

In addition to a description of the data collecting systems and monthly and annual reports, each section contains graphs of summary fishery statistics of particular interest or importance to participating WPacFIN agencies. Species categories have been defined for each island's fisheries. Because of differences in reporting systems and capabilities, species in each category vary among the islands but all categories are documented in each island's section. Overlap exists among some of the categories used for different graphs.

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 types, specifically pelagic, bottomfish, reef fish, and “other.” “Other” includes groups that generally traverse these categories, such as certain sharks and jacks, or are not typically included in these groups, such as mullet and 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 will continue to treat tunas as a separate category, and the PMUS category in this document includes only billfishes, wahoo, mahimahi, and oceanic sharks.
3. Bottom Fish Management Unit Species (BMUS) – Defined as the species of initial importance in the Fishery Management Plan for bottomfish and seamount fisheries, including the major deepwater snapper, grouper, emperor, and certain jacks.
4. Tunas – All the tuna species excluding wahoo. Historically this had been predominantly skipjack and yellowfin in all areas, but with the growth of longline fisheries in Hawaii and American Samoa, bigeye and albacore have become much more important or even predominant.
5. Other Tunas – The definition varies among the islands depending on the importance of each tuna species in the total landings.
6. Billfish – Combination of blue, striped, and black marlins, sailfish, spearfish, 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 and species groups, showing the estimated commercial catch for each month of the year.
- The second is a seasonality plot for the major species or species 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 variability among years.
- The fourth type of graph plots monthly landings of some of the major commercially important species and documents monthly fluctuations in landings of these species over the entire time series (all years for which there are data).

To access the most up-to-date data and charts, please visit <http://www.pifsc.noaa.gov/wpacfin>.

AMERICAN SAMOA 2008 FISHERIES STATISTICS

Compiled by

American Samoa

Department of Marine and Wildlife Resources

and the

Western Pacific Fisheries Information Network

August 2010

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AMERICAN SAMOA 2008 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)

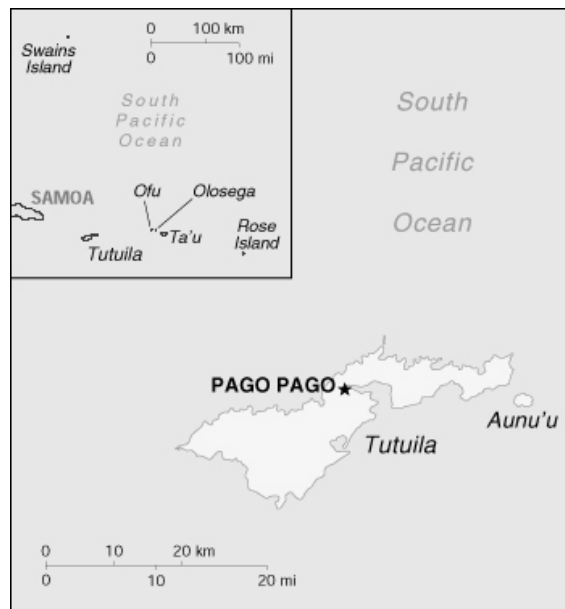
Population: about 65,628 (the majority of the population lives on Tutuila); (*The World Factbook*, July 2009 est.)

Economy: tuna fishing and tuna processing plants, with canned tuna the primary export

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

American Samoa's domestic fisheries have typically been small-boat, 1-day fisheries using primarily 28- to 32-foot long, outboard-engine-powered catamarans called *alias* (pronounced *ah-lee-ahs*). Traditionally, trolling and bottomfishing were the major methods of fishing, and a little spearfishing, netting, and vertical longlining were done occasionally. Beginning in about mid-1995 some of the traditional *alias* began converting to horizontal longlining. During 1996 horizontal longlining became the largest fishery in American Samoa based on total landed weight of the catch, even though only about one-third of the fleet had converted to this method. Over the next few years the fleet grew rapidly with the addition of new *alias* up to about 38 feet in length and, more significantly, with the addition of other larger monohull vessels that fished much longer trips. The primary target species is albacore tuna, but the fishery has also resulted in significant increases in landings of yellowfin tuna, wahoo, blue marlin, mahimahi and some other incidentally caught species.

During 2008, the various fisheries monitoring programs in American Samoa identified 57 active vessels – 51 homeported on Tutuila and 6 in the Manu`a Islands. Many of these vessels participated in more than one fishery, and 28 of the Tutuila boats (including 27 vessels which were over 50 feet in length) did at least some longlining. Of the 57 total boats, 16 participated in the troll and bottomfish fisheries and 7 were used in other forms of fishing activities. On average, the *alia* fleet on Tutuila consisted of 3-man crews, fished 10 hours, and caught about



American Samoa

Source: <http://www.cia.gov/cia/publications/factbook/aq.html>;
The World Factbook

161 pounds of fish; the Manu`a-based fleet typically had 3-man crews, fished about 6 hours and landed 67 pounds of fish. Essentially all of the longlining was based out of Tutuila, where the majority of the catch was off-loaded to the canneries.

DATA REVISIONS

Significant changes in the fisheries occurred in the mid-1990s with the development of the longline fishery and a nighttime, boat-based scuba spearfishing fishery. Because of the nature of these fisheries, biases began creeping into the effort-counting and interviewing processes of the DMWR surveys. By 1997 WPacFIN staff discovered the problems, and modifications to survey techniques were implemented by DMWR staff. It became clear by early 1998 that the algorithms used to expand the survey data and estimate for the total fishery also needed to be changed. The new data processing programs that better handle the more complex nature of today's fisheries in American Samoa have been completed and were used to reprocess the historical time series. This volume includes the results of this new improved algorithm, but additional data quality control procedures and algorithm enhancements are still being made that may cause small changes in subsequent reports.

DATA COLLECTING

The data collecting programs used by DMWR to monitor the changing fisheries of American Samoa have evolved considerably over the past 20 years. One common factor of all the programs has been that they relied heavily on personal contacts with fishers and on a significant amount of dockside monitoring and interviewing. From 1982 to 1985, DMWR obtained catch statistics by interviewing commercial fishermen at the end of their trips and kept records 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 where interviews were conducted. However, it was very labor intensive, did not cover all trips, and did not include the small but growing recreational and subsistence fisheries.

There are several major programs in place today. Data from these programs are used to develop the best available data for the complex, rapidly changing fisheries of American Samoa. These are

1. Vessel Classification Program – a vessel history and tracking system for all American Samoa vessels.
2. Boat-based Creel Survey Program (formerly the Offshore Creel Survey System) – access-point creel surveys on Tutuila and the Manu`a Islands, which are the mainstay of the monitoring program.
3. Commercial Purchase Program – a mandatory purchase receipt trip ticket system for fish businesses on Tutuila.
4. Federal Longline Logbook Program and Daily Effort Census Program for detailed tracking of the longline fishery.
5. Cannery Landings Program to document all landings at the two canneries made by domestic and foreign vessels.
6. Size frequency sampling program at the canneries.

Vessel Classification Program – Beginning in the early 1980s, this program was established to collect information on all vessels participating in any domestic fisheries. It provides 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 – In October 1985, a new creel survey sampling program was implemented on Tutuila to provide better coverage and statistics on all boat-based fisheries, including noncommercial information. Soon afterwards, similar monitoring programs were established in the Manu`a Islands, where the fishing fleets are centrally located and small enough for statistics to be collected for nearly every trip. The surveyors in the Manu`a Islands send their monitoring forms to DMWR in 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 is still a systematic, random sampling program that stratifies sampling by type of day (either weekday or weekend/holiday) and by fishing method. For logistical and cultural reasons, Sundays are no longer sampled as effort is extremely low and not similar to other weekend/holiday-type days.

DMWR staff normally sample 2 weekdays and 1 weekend/holiday per week. During survey days, counts of total participation are collected, and as many returning vessels as possible are interviewed for catch, effort, and biological samples. Tutuila is divided into six sample areas, five of which are sampled. It is assumed that the nonsampled area is similar to the sampled areas in fishing activity and success rate. Furthermore, it is assumed that the fishers interviewed are representative of the entire fishing population and that they give accurate information.

Unless contrary information is available from dockside questioning of knowledgeable persons, 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 determined to be “out fishing.”

A.4

It is expanded to estimate the total number of fishing trips in Tutuila:

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

The remaining data items listed below are collected on each boat for which an interview is successfully completed:

- Interview Time *
- Area Fished
- Home Island
- Total Hours Fished (trip length) *
- Number of Fishermen
- Number of Gear Used
- Total Trip Weight in Pounds *
- Species Caught *
- Number of Pieces for Each Species
- Disposition of Species *
- Weight in Pounds for Each Species *
- Condition of Species if Not Whole
- Length of Fish (converted to weight)
- Price per Pound for Each 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. Also, identification and weight of each species are often not obtainable; in this case a code for species groupings (e.g., miscellaneous bottomfish) is used. The interview data is later expanded to estimate the total catch per fishing trips and other catch-per-unit-of-effort (CPUE) measures in Tutuila. The catch-per-trip estimate is multiplied by the number of trips estimated for each stratum to obtain an estimate of the total catch for Tutuila. The Manu`a statistics are added to the expanded estimated data for Tutuila to arrive at a total estimate for American Samoa.

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

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

Federal Longline Logbook System and Daily Effort Census – In January 1996, in response to the developing longline fishery, a mandatory federal longline logbook system was implemented by NMFS. All longline fishermen are required to obtain a federal permit and to submit logs containing detailed data on each of their sets and the resulting catch. From 1996 to 1999, the logbooks submitted by the local longliners were edited by the NMFS fisheries monitoring agent in Samoa for any missing data and were then sent to PIFSC (formerly the Honolulu Laboratory) for further editing and data processing.

In July 1999, to improve monitoring of the fast-growing longline fishery, DMWR implemented a Daily Effort Census (DEC) for all federally permitted longline vessels. Six days a week, DMWR staffs make two visits a day to ports where longline vessels move. The staff document whether each vessel on the list is “in port” or “out fishing.” The DEC data are used to track the activity of each vessel and to help ensure all fishing log sheets are submitted by fishers.

To further improve the quality and timeliness of the data, beginning in January 2000, logbook data collecting, editing, and processing have been done by DMWR in Samoa and downloaded to NMFS periodically. The following information is recorded for each “set” these longline fishermen make:

- Set Date
- Vessel
- Date of Departure
- Port of Departure
- Date of Arrival
- Port of Arrival
- Observer on Board
- Target Species
- Bait Used
- Mainline Length
- No. of Hooks
- No. of Hooks/Float
- No. of Lightsticks Used
- Bird Catch Mitigation Measures
- Wind Detection
- Wave Height
- Sea Surface Temperature
- Wind Speed
- Begin Set Time
- Begin Set Latitude and Longitude
- End Set Time
- End Set Latitude and Longitude
- Haul Date
- Begin Haul Date
- Begin Haul Latitude and Longitude
- End Haul Time
- End Haul Latitude and Longitude
- No. of Pelagic Species Kept
- No. of Pelagic Species Released
- No. of Sharks Finned
- No. of Sharks Kept
- No. of Sharks Released
- No. of Protected Species Released Alive
- No. of Protected Species Released Injured
- No. of Protected Species Released Dead

In addition, on a monthly basis, logbook data are compared with cannery unloading data for Samoa-based boats to identify boats that unloaded at the canneries but did not turn in any or just a part of the required longline logs.

The longline logbooks do not provide information about the number of pounds caught or the disposition of fish caught by longline vessels, neither of which is covered by the boat-based creel survey either. Beginning in April 2001, to provide better estimates of the pounds per fish caught by the longline vessels, length data from South Pacific Regional Longline Port Sampling Forms were collected for Samoa-based longliners and converted to pounds. Disposition data were also entered in the comments section of these forms to provide sampled disposition data on the fish caught.

DATA PROCESSING

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 and utility software and microcomputer systems have been used over the years to meet the growing demand for processing the collected data. Generally speaking, these changes, with significant emphasis on improving data quality and cross validation among systems, have made the data processing systems more robust, complex, and complete.

The following important principles have remained constant over time:

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

Typically, when upgrades (such as changes in expansion and reporting algorithms for the creel survey data and commercial landings data) have been made to data processing systems, the entire time series of data would be reprocessed using the same algorithms so that trends in the fisheries would remain as intact as possible. The annual and monthly estimated commercial landings data and the corresponding time series figures included in this report were produced with the versions of data processing systems in use in May 2001. To help the reader understand the origin of the data included in this report, a general description of these processes follows. Please note that it does not include the details on many minor changes that have occurred throughout the evolutionary history of these systems.

The data from 1982 to 1985 have been imported directly from the original Commercial Catch Monitoring System used prior to the implementation of the boat-based creel survey. Since 1986, the boat-based creel survey data expansion system has been the central system for estimating total commercial landings in American Samoa. In short, the survey data expansion process involves multiplying the average daily participation by the average catch per trip for each stratum. For the years 1986 to 1990, commercial sales portions of the expanded creel survey data from Tutuila and the Manu`a Islands were combined to produce estimated total commercial landings. Since 1990, with the implementation of the mandatory fish dealer receipt book system on Tutuila (Commercial Purchase Program), further adjustments have been made to these combined creel data by using receipt book data. These adjustments made significant improvements in overall totals as they helped adjust for sales not monitored through the boat-based survey (e.g., inshore and strictly nighttime commercial fishing). Species totals modified

with these types of adjustments are flagged in reports with an asterisk (*). Finally, in the late 1990s when larger longline vessels began landing their catches directly at the canneries and thus out of the monitoring capabilities of the standard creel surveys, the longline logbook system and cannery size frequency sampling data entered the algorithm to fill the gap for this portion of the fishery. This data added the landings of these vessels to create a more complete picture of the estimated total commercial landings for the Territory.

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 contain the common name, weight in pounds, value in dollars, the average price per pound of each species or species group, and whether the data was modified by Commercial Purchase System data (denoted by asterisks). The monthly data tables are based on monthly expansions of the Tutuila boat-based creel survey data with enhancements by monthly Longline Logbook, Commercial Purchase System, and Manu`a data as explained previously. Annual data tables are based on combined annual expansions of the creel data for the entire calendar year with similar annual enhancements from Longline Logbook, Commercial Purchase System, and Manu`a data. Since the monthly and annual data tables are based on separate monthly and annual expansion of the creel data, the annual data tables are not the exact sum of the 12 monthly data tables, but they fall within the standard error (Tables A-1 to A-13).

The charts that make up the rest of the report are for groups of species as well as for some of the dominant individual species. Some of the charts in this volume are new or modified from earlier volumes. To access the most up-to-date data and charts, please visit the WPacFIN website, <http://www.pifsc.noaa.gov/wpacfin>. The top 10 commercial species for the year are emphasized, and they can change from year to year.

SPECIES CATEGORIES

The species and species groups that are used in the tables and graphs of American Samoa's data are defined in this section. 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 report maintains the original species categorizations from previous FSWP reports for comparative purposes. As such, tunas are kept in a separate category.

I. Pelagic Management Unit Species (PMUS)

Sharks (unknown)	Spearfish
Mahimahi	Swordfish
Blue marlin	Wahoo
Black marlin	Pomfret
Striped marlin	Moonfish
Sailfish	

II. Bottomfish Management Unit Species (BMUS)

Black jack	Flower snapper (gindai)
Amberjack	Goldflag jobfish
Yelloweye opakapaka	Silverjaw jobfish (lehi)
Blacktip grouper	Longtail snapper (onaga)
Yellow-edged lyretail	Ruby snapper (ehu)
Blue lined snapper	Ambon emperor
Gray jobfish	Redgill emperor
Pink snapper (opakapaka)	

III. Billfishes

Swordfish	Striped marlin
Blue marlin	Sailfish
Black marlin	Spearfish

IV. Tunas

Skipjack tuna	Yellowfin tuna
Dogtooth tuna	Bigeye tuna
Albacore tuna	Kawakawa

V. Other Tunas

Dogtooth tuna	Kawakawa
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VI. Fisheries Categories

A. *Pelagic Fishes*

Albacore tuna	Pomfret
Barracudas	Rainbow runner
Bigeye tuna	Rays
Black marlin	Sailfish
Blue marlin	Sharks (unknown)
Dogtooth tuna	Skipjack tuna
Kawakawa	Spearfish
Mackerel	Striped marlin
Mahimahi	Swordfish
Moonfish	Wahoo
Oilfish	Yellowfin tuna

B. *Bottomfishes*

Amberjack	Kusakar's snapper
Ambon emperor	Longnose emperor
Bigeye bream	Longspine grouper
Bigeye scad	Longtail snapper (onaga)
Bigeye trevally	Onespot snapper
Black jack	Orangespot emperor
Black snapper	Peacock grouper
Blacktip grouper	Pink snapper (opakapaka)
Blue lined snapper	Redgill emperor
Bluefin trevally	Ruby snapper (ehu)
Bottomfishes (unknown)	Silverjaw jobfish (lehi)
Brown jobfish	Six-banded grouper
Deep water snappers	Smalltooth grouper
Emperors	Spadefish
Flower snapper (gindai)	Spotted grouper
Goldflag jobfish	Stone's snapper
Gray jobfish	Tomato grouper
Greater amberjack	Trevallys
Groupers	Yellow-edged lyretail
Hexagon grouper	Yelloweye opakapaka
Honeycomb grouper	Yelloweye snapper
Humpback snapper	Yellowspot grouper
Jacks	

C. *Reef Fishes*

Butterflyfishes	Sergeant major
Goatfishes	Soldierfishes
Inshore groupers	Squirrelfishes
Inshore snappers	Surgeonfishes/tangs
Mulletts	Sweepers
Paeony bulleye	Sweetlips
Parrotfishes	Terapon perch
Rabbitfishes	Unicornfishes
Reef fishes (unknown)	Wrasses
Rudderfishes	

D. *Other Fishes*

Angler flatfish	Octopus
Crabs	Shrimp
Eels	Spiny lobster
Filefishes	Spiny pufferfish
Moray eels	Tilapia

INTERPRETATION OF STATISTICS

When interpreting the data in the tables and graphs, keep in mind the caveats described earlier in this section. Remember also that the commercial landings summaries are not based on a census of all fishing activities, but on samples of those activities and on integration of data from several different data programs. One of the major factors in expanding the creel survey data into monthly and annual estimates is the use of proportionality constants to adjust for percent coverage of the surveys. The flexibility of the survey design allows for refinement of these constants as additional information is gained on fishing activities. If the constants are improved, the basic survey data can be expanded again to create better overall estimates. However, the variability and species composition would not be expected to change because these statistics are based on the actual survey information collected from fishers. The estimates of total landings are considered to be conservative because the catch from subsistence inshore fisheries are currently not included in this document.

Table A-1
American Samoa Annual 2008 Estimated Commercial Landings

Species	Pounds	Value (\$)	Price/Lb (\$)	
Amberjack	141	353	2.50	
Greater amberjack	1,644	3,947	2.40	
Barracudas	1,650	4,381	2.66	
Bottomfishes (unknown)	5,608	16,493	2.94	*
Bigeye bream	62	160	2.57	
Paeony bulleye	23	62	2.75	
Butterflyfishes	17	40	2.39	
Crabs	25	62	2.43	
Eels	60	164	2.75	
Moray eels	41	96	2.38	
Ambon emperor	608	1,670	2.74	
Longnose emperor	3,074	8,258	2.69	
Orangespot emperor	200	551	2.75	
Redgill emperor	4,374	11,470	2.62	
Emperors	3,979	10,236	2.57	
Filefishes	37	86	2.30	
Angler flatfish	22	58	2.65	*
Goatfishes	375	938	2.50	
Blacktip grouper	29	73	2.49	
Hexagon grouper	21	50	2.40	
Honeycomb grouper	54	136	2.50	
Longspine grouper	33	80	2.40	
Peacock grouper	43	96	2.25	
Six-banded grouper	763	2,098	2.75	
Smalltooth grouper	84	210	2.50	
Spotted grouper	116	250	2.16	
Tomato grouper	78	188	2.43	
Yellowspot grouper	246	615	2.50	
Groupers	1,184	3,000	2.53	*
Inshore groupers	447	1,184	2.65	*
Black jack	450	1,162	2.58	
Jacks	201	515	2.57	
Brown jobfish	49	133	2.68	
Goldflag jobfish	1,817	1,786	0.98	*
Gray jobfish	3,716	9,180	2.47	
Silverjaw jobfish (lehi)	3,360	9,902	2.95	
Spiny lobster	1,417	6,906	4.87	*
Yellow-edged lyretail	614	1,457	2.37	
Mackerel	5,842	11,099	1.90	
Mahimahi	17,599	35,667	2.03	
Black marlin	200	300	1.50	*
Blue marlin	55,060	61,334	1.11	
Striped marlin	1,151	1,151	1.00	
Mullets	21	58	2.75	

Table A-1 (continued)
American Samoa Annual 2008 Estimated Commercial Landings

Species	Pounds	Value (\$)	Price/Lb (\$)	
Octopus	1,474	3,685	2.50	*
Oilfish	155	155	1.00	
Moonfish	3,048	4,389	1.44	
Yelloweye opakapaka	770	2,269	2.95	
Parrotfishes	3,350	8,828	2.64	*
Terapon perch	32	79	2.50	
Pomfret	410	888	2.17	
Spiny pufferfish	73	171	2.35	
Rabbitfishes	88	269	3.07	
Rainbow runner	122	315	2.58	
Rays	71	106	1.50	
Rudderfishes	71	181	2.54	
Sailfish	1,734	1,745	1.01	
Bigeye scad	1,759	2,038	1.16	
Sergeant major	34	85	2.50	
Sharks (unknown)	6	17	2.95	
Shrimp	80	959	12.0	*
Black snapper	224	572	2.56	
Blue lined snapper	2,543	6,584	2.59	
Flower snapper (gindai)	398	1,035	2.60	
Humpback snapper	6,860	17,821	2.60	
Kusakar's snapper	127	348	2.75	
Longtail snapper (onaga)	3,612	11,424	3.16	
Onespot snapper	88	220	2.50	
Ruby snapper (ehu)	1,268	4,088	3.22	*
Stone's snapper	37	106	2.83	
Pink snapper (opakapaka)	359	862	2.40	
Inshore snappers	375	1,000	2.66	
Soldierfishes	174	461	2.65	
Spadefish	68	152	2.25	
Spearfish	700	770	1.10	
Squirrelfishes	1,415	3,571	2.52	*
Surgeonfishes/tangs	7,772	19,987	2.57	*
Sweepers	314	825	2.63	
Sweetlips	75	201	2.70	
Swordfish	10,174	16,406	1.61	
Tilapia	559	812	1.45	*
Bigeye trevally	501	1,328	2.65	
Bluefin trevally	48	133	2.75	
Trevallys	129	370	2.88	
Albacore tuna	7,802,616	7,836,584	1.00	
Bigeye tuna	273,212	315,513	1.15	
Dogtooth tuna	1,063	2,936	2.76	
Kawakawa	285	387	1.36	

Table A-1 (continued)
American Samoa Annual 2008 Estimated Commercial Landings

Species	Pounds	Value (\$)	Price/Lb (\$)	
Skipjack tuna	374,731	246,602	0.66	
Yellowfin tuna	761,344	762,028	1.00	
Unicornfishes	1,223	3,164	2.59	*
Wahoo	298,451	182,376	0.61	
Wrasses	103	259	2.52	
TOTAL	9,680,654	9,672,757	1.00	

* Data replaced or modified by Actual Commercial Landings Data

Table A-2
American Samoa January 2008 Estimated Commercial Landings

Species	Pounds	Value (\$)	Price/Lb (\$)	
Greater amberjack	164	351	2.14	
Barracudas	38	101	2.65	
Paeony bulleye	26	72	2.75	
Longnose emperor	308	825	2.68	
Redgill emperor	22	60	2.67	
Emperors	92	222	2.41	
Blacktip grouper	0	1	2.50	
Groupers	34	92	2.69	*
Inshore groupers	22	50	2.30	*
Black jack	26	69	2.64	
Gray jobfish	113	301	2.66	
Spiny lobster	489	2,547	5.21	
Yellow-edged lyretail	54	128	2.35	
Mackerel	1,461	2,766	1.89	
Mahimahi	274	406	1.48	
Blue marlin	5,473	3,558	0.65	
Striped marlin	250	250	1.00	
Mullet	20	55	2.75	
Octopus	54	136	2.50	*
Moonfish	226	325	1.44	
Parrotfishes	1,197	3,320	2.77	
Spiny pufferfish	18	41	2.35	
Reef fishes (unknown)	33	97	2.95	*
Rudderfishes	20	55	2.76	
Sailfish	241	157	0.65	*
Bigeye scad	96	81	0.84	
Blue lined snapper	96	240	2.52	
Humpback snapper	139	338	2.43	
Ruby snapper (ehu)	15	60	4.00	*
Inshore snappers	26	70	2.72	
Soldierfishes	51	141	2.75	
Spearfish	20	22	1.10	
Squirrelfishes	108	253	2.35	*
Surgeonfishes/tangs	515	1,242	2.41	*
Swordfish	1,391	1,044	0.75	
Tilapia	40	49	1.21	*
Bluefin trevally	23	64	2.74	
Albacore tuna	413,042	413,304	1.00	
Bigeye tuna	30,973	34,619	1.12	
Dogtooth tuna	56	155	2.76	
Kawakawa	21	31	1.50	
Skipjack tuna	17,064	11,479	0.67	
Yellowfin tuna	32,925	33,022	1.00	
Unicornfishes	147	345	2.34	
Wahoo	40,509	24,446	0.60	
TOTAL	547,913	536,988	0.98	

* Data replaced or modified by Actual Commercial Landings Data

Table A-3
American Samoa February 2008 Estimated Commercial Landings

Species	Pounds	Value (\$)	Price/Lb (\$)	
Greater amberjack	69	166	2.40	
Barracudas	7	17	2.60	
Bigeye bream	13	32	2.58	
Moray eels	13	35	2.75	
Ambon emperor	6	17	2.75	
Redgill emperor	175	482	2.75	
Emperors	57	144	2.52	
Goatfishes	20	52	2.57	
Honeycomb grouper	3	6	2.48	
Longspine grouper	39	95	2.40	
Inshore groupers	35	88	2.53	*
Jacks	19	50	2.57	
Goldflag jobfish	30	90	2.99	*
Gray jobfish	128	303	2.36	
Spiny lobster	224	1,123	5.01	*
Yellow-edged lyretail	15	36	2.35	
Mackerel	94	178	1.90	
Mahimahi	64	133	2.07	
Blue marlin	9,326	9,605	1.03	
Octopus	200	501	2.50	*
Moonfish	310	447	1.44	
Parrotfishes	519	1,290	2.48	
Pomfret	25	56	2.24	
Rays	24	36	1.50	
Rudderfishes	15	39	2.55	
Sailfish	235	240	1.02	
Bigeye scad	278	234	0.84	
Blue lined snapper	108	260	2.41	
Flower snapper (gindai)	19	49	2.62	
Humpback snapper	174	424	2.43	
Longtail snapper (onaga)	15	38	2.50	
Soldierfishes	32	82	2.59	
Spadefish	20	44	2.25	
Squirrelfishes	140	334	2.39	*
Surgeonfishes/tangs	704	1,727	2.45	*
Sweetlips	100	271	2.70	
Swordfish	1,130	1,978	1.75	
Tilapia	139	193	1.39	*
Bluefin trevally	27	74	2.75	
Albacore tuna	629,937	631,622	1.00	
Bigeye tuna	31,704	36,712	1.16	
Kawakawa	7	10	1.49	
Skipjack tuna	24,138	15,817	0.66	
Yellowfin tuna	76,458	71,418	0.93	

Table A-3 (continued)
American Samoa February 2008 Estimated Commercial Landings

Species	Pounds	Value (\$)	Price/Lb (\$)	
Unicornfishes	134	317	2.37	*
Wahoo	33,782	20,703	0.61	
TOTAL	810,713	797,569	0.98	

* Data replaced or modified by Actual Commercial Landings Data

Table A-4
American Samoa March 2008 Estimated Commercial Landings

Species	Pounds	Value (\$)	Price/Lb (\$)	
Greater amberjack	133	321	2.40	
Barracudas	69	178	2.56	
Bottomfishes (unknown)	1,319	5,980	4.53	*
Ambon emperor	86	232	2.71	
Longnose emperor	717	1,753	2.45	
Redgill emperor	1,374	3,353	2.44	
Emperors	81	196	2.43	
Angler flatfish	22	58	2.65	*
Blacktip grouper	25	62	2.45	
Hexagon grouper	16	37	2.39	
Longspine grouper	12	29	2.40	
Smalltooth grouper	89	223	2.50	
Tomato grouper	42	102	2.44	
Yellowspot grouper	25	62	2.50	
Inshore groupers	48	135	2.83	*
Black jack	21	51	2.46	
Jacks	13	33	2.58	
Goldflag jobfish	1,500	975	0.65	*
Gray jobfish	393	932	2.37	
Silverjaw jobfish (lehi)	163	441	2.70	
Spiny lobster	43	197	4.59	*
Yellow-edged lyretail	119	291	2.45	
Mackerel	73	139	1.90	
Mahimahi	167	347	2.07	
Blue marlin	8,112	7,706	0.95	
Striped marlin	100	100	1.00	
Octopus	218	544	2.50	*
Oilfish	4	4	1.00	
Moonfish	282	406	1.44	
Parrotfishes	255	718	2.82	*
Rainbow runner	32	79	2.50	
Rays	19	29	1.50	
Sailfish	100	225	2.25	*
Bigeye scad	248	254	1.03	
Sergeant major	19	48	2.49	
Black snapper	88	212	2.40	
Blue lined snapper	411	1,032	2.51	
Flower snapper (gindai)	38	92	2.41	
Humpback snapper	443	1,072	2.42	
Longtail snapper (onaga)	462	1,408	3.05	
Ruby snapper (ehu)	113	336	2.97	*
Pink snapper (opakapaka)	156	371	2.39	
Inshore snappers	179	481	2.69	
Spadefish	15	35	2.25	

Table A-4 (continued)
American Samoa March 2008 Estimated Commercial Landings

Species	Pounds	Value (\$)	Price/Lb (\$)	
Spearfish	60	66	1.10	
Squirrelfishes	142	356	2.50	*
Surgeonfishes/tangs	777	1,987	2.56	*
Sweepers	60	143	2.40	
Swordfish	522	1,367	2.62	
Tilapia	40	66	1.65	*
Bigeye trevally	136	346	2.54	
Bluefin trevally	8	21	2.74	
Trevallys	41	118	2.89	
Albacore tuna	266,437	266,437	1.00	
Bigeye tuna	17,948	20,884	1.16	
Dogtooth tuna	123	338	2.75	
Kawakawa	27	50	1.84	
Skipjack tuna	14,157	12,119	0.86	
Yellowfin tuna	42,591	42,383	1.00	
Unicornfishes	132	343	2.59	*
Wahoo	18,225	10,935	0.60	
Wrasses	33	82	2.50	
TOTAL	379,301	389,318	1.03	

* Data replaced or modified by Actual Commercial Landings Data

Table A-5
American Samoa April 2008 Estimated Commercial Landings

Species	Pounds	Value (\$)	Price/Lb (\$)	
Barracudas	107	278	2.60	
Bigeye bream	18	44	2.47	
Ambon emperor	249	686	2.75	
Longnose emperor	556	1,488	2.68	
Redgill emperor	326	861	2.64	
Emperors	205	516	2.52	
Tomato grouper	16	37	2.37	
Yellowspot grouper	32	79	2.50	
Inshore groupers	68	171	2.50	*
Black jack	66	164	2.47	
Brown jobfish	16	41	2.57	
Goldflag jobfish	12	29	2.44	
Gray jobfish	161	395	2.46	
Silverjaw jobfish (lehi)	442	1,293	2.92	
Spiny lobster	108	572	5.31	
Yellow-edged lyretail	41	96	2.34	
Mackerel	193	367	1.90	
Mahimahi	477	987	2.07	
Blue marlin	6,060	9,089	1.50	
Octopus	76	190	2.50	*
Oilfish	12	12	1.00	
Moonfish	56	81	1.44	
Parrotfishes	145	361	2.49	
Pomfret	44	94	2.16	
Rainbow runner	32	81	2.57	
Rudderfishes	34	81	2.43	
Sailfish	281	287	1.02	
Bigeye scad	194	163	0.84	
Black snapper	72	189	2.62	
Blue lined snapper	276	702	2.54	
Flower snapper (gindai)	19	47	2.51	
Humpback snapper	138	345	2.49	
Kusakar's snapper	147	405	2.75	
Longtail snapper (onaga)	168	530	3.16	
Ruby snapper (ehu)	27	70	2.60	*
Yelloweye snapper	15	41	2.75	
Pink snapper (opakapaka)	47	109	2.31	
Inshore snappers	23	62	2.69	
Soldierfishes	24	57	2.41	
Spearfish	100	110	1.10	
Squirrelfishes	150	364	2.43	*
Surgeonfishes/tangs	402	1,009	2.51	*
Sweepers	148	390	2.64	
Swordfish	641	963	1.50	*

Table A-5 (continued)
American Samoa April 2008 Estimated Commercial Landings

Species	Pounds	Value (\$)	Price/Lb (\$)
Bigeye trevally	34	90	2.68
Albacore tuna	471,246	471,389	1.00
Bigeye tuna	21,062	24,153	1.15
Dogtooth tuna	48	126	2.62
Kawakawa	32	60	1.85
Skipjack tuna	34,725	23,793	0.69
Yellowfin tuna	102,717	99,969	0.97
Unicornfishes	170	421	2.48
Wahoo	16,155	9,728	0.60
TOTAL	658,610	653,665	0.99

* Data replaced or modified by Actual Commercial Landings Data

Table A-6
American Samoa May 2008 Estimated Commercial Landings

Species	Pounds	Value (\$)	Price/Lb (\$)	
Greater amberjack	50	123	2.45	
Barracudas	223	499	2.24	
Bottomfishes (unknown)	883	2,194	2.49	*
Ambon emperor	47	129	2.75	
Longnose emperor	159	408	2.56	
Redgill emperor	392	1,018	2.60	
Emperors	69	176	2.55	
Goatfishes	462	1,155	2.50	
Groupers	334	854	2.56	*
Inshore groupers	28	72	2.56	*
Black jack	35	89	2.55	
Goldflag jobfish	265	663	2.50	*
Gray jobfish	208	516	2.48	
Silverjaw jobfish (lehi)	168	492	2.93	
Spiny lobster	176	852	4.85	*
Yellow-edged lyretail	99	234	2.35	
Mackerel	307	583	1.90	
Mahimahi	1,052	2,180	2.07	
Black marlin	200	300	1.50	*
Blue marlin	3,909	5,864	1.50	
Octopus	98	244	2.50	*
Moonfish	339	488	1.44	
Parrotfishes	173	446	2.58	*
Rabbitfishes	37	93	2.50	
Sailfish	51	52	1.02	
Bigeye scad	542	985	1.82	
Blue lined snapper	346	886	2.56	
Flower snapper (gindai)	60	165	2.75	*
Humpback snapper	877	2,211	2.52	
Longtail snapper (onaga)	14	43	3.15	
Onespot snapper	32	81	2.50	
Ruby snapper (ehu)	62	174	2.80	*
Inshore snappers	118	307	2.60	
Spadefish	14	31	2.25	
Spearfish	160	176	1.10	
Squirrelfishes	301	765	2.54	
Surgeonfishes/tangs	541	1,390	2.57	*
Sweepers	24	64	2.64	
Swordfish	435	870	2.00	
Bigeye trevally	78	207	2.67	
Trevallys	15	38	2.61	
Albacore tuna	774,269	775,307	1.00	
Bigeye tuna	27,669	31,731	1.15	
Dogtooth tuna	13	36	2.76	

Table A-6 (continued)
American Samoa May 2008 Estimated Commercial Landings

Species	Pounds	Value (\$)	Price/Lb (\$)
Kawakawa	99	99	1.00
Skipjack tuna	42,972	27,387	0.64
Yellowfin tuna	82,090	78,165	0.95
Unicornfishes	70	180	2.58
Wahoo	20,721	12,720	0.61
Wrasses	65	164	2.54
TOTAL	961,349	953,902	0.99

* Data replaced or modified by Actual Commercial Landings Data

Table A-7
American Samoa June 2008 Estimated Commercial Landings

Species	Pounds	Value (\$)	Price/Lb (\$)	
Greater amberjack	573	1,375	2.40	
Barracudas	88	230	2.62	
Bottomfishes (unknown)	436	1,041	2.39	*
Longnose emperor	79	211	2.68	
Orangespot emperor	139	383	2.75	
Redgill emperor	299	863	2.89	
Emperors	297	750	2.53	
Goatfishes	392	980	2.50	
Six-banded grouper	531	1,461	2.75	
Groupers	367	913	2.49	*
Inshore groupers	12	34	2.93	*
Goldflag jobfish	371	909	2.45	
Gray jobfish	136	337	2.48	
Silverjaw jobfish (lehi)	356	1,065	2.99	
Spiny lobster	39	185	4.75	*
Yellow-edged lyretail	30	70	2.35	
Mackerel	222	422	1.90	
Mahimahi	3,215	5,627	1.75	
Blue marlin	1,368	1,519	1.11	
Octopus	74	185	2.50	*
Oilfish	8	8	1.00	
Moonfish	395	569	1.44	
Parrotfishes	254	658	2.59	*
Pomfret	37	81	2.16	
Bigeye scad	273	682	2.50	
Sergeant major	15	37	2.49	
Shrimp	80	959	12.0	*
Blue lined snapper	327	842	2.57	
Humpback snapper	1,022	2,639	2.58	
Longtail snapper (onaga)	200	500	2.50	*
Ruby snapper (ehu)	119	349	2.93	*
Pink snapper (opakapaka)	47	114	2.43	
Spadefish	12	27	2.25	
Squirrelfishes	31	83	2.67	*
Surgeonfishes/tangs	727	1,851	2.55	*
Swordfish	522	1,539	2.95	
Tilapia	40	78	1.95	*
Albacore tuna	704,973	711,783	1.01	
Bigeye tuna	11,713	14,273	1.22	
Dogtooth tuna	30	82	2.75	
Skipjack tuna	57,897	36,334	0.63	
Yellowfin tuna	139,859	142,201	1.02	
Unicornfishes	68	178	2.61	*
Wahoo	17,504	10,930	0.62	
TOTAL	945,178	945,354	1.00	

* Data replaced or modified by Actual Commercial Landings Data

Table A-8
American Samoa July 2008 Estimated Commercial Landings

Species	Pounds	Value (\$)	Price/Lb (\$)	
Barracudas	86	223	2.60	
Bottomfishes (unknown)	491	1,095	2.23	*
Longnose emperor	301	805	2.68	
Redgill emperor	90	237	2.64	
Goatfishes	99	247	2.50	
Yellowspot grouper	140	350	2.50	
Inshore groupers	10	30	2.94	*
Jacks	11	29	2.57	
Goldflag jobfish	22	58	2.64	*
Gray jobfish	166	412	2.48	
Spiny lobster	211	1,021	4.84	*
Mackerel	97	184	1.90	
Mahimahi	2,094	4,246	2.03	
Blue marlin	977	1,984	2.03	
Octopus	241	602	2.50	*
Moonfish	28	41	1.44	
Yelloweye opakapaka	256	754	2.95	
Parrotfishes	265	705	2.66	*
Pomfret	131	282	2.16	
Bigeye scad	90	190	2.11	
Blue lined snapper	82	208	2.55	
Humpback snapper	421	1,084	2.57	
Longtail snapper (onaga)	254	803	3.16	
Ruby snapper (ehu)	130	455	3.50	*
Spearfish	20	22	1.10	
Squirrelfishes	56	143	2.54	*
Surgeonfishes/tangs	401	1,042	2.60	*
Swordfish	350	526	1.50	*
Tilapia	40	66	1.65	*
Bigeye trevally	98	263	2.67	
Albacore tuna	478,489	483,073	1.01	
Bigeye tuna	21,866	25,624	1.17	
Dogtooth tuna	171	473	2.77	
Kawakawa	17	19	1.16	
Skipjack tuna	27,260	18,039	0.66	
Yellowfin tuna	72,130	76,222	1.06	
Unicornfishes	31	89	2.85	*
Wahoo	16,580	10,336	0.62	
TOTAL	624,200	631,978	1.01	

* Data replaced or modified by Actual Commercial Landings Data

Table A-9
American Samoa August 2008 Estimated Commercial Landings

Species	Pounds	Value (\$)	Price/Lb (\$)	
Greater amberjack	13	30	2.40	
Barracudas	86	210	2.44	
Bottomfishes (unknown)	84	104	1.25	*
Ambon emperor	15	41	2.76	
Longnose emperor	160	428	2.67	
Redgill emperor	178	470	2.64	
Emperors	72	196	2.74	
Spotted grouper	54	117	2.16	
Yellowspot grouper	73	182	2.50	
Groupers	38	85	2.27	*
Inshore groupers	45	125	2.80	*
Black jack	51	133	2.61	
Jacks	25	63	2.57	
Gray jobfish	269	669	2.49	
Silverjaw jobfish (lehi)	355	1,048	2.95	
Yellow-edged lyretail	27	63	2.37	
Mackerel	489	928	1.90	
Mahimahi	4,330	8,969	2.07	
Black marlin	101	152	1.50	
Blue marlin	2,932	3,255	1.11	
Octopus	193	484	2.50	*
Oilfish	24	24	1.00	
Moonfish	310	447	1.44	
Yelloweye opakapaka	170	503	2.95	
Parrotfishes	318	824	2.59	*
Pomfret	12	27	2.16	
Sailfish	177	181	1.02	
Bigeye scad	94	74	0.79	
Blue lined snapper	264	697	2.64	*
Flower snapper (gindai)	25	65	2.60	
Humpback snapper	505	1,316	2.61	
Longtail snapper (onaga)	137	432	3.16	
Ruby snapper (ehu)	90	315	3.50	*
Soldierfishes	19	51	2.71	
Spearfish	100	110	1.10	
Squirrelfishes	163	424	2.60	
Surgeonfishes/tangs	1,150	2,965	2.58	*
Swordfish	261	522	2.00	
Bigeye trevally	59	158	2.67	
Albacore tuna	831,255	837,812	1.01	
Bigeye tuna	24,061	27,903	1.16	
Dogtooth tuna	145	402	2.76	
Kawakawa	13	15	1.21	
Skipjack tuna	75,337	46,409	0.62	

Table A-9 (continued)
American Samoa August 2008 Estimated Commercial Landings

Species	Pounds	Value (\$)	Price/Lb (\$)	
Yellowfin tuna	56,718	56,342	0.99	
Unicornfishes	190	485	2.56	*
Wahoo	29,181	17,985	0.62	
TOTAL	1,030,364	1,014,238	0.98	

* Data replaced or modified by Actual Commercial Landings Data

Table A-10
American Samoa September 2008 Estimated Commercial Landings

Species	Pounds	Value (\$)	Price/Lb (\$)	
Amberjack	56	139	2.50	
Greater amberjack	40	96	2.40	
Barracudas	279	756	2.71	
Eels	52	143	2.75	
Longnose emperor	33	77	2.34	
Redgill emperor	574	1,510	2.63	
Emperors	525	1,442	2.75	
Groupers	148	376	2.54	*
Inshore groupers	31	86	2.74	*
Black jack	59	157	2.68	
Gray jobfish	655	1,624	2.48	
Silverjaw jobfish (lehi)	1,272	3,799	2.99	
Spiny lobster	34	161	4.75	
Yellow-edged lyretail	109	256	2.35	
Mackerel	871	1,654	1.90	
Mahimahi	2,626	5,955	2.27	
Blue marlin	2,751	3,053	1.11	
Striped marlin	150	150	1.00	
Octopus	121	301	2.50	*
Oilfish	28	28	1.00	
Moonfish	113	163	1.44	
Yelloweye opakapaka	278	819	2.95	
Parrotfishes	263	696	2.64	*
Pomfret	12	27	2.16	
Sailfish	251	256	1.02	
Bigeye scad	834	626	0.75	*
Blue lined snapper	102	348	3.41	
Flower snapper (gindai)	176	461	2.62	
Humpback snapper	613	1,732	2.82	
Onespot snapper	13	32	2.50	
Ruby snapper (ehu)	26	91	3.50	*
Deep water snappers	28	65	2.35	*
Inshore snappers	22	59	2.69	
Spearfish	40	44	1.10	
Squirrelfishes	131	355	2.72	
Surgeonfishes/tangs	897	2,351	2.62	*
Swordfish	609	755	1.24	
Tilapia	40	77	1.93	*
Albacore tuna	847,406	850,056	1.00	
Bigeye tuna	39,398	45,181	1.15	
Dogtooth tuna	166	458	2.75	
Skipjack tuna	31,705	20,591	0.65	
Yellowfin tuna	42,605	42,076	0.99	
Unicornfishes	126	333	2.65	*
Wahoo	20,373	12,719	0.62	
TOTAL	996,637	1,002,131	1.01	

* Data replaced or modified by Actual Commercial Landings Data

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Table A-11
American Samoa October 2008 Estimated Commercial Landings

Species	Pounds	Value (\$)	Price/Lb (\$)	
Amberjack	80	199	2.50	
Greater amberjack	29	70	2.40	
Barracudas	434	1,174	2.71	
Bottomfishes (unknown)	296	792	2.68	*
Ambon emperor	242	665	2.75	
Redgill emperor	247	651	2.64	
Emperors	405	1,014	2.50	
Inshore groupers	67	177	2.65	*
Black jack	51	134	2.64	
Brown jobfish	16	44	2.75	
Gray jobfish	630	1,574	2.50	
Silverjaw jobfish (lehi)	54	159	2.93	
Spiny lobster	67	316	4.75	
Yellow-edged lyretail	52	121	2.35	
Mackerel	472	896	1.90	
Mahimahi	1,817	3,765	2.07	
Blue marlin	1,271	1,410	1.11	
Striped marlin	100	100	1.00	
Octopus	150	373	2.49	*
Oilfish	70	70	1.00	
Moonfish	198	285	1.44	
Yelloweye opakapaka	108	317	2.95	
Parrotfishes	173	466	2.70	*
Pomfret	31	67	2.16	
Spiny pufferfish	26	61	2.35	
Rabbitfishes	19	65	3.50	
Rainbow runner	26	67	2.62	
Sailfish	101	103	1.02	
Bigeye scad	64	48	0.75	
Blue lined snapper	184	459	2.50	
Flower snapper (gindai)	34	89	2.62	
Humpback snapper	460	1,151	2.50	
Longtail snapper (onaga)	979	3,090	3.16	
Onespot snapper	18	44	2.50	*
Ruby snapper (ehu)	460	1,601	3.48	
Pink snapper (opakapaka)	87	210	2.42	
Squirrelfishes	134	342	2.55	*
Surgeonfishes/tangs	500	1,373	2.75	*
Sweepers	27	75	2.75	
Swordfish	696	1,190	1.71	
Tilapia	220	283	1.29	*
Bigeye trevally	65	174	2.67	
Trevallys	22	63	2.89	
Albacore tuna	700,265	702,681	1.00	

Table A-11 (continued)
American Samoa October 2008 Estimated Commercial Landings

Species	Pounds	Value (\$)	Price/Lb (\$)
Bigeye tuna	16,248	18,635	1.15
Dogtooth tuna	188	520	2.77
Kawakawa	44	65	1.50
Skipjack tuna	11,229	7,068	0.63
Yellowfin tuna	40,257	38,009	0.94
Unicornfishes	104	294	2.81
Wahoo	16,091	9,736	0.61
TOTAL	795,603	802,334	1.01

* Data replaced or modified by Actual Commercial Landings Data

Table A-12
American Samoa November 2008 Estimated Commercial Landings

Species	Pounds	Value (\$)	Price/Lb (\$)	
Greater amberjack	65	157	2.41	
Barracudas	179	495	2.76	
Longnose emperor	399	1,172	2.94	
Redgill emperor	199	588	2.95	
Emperors	473	1,183	2.50	
Groupers	111	280	2.53	*
Inshore groupers	16	45	2.87	*
Black jack	25	69	2.72	
Goldflag jobfish	273	668	2.45	
Gray jobfish	330	818	2.48	
Silverjaw jobfish (lehi)	130	377	2.91	
Spiny lobster	407	1,936	4.76	*
Yellow-edged lyretail	7	17	2.34	
Mackerel	339	644	1.90	
Mahimahi	1,090	2,258	2.07	
Blue marlin	2,932	3,255	1.11	
Striped marlin	599	599	1.00	*
Octopus	50	125	2.50	*
Oilfish	46	46	1.00	
Moonfish	198	285	1.44	
Parrotfishes	422	1,128	2.67	*
Pomfret	44	94	2.16	
Spiny pufferfish	23	54	2.35	
Rabbitfishes	20	68	3.51	
Rainbow runner	29	76	2.61	
Sailfish	101	103	1.02	
Bigeye scad	46	34	0.75	
Sharks (unknown)	4	13	2.98	
Black snapper	22	66	2.95	
Blue lined snapper	91	227	2.50	
Flower snapper (gindai)	59	156	2.62	
Humpback snapper	440	1,190	2.71	
Longtail snapper (onaga)	515	1,758	3.41	*
Ruby snapper (ehu)	341	1,106	3.24	*
Stone's snapper	12	36	2.95	
Pink snapper (opakapaka)	29	71	2.50	
Spearfish	40	44	1.10	
Squirrelfishes	62	171	2.76	
Surgeonfishes/tangs	226	631	2.79	*
Swordfish	2,087	3,569	1.71	
Bigeye trevally	53	150	2.81	
Trevallys	32	93	2.95	
Albacore tuna	942,660	945,952	1.00	
Bigeye tuna	21,206	24,584	1.16	

Table A-12 (continued)
American Samoa November 2008 Estimated Commercial Landings

Species	Pounds	Value (\$)	Price/Lb (\$)
Dogtooth tuna	61	179	2.95
Kawakawa	38	56	1.50
Skipjack tuna	28,450	18,045	0.63
Yellowfin tuna	44,759	45,217	1.01
Unicornfishes	89	244	2.75
Wahoo	39,032	23,484	0.60
TOTAL	1,088,859	1,083,615	1.00

* Data replaced or modified by Actual Commercial Landings Data

Table A-13
American Samoa December 2008 Estimated Commercial Landings

Species	Pounds	Value (\$)	Price/Lb (\$)	
Greater amberjack	23	55	2.40	
Barracudas	16	47	2.87	
Longnose emperor	198	583	2.95	
Redgill emperor	352	928	2.64	
Emperors	1,137	2,941	2.59	
Goatfishes	11	27	2.50	
Honeycomb grouper	34	84	2.50	
Groupers	54	158	2.94	*
Inshore groupers	66	171	2.60	*
Black jack	53	131	2.47	
Jacks	68	176	2.57	
Goldflag jobfish	13	33	2.44	
Gray jobfish	363	901	2.48	
Silverjaw jobfish (lehi)	55	150	2.74	
Spiny lobster	88	425	4.85	*
Yellow-edged lyretail	23	55	2.43	
Mackerel	178	338	1.90	
Mahimahi	568	1,204	2.12	
Blue marlin	9,773	10,848	1.11	
Striped marlin	450	450	1.00	
Oilfish	12	12	1.00	
Moonfish	593	853	1.44	
Yelloweye opakapaka	12	36	2.94	
Parrotfishes	579	1,557	2.69	*
Pomfret	62	134	2.16	
Rainbow runner	14	36	2.61	
Sailfish	470	447	0.95	*
Bigeye scad	54	63	1.17	
Blue lined snapper	262	681	2.60	
Humpback snapper	831	2,202	2.65	
Longtail snapper (onaga)	1,023	3,220	3.15	
Ruby snapper (ehu)	243	677	2.79	
Soldierfishes	37	102	2.75	
Spearfish	160	176	1.10	
Squirrelfishes	243	623	2.56	*
Surgeonfishes/tangs	931	2,419	2.60	*
Sweepers	34	101	2.95	
Swordfish	2,087	2,922	1.40	
Albacore tuna	740,073	741,559	1.00	
Bigeye tuna	9,085	10,621	1.17	
Dogtooth tuna	13	30	2.24	
Skipjack tuna	7,549	5,029	0.67	
Yellowfin tuna	23,059	23,436	1.02	
Unicornfishes	189	496	2.62	*
Wahoo	29,943	17,966	0.60	
TOTAL	831,080	835,100	1.00	

* Data replaced or modified by Actual Commercial Landings Data

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

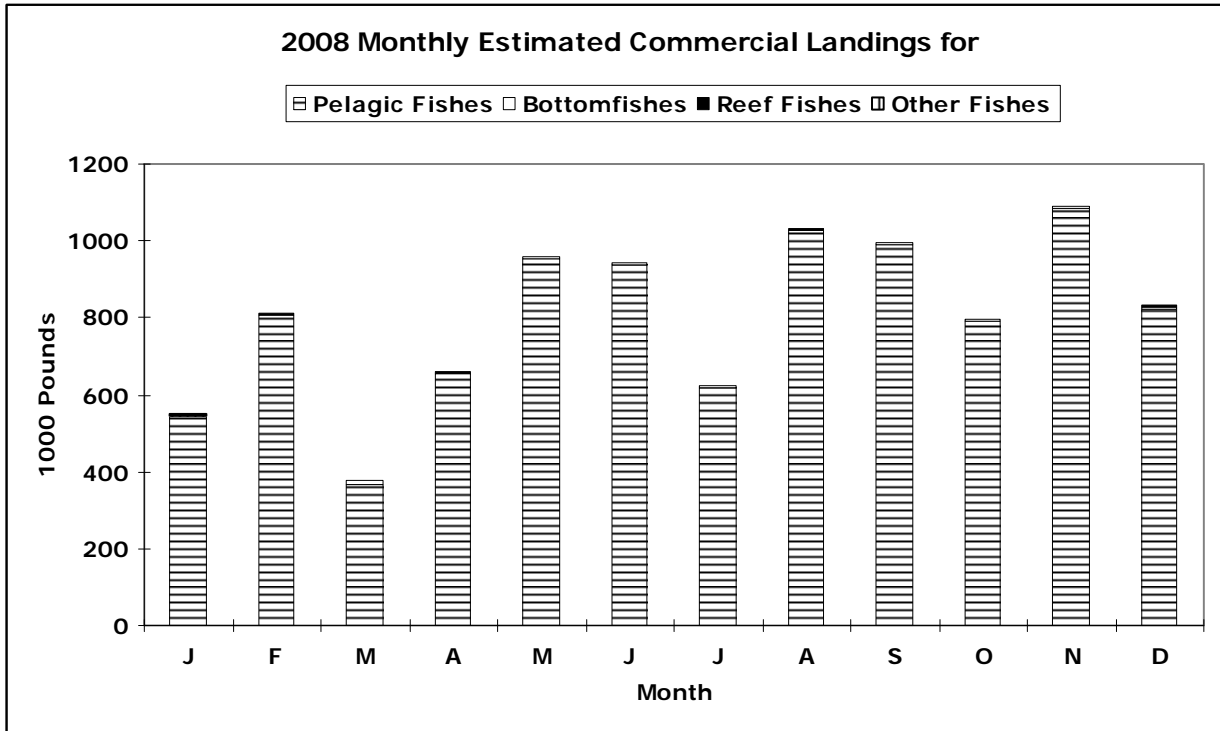


Figure A-1-1

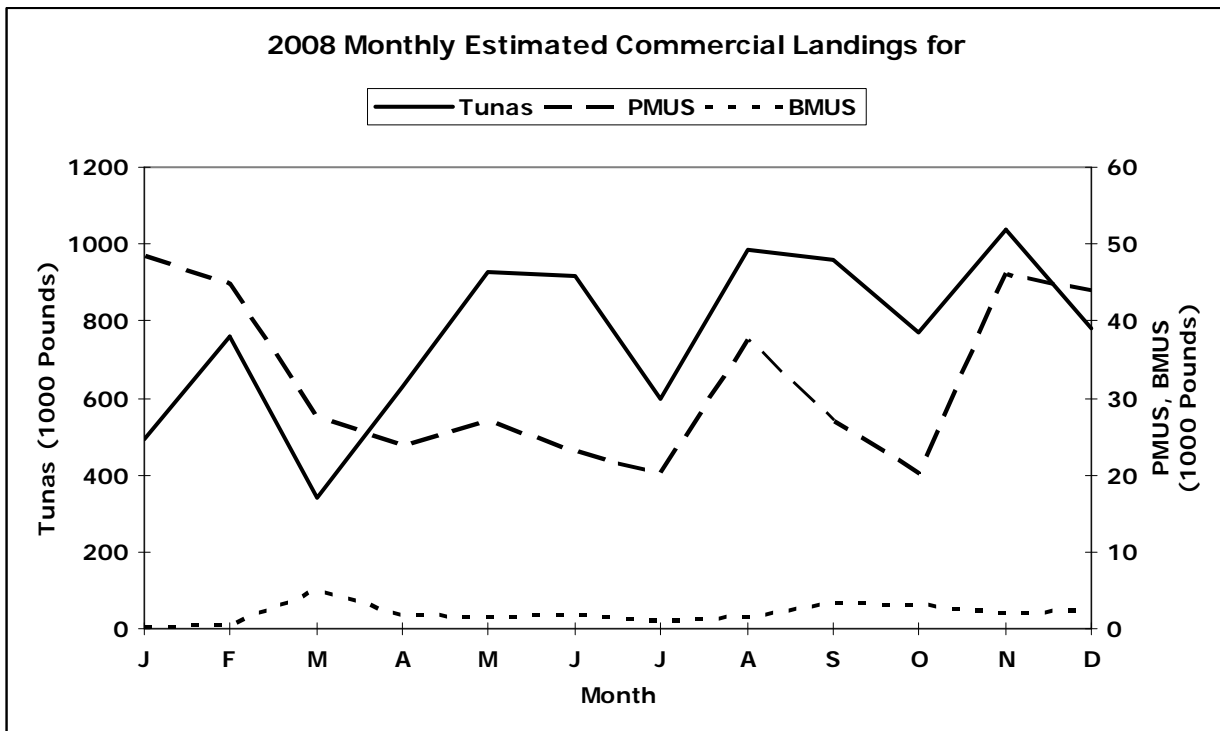


Figure A-1-2

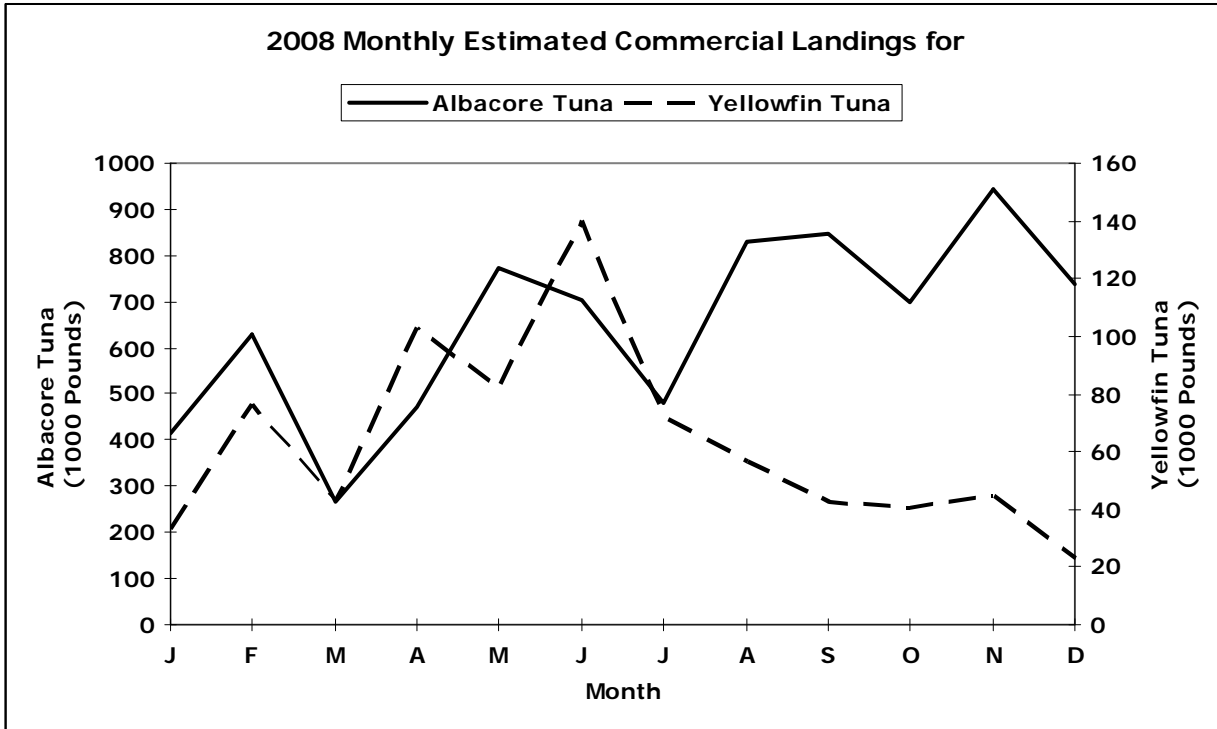


Figure A-1-3

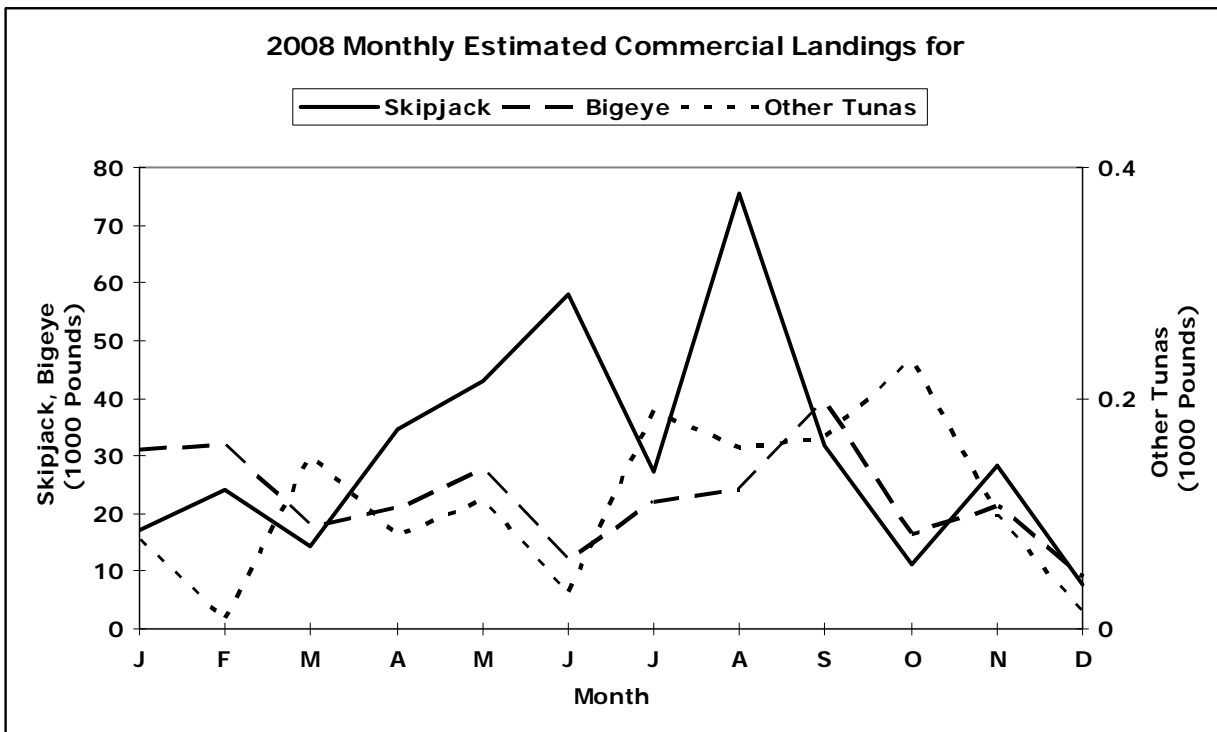


Figure A-1-4

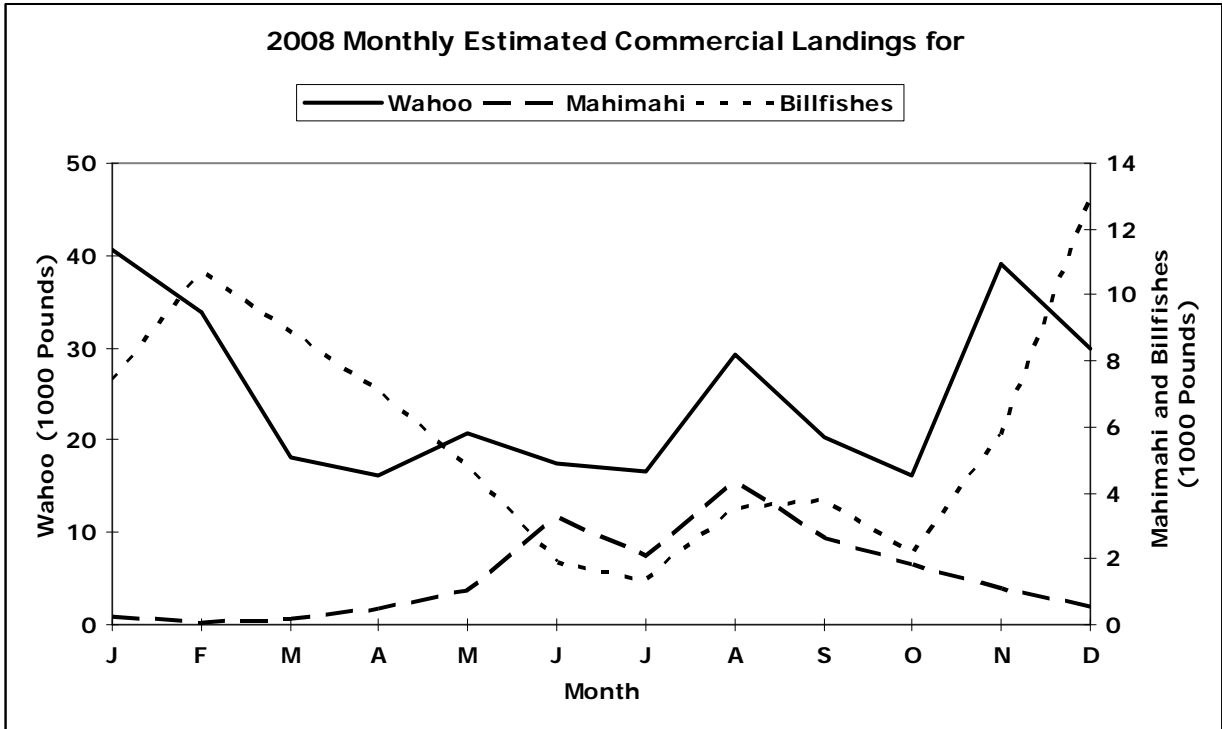


Figure A-1-5

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

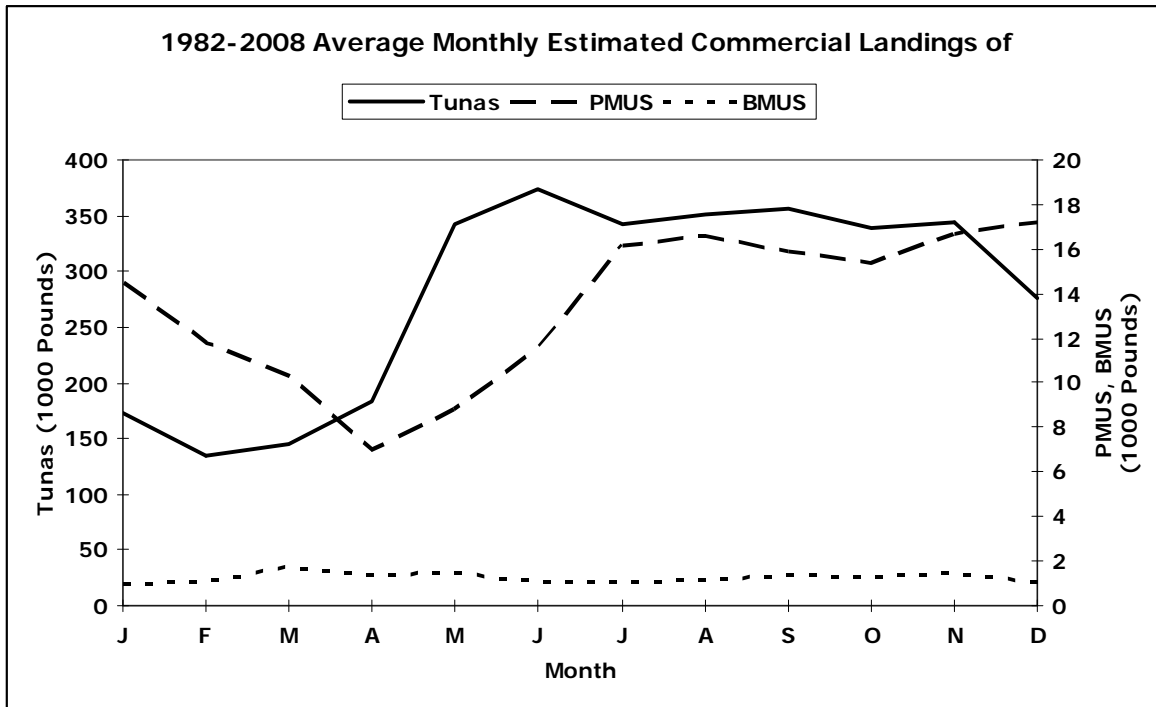


Figure A-2-1

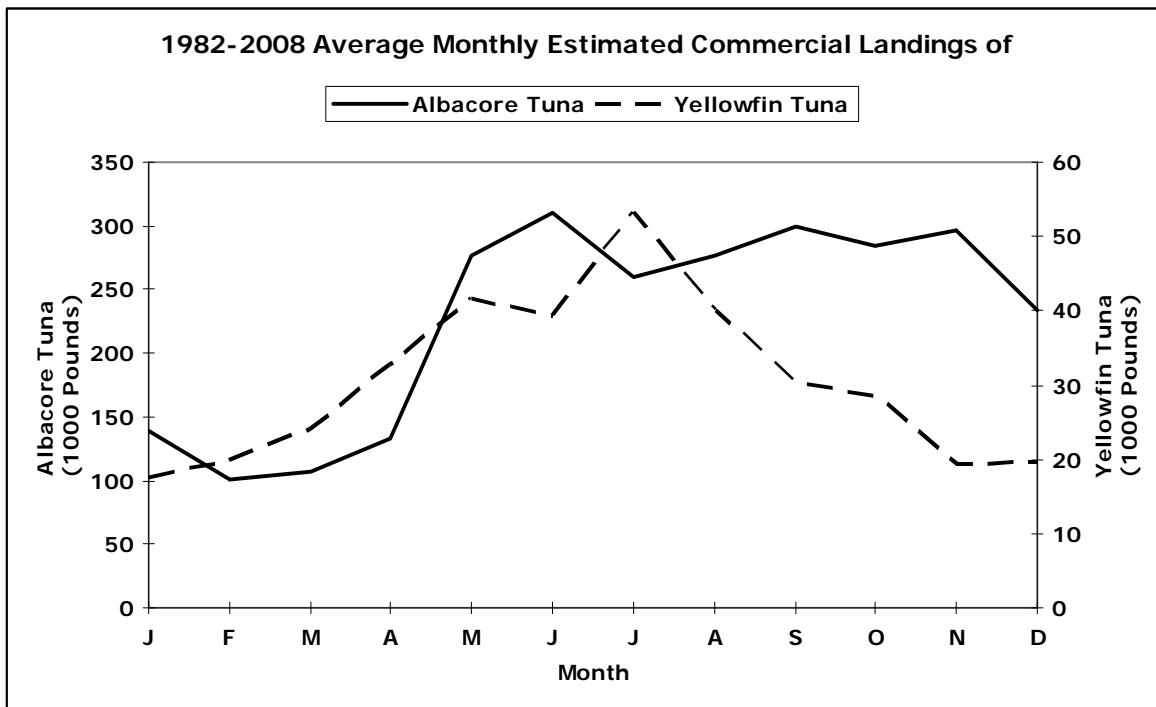


Figure A-2-2

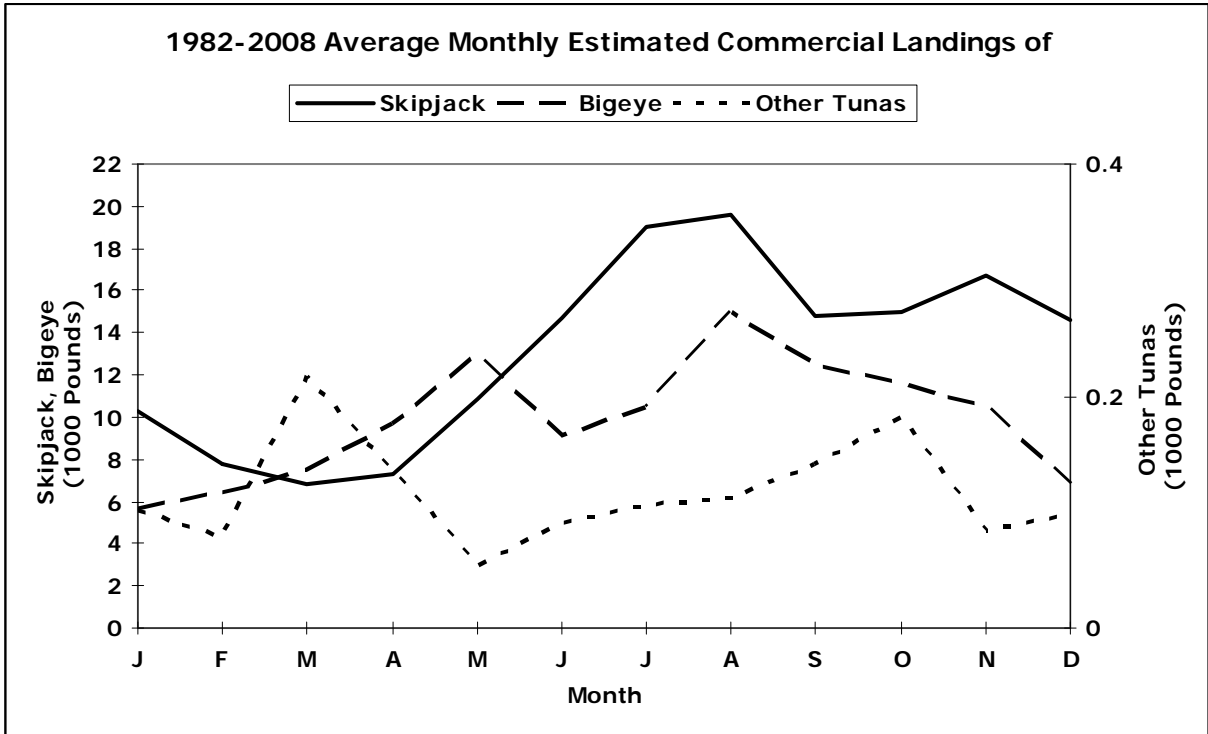


Figure A-2-3

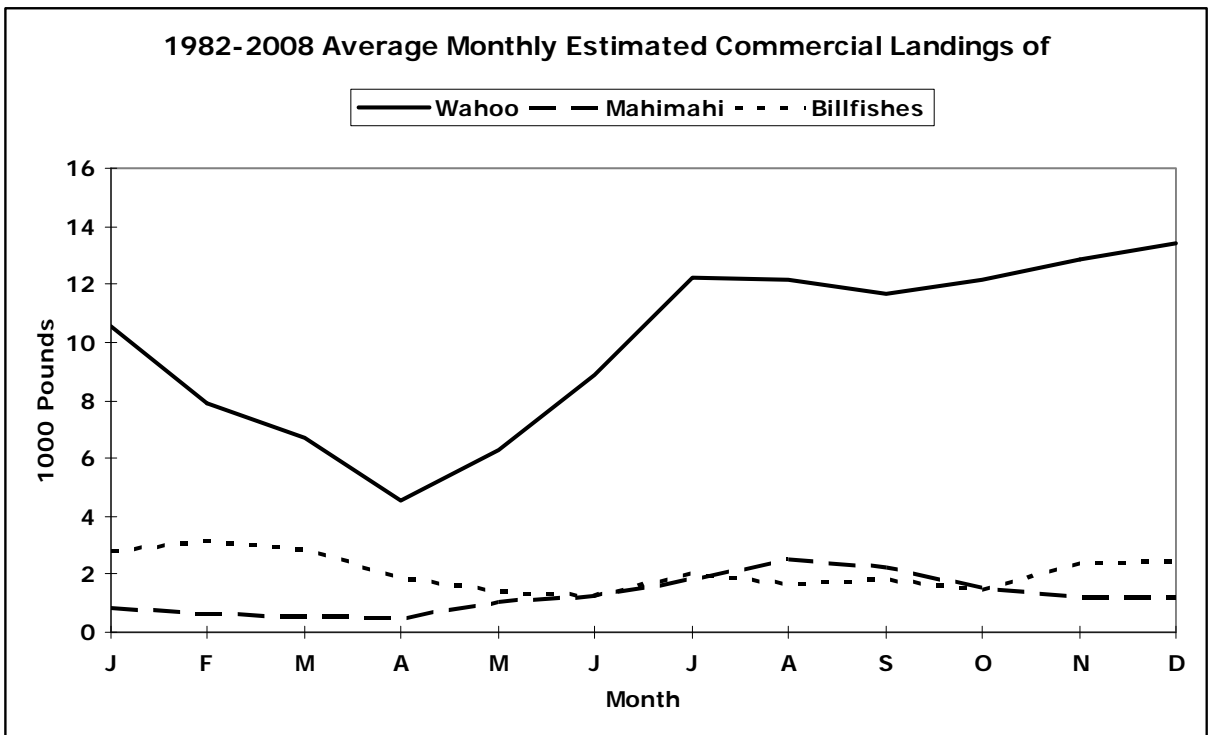


Figure A-2-4

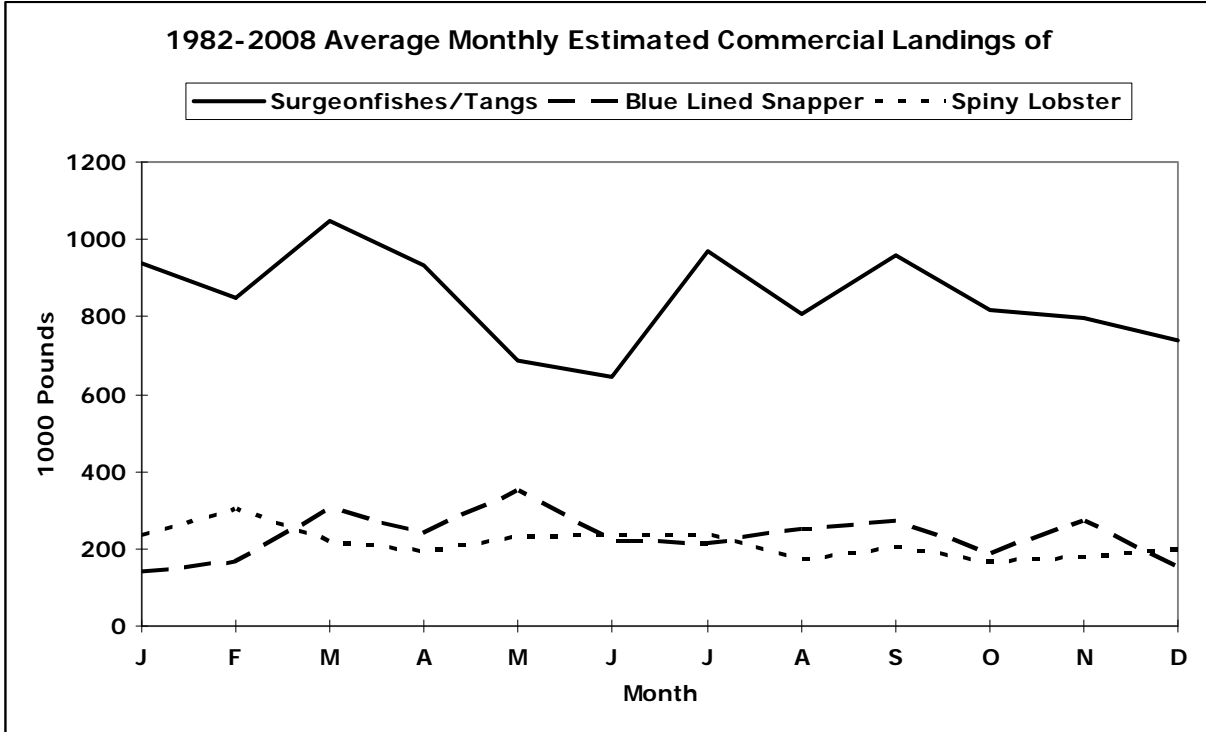


Figure A-2-5

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

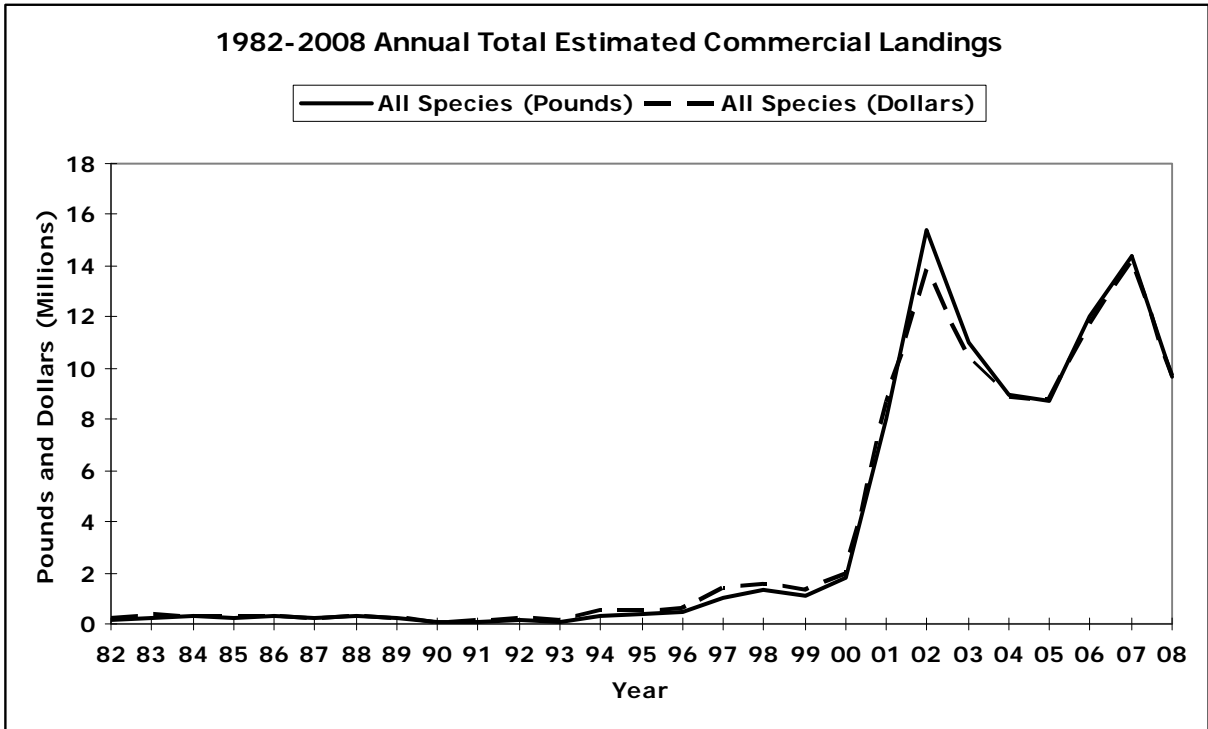


Figure A-3-1

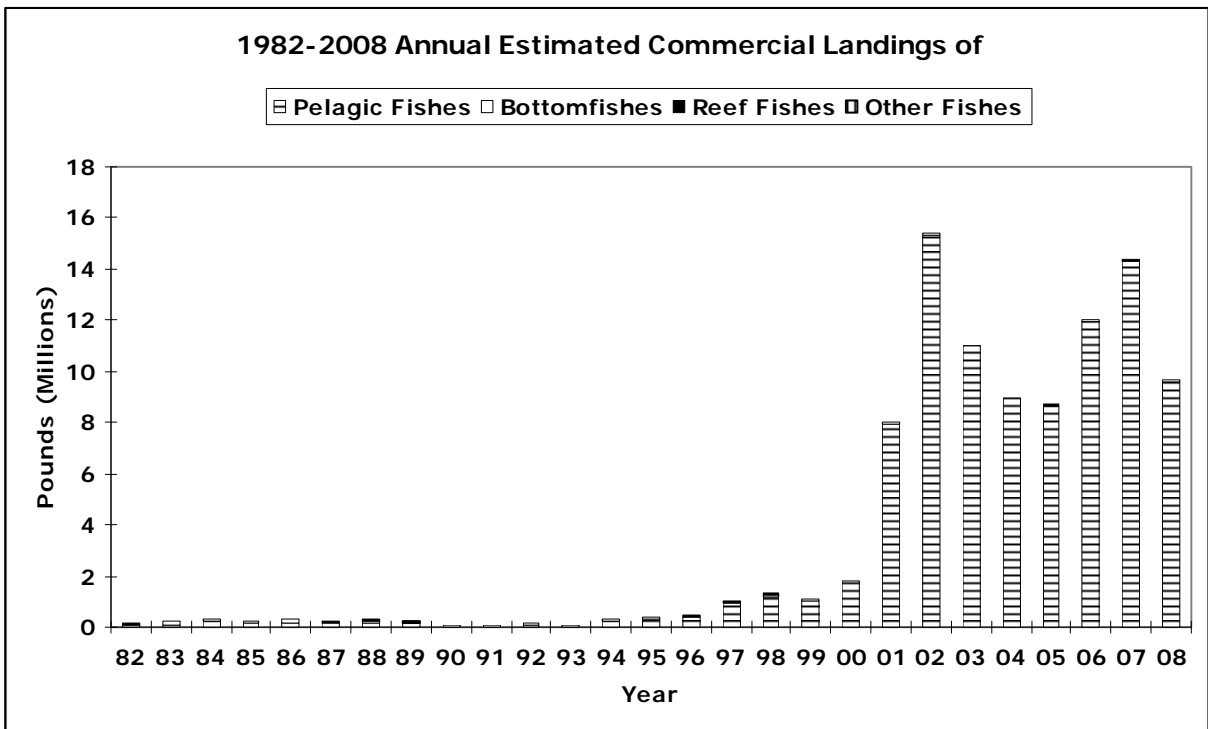


Figure A-3-2

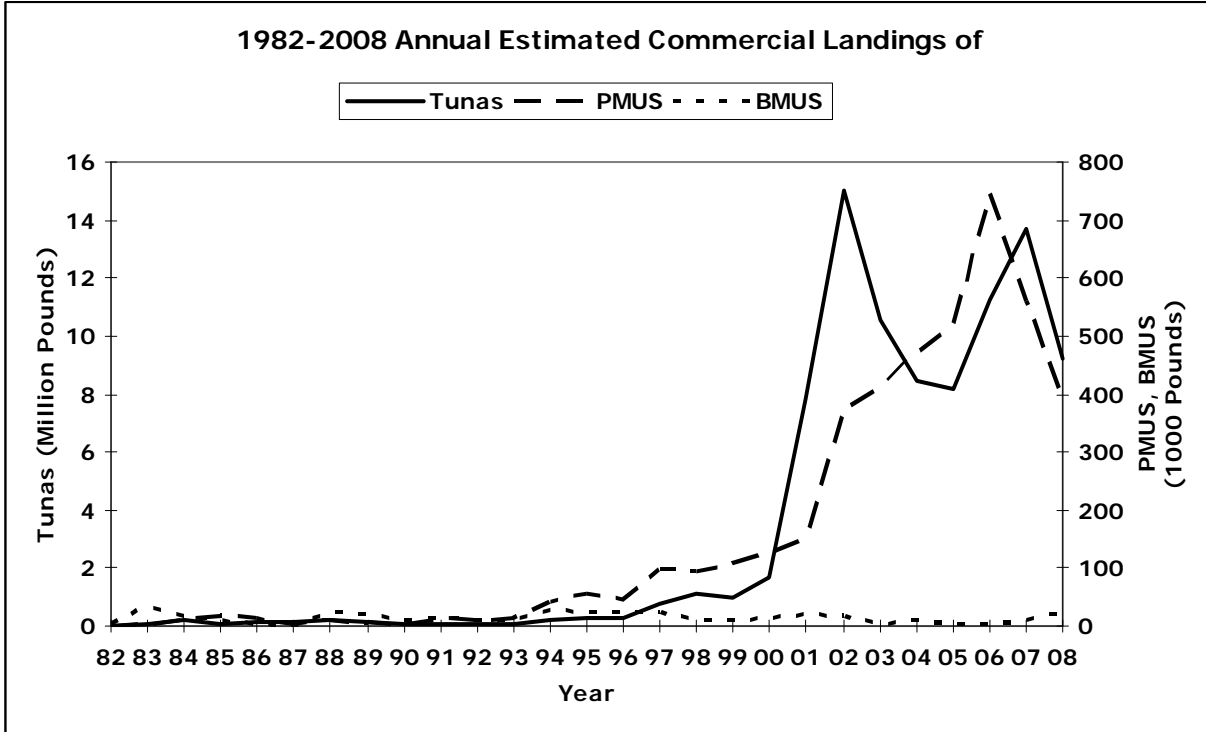


Figure A-3-3

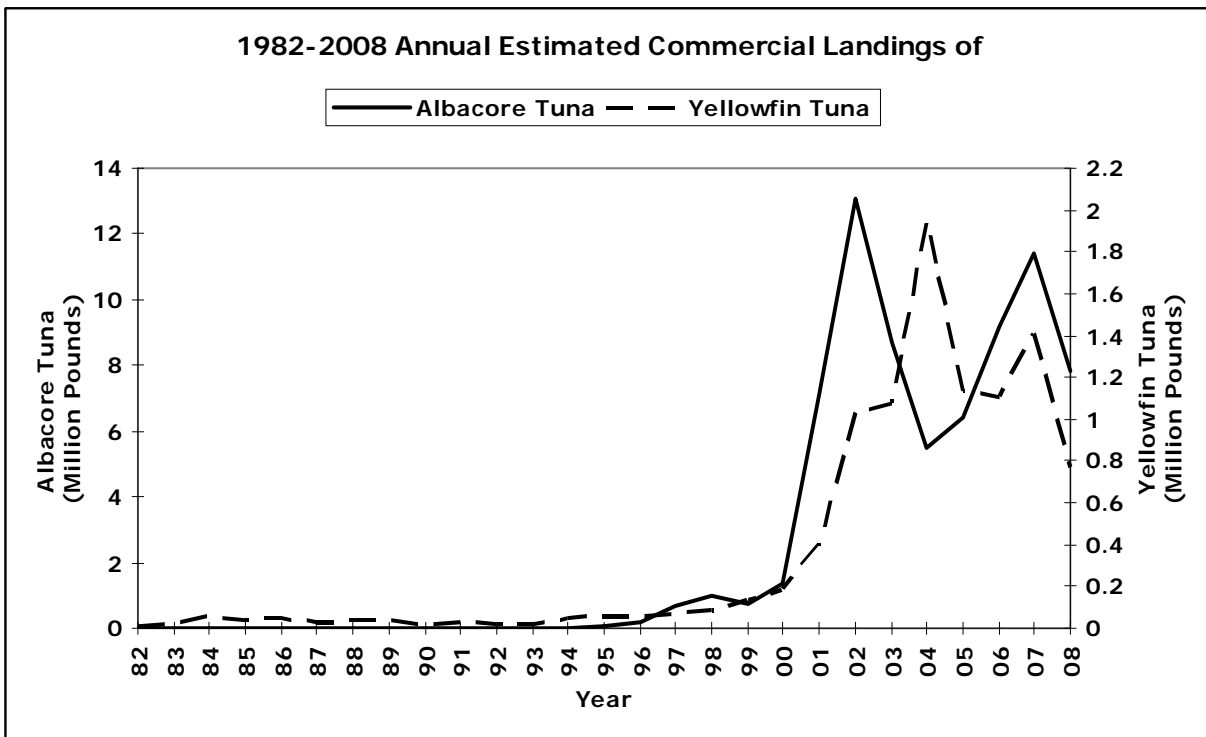


Figure A-3-4

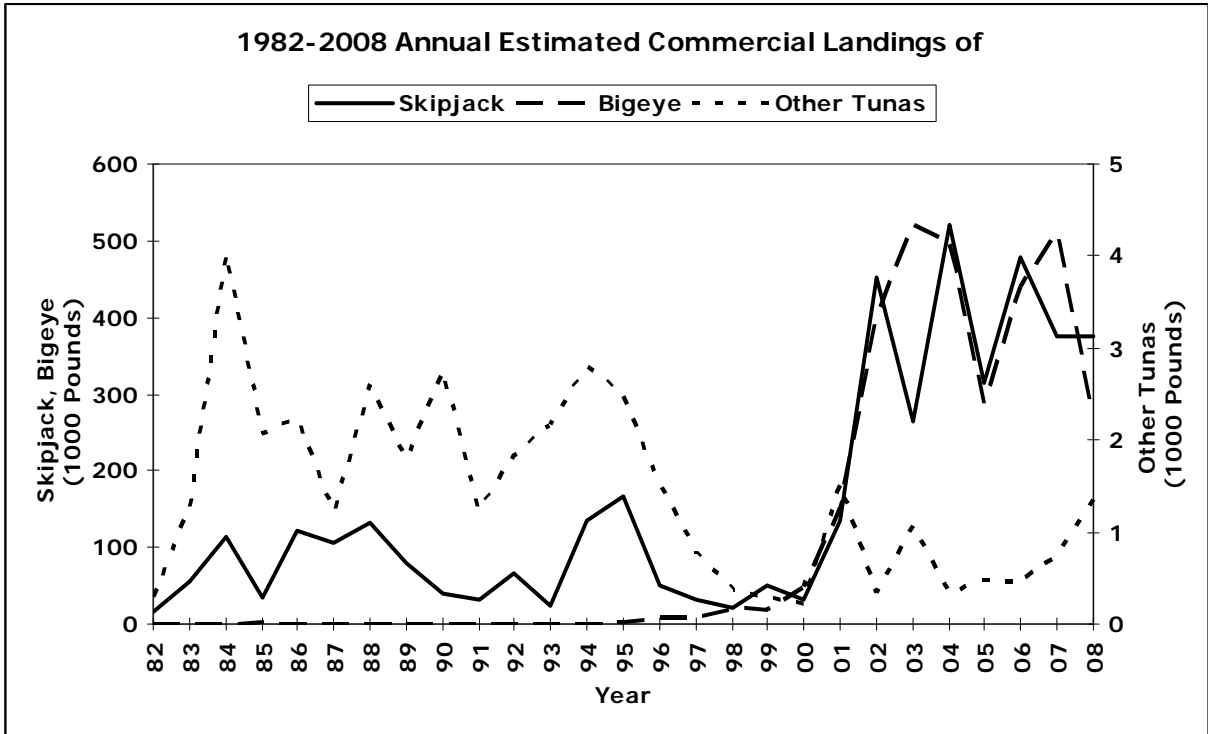


Figure A-3-5

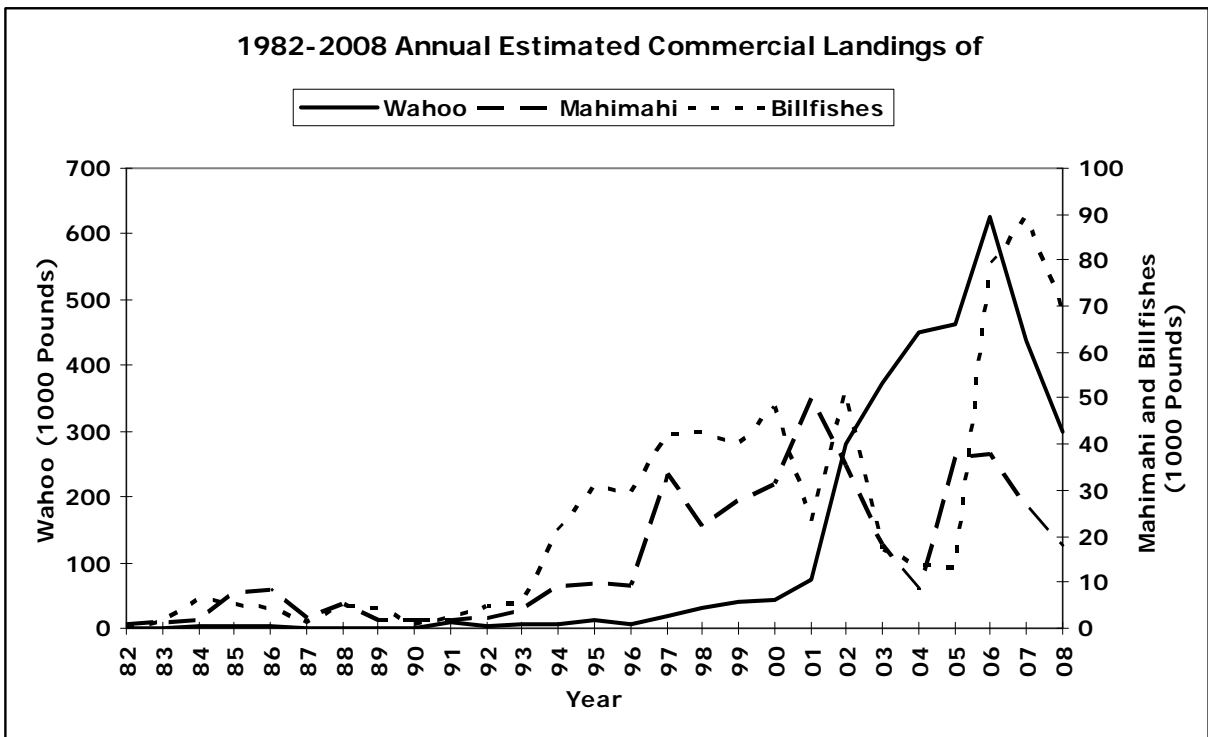


Figure A-3-6

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:

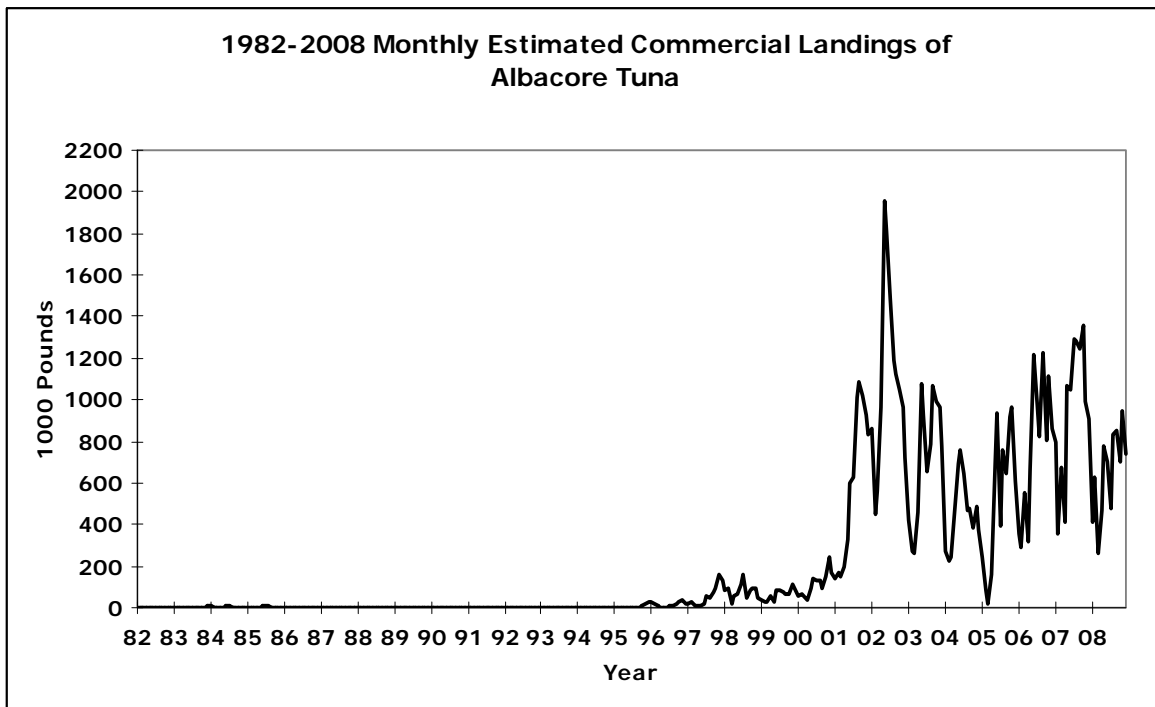


Figure A-4-1

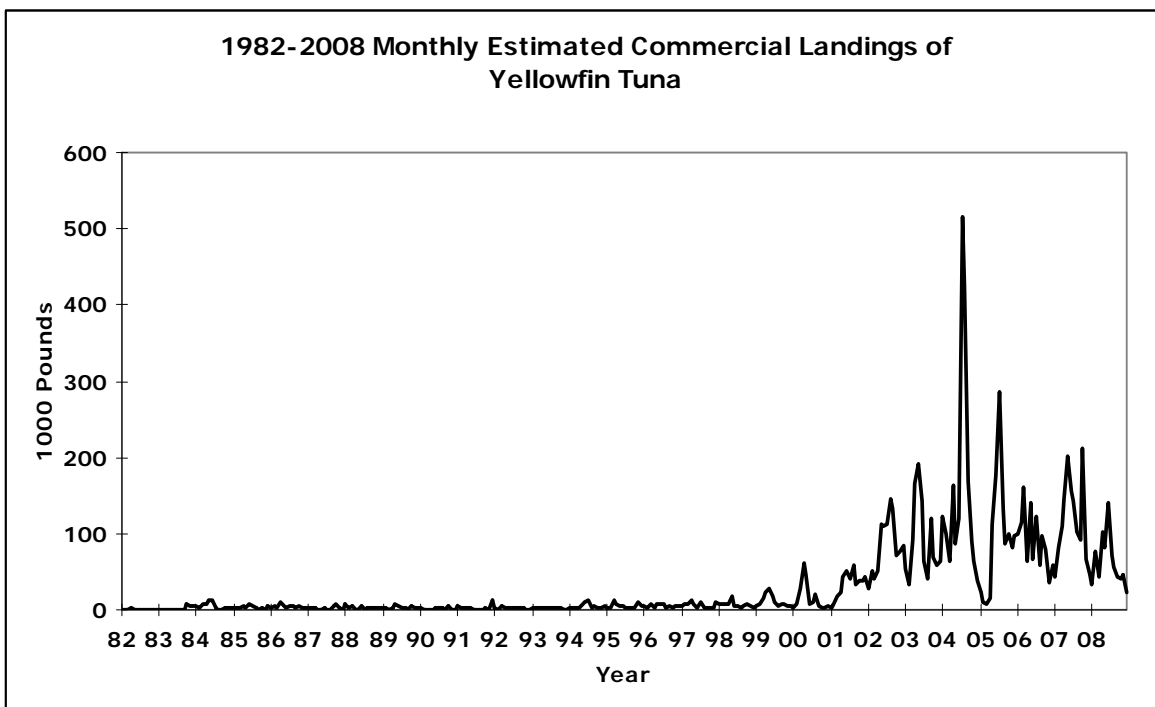


Figure A-4-2

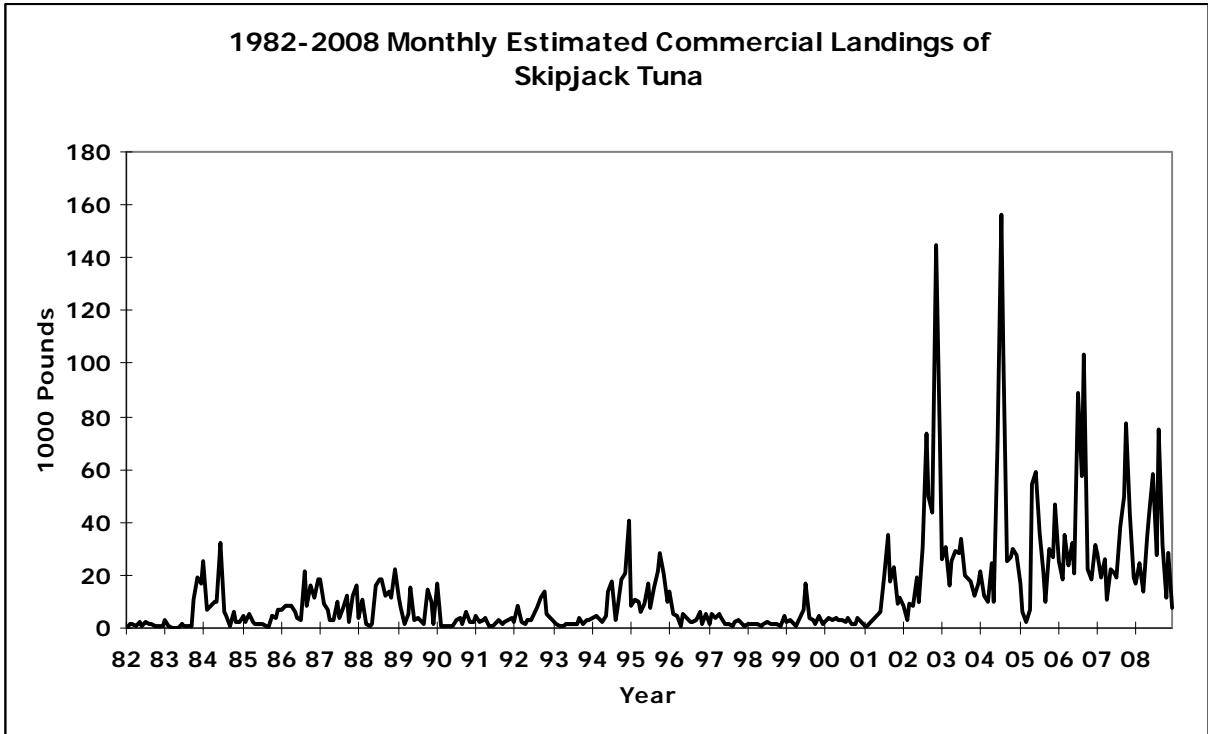


Figure A-4-3

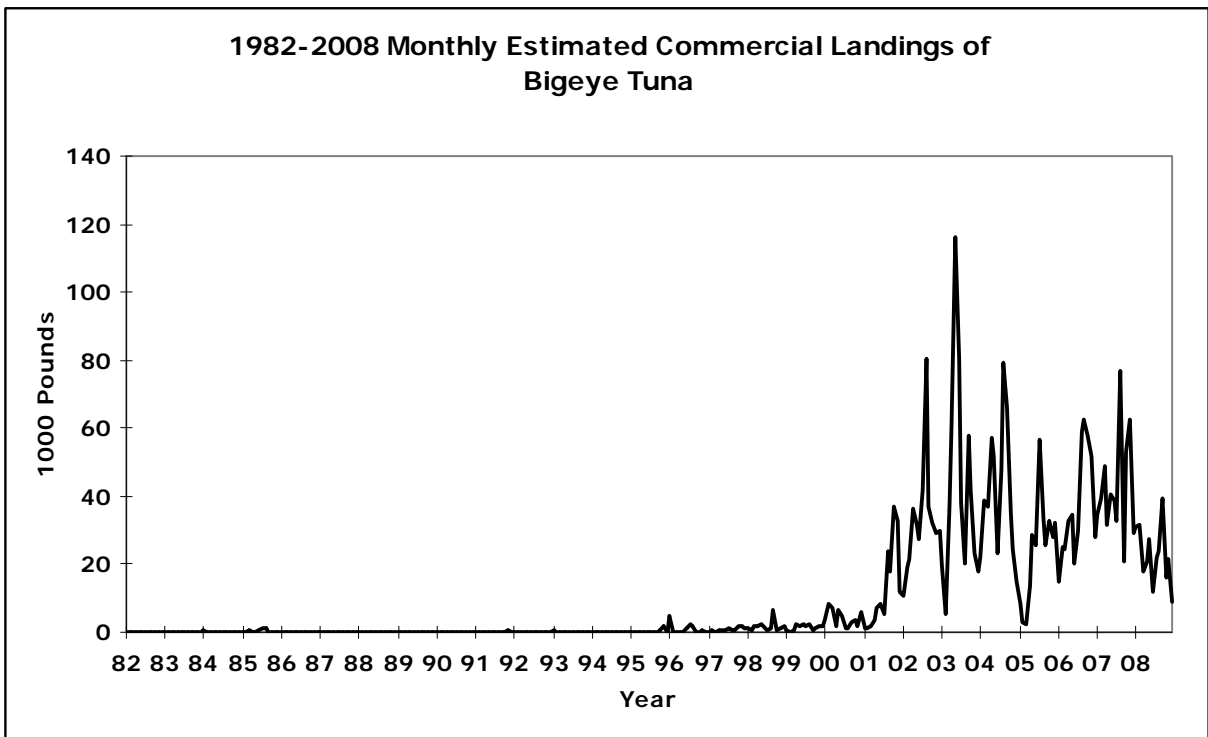


Figure A-4-4

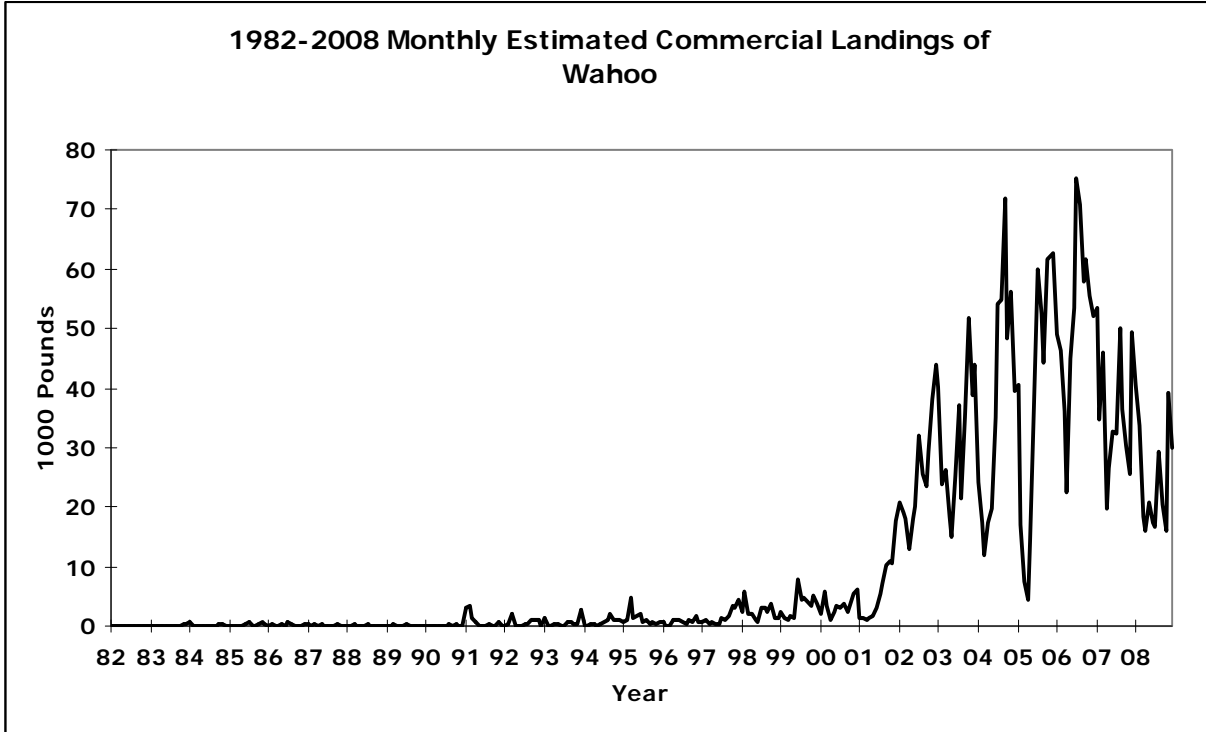


Figure A-4-5

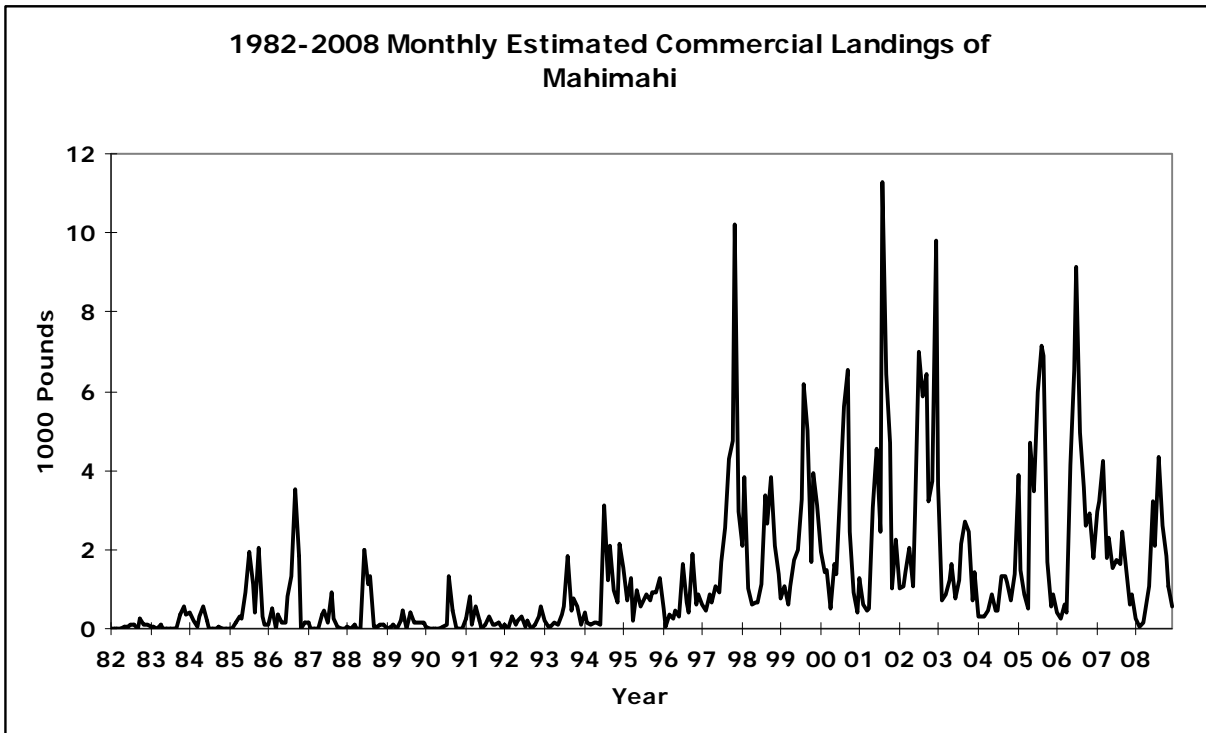


Figure A-4-6

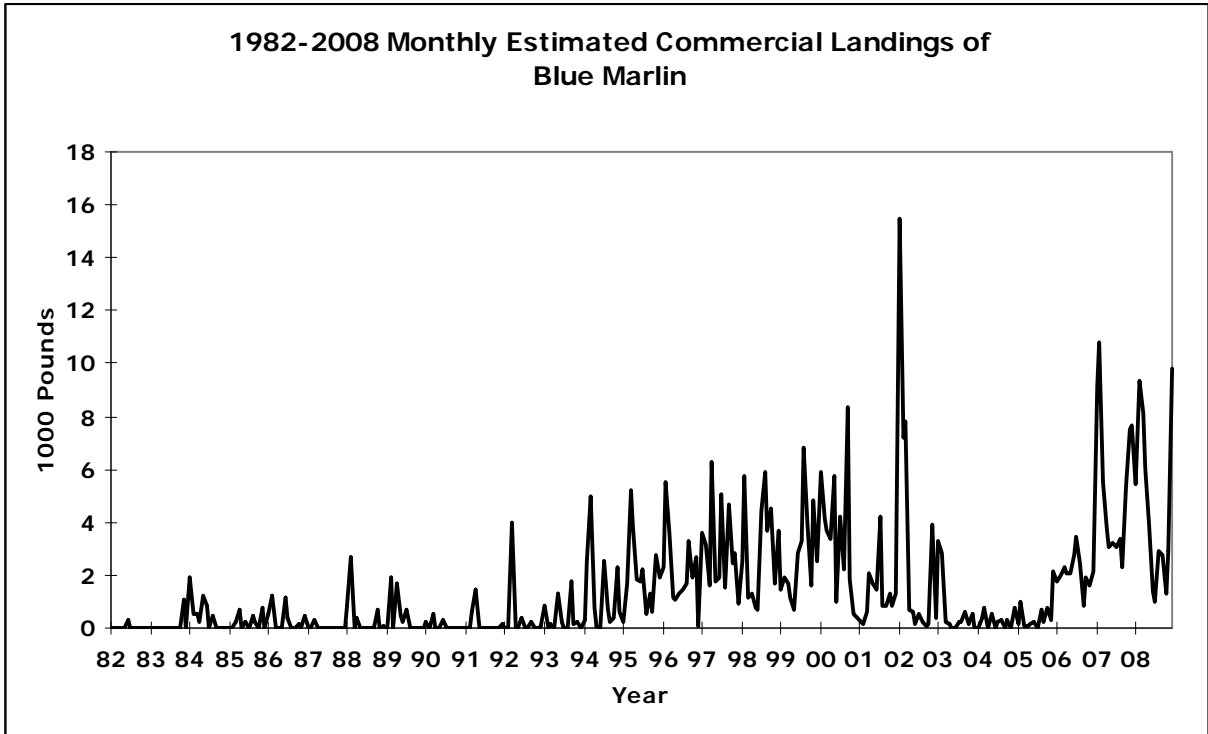


Figure A-4-7

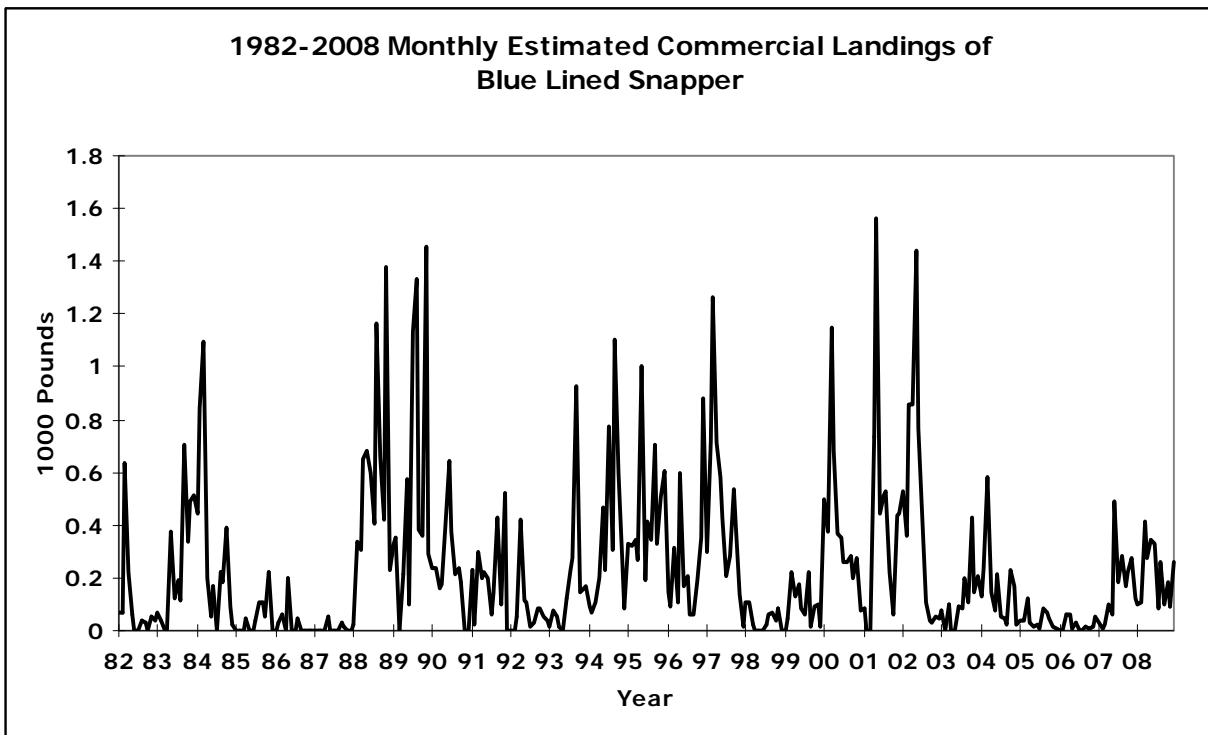


Figure A-4-8

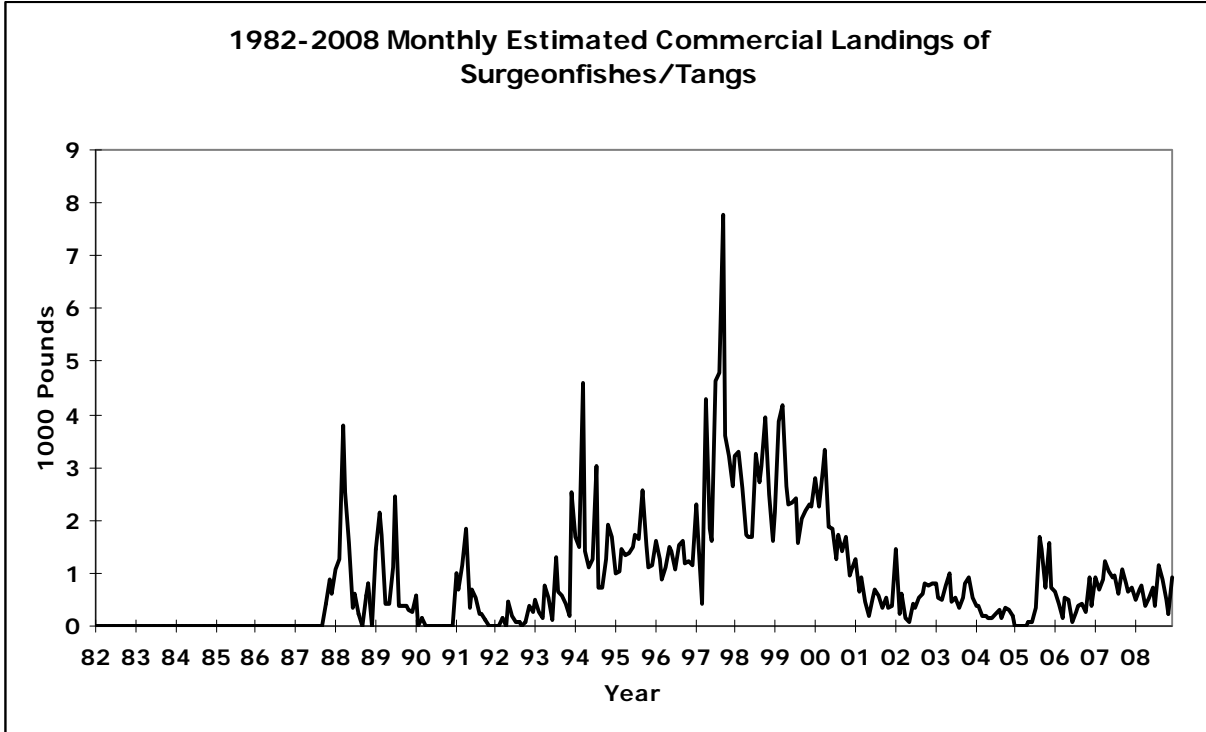


Figure A-4-9

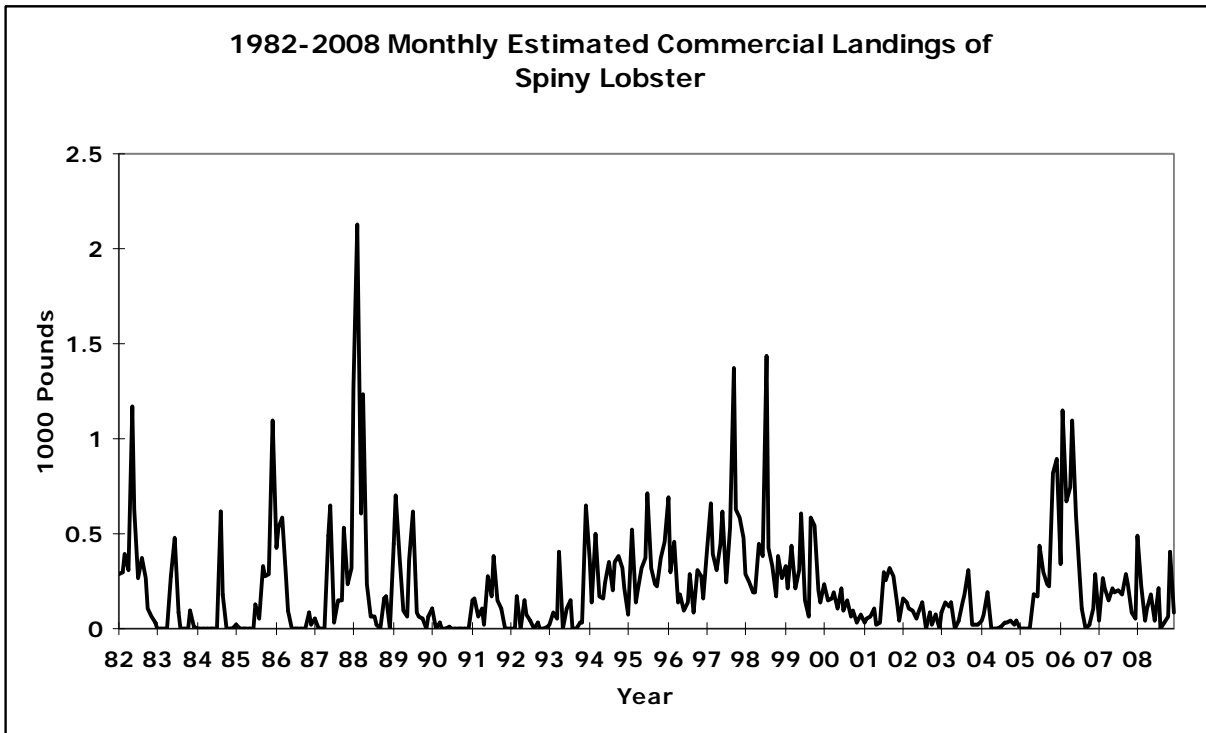


Figure A-4-10

**NORTHERN MARIANA ISLANDS
2008 FISHERY STATISTICS**

Compiled by
Division of Fish and Wildlife
and the
Western Pacific Fisheries Information Network

August 2010

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COMMONWEALTH OF THE NORTHERN MARIANA ISLANDS 2008 FISHERY STATISTICS

INTRODUCTION

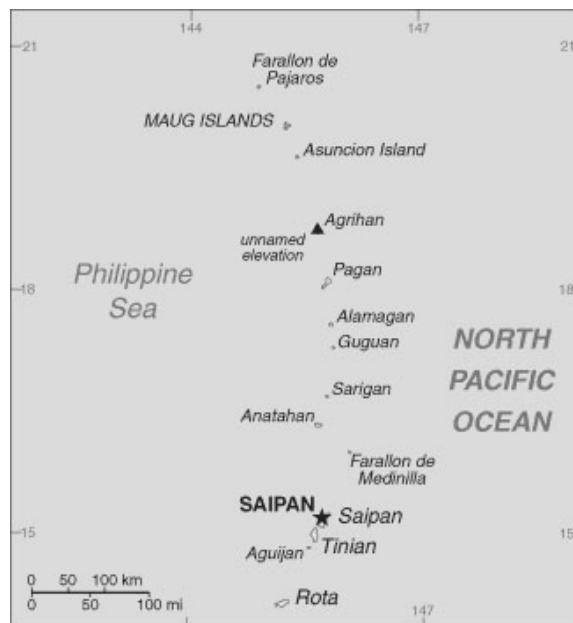
Location: 14° to 21°N latitude, 145°E longitude

Main Islands: Saipan, Rota, Tinian

Population: about 51,484 (*The World Factbook*, July 2009 est.)

Economy: tourism, agriculture, garment production

The chief domestic commercial fishery of the Commonwealth of the Northern Mariana Islands (CNMI) is a small boat, 1-day troll fishery, and most of the boats are 12- to 24-foot outboard-powered, runabout-type vessels. However, a few larger boats are used mainly for bottomfishing around the islands north of Saipan, and a small charter fleet also exists.



CNMI

Source: <https://www.cia.gov/library/publications/the-world-factbook/maps/cq-map.gif>;

The World Factbook

Trolling is the most common fishing method, but 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. In recent years, several larger boats started fishing more intensively for bottomfishes around the islands north of Saipan. While the vast majority of the domestic catch is consumed locally, there have been some intermittent exports to Guam, Hawaii, and Japan.

In 1982 WPacFIN significantly improved data collecting and processing systems by providing computer hardware, software, and training. Since then numerous system upgrades and replacements have been implemented to keep up with changing technologies and the increasing demands for improved fisheries statistics.

DATA COLLECTING

The Division of Fish and Wildlife (DFW) has been collecting fishery statistics about the commercial fishing fleet of Saipan since the mid-1970s. With the assistance of the NMFS WPacFIN program, DFW also expanded its fisheries monitoring programs to include Rota and Tinian, the other two major inhabited islands in the CNMI.

DFW's principal method of collecting domestic commercial fisheries data is a dealer invoicing system, sometimes referred to as a trip ticket system. The DFW provides numbered two-part invoices to all purchasers of fresh fishery products (including hotels, restaurants, stores, fish markets, and roadside vendors). Dealers then complete an invoice each time they purchase fish directly from fishers; one copy goes to DFW and one copy goes to their records.

Some advantages of this data collection method are that it is relatively inexpensive to implement and maintain and is fairly easy to completely cover the commercial fisheries. DFW can also provide feedback to dealers and fishers to ensure data accuracy and continued cooperation.

There are some disadvantages: (1) dependency on non-DFW personnel to identify the catch and record the data; (2) restrictions on the types of data that can be collected; (3) required education and cooperation of all fish purchasers; and (4) limited recordings of fish actually sold to dealers. Therefore, a potentially important portion of the total landings is unrecorded.

Since 1982 DFW has tried to minimize these disadvantages in several ways: (1) maintain a close working relationship with dealers; (2) add new dealers to their list and educate them; and (3) implement a creel survey to help estimate total catch, including recreational and subsistence catch.

The current system collects data from dealers in Saipan, where DFW estimates more than 90% of all CNMI commercial landings are made. The DFW also estimates that the proportion of total commercial landings that have been recorded in the Saipan database since 1983 is about 90%. Previous volumes of FSWP reported only recorded landings, but in recent volumes the data have been adjusted to represent 100% coverage and are referenced as "Estimated Commercial Landings" in the tables and charts.

Information collected from the fishers includes the following:

- Date
- Buyer's Name (dealer)
- Seller's Name (fisherman)
- Species
- Weight (pounds)
- Price per Pound
- Value
- Invoice Number

These data elements are collected for all purchases of fishery products; however, species identification is frequently made only to a group level, especially for reef fish.

DATA PROCESSING

At the beginning of each month, a DFW employee visits each of the dealers on Saipan to collect the previous month's invoices, to resolve problems, and to answer any questions the dealers may have. The invoices are then returned to the office for an initial visual edit during the coding process and entered into the Commercial Purchase System database. After the records are entered, reports are generated to help verify that all the data were entered correctly. On a quarterly basis, copies of the database are sent to the Pacific Islands Fisheries Science Center, where the data are transferred to the central computer for additional verification before generating summary reports. These reports and databases are then ready for use by qualified WPacFIN participants.

DATA REPORTING

After all editing, adjustment, and quality control activities have been completed, monthly and annual summary reports by species are generated. Each monthly report contains a subtotal for the sum of all species for that month. Annual reports contain the total landings for each species and the total recorded landings for all species for the calendar year.

Please note that commercial landings data have been adjusted to reflect total coverage and are referenced as "Estimated Commercial Landings" in the charts and tables. Also, some of the charts in this volume are new or modified from earlier volumes. To access the most up-to-date data and charts, please visit the WPacFIN website, <http://www.pifsc.noaa.gov/wpacfin>.

SPECIES CATEGORIES

The species and species groups that are used in the tables and graphs of CNMI's data are defined in this section. 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 report maintains the original species categorizations from previous FSWP reports for comparative purposes. As such, tunas are kept in a separate category.

I. Pelagic Management Unit Species (PMUS)

Blue marlin	Sharks
Mahimahi	Spearfish
Sailfish	Wahoo

B.4

II. Bottomfish Management Unit Species (BMUS)

Alfonso	Jobfish (uku)
Amberjack	Kalikali (yellowtail)
Black jack	Lyretail grouper
Blacktip grouper	Onaga (red snapper)
Blue lined snapper	Opakapaka (pink snapper)
Ehu (red snapper)	Redgill emperor
Giant trevally	Silvermouth (deep lehi)
Gindai (flower snapper)	Yelloweye opakapaka

III. Billfishes

Blue marlin	Spearfish
Sailfish	

IV. Tunas

Dogtooth tuna	Tunas (unknown)
Kawakawa (saba)	Yellowfin tuna
Skipjack tuna	

V. Other Tunas

Dogtooth tuna	Tunas (unknown)
Kawakawa (saba)	

VI. Fisheries Categories

A. *Pelagic Fishes*

Barracudas	Sailfish
Blue marlin	Sharks
Dogtooth tuna	Skipjack tuna
Kawakawa (saba)	Spearfish
Mahimahi	Tunas (unknown)
Pelagic fishes (unknown)	Wahoo
Rainbow runner	Yellowfin tuna

B. *Bottomfishes*

Alfonsin	Kalikali (yellowtail)
Amberjack	Longnose emperor
Bigeye emperor	Lyretail grouper
Bigeye trevally	Marbled grouper
Black jack	Onaga (red snapper)
Blackspot emperor	Onespot snapper
Blacktip grouper	Opakapaka (pink snapper)
Blue lined gindai	Orange spotted trevally
Blue lined snapper	Orangefin emperor
Bluefin trevally	Peacock grouper
Bottomfishes (unknown)	Pink grouper
Brassy trevally	Red snapper
Ehu (red snapper)	Redgill emperor
Eight banded grouper	Saddleback grouper
Emperors	Sickle pomfret
Flagtail grouper	Silvermouth (deep lehi)
Flametail emperor	Smalltooth jobfish
Giant coral trout	Stout emperor
Giant trevally	Tomato grouper
Gindai (flower snapper)	White lyretail grouper
Groupers	Yellow banded grouper
Highfin grouper	Yellow spotted trevally
Honeycomb grouper	Yelloweye opakapaka
Humpback snapper	Yellowlips emperor
Jacks	Yellowstripe emperor
Jobfish (uku)	

C. *Reef Fishes*

Bigeye/glasseye	Reef fishes (unknown)
Bluebanded surgeonfish	Shallow snappers
Bluespine unicornfish	Soldierfishes
Butterflyfish	Squirrelfishes
Convict tang	Surgeonfishes
Dash & dot goatfish	Sweetlips
Fusiliers	Triggerfishes
Goatfishes	Tripletail wrasse
Highfin rudderfish brown	Two-barred goatfish
Highfin rudderfish silver	Unicornfishes
Humphead wrasse	Wrasses
Orangespine unicornfish	Yellowfin surgeonfish
Parrotfishes	Yellowstripe goatfish
Rabbitfishes	

D. *Other Fishes*

Bigeye scad	Octopus
Clams/bivalves	Sea cucumbers
Coconut crab	Seaweeds
Crabs	Shrimp (freshwater)
Eels (freshwater)	Shrimp (saltwater)
Invertebrates	Slipper lobster
Kona crab	Spiny lobster
Lemu	Squid
Milkfish	Trochus
Miscellaneous	Turtle
Mullet	

Table B-1
CNMI Annual 2008 Estimated Commercial Landings

Species	Pounds	Value (\$)	Price/Lb (\$)
Bigeye scad	38,461	93,842	2.44
Jacks	1,785	4,389	2.46
Black jack	171	408	2.38
Giant trevally	24	48	2.00
Bottomfishes (unknown)	7,946	20,165	2.54
Sickle pomfret	1,572	3,798	2.42
Ehu (red snapper)	1,911	6,962	3.64
Gindai (flower snapper)	2,461	8,943	3.63
Groupers	2,932	9,549	3.26
Kalikali (yellowtail)	1,832	4,704	2.57
Onaga (red snapper)	2,620	12,016	4.59
Opakapaka (pink snapper)	4,013	10,858	2.71
Jobfish (uku)	2,743	5,548	2.02
Silvermouth (deep lehi)	640	1,799	2.81
Amberjack	548	1,362	2.48
Blue lined snapper	1,424	3,608	2.53
Red snapper	99	273	2.75
Reef fishes (unknown)	46,939	121,082	2.58
Wrasses	1,018	2,584	2.54
Rabbitfishes	2,976	8,934	3.00
Emperors	10,289	25,547	2.48
Parrotfishes	30,738	97,560	3.17
Surgeonfishes	1,440	2,977	2.07
Orangespine unicornfish	323	808	2.50
Unicornfishes	526	1,350	2.57
Goatfishes	205	513	2.50
Longnose emperor	15	37	2.50
Bigeye emperor	617	1,322	2.14
Pelagic fishes (unknown)	14	35	2.50
Barracudas	61	91	1.50
Mahimahi	13,187	24,249	1.84
Blue marlin	2,027	2,521	1.24
Rainbow runner	4,573	9,022	1.97
Wahoo	1,669	3,386	2.03
Tunas (unknown)	42	62	1.50
Skipjack tuna	170,059	267,665	1.57
Dogtooth tuna	3,487	5,471	1.57
Yellowfin tuna	18,695	36,760	1.97
Kawakawa (saba)	3,802	6,368	1.67
Spiny lobster	2,260	11,876	5.26
Slipper lobster	372	1,521	4.09
Octopus	1,908	3,809	2.00
TOTAL	388,426	823,821	2.12

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Table B-2
CNMI January 2008 Estimated Commercial Landings

Species	Pounds	Value (\$)	Price/Lb (\$)
Bigeye scad	2,205	5,406	2.45
Jacks	31	77	2.50
Bottomfishes (unknown)	105	346	3.31
Ehu (red snapper)	75	243	3.22
Gindai (flower snapper)	25	76	3.10
Groupers	788	2,560	3.25
Onaga (red snapper)	82	326	4.00
Opakapaka (pink snapper)	164	412	2.51
Jobfish (uku)	170	260	1.53
Silvermouth (deep lehi)	17	51	3.00
Reef fishes (unknown)	4,722	12,101	2.56
Wrasses	113	241	2.13
Rabbitfishes	407	1,251	3.08
Emperors	535	1,393	2.61
Parrotfishes	1,840	5,900	3.21
Surgeonfishes	82	163	2.00
Longnose emperor	15	37	2.50
Mahimahi	1,825	3,413	1.87
Rainbow runner	114	216	1.90
Wahoo	31	62	2.00
Skipjack tuna	15,373	23,142	1.51
Dogtooth tuna	302	452	1.50
Yellowfin tuna	2,077	3,734	1.80
Spiny lobster	97	545	5.60
Octopus	123	251	2.04
TOTAL	31,314	62,657	2.00

Table B-3
CNMI February 2008 Estimated Commercial Landings

Species	Pounds	Value (\$)	Price/Lb (\$)
Bigeye scad	1,309	3,335	2.55
Jacks	100	257	2.57
Bottomfishes (unknown)	369	923	2.50
Sickle pomfret	32	57	1.75
Ehu (red snapper)	46	173	3.75
Gindai (flower snapper)	140	502	3.59
Groupers	370	1,191	3.22
Kalikali (yellowtail)	22	59	2.75
Onaga (red snapper)	142	681	4.78
Opakapaka (pink snapper)	200	548	2.74
Jobfish (uku)	885	1,772	2.00
Silvermouth (deep lehi)	20	60	3.00
Amberjack	31	85	2.75
Reef fishes (unknown)	5,804	14,910	2.57
Wrasses	244	569	2.34
Rabbitfishes	338	1,021	3.03
Emperors	1,561	3,992	2.56
Parrotfishes	2,374	7,553	3.18
Surgeonfishes	116	232	2.00
Mahimahi	2,262	4,037	1.79
Rainbow runner	218	397	1.82
Wahoo	105	209	2.00
Tunas (unknown)	42	62	1.50
Skipjack tuna	13,917	22,435	1.61
Dogtooth tuna	454	689	1.52
Yellowfin tuna	1,618	3,176	1.96
Kawakawa (saba)	62	125	2.00
Spiny lobster	44	228	5.17
Octopus	106	214	2.01
TOTAL	32,930	69,495	2.11

Table B-4
CNMI March 2008 Estimated Commercial Landings

Species	Pounds	Value (\$)	Price/Lb (\$)
Bigeye scad	403	1,102	2.73
Jacks	20	50	2.50
Black jack	40	80	2.00
Bottomfishes (unknown)	1,723	4,342	2.52
Sickle pomfret	48	96	2.02
Ehu (red snapper)	162	609	3.75
Gindai (flower snapper)	265	974	3.67
Groupers	295	1,319	4.48
Kalikali (yellowtail)	281	702	2.50
Onaga (red snapper)	232	1,108	4.77
Opakapaka (pink snapper)	568	1,538	2.71
Jobfish (uku)	8	15	2.00
Silvermouth (deep lehi)	43	151	3.50
Blue lined snapper	46	115	2.50
Reef fishes (unknown)	5,941	15,299	2.58
Wrasses	31	85	2.75
Rabbitfishes	318	968	3.04
Emperors	805	2,055	2.55
Parrotfishes	1,792	5,723	3.19
Surgeonfishes	34	86	2.50
Unicornfishes	140	379	2.71
Mahimahi	3,476	6,958	2.00
Rainbow runner	239	463	1.94
Wahoo	35	71	2.00
Skipjack tuna	10,861	16,990	1.56
Dogtooth tuna	242	432	1.78
Yellowfin tuna	485	1,029	2.12
Spiny lobster	1	3	4.00
Slipper lobster	4	19	5.00
Octopus	172	343	2.00
TOTAL	28,712	63,104	2.20

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Table B-5
CNMI April 2008 Estimated Commercial Landings

Species	Pounds	Value (\$)	Price/Lb (\$)
Bigeye scad	271	741	2.73
Jacks	29	73	2.50
Bottomfishes (unknown)	459	1,178	2.56
Sickle pomfret	107	234	2.19
Ehu (red snapper)	294	1,068	3.64
Gindai (flower snapper)	245	907	3.70
Groupers	417	1,411	3.38
Kalikali (yellowtail)	47	117	2.50
Onaga (red snapper)	277	1,131	4.08
Opakapaka (pink snapper)	528	1,455	2.75
Jobfish (uku)	39	85	2.18
Silvermouth (deep lehi)	70	198	2.82
Amberjack	45	103	2.32
Reef fishes (unknown)	4,503	11,442	2.54
Wrasses	138	407	2.94
Rabbitfishes	473	1,314	2.78
Emperors	255	637	2.50
Parrotfishes	2,435	7,610	3.12
Surgeonfishes	184	437	2.37
Orangespine unicornfish	58	146	2.50
Unicornfishes	146	365	2.50
Goatfishes	29	73	2.50
Mahimahi	1,118	1,736	1.55
Rainbow runner	36	72	2.00
Wahoo	27	55	2.00
Skipjack tuna	16,161	18,845	1.17
Dogtooth tuna	530	736	1.39
Yellowfin tuna	745	1,454	1.95
Spiny lobster	93	467	5.05
Slipper lobster	14	69	5.00
Octopus	108	218	2.01
TOTAL	29,884	54,786	1.83

Table B-6
CNMI May 2008 Estimated Commercial Landings

Species	Pounds	Value (\$)	Price/Lb (\$)
Bigeye scad	1,965	5,561	2.83
Jacks	275	629	2.29
Bottomfishes (unknown)	863	2,167	2.51
Sickle pomfret	415	1,024	2.47
Ehu (red snapper)	88	325	3.71
Gindai (flower snapper)	208	759	3.65
Groupers	117	316	2.69
Kalikali (yellowtail)	62	167	2.68
Onaga (red snapper)	308	1,397	4.53
Opakapaka (pink snapper)	205	555	2.71
Jobfish (uku)	486	978	2.01
Silvermouth (deep lehi)	118	307	2.59
Amberjack	75	188	2.50
Blue lined snapper	183	458	2.50
Reef fishes (unknown)	4,662	12,104	2.60
Wrasses	65	172	2.64
Rabbitfishes	392	1,155	2.95
Emperors	1,330	2,939	2.21
Parrotfishes	2,855	9,134	3.20
Surgeonfishes	26	52	2.00
Mahimahi	58	117	2.00
Blue marlin	231	231	1.00
Rainbow runner	442	829	1.88
Skipjack tuna	15,442	18,735	1.21
Dogtooth tuna	645	958	1.49
Yellowfin tuna	1,236	2,404	1.94
Spiny lobster	200	1,042	5.22
Octopus	90	180	2.00
TOTAL	33,043	64,882	1.96

Table B-7
CNMI June 2008 Estimated Commercial Landings

Species	Pounds	Value (\$)	Price/Lb (\$)
Bigeye scad	5,299	14,339	2.71
Jacks	14	34	2.50
Black jack	9	23	2.50
Bottomfishes (unknown)	214	500	2.33
Sickle pomfret	163	408	2.50
Ehu (red snapper)	28	98	3.43
Gindai (flower snapper)	98	345	3.50
Groupers	152	571	3.76
Kalikali (yellowtail)	201	524	2.61
Onaga (red snapper)	38	192	5.00
Opakapaka (pink snapper)	26	65	2.50
Jobfish (uku)	173	347	2.00
Silvermouth (deep lehi)	8	23	3.00
Blue lined snapper	31	78	2.50
Red snapper	40	110	2.75
Reef fishes (unknown)	3,853	9,872	2.56
Wrasses	50	163	3.25
Rabbitfishes	240	745	3.10
Emperors	685	1,727	2.52
Parrotfishes	2,206	6,996	3.17
Surgeonfishes	226	452	2.00
Bigeye emperor	117	292	2.50
Mahimahi	235	353	1.50
Rainbow runner	518	1,034	2.00
Wahoo	97	194	2.00
Skipjack tuna	13,322	22,491	1.69
Dogtooth tuna	321	506	1.58
Yellowfin tuna	586	1,152	1.96
Spiny lobster	278	1,482	5.32
Slipper lobster	198	992	5.00
Octopus	92	185	2.00
TOTAL	29,523	66,293	2.25

Table B-8
CNMI July 2008 Estimated Commercial Landings

Species	Pounds	Value (\$)	Price/Lb (\$)
Bigeye scad	5,244	12,638	2.41
Jacks	369	984	2.67
Bottomfishes (unknown)	1,032	2,618	2.54
Sickle pomfret	380	941	2.48
Ehu (red snapper)	130	467	3.59
Gindai (flower snapper)	422	1,555	3.69
Groupers	52	157	3.00
Kalikali (yellowtail)	202	509	2.52
Onaga (red snapper)	82	368	4.50
Opakapaka (pink snapper)	212	578	2.72
Jobfish (uku)	87	187	2.15
Silvermouth (deep lehi)	154	440	2.85
Amberjack	20	55	2.75
Blue lined snapper	144	360	2.50
Reef fishes (unknown)	3,302	8,458	2.56
Wrasses	235	620	2.64
Rabbitfishes	96	302	3.13
Emperors	893	2,233	2.50
Parrotfishes	2,226	6,988	3.14
Surgeonfishes	90	179	2.00
Bigeye emperor	59	148	2.50
Mahimahi	27	54	2.00
Blue marlin	342	512	1.50
Rainbow runner	141	282	2.00
Skipjack tuna	11,562	19,170	1.66
Dogtooth tuna	285	468	1.64
Yellowfin tuna	1,090	2,192	2.01
Spiny lobster	589	3,038	5.16
Octopus	314	628	2.00
TOTAL	29,780	67,127	2.25

Table B-9
CNMI August 2008 Estimated Commercial Landings

Species	Pounds	Value (\$)	Price/Lb (\$)
Bigeye scad	5,952	14,647	2.46
Jacks	203	514	2.53
Black jack	99	247	2.50
Bottomfishes (unknown)	453	1,139	2.52
Sickle pomfret	162	365	2.25
Ehu (red snapper)	485	1,790	3.69
Gindai (flower snapper)	509	1,866	3.67
Groupers	577	1,558	2.70
Kalikali (yellowtail)	493	1,298	2.63
Onaga (red snapper)	372	1,662	4.47
Opakapaka (pink snapper)	500	1,371	2.74
Jobfish (uku)	246	500	2.03
Silvermouth (deep lehi)	118	324	2.75
Amberjack	177	428	2.42
Blue lined snapper	318	796	2.50
Red snapper	52	144	2.75
Reef fishes (unknown)	2,952	7,621	2.58
Wrasses	28	83	3.00
Rabbitfishes	165	494	2.99
Emperors	1,038	2,615	2.52
Parrotfishes	3,585	11,197	3.12
Surgeonfishes	78	160	2.05
Orangespine unicornfish	8	21	2.50
Unicornfishes	92	229	2.50
Goatfishes	20	50	2.50
Bigeye emperor	227	454	2.00
Barracudas	7	10	1.50
Mahimahi	697	1,085	1.56
Blue marlin	506	583	1.15
Rainbow runner	982	1,965	2.00
Wahoo	182	299	1.65
Skipjack tuna	20,551	34,369	1.67
Dogtooth tuna	528	903	1.71
Yellowfin tuna	3,972	7,786	1.96
Kawakawa (saba)	377	649	1.72
Spiny lobster	743	3,890	5.24
Octopus	175	349	2.00
TOTAL	47,627	103,462	2.17

Table B-10
CNMI September 2008 Estimated Commercial Landings

Species	Pounds	Value (\$)	Price/Lb (\$)
Bigeye scad	6,965	15,508	2.23
Jacks	298	767	2.57
Black jack	6	15	2.50
Bottomfishes (unknown)	387	979	2.53
Sickle pomfret	104	250	2.41
Ehu (red snapper)	83	303	3.66
Gindai (flower snapper)	235	833	3.55
Groupers	115	306	2.66
Kalikali (yellowtail)	166	415	2.50
Onaga (red snapper)	95	456	4.82
Opakapaka (pink snapper)	539	1,451	2.69
Jobfish (uku)	228	518	2.28
Silvermouth (deep lehi)	36	98	2.72
Amberjack	52	131	2.50
Blue lined snapper	425	1,105	2.60
Reef fishes (unknown)	2,245	5,874	2.62
Wrasses	15	44	3.00
Rabbitfishes	130	403	3.10
Emperors	1,273	3,167	2.49
Parrotfishes	3,365	10,662	3.17
Surgeonfishes	33	66	2.00
Orangespine unicornfish	69	173	2.50
Unicornfishes	58	144	2.50
Bigeye emperor	203	406	2.00
Mahimahi	175	351	2.00
Blue marlin	369	369	1.00
Rainbow runner	479	958	2.00
Wahoo	166	353	2.13
Skipjack tuna	15,494	27,209	1.76
Dogtooth tuna	42	69	1.63
Yellowfin tuna	2,651	5,292	2.00
Kawakawa (saba)	412	661	1.60
Spiny lobster	119	648	5.44
Slipper lobster	8	38	5.00
Octopus	323	634	1.96
TOTAL	37,365	80,658	2.16

Table B-11
CNMI October 2008 Estimated Commercial Landings

Species	Pounds	Value (\$)	Price/Lb (\$)
Bigeye scad	4,724	10,472	2.22
Jacks	315	670	2.12
Black jack	17	42	2.50
Bottomfishes (unknown)	920	2,351	2.55
Sickle pomfret	142	386	2.71
Ehu (red snapper)	192	700	3.65
Gindai (flower snapper)	98	351	3.59
Groupers	20	63	3.13
Kalikali (yellowtail)	274	697	2.54
Onaga (red snapper)	367	1,759	4.79
Opakapaka (pink snapper)	650	1,710	2.63
Jobfish (uku)	349	719	2.06
Silvermouth (deep lehi)	56	148	2.63
Amberjack	113	283	2.50
Blue lined snapper	252	629	2.50
Reef fishes (unknown)	3,265	8,702	2.67
Rabbitfishes	193	577	2.99
Emperors	380	950	2.50
Parrotfishes	3,348	10,602	3.17
Surgeonfishes	204	416	2.04
Orangespine unicornfish	11	27	2.50
Unicornfishes	69	173	2.50
Goatfishes	31	77	2.50
Bigeye emperor	11	22	2.00
Mahimahi	1,011	2,018	2.00
Blue marlin	342	512	1.50
Rainbow runner	827	1,655	2.00
Wahoo	137	291	2.13
Skipjack tuna	11,169	19,277	1.73
Dogtooth tuna	125	229	1.84
Yellowfin tuna	702	1,391	1.98
Kawakawa (saba)	1,532	2,921	1.91
Spiny lobster	73	400	5.49
Slipper lobster	44	219	5.00
Octopus	220	438	1.99
TOTAL	32,180	71,875	2.23

Table B-12
CNMI November 2008 Estimated Commercial Landings

Species	Pounds	Value (\$)	Price/Lb (\$)
Bigeye scad	1,826	4,437	2.43
Jacks	36	96	2.64
Giant trevally	24	48	2.00
Bottomfishes (unknown)	1,014	2,551	2.51
Ehu (red snapper)	236	861	3.65
Gindai (flower snapper)	148	523	3.52
Groupers	3	9	3.25
Kalikali (yellowtail)	85	215	2.54
Onaga (red snapper)	216	1,008	4.66
Opakapaka (pink snapper)	141	389	2.77
Jobfish (uku)	27	62	2.26
Blue lined snapper	6	17	2.75
Reef fishes (unknown)	2,382	6,176	2.59
Rabbitfishes	155	490	3.15
Emperors	274	689	2.52
Parrotfishes	1,659	5,334	3.21
Surgeonfishes	223	446	2.00
Orangespine unicornfish	160	400	2.50
Goatfishes	15	38	2.50
Pelagic fishes (unknown)	14	35	2.50
Mahimahi	1,438	2,558	1.78
Blue marlin	238	313	1.31
Rainbow runner	563	1,126	2.00
Wahoo	637	1,305	2.05
Skipjack tuna	10,842	18,764	1.73
Dogtooth tuna	14	28	2.00
Yellowfin tuna	1,239	2,462	1.99
Kawakawa (saba)	336	617	1.84
Slipper lobster	96	144	1.50
Octopus	145	291	2.00
TOTAL	24,195	51,432	2.13

Table B-13
CNMI December 2008 Estimated Commercial Landings

Species	Pounds	Value (\$)	Price/Lb (\$)
Bigeye scad	2,297	5,658	2.46
Jacks	95	238	2.50
Bottomfishes (unknown)	405	1,072	2.64
Sickle pomfret	18	37	2.00
Ehu (red snapper)	92	326	3.54
Gindai (flower snapper)	68	252	3.69
Groupers	27	88	3.25
Onaga (red snapper)	409	1,928	4.71
Opakapaka (pink snapper)	281	785	2.80
Jobfish (uku)	45	103	2.29
Amberjack	35	88	2.50
Blue lined snapper	18	51	2.75
Red snapper	7	19	2.75
Reef fishes (unknown)	3,309	8,523	2.58
Wrasses	100	200	2.00
Rabbitfishes	68	213	3.14
Emperors	1,261	3,152	2.50
Parrotfishes	3,051	9,862	3.23
Surgeonfishes	144	288	2.00
Orangespine unicornfish	16	40	2.50
Unicornfishes	22	59	2.75
Goatfishes	110	275	2.50
Barracudas	54	81	1.50
Mahimahi	864	1,568	1.82
Rainbow runner	12	25	2.00
Wahoo	252	547	2.17
Skipjack tuna	15,364	26,238	1.71
Yellowfin tuna	2,294	4,688	2.04
Kawakawa (saba)	1,083	1,395	1.29
Spiny lobster	23	133	5.75
Slipper lobster	8	38	5.00
Octopus	39	78	2.00
TOTAL	31,873	68,050	2.14

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

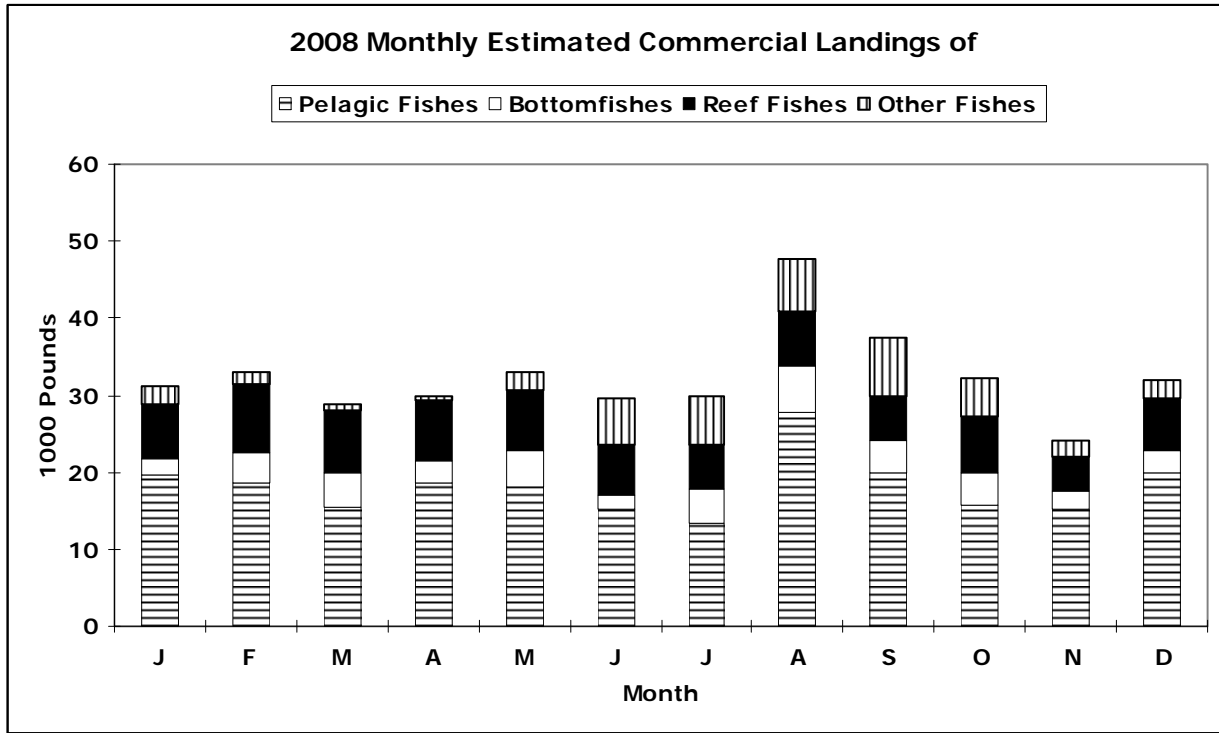


Figure B-1-1

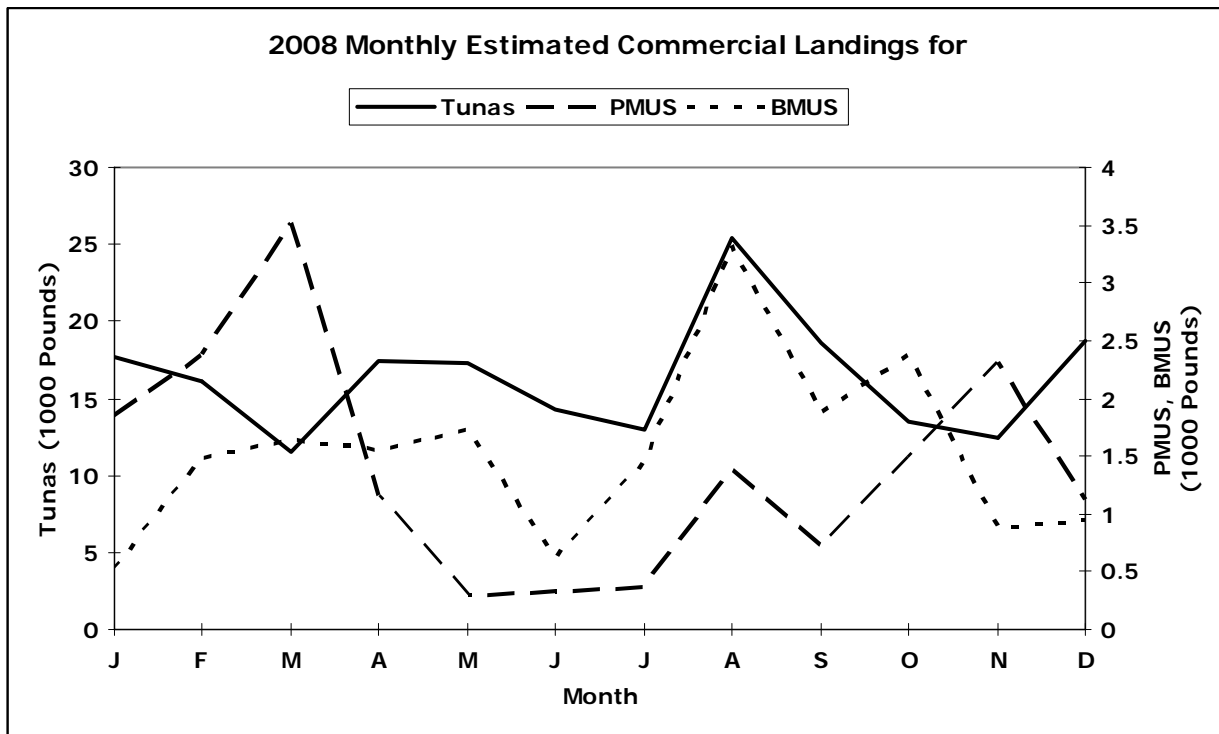


Figure B-1-2

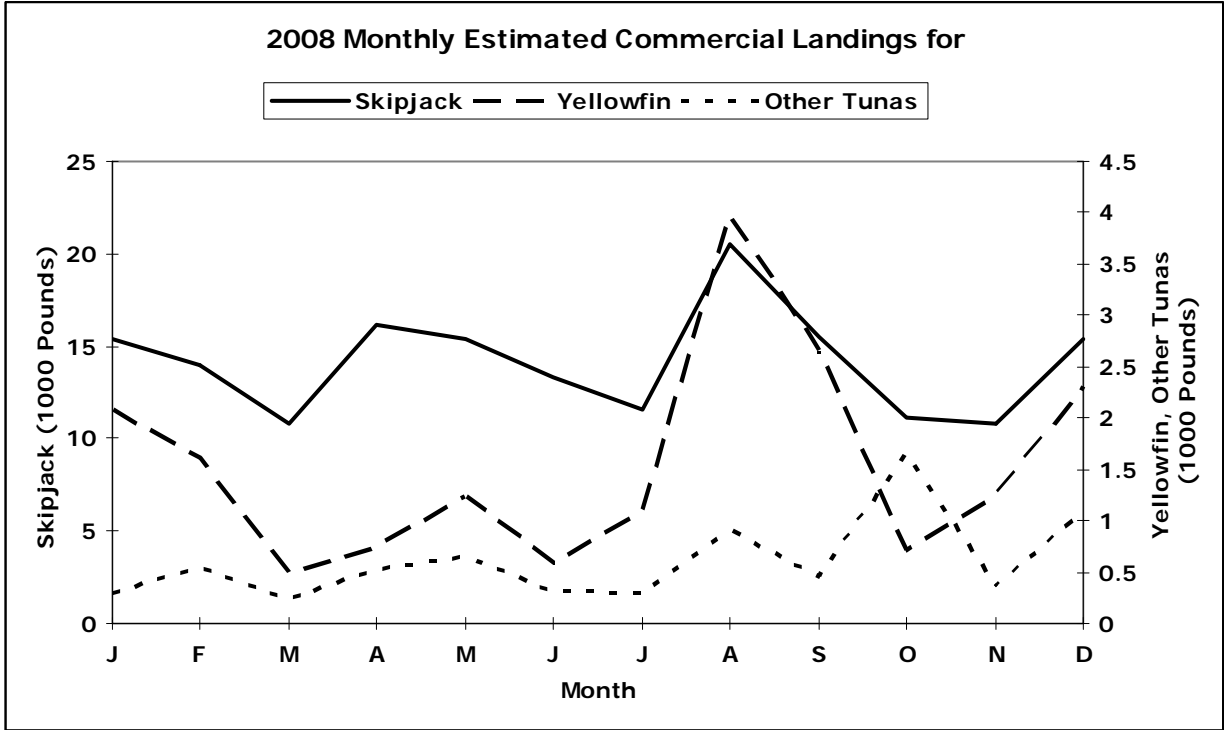


Figure B-1-3

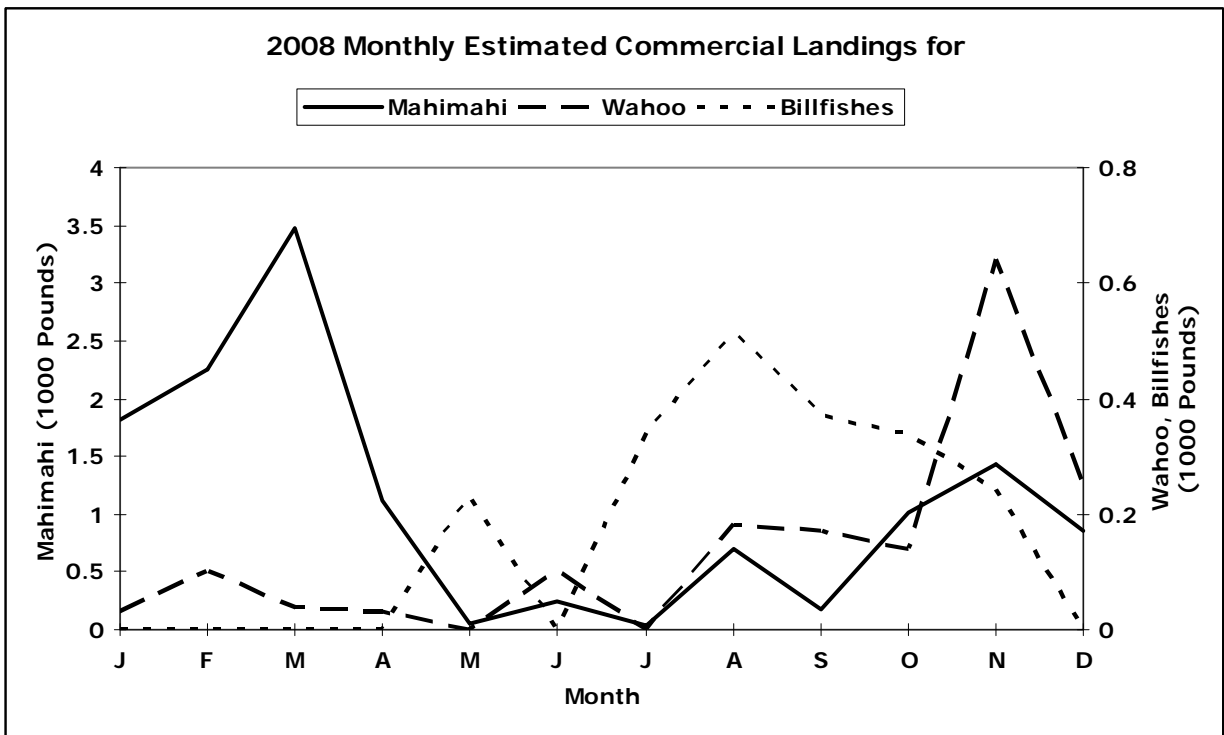


Figure B-1-4

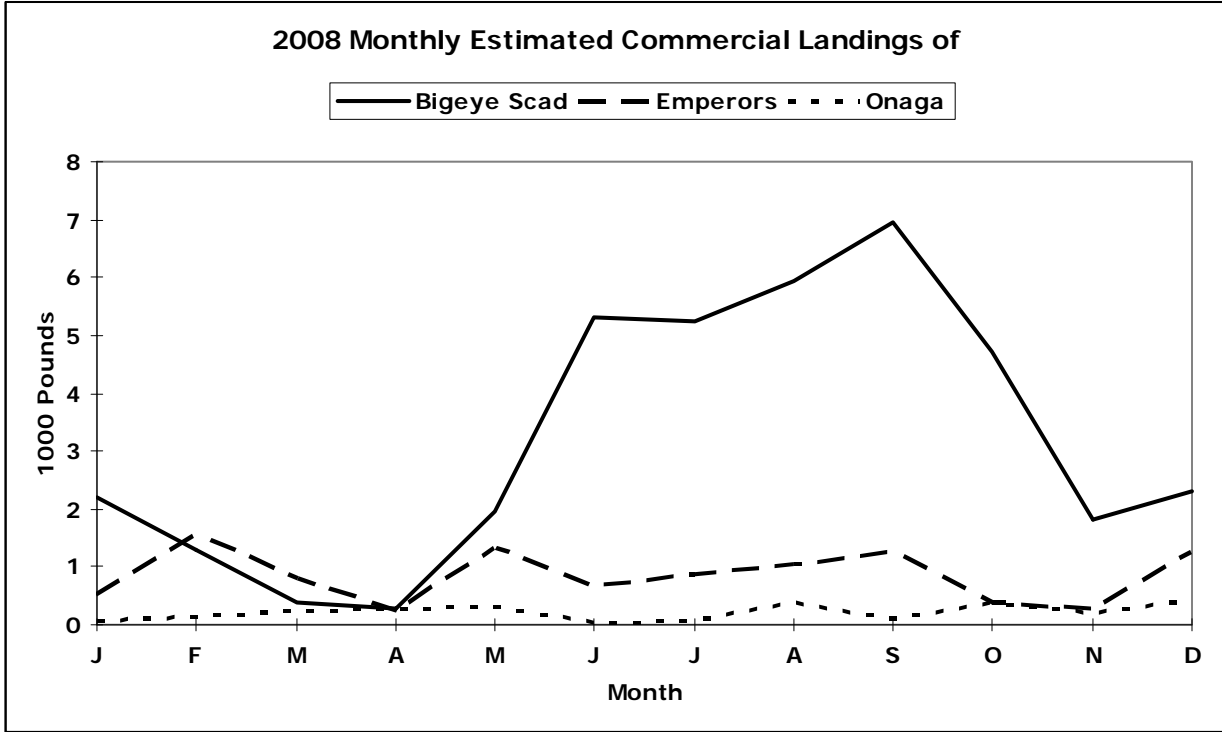


Figure B-1-5

B.23

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

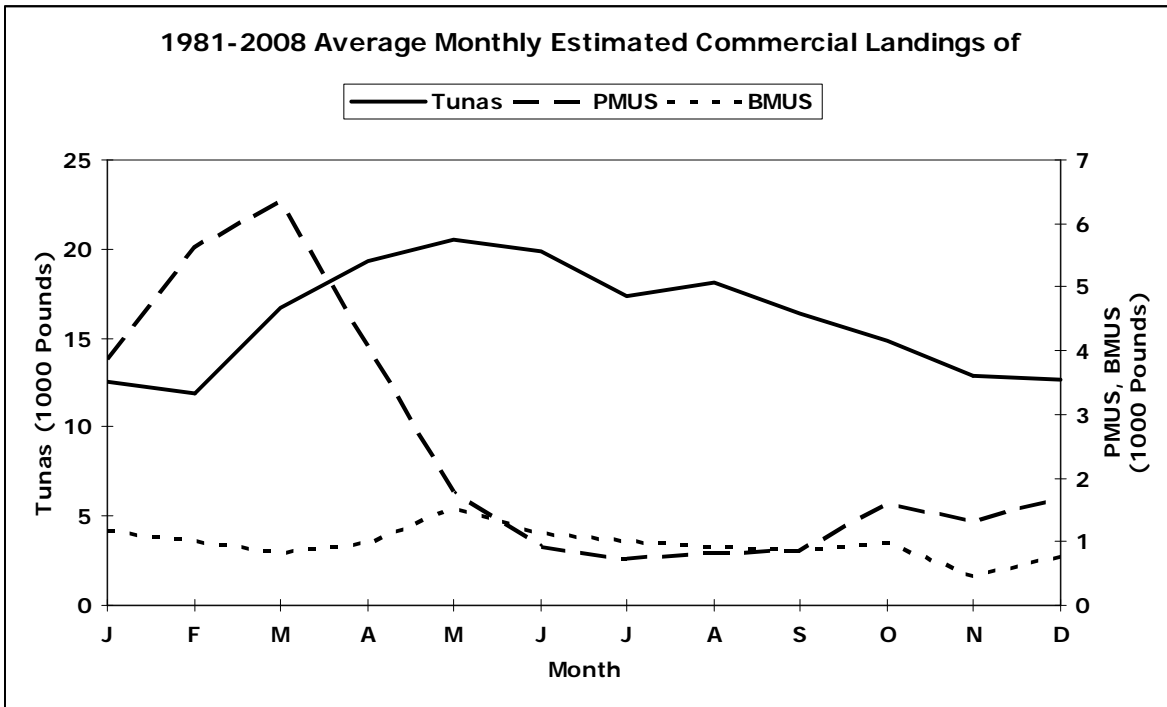


Figure B-2-1

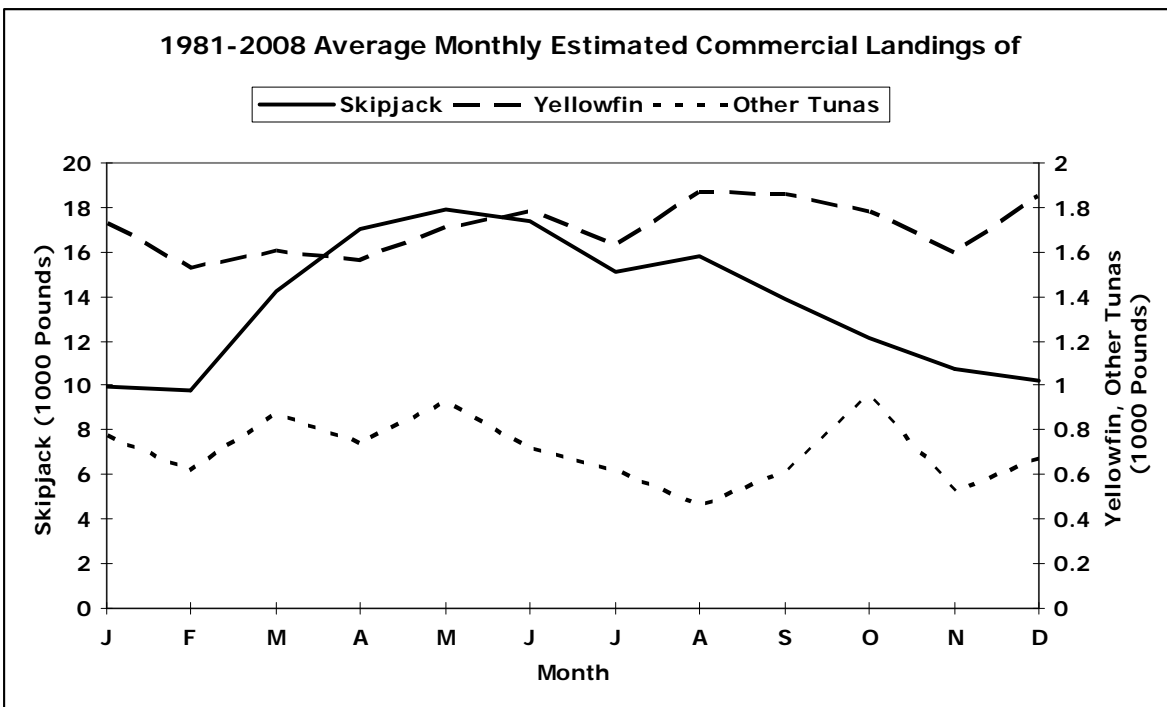


Figure B-2-2

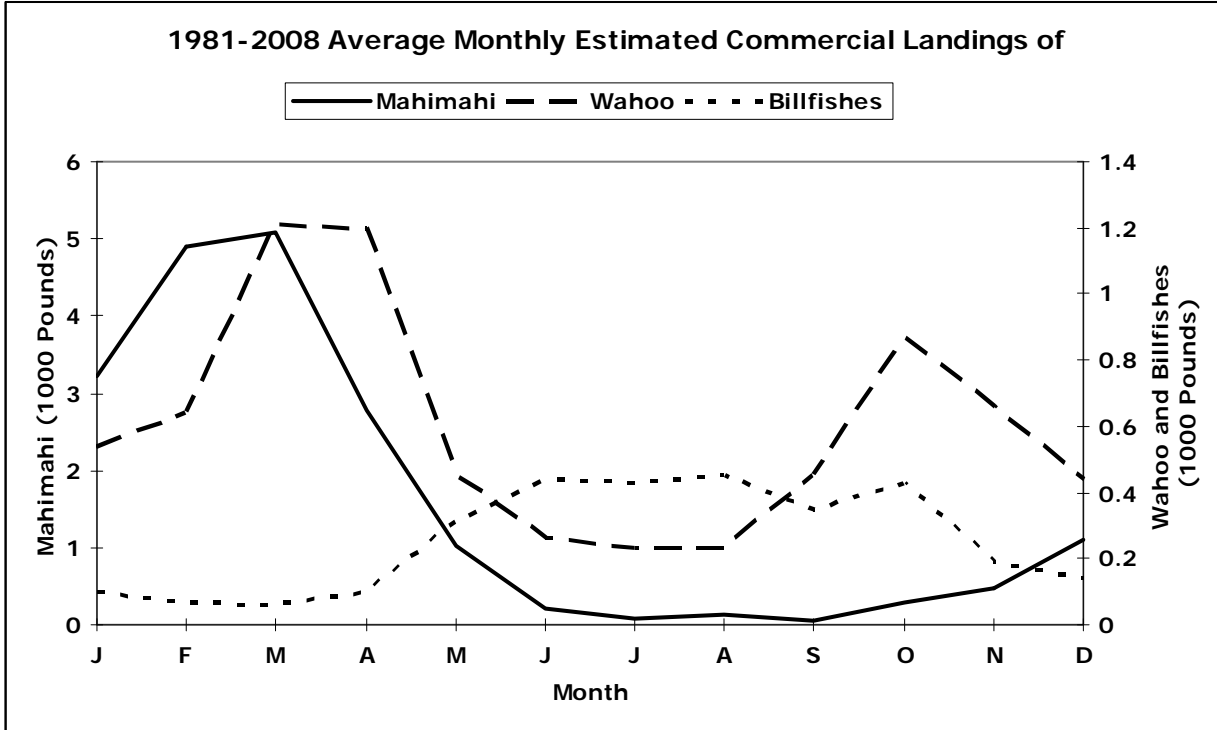


Figure B-2-3

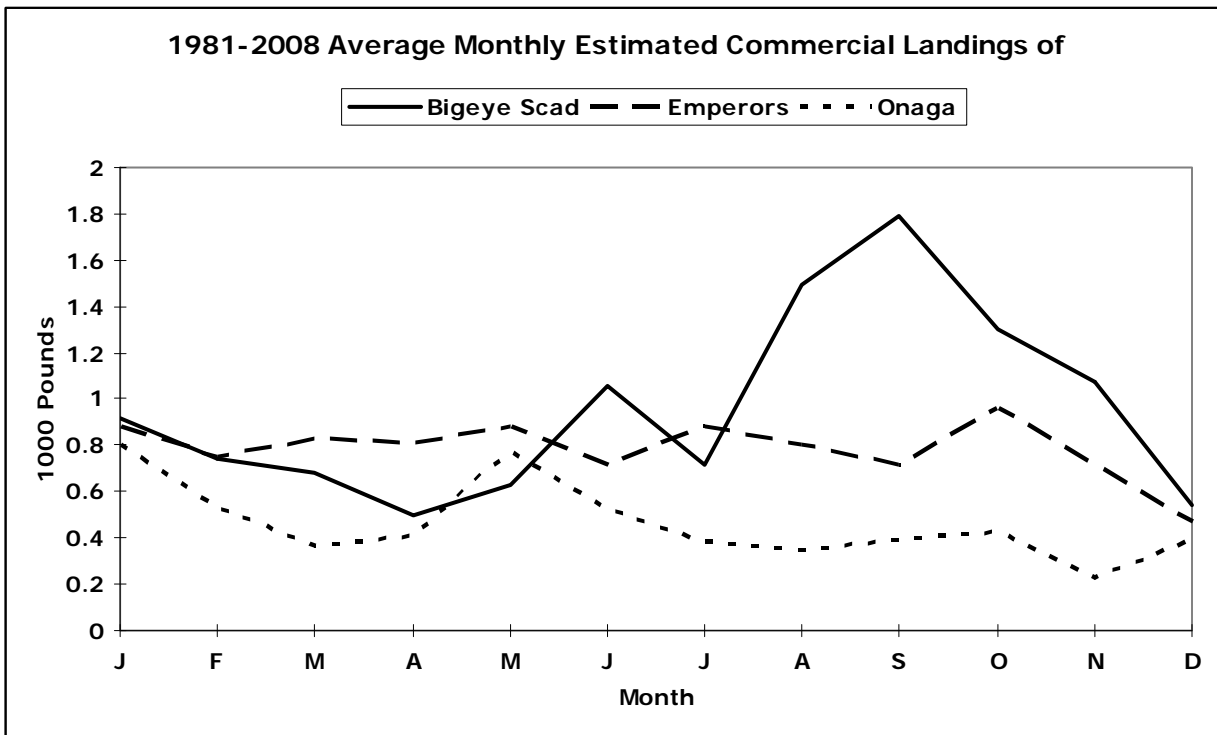


Figure B-2-4

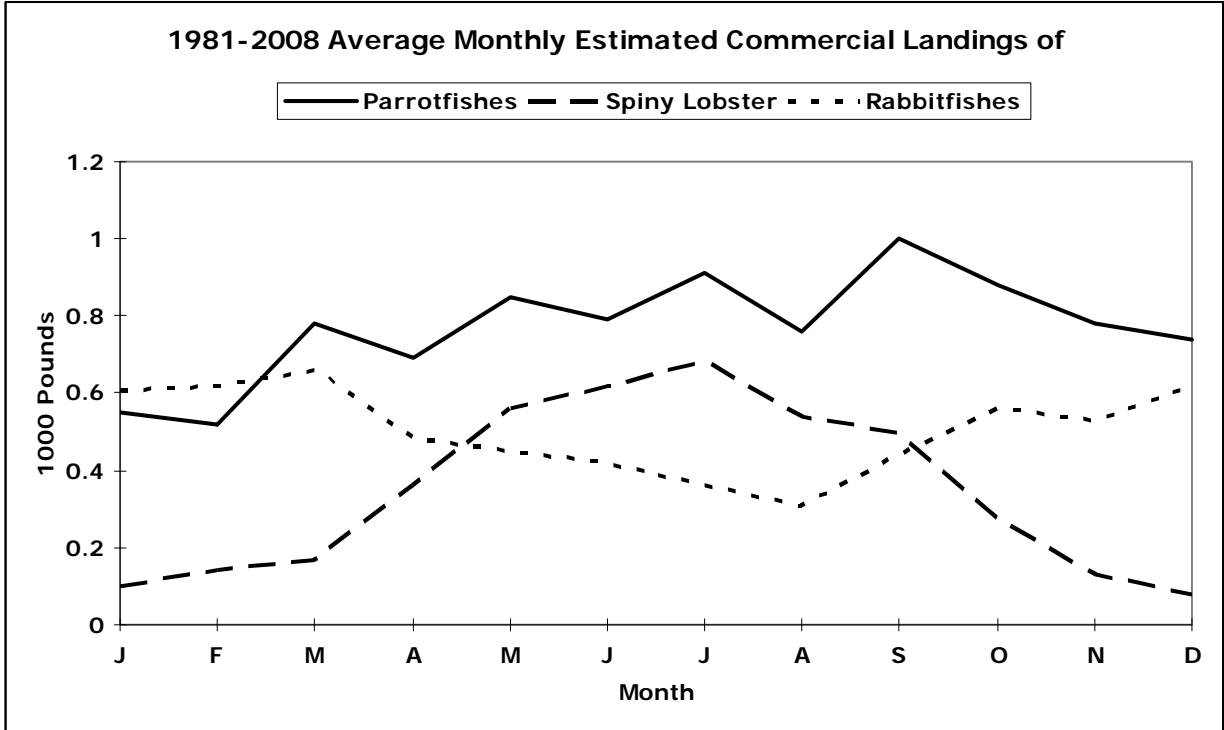


Figure B-2-5

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

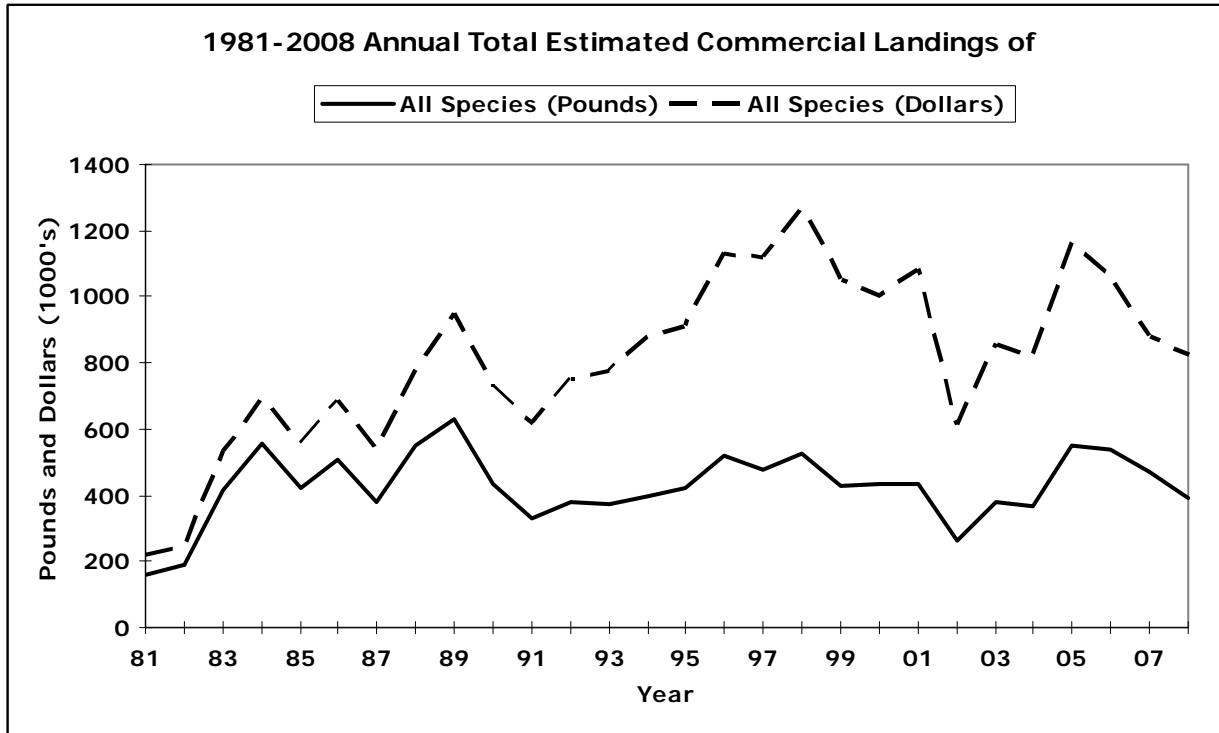


Figure B-3-1

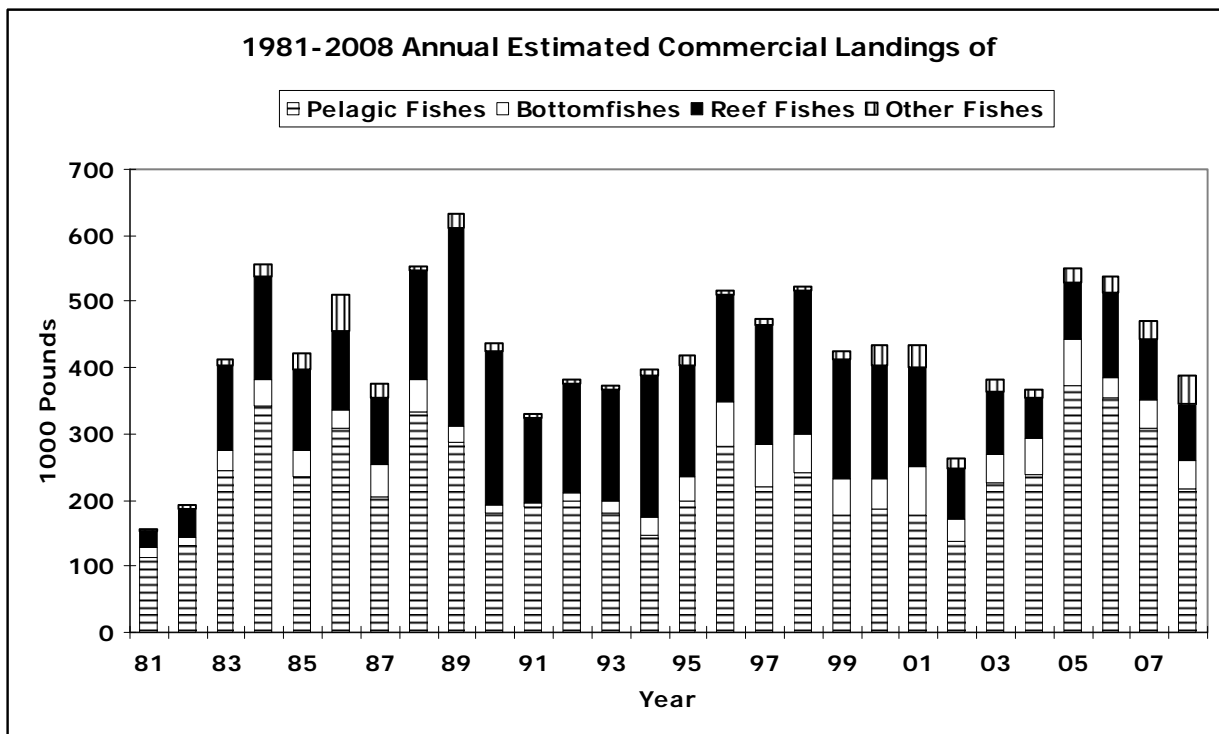


Figure B-3-2

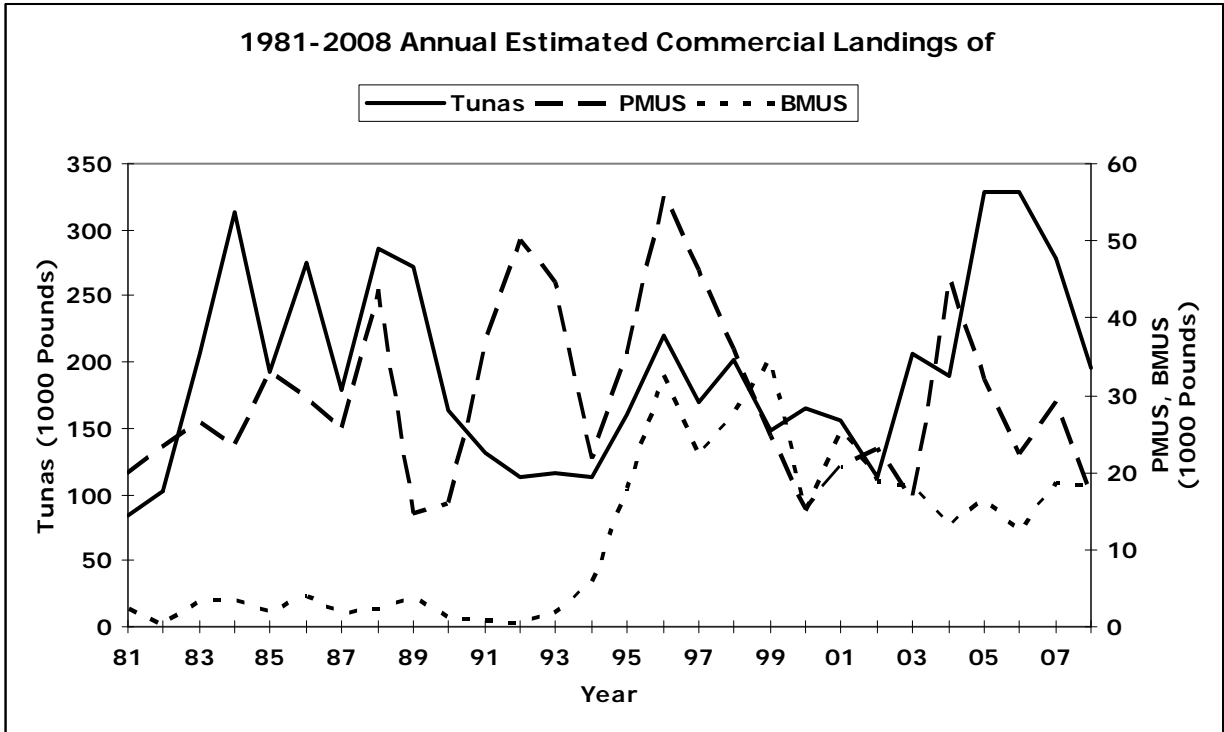


Figure B-3-3

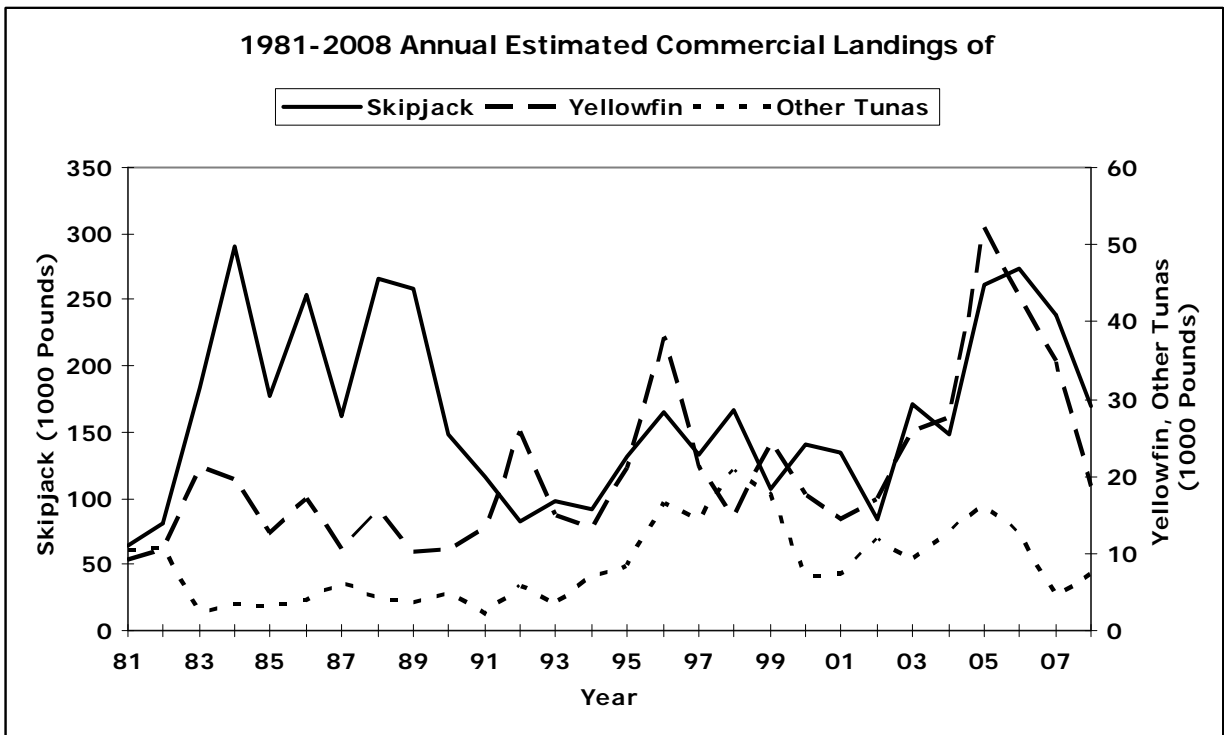


Figure B-3-4

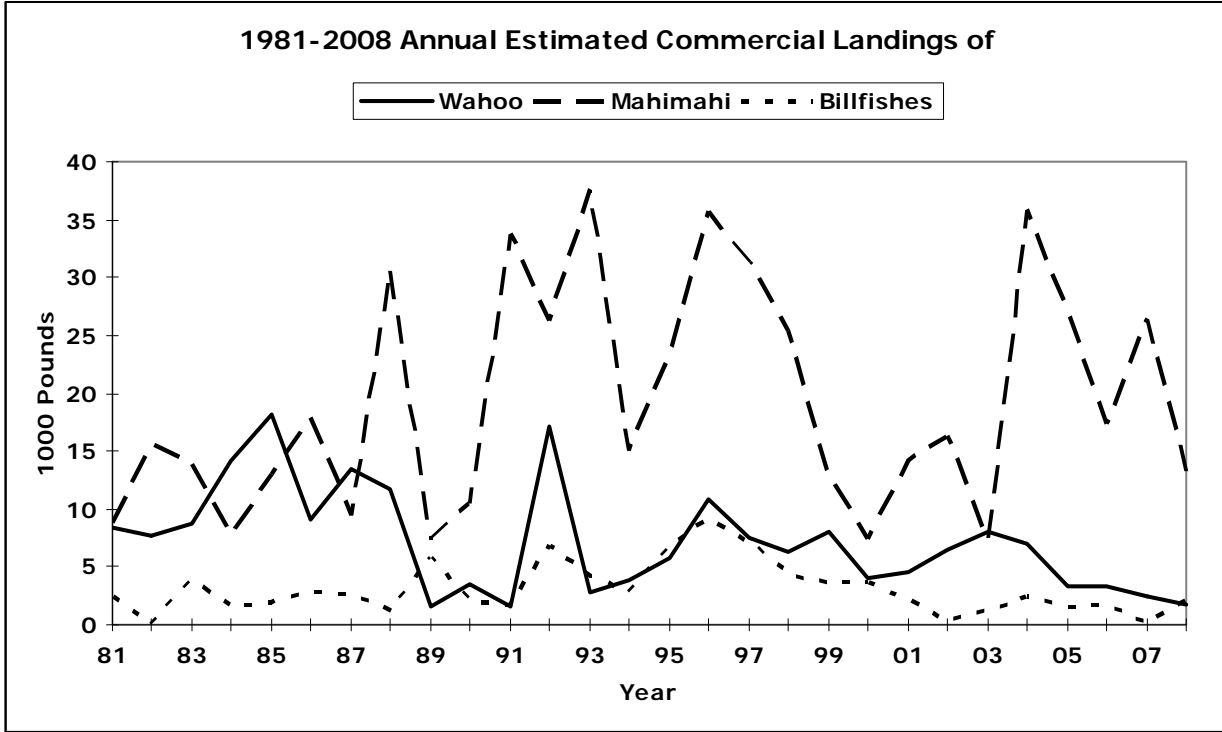


Figure B-3-5

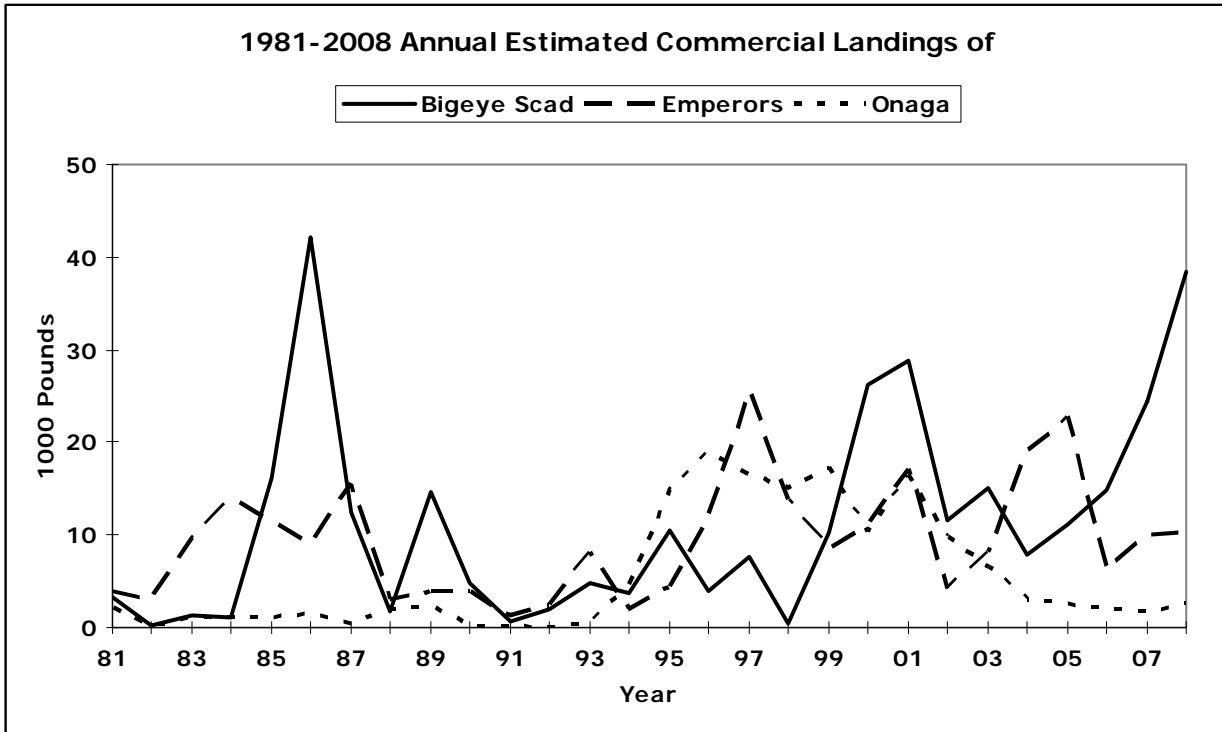


Figure B-3-6

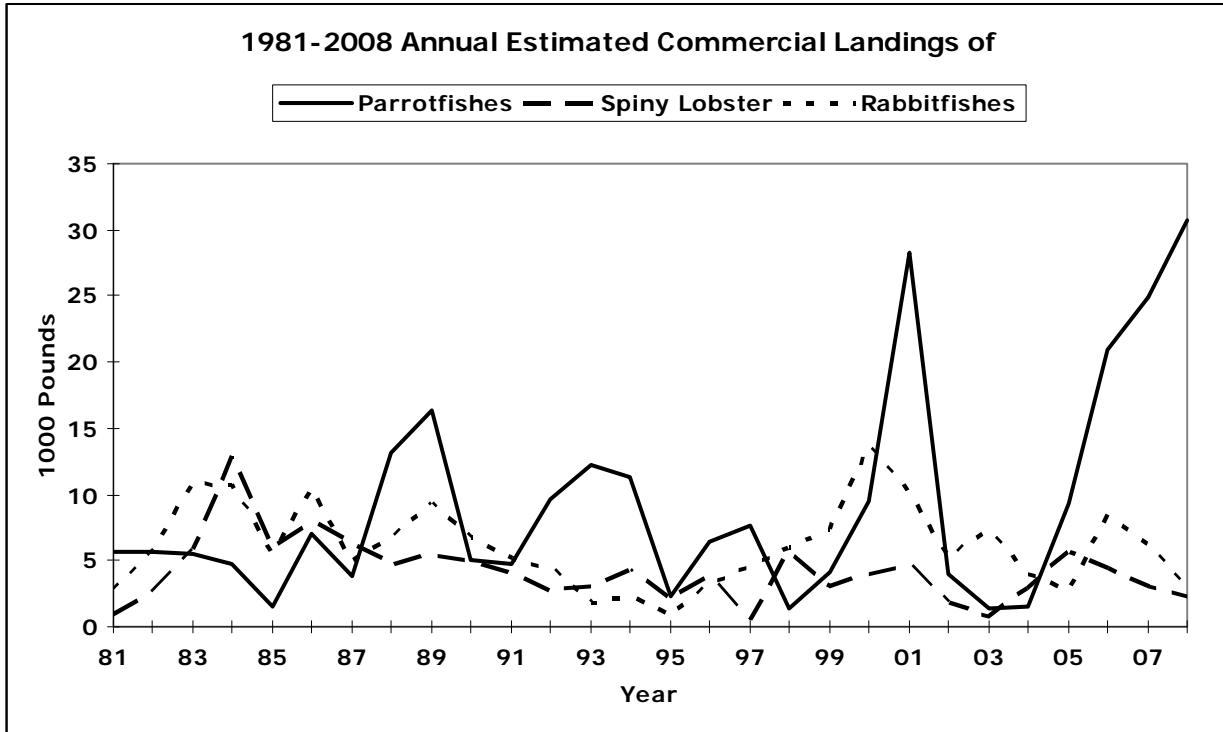


Figure B-3-7

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:

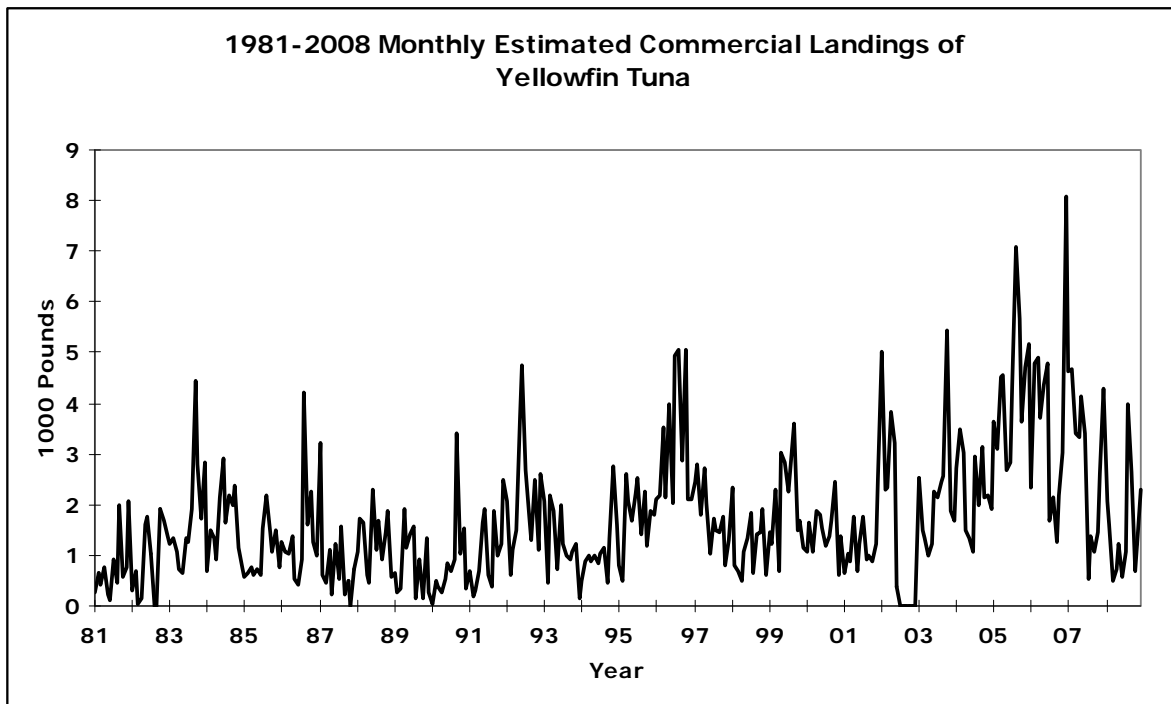


Figure B-4-1

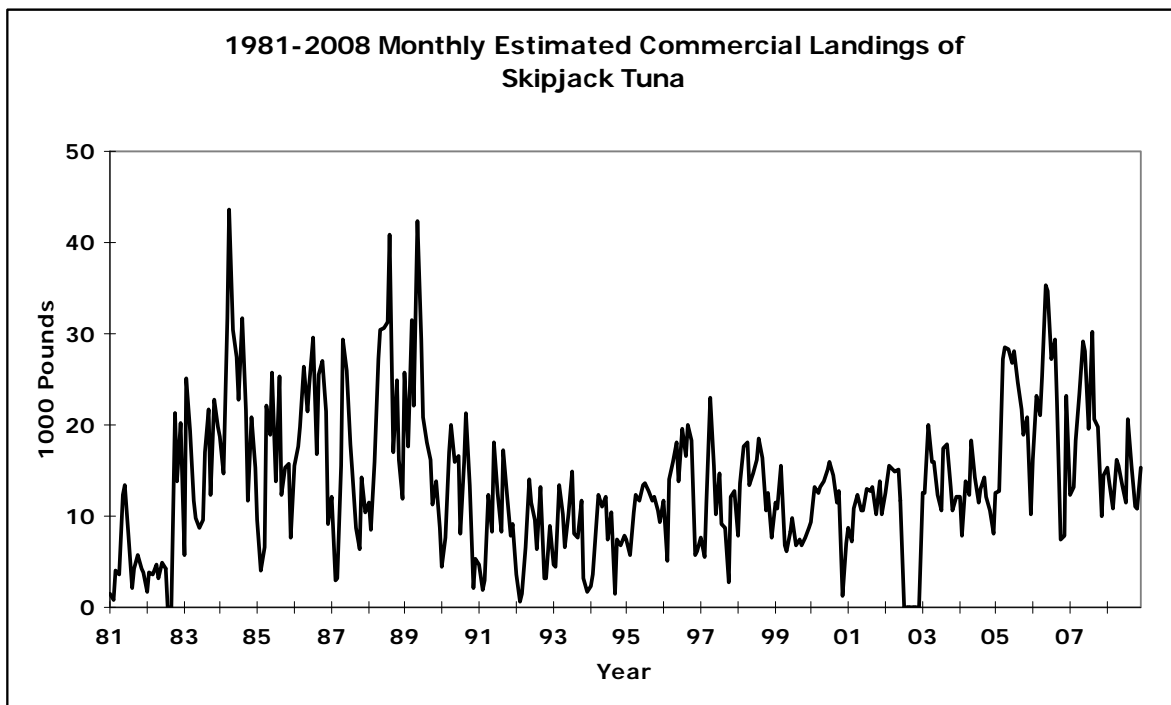


Figure B-4-2

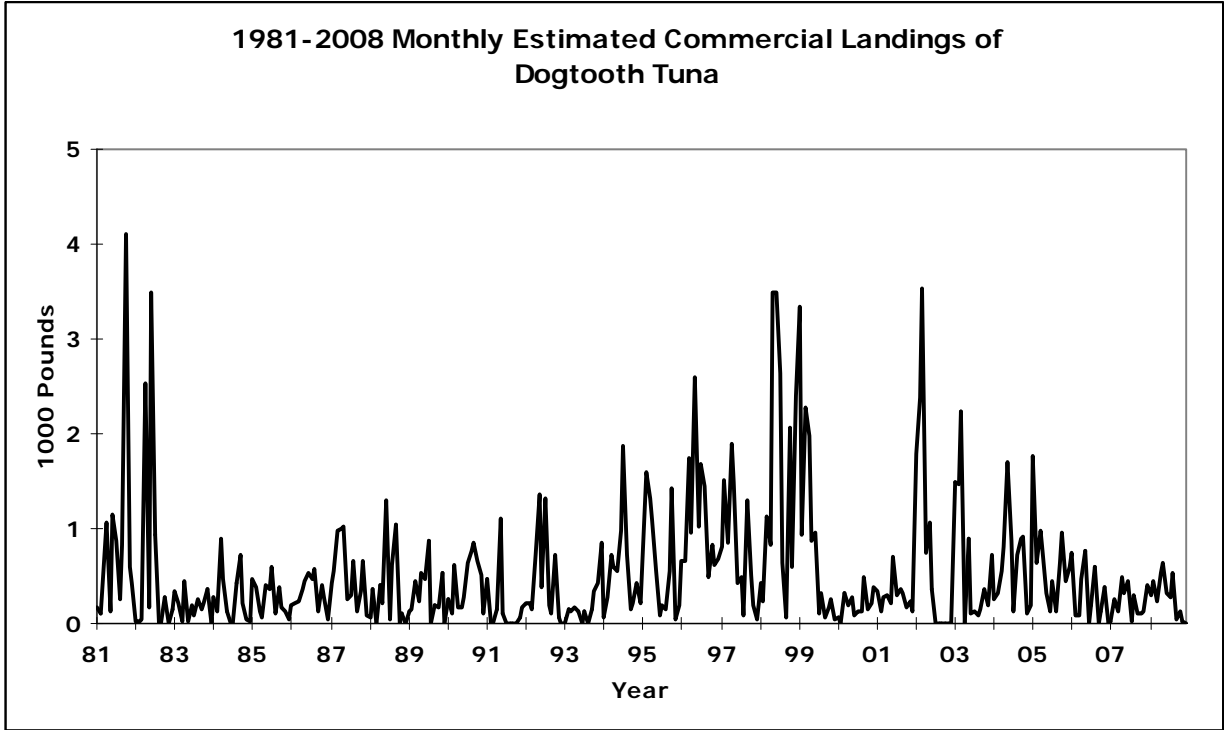


Figure B-4-3

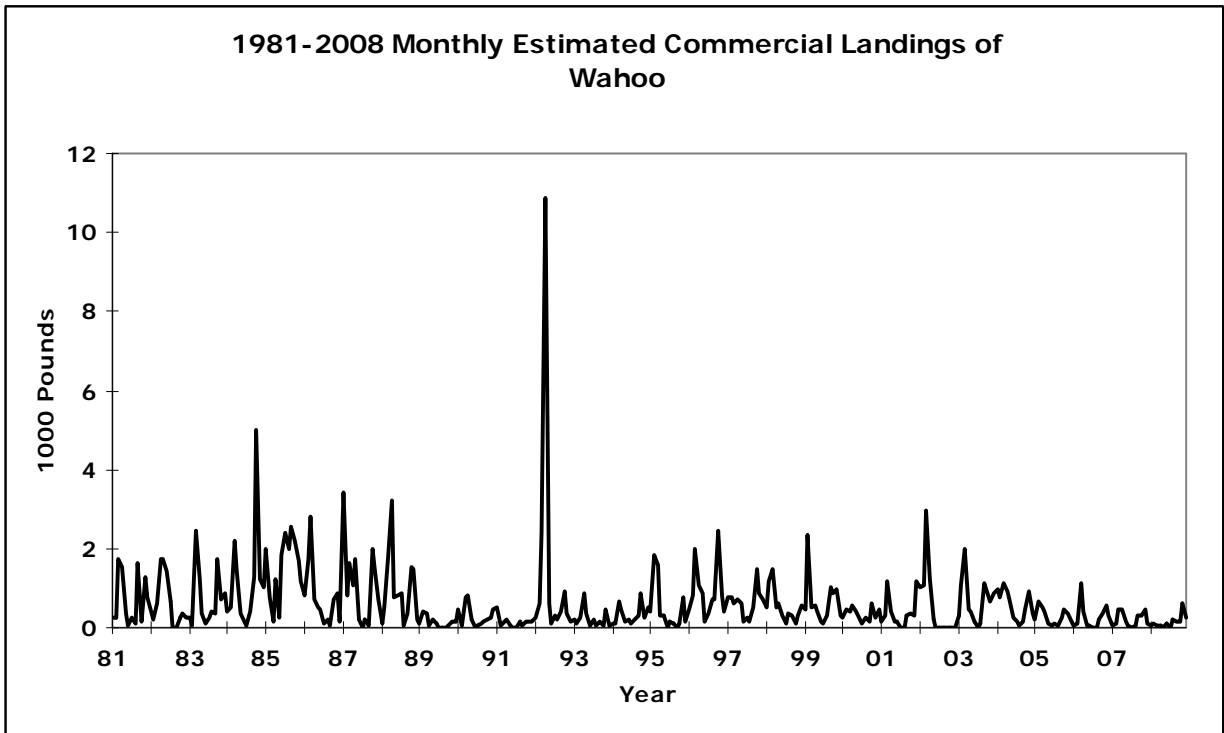


Figure B-4-4

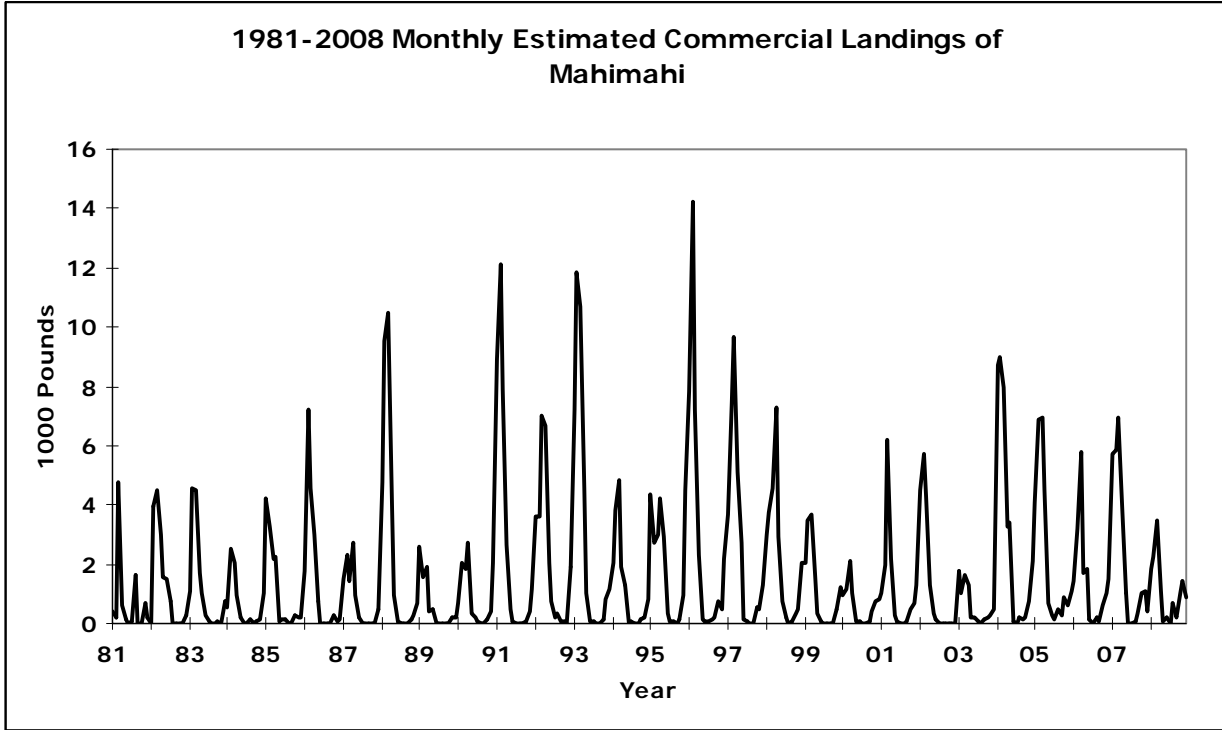


Figure B-4-5

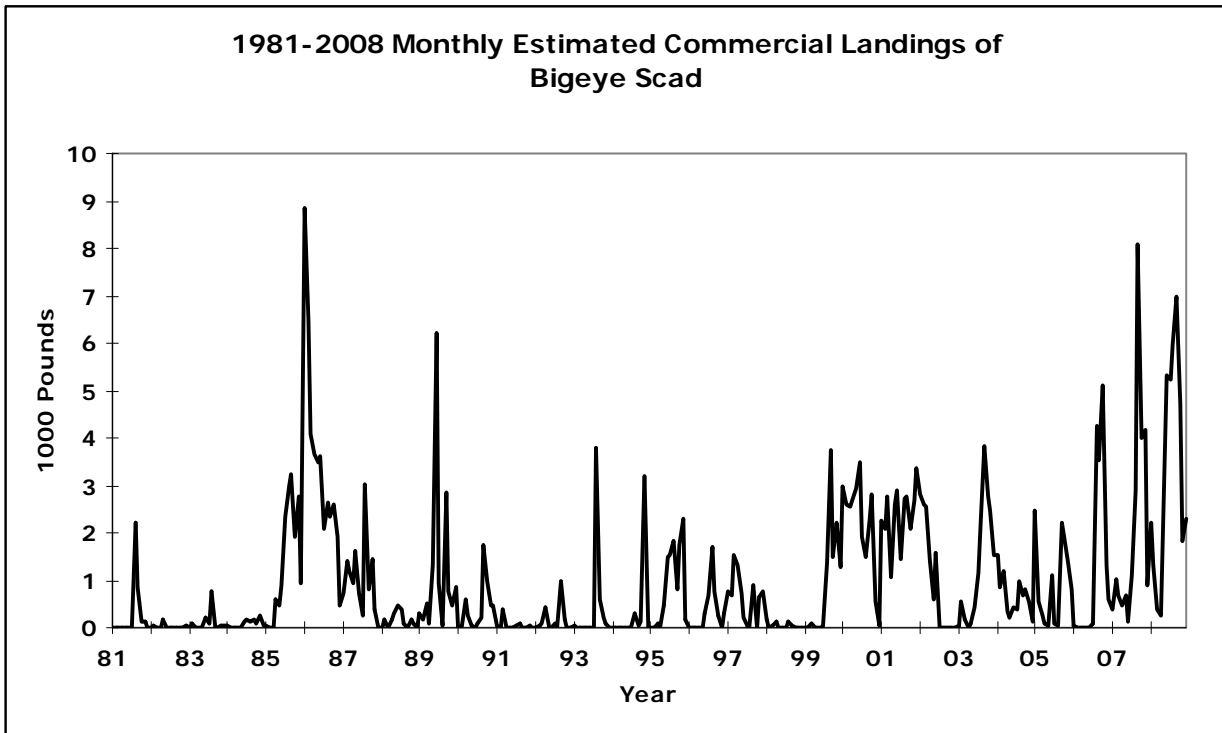


Figure B-4-6

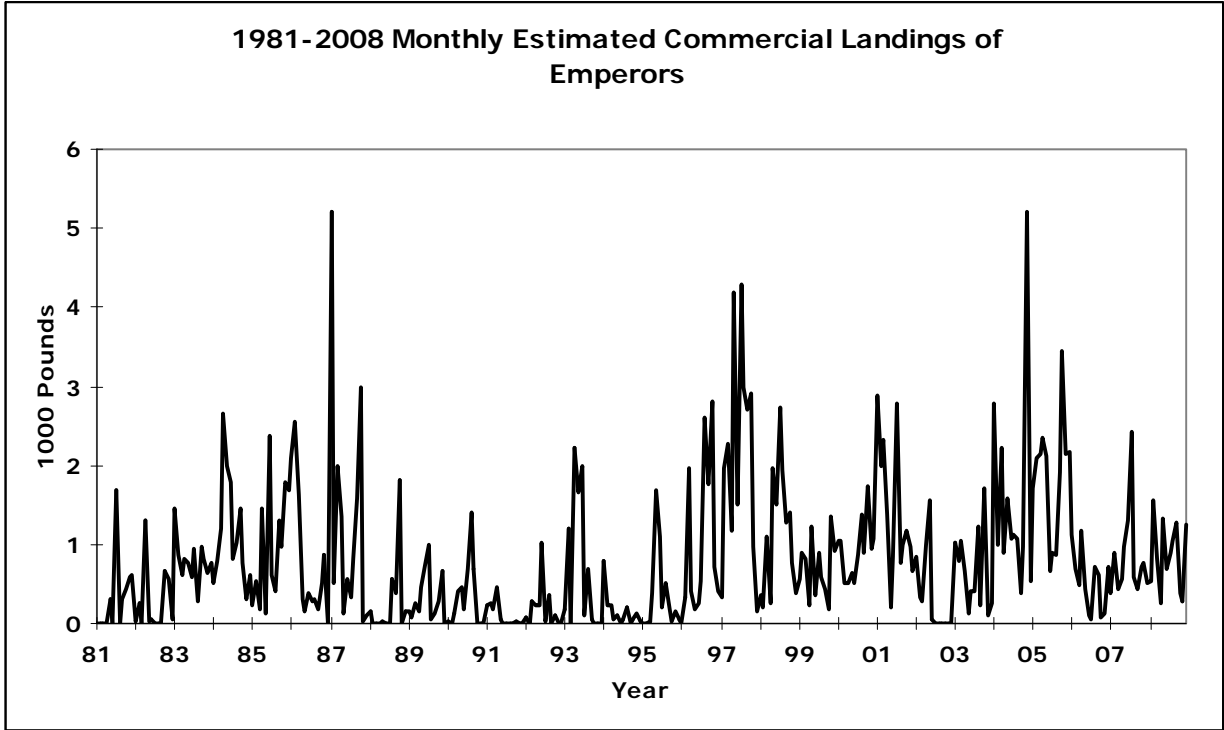


Figure B-4-7

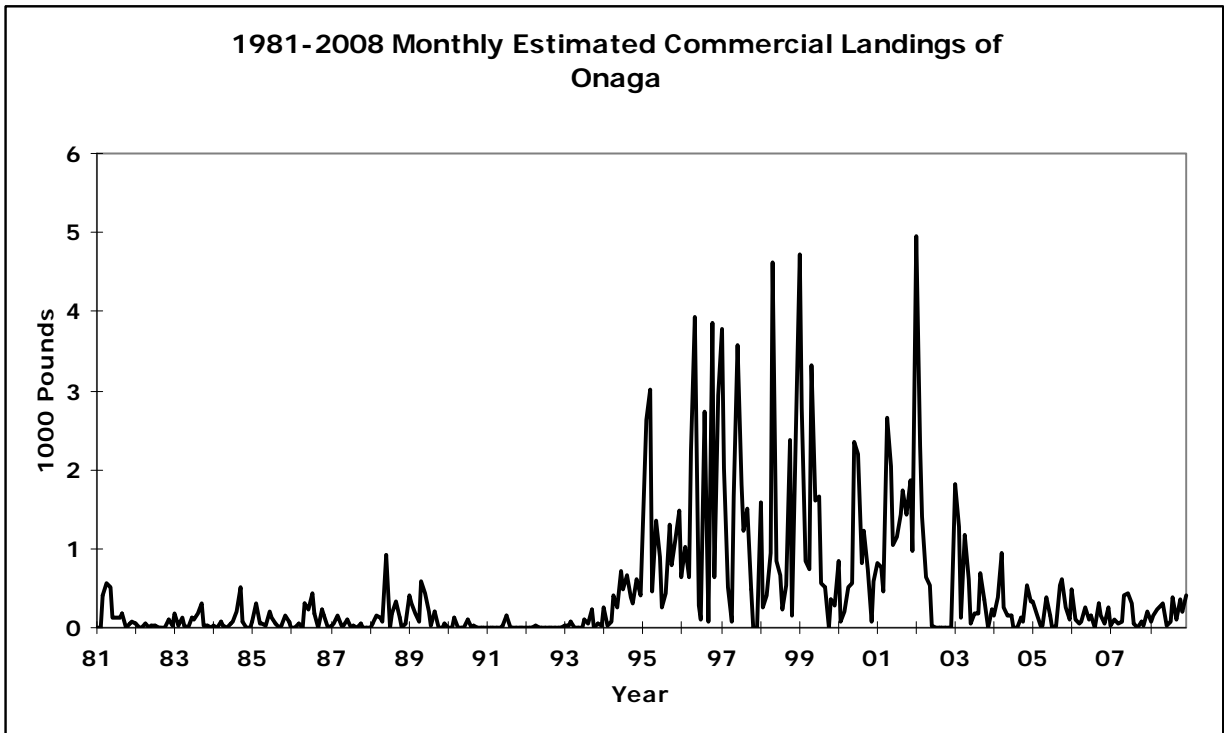


Figure B-4-8

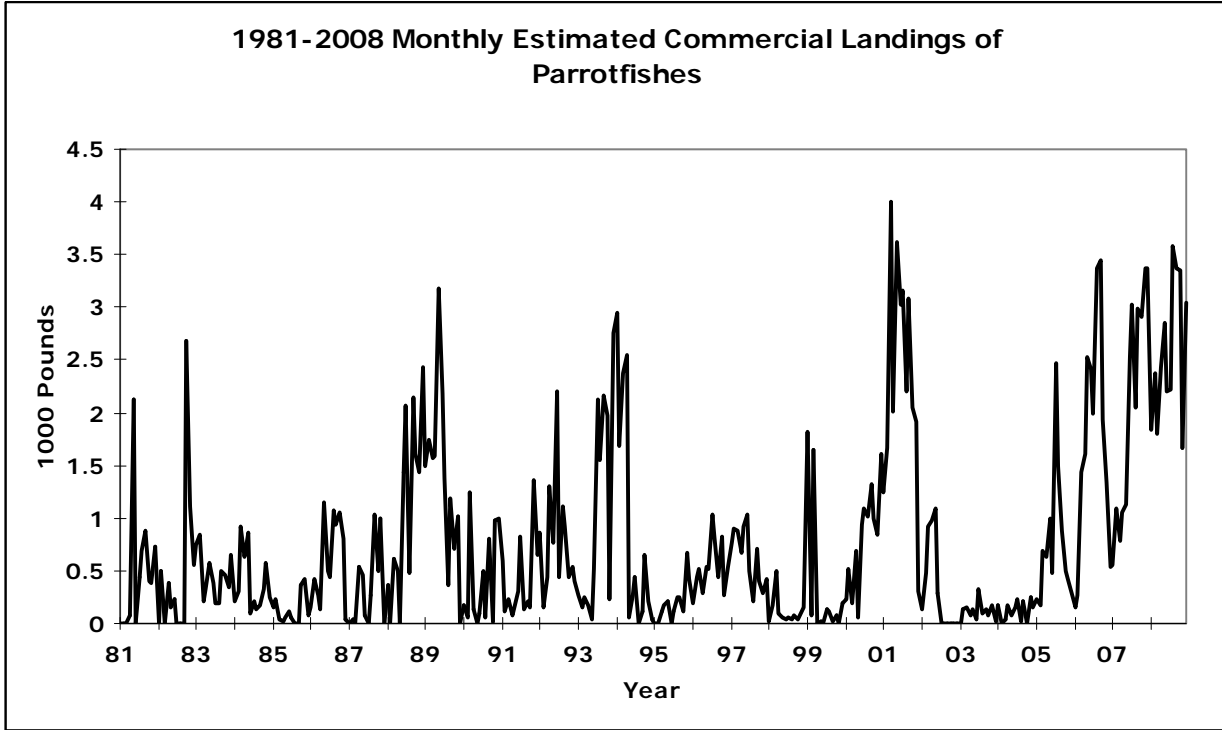


Figure B-4-9

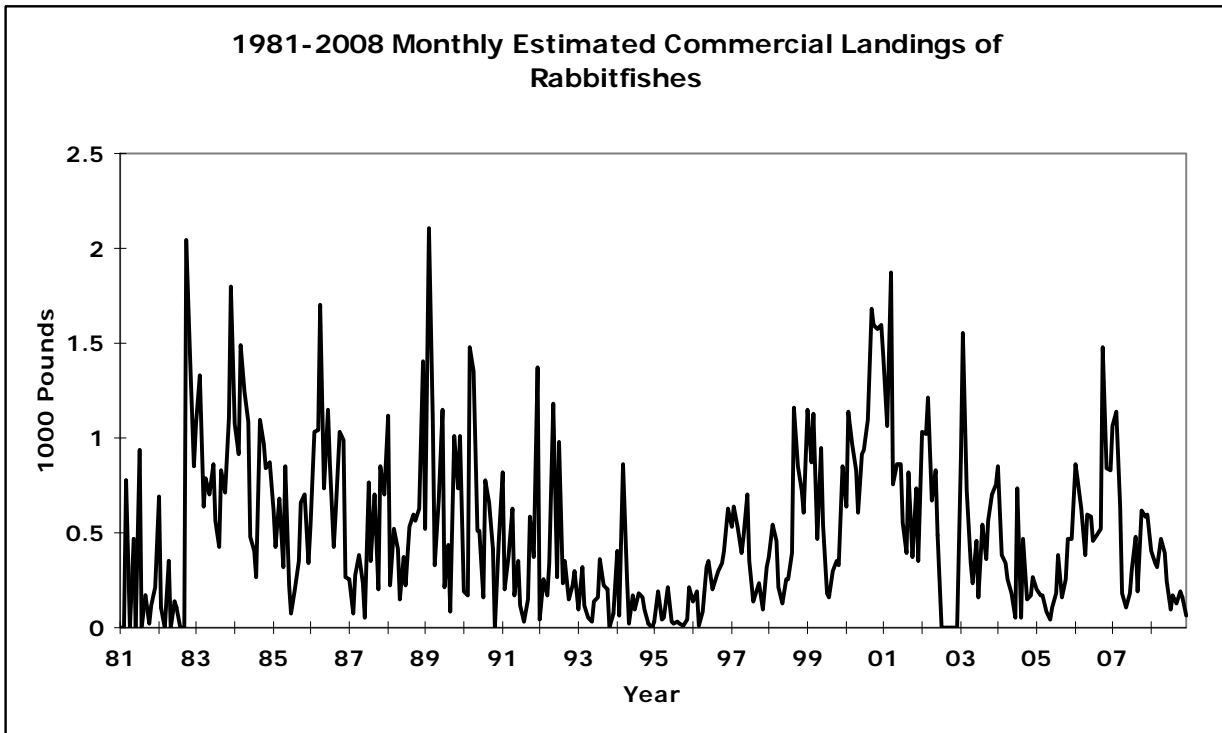


Figure B-4-10

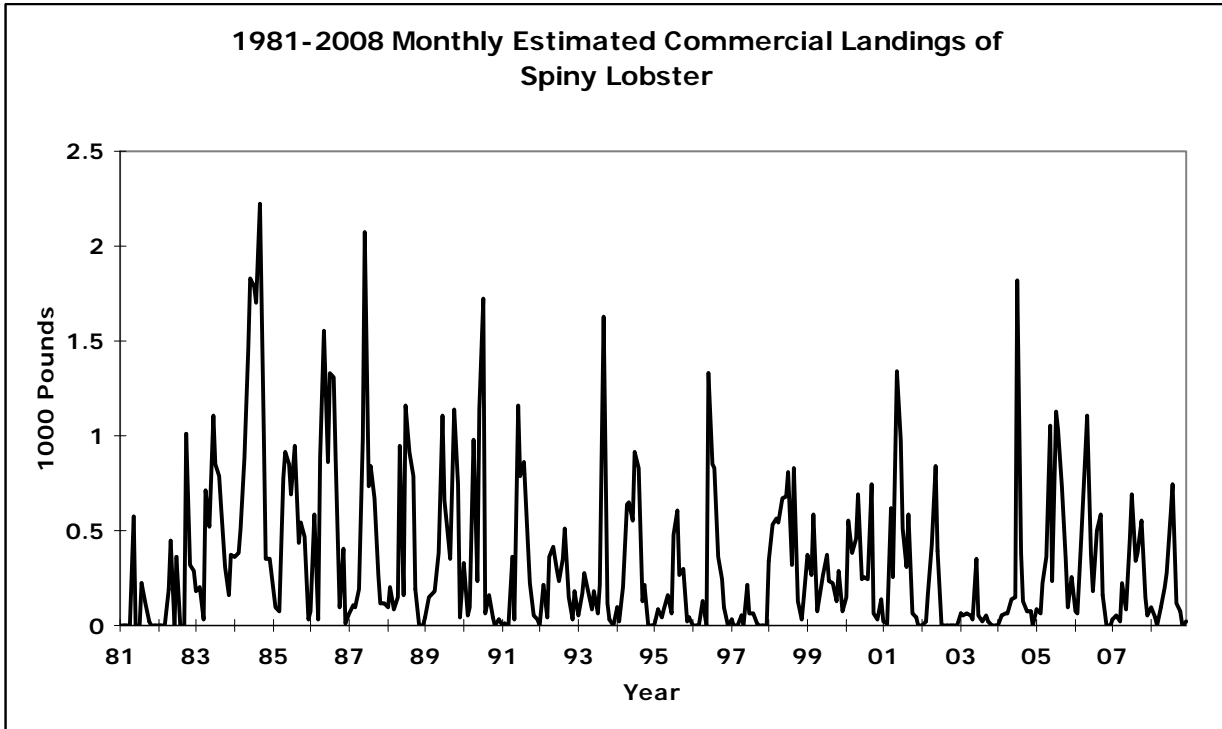


Figure B-4-11

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GUAM 2008 FISHERY STATISTICS

Compiled by
Guam Division of Aquatic and Wildlife Resources
and the
Western Pacific Fishery Information Network

August 2010

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GUAM 2008 FISHERY STATISTICS

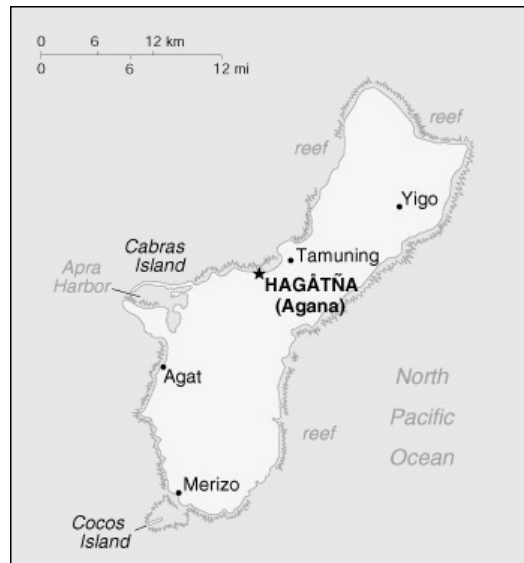
INTRODUCTION

The Territory of Guam is the southernmost, largest, and most populous island in the Mariana Archipelago.

Location: 13.4°N latitude, 144.4°E longitude

Population: about 178,430 (*The World Factbook*, July 2009 est.)

Economy: U.S. military and 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 to 48 feet) going on 1- to 2-day trolling and bottomfishing trips. They usually originate from one of the three principal harbors located on the west coast and southern tip of the island. Inshore fishing is usually conducted without the use of a boat and consists mostly of nearshore casting, netting, and spearfishing.

There are three sources of fish in Guam's commercial market: (1) full-time commercial fishers; (2) part-time commercial fishers; and (3) subsistence or recreational "expense" fishers who frequently sell portions of their catch to help defray costs. Licenses are not required to sell fish in Guam, nor are there any reporting requirements for those selling fish.

DATA COLLECTING

In 1982, WPacFIN began working with staff of the Guam Division of Aquatic and Wildlife Resources (DAWR) and with local fish dealers to obtain information on commercial landings through voluntary use of trip ticket invoices provided by WPacFIN. The tables and graphs in this section are based on data that are summarized from receipts submitted by all participating dealers on Guam and then adjusted to create the estimated total commercial landings based on an estimated annual percent coverage factor.

C.2

In July 1979, the Guam Fishermen's Cooperative was established in Agana through government funding. It 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 the co-op to improve their invoicing system and to obtain data on all fish purchases. A system was established whereby the co-op 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 the co-op with document quality control and computer-generated summary statistics. All purchase data back to July 1979 were also coded and computerized. Over time, other fish markets began to operate, and DAWR and WPacFIN staff worked with them to obtain data through the voluntary receipt book program.

Data collected on commercial receipt forms include

- Date
- Number of Fishermen
- Area Fished
- Number of Pieces Caught
- Price per Pound
- Fisherman Code
- Hours Fished
- Species Caught
- Pounds Caught

Although a proposed law has been introduced several times that would require reporting by dealers and possibly commercial fishers, it has never made it very far through the legislative process, and the commercial landings data collection system remains voluntary.

DATA PROCESSING

At first, the data were processed at the central WPacFIN office in Honolulu. Beginning in 1994, however, DAWR staff took over this task using a computer and software provided by WPacFIN. The processing system for the commercial landings data collected from the fish dealers is fairly straightforward. Dealers complete a purchase form every time they purchase fish from a fisherman. On this form, catches are divided into categories for weighing by species or species group (where possible, number of pieces is also recorded).

DATA REPORTING

After completing all editing, adjusting, and quality control activities for the commercial landings data, monthly and annual summary reports by species are generated. Numerous standard reports are available, but only the monthly and annual landings by species are provided in this document.

Each table contains information on the pounds, value, and the average price per pound for each species or species group. Each monthly report contains a subtotal for the sum of all species combined for that month. Annual reports contain the estimated total landings for each species and the estimated total recorded landings for all species for the calendar year. Graphs

of some of the important statistics are included with the estimated commercial landings summary reports.

Please note that the commercial landings data have been adjusted to reflect total coverage and are referenced as “Estimated Commercial Landings” in the charts and tables. Also, some of the charts in this volume are new or modified from earlier volumes. To access the most up-to-date data and charts, please visit the WPacFIN website, <http://www.pifsc.noaa.gov/wpacfin>.

SPECIES CATEGORIES

The species and species groups that are used in the tables and graphs of Guam’s data are defined in this section. 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 report maintains the original species categorizations from previous FSWP reports for comparative purposes. As such, tunas are kept in a separate category.

I. Pelagic Management Unit Species (PMUS)

Mahimahi	Spearfish
Marlins	Swordfish
Sailfish	Wahoo
Sharks	

II. Bottomfish Management Unit Species (BMUS)

Alfonsin	Kalikali (pink snapper)
Amberjack	Lehi (silverjaw)
Black jack	Mafute (emperor)
Ehu (red snapper)	Onaga (red snapper)
Gindai (flower snapper)	Opakapaka (pink snapper)
Groupers	Snappers
Jacks	Uku (gray snapper)

III. Billfishes

Marlins	Spearfish
Sailfish	Swordfish

IV. Tunas

Dogtooth tuna	Tunas (unknown)
Kawakawa	Yellowfin tuna
Skipjack tuna	

V. Other Tunas

Dogtooth tuna
Kawakawa

Tunas (unknown)

VI. Fisheries Categories

A. *Pelagic Fishes*

Barracudas
Dogtooth tuna
Kawakawa
Mahimahi
Marlins
Monchong
Pelagic fishes (unknown)
Rainbow runner

Sailfish
Sharks
Skipjack tuna
Spearfish
Swordfish
Tunas (unknown)
Wahoo
Yellowfin tuna

B. *Bottomfishes*

Alfonsin
Amberjack
Black jack
Bottomfishes (unknown)
Deep bottomfishes
Ehu (red snapper)
Gindai (flower snapper)
Groupers

Jacks
Kalikali (pink snapper)
Lehi (silverjaw)
Mafute (emperor)
Onaga (red snapper)
Opakapaka (pink snapper)
Tagafi (red snapper)
Uku (gray snapper)

C. *Reef Fishes*

Goatfishes
Humphead parrotfish
Napoleon wrasse
Parrotfishes
Rabbitfishes
Reef fishes (unknown)
Rudderfish (guilli)

Snappers
Squirrelfishes
Surgeonfishes
Sweetlips
Unicornfishes
Wrasses

D. *Other Fishes*

Bigeye scad (atulai)
Coconut crab
Crabs
Eels (freshwater)
Invertebrates
Kona crab
Lemu
Lobsters
Milkfish

Miscellaneous
Mulletts
Octopus
Seaweeds
Shrimp (freshwater)
Shrimp (saltwater)
Squid
Turtles

Table C-1
Guam Annual 2008 Estimated Commercial Landings

Species	Pounds	Value (\$)	Price/Lb (\$)
Miscellaneous	368	974	2.64
Bigeye scad (atulai)	4,292	13,177	3.07
Black jack	223	558	2.50
Jacks	2,100	5,456	2.60
Napoleon wrasse	1,260	3,502	2.78
Humphead parrotfish	20	50	2.50
Bottomfishes (unknown)	23	69	3.00
Ehu (red snapper)	638	2,496	3.91
Gindai (flower snapper)	714	2,855	4.00
Groupers	839	2,222	2.65
Kalikali (pink snapper)	1,156	4,079	3.53
Lehi (silverjaw)	892	3,323	3.72
Onaga (red snapper)	2,158	10,740	4.98
Opakapaka (pink snapper)	511	2,043	4.00
Uku (gray snapper)	406	1,115	2.75
Tagafi (red snapper)	18	37	2.00
Amberjack	154	416	2.71
Reef fishes (unknown)	89,541	268,723	3.00
Rabbitfishes	427	1,281	3.00
Rudderfish (guilli)	314	942	3.00
Mafute (emperor)	1,434	4,050	2.82
Squirrelfishes	1,415	3,663	2.59
Parrotfishes	11,718	38,046	3.25
Snappers	258	720	2.80
Surgeonfishes	5,319	13,748	2.58
Unicornfishes	17,672	49,859	2.82
Goatfishes	5	16	3.00
Sweetlips	111	265	2.40
Barracudas	1,388	2,753	1.98
Mahimahi	50,872	95,380	1.87
Swordfish	33	99	3.00
Marlins	26,203	37,343	1.43
Sailfish	368	605	1.64
Rainbow runner	2,423	5,263	2.17
Monchong	211	535	2.54
Wahoo	20,520	41,011	2.00
Skipjack tuna	26,407	41,300	1.56
Dogtooth tuna	1,580	2,419	1.53
Yellowfin tuna	9,592	20,040	2.09
Kawakawa	10	20	2.00
Crabs	50	129	2.58
Lobsters	1,168	4,329	3.71

Table C-1 (continued)
Guam Annual 2008 Estimated Commercial Landings

Species	Pounds	Value (\$)	Price/Lb (\$)
Octopus	2,400	7,157	2.98
TOTAL	287,213	692,809	2.41

Table C-2
Guam January 2008 Estimated Commercial Landings

Species	Pounds	Value (\$)	Price/Lb (\$)
Jacks	45	109	2.41
Napoleon wrasse	90	248	2.75
Ehu (red snapper)	6	25	4.00
Gindai (flower snapper)	17	68	4.00
Groupers	20	55	2.75
Kalikali (pink snapper)	19	58	3.00
Lehi (silverjaw)	97	339	3.50
Onaga (red snapper)	134	669	5.00
Amberjack	7	21	3.00
Reef fishes (unknown)	10,789	32,367	3.00
Squirrelfishes	105	263	2.50
Surgeonfishes	205	512	2.50
Unicornfishes	474	1,185	2.50
Barracudas	55	111	2.00
Mahimahi	6,798	13,408	1.97
Marlins	201	365	1.82
Rainbow runner	35	67	1.88
Monchong	54	135	2.50
Wahoo	422	978	2.32
Skipjack tuna	938	1,412	1.50
Dogtooth tuna	76	114	1.50
Yellowfin tuna	1,248	2,567	2.06
Lobsters	13	50	3.75
Octopus	248	722	2.91
TOTAL	22,098	55,847	2.53

Table C-3
Guam February 2008 Estimated Commercial Landings

Species	Pounds	Value (\$)	Price/Lb (\$)
Black jack	30	68	2.25
Jacks	181	441	2.44
Napoleon wrasse	105	288	2.75
Ehu (red snapper)	6	25	4.00
Gindai (flower snapper)	28	114	4.00
Groupers	28	85	3.00
Kalikali (pink snapper)	16	65	4.00
Lehi (silverjaw)	152	569	3.74
Onaga (red snapper)	85	423	5.00
Opakapaka (pink snapper)	9	37	4.00
Uku (gray snapper)	11	24	2.25
Tagafi (red snapper)	18	37	2.00
Reef fishes (unknown)	10,696	32,089	3.00
Squirrelfishes	223	590	2.65
Surgeonfishes	120	360	3.00
Unicornfishes	901	2,702	3.00
Barracudas	73	146	2.00
Mahimahi	9,198	18,094	1.97
Marlins	218	310	1.42
Sailfish	55	89	1.60
Rainbow runner	309	595	1.92
Wahoo	2,315	4,718	2.04
Skipjack tuna	1,755	2,685	1.53
Dogtooth tuna	115	187	1.62
Yellowfin tuna	408	854	2.09
Crabs	6	15	2.50
Lobsters	314	1,179	3.75
Octopus	248	745	3.00
TOTAL	27,628	67,532	2.44

Table C-4
Guam March 2008 Estimated Commercial Landings

Species	Pounds	Value (\$)	Price/Lb (\$)
Miscellaneous	39	116	2.96
Black jack	63	151	2.39
Jacks	148	356	2.41
Napoleon wrasse	237	652	2.75
Gindai (flower snapper)	5	22	4.00
Groupers	82	241	2.93
Kalikali (pink snapper)	12	35	3.00
Lehi (silverjaw)	58	202	3.50
Onaga (red snapper)	129	646	5.00
Uku (gray snapper)	102	286	2.80
Amberjack	32	81	2.50
Reef fishes (unknown)	6,222	18,666	3.00
Mafute (emperor)	287	779	2.72
Squirrelfishes	25	74	3.00
Snappers	21	57	2.72
Surgeonfishes	512	1,455	2.84
Unicornfishes	2,428	6,850	2.82
Sweetlips	12	31	2.50
Barracudas	391	775	1.98
Mahimahi	19,990	34,687	1.74
Swordfish	33	99	3.00
Marlins	378	527	1.39
Sailfish	31	46	1.50
Rainbow runner	242	485	2.00
Monchong	28	74	2.62
Wahoo	8,077	15,403	1.91
Skipjack tuna	2,372	3,519	1.48
Dogtooth tuna	450	663	1.47
Yellowfin tuna	698	1,390	1.99
Lobsters	127	447	3.51
Octopus	188	563	3.00
TOTAL	43,420	89,376	2.06

Table C-5
Guam April 2008 Estimated Commercial Landings

Species	Pounds	Value (\$)	Price/Lb (\$)
Jacks	388	864	2.22
Napoleon wrasse	292	804	2.75
Ehu (red snapper)	65	262	4.00
Gindai (flower snapper)	42	169	4.00
Kalikali (pink snapper)	56	197	3.50
Lehi (silverjaw)	13	46	3.50
Opakapaka (pink snapper)	14	55	4.00
Uku (gray snapper)	7	19	2.75
Reef fishes (unknown)	7,623	22,866	3.00
Mafute (emperor)	33	58	1.75
Squirrelfishes	88	230	2.60
Snappers	24	72	3.00
Surgeonfishes	418	1,057	2.53
Unicornfishes	1,599	4,236	2.65
Barracudas	186	372	2.00
Mahimahi	5,315	10,607	2.00
Marlins	154	231	1.50
Rainbow runner	113	214	1.89
Wahoo	1,233	2,203	1.79
Skipjack tuna	4,197	6,141	1.46
Dogtooth tuna	77	115	1.50
Yellowfin tuna	484	974	2.01
Crabs	33	86	2.60
Lobsters	268	1,006	3.75
Octopus	51	152	3.00
TOTAL	22,776	53,036	2.33

Table C-6
Guam May 2008 Estimated Commercial Landings

Species	Pounds	Value (\$)	Price/Lb (\$)
Miscellaneous	44	132	3.00
Black jack	25	68	2.75
Jacks	15	37	2.50
Napoleon wrasse	232	639	2.75
Gindai (flower snapper)	67	268	4.00
Groupers	219	530	2.42
Kalikali (pink snapper)	169	592	3.50
Lehi (silverjaw)	19	77	4.00
Opakapaka (pink snapper)	29	117	4.00
Uku (gray snapper)	26	78	3.00
Amberjack	48	133	2.75
Reef fishes (unknown)	9,845	29,534	3.00
Rabbitfishes	20	60	3.00
Mafute (emperor)	245	667	2.73
Squirrelfishes	89	223	2.50
Snappers	13	33	2.50
Surgeonfishes	88	221	2.50
Unicornfishes	316	805	2.55
Goatfishes	5	16	3.00
Barracudas	61	122	2.00
Mahimahi	366	732	2.00
Marlins	1,458	2,047	1.40
Rainbow runner	252	499	1.98
Wahoo	283	637	2.25
Skipjack tuna	6,265	9,088	1.45
Dogtooth tuna	49	74	1.50
Yellowfin tuna	684	1,394	2.04
Lobsters	241	903	3.75
Octopus	97	291	3.00
TOTAL	21,272	50,016	2.35

Table C-7
Guam June 2008 Estimated Commercial Landings

Species	Pounds	Value (\$)	Price/Lb (\$)
Black jack	45	122	2.69
Jacks	175	439	2.50
Ehu (red snapper)	45	178	4.00
Gindai (flower snapper)	65	258	4.00
Groupers	55	164	3.00
Kalikali (pink snapper)	13	46	3.50
Lehi (silverjaw)	46	185	4.00
Onaga (red snapper)	258	1,241	4.81
Opakapaka (pink snapper)	80	320	4.00
Uku (gray snapper)	72	203	2.83
Reef fishes (unknown)	8,157	24,485	3.00
Rabbitfishes	181	542	3.00
Rudderfish (guilli)	52	155	3.00
Mafute (emperor)	235	701	2.98
Squirrelfishes	56	140	2.50
Snappers	62	179	2.87
Surgeonfishes	165	413	2.50
Unicornfishes	1,830	5,139	2.81
Barracudas	94	170	1.82
Mahimahi	65	131	2.00
Marlins	5,793	8,431	1.46
Sailfish	68	102	1.50
Rainbow runner	582	1,272	2.18
Monchong	16	40	2.50
Wahoo	446	912	2.04
Skipjack tuna	4,434	6,620	1.49
Dogtooth tuna	162	237	1.46
Yellowfin tuna	2,238	4,701	2.10
Lobsters	63	237	3.75
Octopus	270	804	2.98
TOTAL	25,823	58,566	2.27

Table C-8
Guam July 2008 Estimated Commercial Landings

Species	Pounds	Value (\$)	Price/Lb (\$)
Miscellaneous	220	550	2.50
Bigeye scad (atulai)	32	113	3.50
Black jack	5	12	2.50
Jacks	238	596	2.50
Ehu (red snapper)	161	643	4.00
Gindai (flower snapper)	52	206	4.00
Groupers	47	141	3.00
Kalikali (pink snapper)	73	256	3.50
Lehi (silverjaw)	90	349	3.88
Onaga (red snapper)	214	1,069	5.00
Uku (gray snapper)	86	233	2.70
Reef fishes (unknown)	7,371	22,102	3.00
Rudderfish (guilli)	138	415	3.00
Mafute (emperor)	348	1,021	2.94
Squirrelfishes	363	913	2.51
Snappers	8	25	3.00
Surgeonfishes	873	2,215	2.54
Unicornfishes	3,286	8,535	2.60
Sweetlips	27	67	2.50
Barracudas	125	249	2.00
Mahimahi	28	57	2.00
Marlins	2,822	4,057	1.44
Rainbow runner	142	283	2.00
Monchong	55	123	2.25
Wahoo	176	396	2.25
Skipjack tuna	2,497	4,156	1.66
Dogtooth tuna	221	349	1.58
Yellowfin tuna	1,246	2,602	2.09
Crabs	10	25	2.50
Lobsters	24	89	3.75
Octopus	240	712	2.97
TOTAL	21,217	52,561	2.48

Table C-9
Guam August 2008 Estimated Commercial Landings

Species	Pounds	Value (\$)	Price/Lb (\$)
Miscellaneous	41	122	3.00
Bigeye scad (atulai)	520	1,560	3.00
Jacks	101	308	3.06
Ehu (red snapper)	90	346	3.85
Gindai (flower snapper)	121	483	4.00
Groupers	44	132	3.00
Kalikali (pink snapper)	334	1,193	3.57
Lehi (silverjaw)	91	363	4.00
Onaga (red snapper)	250	1,250	5.00
Opakapaka (pink snapper)	82	326	4.00
Uku (gray snapper)	75	200	2.68
Amberjack	13	39	3.00
Reef fishes (unknown)	7,228	21,680	3.00
Rabbitfishes	128	383	3.00
Mafute (emperor)	156	461	2.95
Squirrelfishes	145	372	2.57
Surgeonfishes	649	1,671	2.57
Unicornfishes	2,495	7,387	2.96
Sweetlips	25	63	2.50
Barracudas	106	212	2.00
Mahimahi	321	608	1.90
Marlins	4,358	5,740	1.32
Sailfish	82	122	1.50
Rainbow runner	25	49	2.00
Monchong	36	108	3.00
Wahoo	342	770	2.25
Skipjack tuna	2,508	4,824	1.92
Dogtooth tuna	9	14	1.50
Yellowfin tuna	411	893	2.17
Crabs	1	2	3.00
Octopus	464	1,392	3.00
TOTAL	21,248	53,076	2.50

Table C-10
Guam September 2008 Estimated Commercial Landings

Species	Pounds	Value (\$)	Price/Lb (\$)
Bigeye scad (atulai)	1,147	3,731	3.25
Black jack	44	110	2.50
Jacks	238	758	3.18
Napoleon wrasse	90	253	2.81
Ehu (red snapper)	91	337	3.71
Gindai (flower snapper)	194	775	4.00
Groupers	316	793	2.51
Kalikali (pink snapper)	280	976	3.48
Lehi (silverjaw)	235	865	3.67
Onaga (red snapper)	658	3,288	5.00
Opakapaka (pink snapper)	98	391	4.00
Uku (gray snapper)	14	35	2.50
Amberjack	32	90	2.79
Reef fishes (unknown)	7,159	21,580	3.01
Mafute (emperor)	73	197	2.70
Squirrelfishes	76	200	2.63
Parrotfishes	1,977	6,425	3.25
Snappers	11	27	2.50
Surgeonfishes	555	1,420	2.56
Unicornfishes	1,865	5,588	3.00
Barracudas	8	17	2.00
Mahimahi	25	49	2.00
Marlins	2,955	4,208	1.42
Rainbow runner	515	1,389	2.70
Wahoo	235	528	2.25
Skipjack tuna	661	1,322	2.00
Dogtooth tuna	128	192	1.50
Yellowfin tuna	964	1,952	2.03
Lobsters	12	46	3.75
Octopus	61	182	3.00
TOTAL	20,715	57,724	2.79

Table C-11
Guam October 2008 Estimated Commercial Landings

Species	Pounds	Value (\$)	Price/Lb (\$)
Miscellaneous	25	54	2.19
Bigeye scad (atulai)	2,065	6,187	3.00
Jacks	373	1,044	2.80
Napoleon wrasse	195	569	2.91
Ehu (red snapper)	152	592	3.89
Gindai (flower snapper)	37	148	4.00
Groupers	11	32	3.00
Kalikali (pink snapper)	66	255	3.85
Lehi (silverjaw)	2	6	4.00
Onaga (red snapper)	264	1,319	5.00
Opakapaka (pink snapper)	112	449	4.00
Uku (gray snapper)	14	38	2.75
Reef fishes (unknown)	4,663	13,989	3.00
Rabbitfishes	98	295	3.00
Mafute (emperor)	30	90	3.00
Squirrelfishes	58	144	2.50
Parrotfishes	3,115	10,123	3.25
Snappers	38	94	2.50
Surgeonfishes	1,246	3,137	2.52
Unicornfishes	1,702	5,103	3.00
Sweetlips	46	104	2.25
Barracudas	141	282	2.00
Mahimahi	866	1,660	1.92
Marlins	3,460	5,014	1.45
Rainbow runner	78	155	2.00
Monchong	22	54	2.50
Wahoo	538	1,208	2.25
Skipjack tuna	432	847	1.96
Dogtooth tuna	262	416	1.59
Yellowfin tuna	667	1,481	2.22
Lobsters	85	301	3.52
Octopus	197	591	3.00
TOTAL	21,059	55,781	2.65

Table C-12
Guam November 2008 Estimated Commercial Landings

Species	Pounds	Value (\$)	Price/Lb (\$)
Bigeye scad (atulai)	432	1,295	3.00
Black jack	12	29	2.50
Jacks	131	334	2.55
Napoleon wrasse	18	51	2.75
Ehu (red snapper)	9	37	4.00
Gindai (flower snapper)	82	326	4.00
Groupers	17	49	2.92
Kalikali (pink snapper)	112	392	3.49
Lehi (silverjaw)	89	323	3.62
Onaga (red snapper)	112	553	4.96
Opakapaka (pink snapper)	87	348	4.00
Amberjack	21	52	2.50
Reef fishes (unknown)	4,377	13,131	3.00
Mafute (emperor)	14	35	2.50
Squirrelfishes	36	93	2.57
Parrotfishes	3,079	9,971	3.24
Snappers	16	40	2.50
Surgeonfishes	314	798	2.54
Unicornfishes	371	1,112	3.00
Barracudas	84	168	2.00
Mahimahi	3,491	6,779	1.94
Marlins	3,501	5,063	1.45
Rainbow runner	61	117	1.92
Wahoo	3,829	7,789	2.03
Skipjack tuna	168	346	2.05
Yellowfin tuna	314	699	2.23
Kawakawa	10	20	2.00
Lobsters	12	43	3.75
Octopus	322	960	2.98
TOTAL	21,119	50,950	2.41

Table C-13
Guam December 2008 Estimated Commercial Landings

Species	Pounds	Value (\$)	Price/Lb (\$)
Bigeye scad (atulai)	97	291	3.00
Jacks	66	170	2.56
Humphead parrotfish	20	50	2.50
Bottomfishes (unknown)	23	69	3.00
Ehu (red snapper)	13	52	4.00
Gindai (flower snapper)	5	18	4.00
Kalikali (pink snapper)	5	16	3.00
Onaga (red snapper)	56	281	5.00
Reef fishes (unknown)	5,412	16,235	3.00
Rudderfish (guilli)	124	372	3.00
Mafute (emperor)	14	41	2.99
Squirrelfishes	150	419	2.79
Parrotfishes	3,547	11,528	3.25
Snappers	65	194	3.00
Surgeonfishes	172	488	2.83
Unicornfishes	405	1,216	3.00
Barracudas	65	129	2.00
Mahimahi	4,407	8,568	1.94
Marlins	905	1,351	1.49
Sailfish	133	246	1.85
Rainbow runner	69	138	2.00
Wahoo	2,624	5,470	2.08
Skipjack tuna	178	341	1.91
Dogtooth tuna	30	59	1.96
Yellowfin tuna	230	533	2.32
Lobsters	7	28	3.75
Octopus	14	42	3.00
TOTAL	18,837	48,345	2.57

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

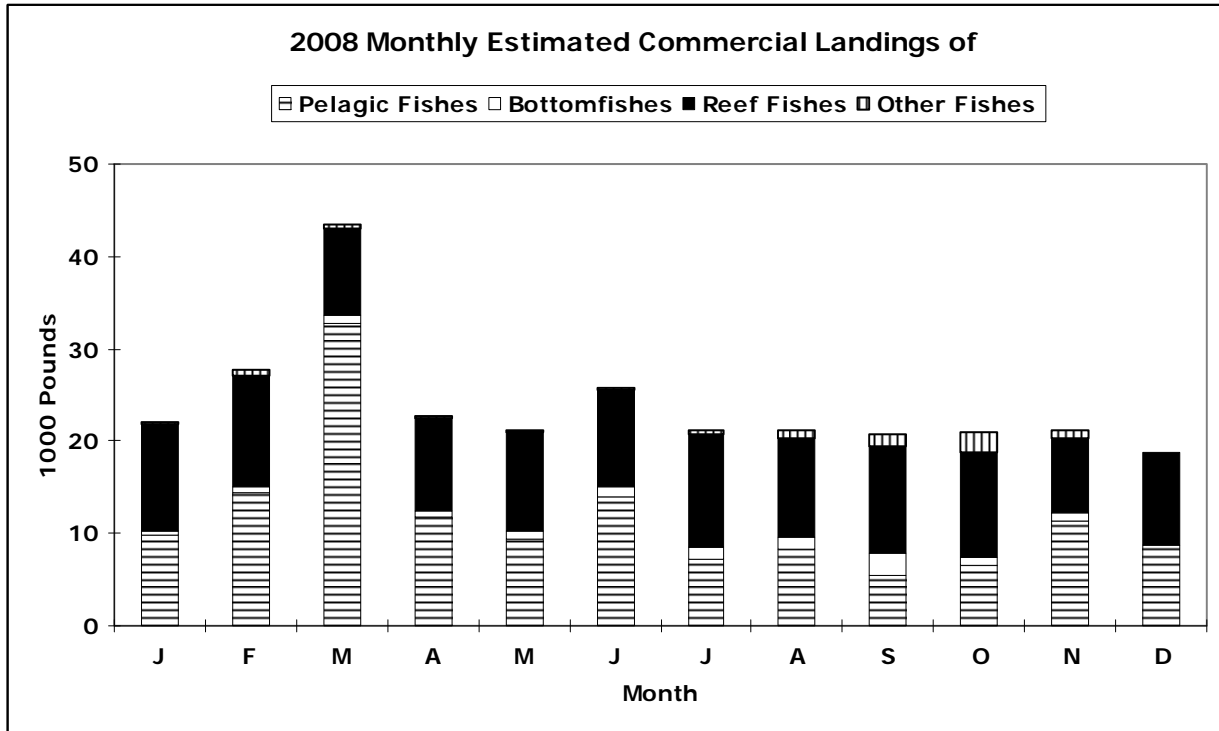


Figure C-1-1

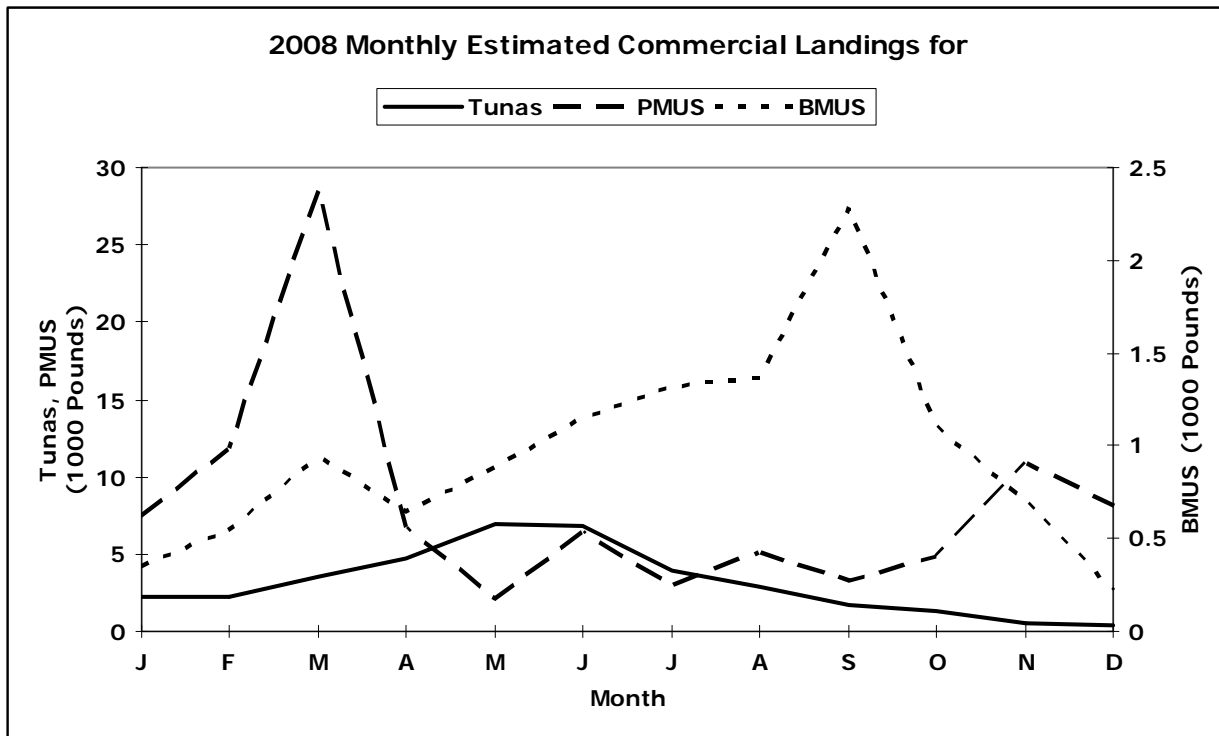


Figure C-1-2

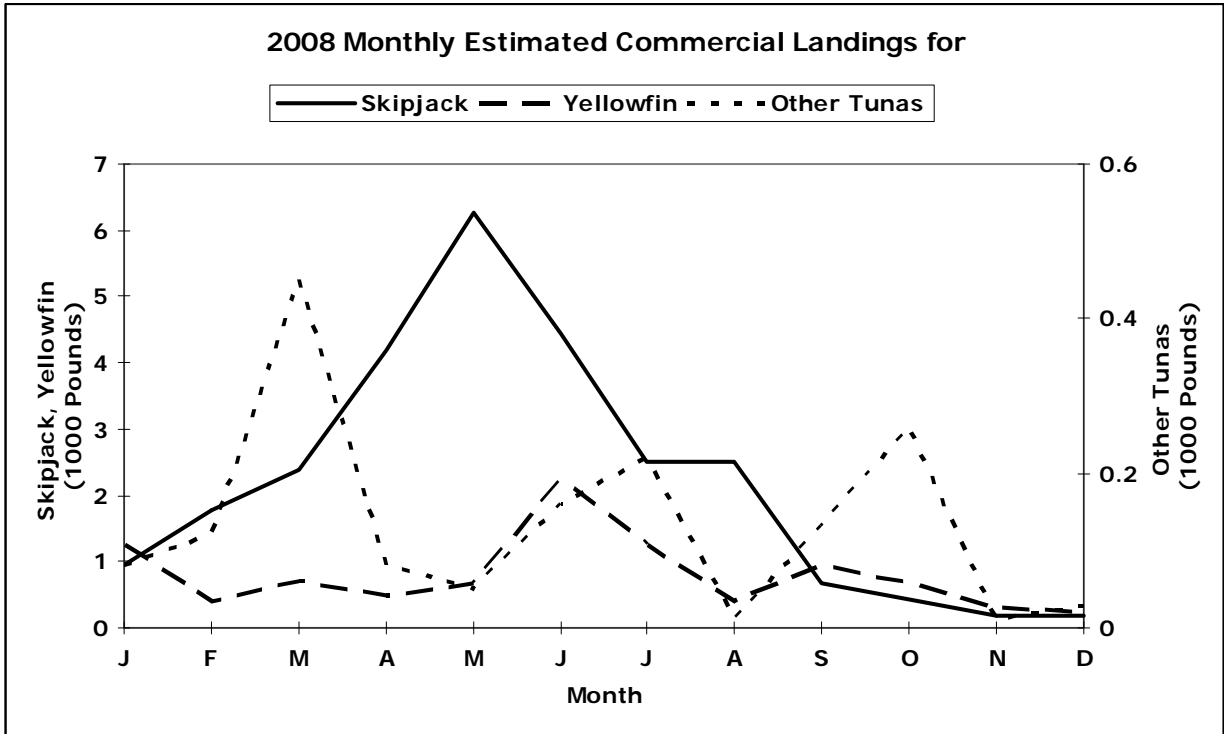


Figure C-1-3

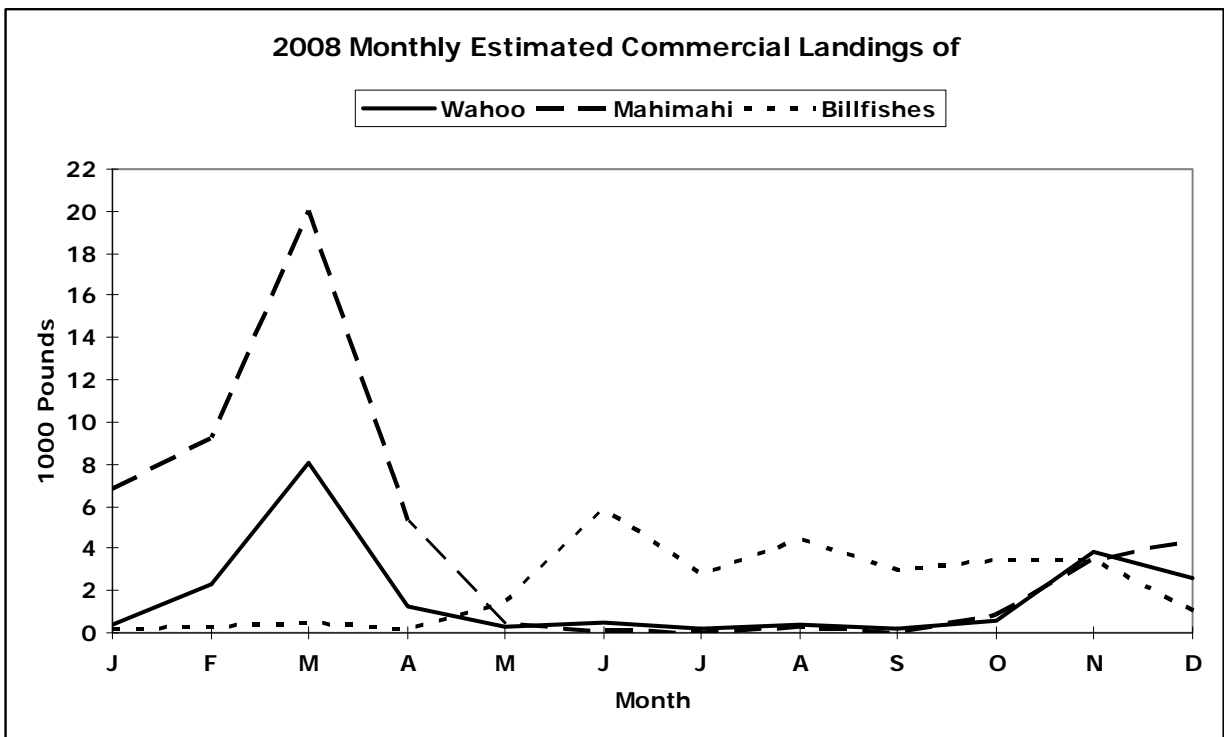


Figure C-1-4

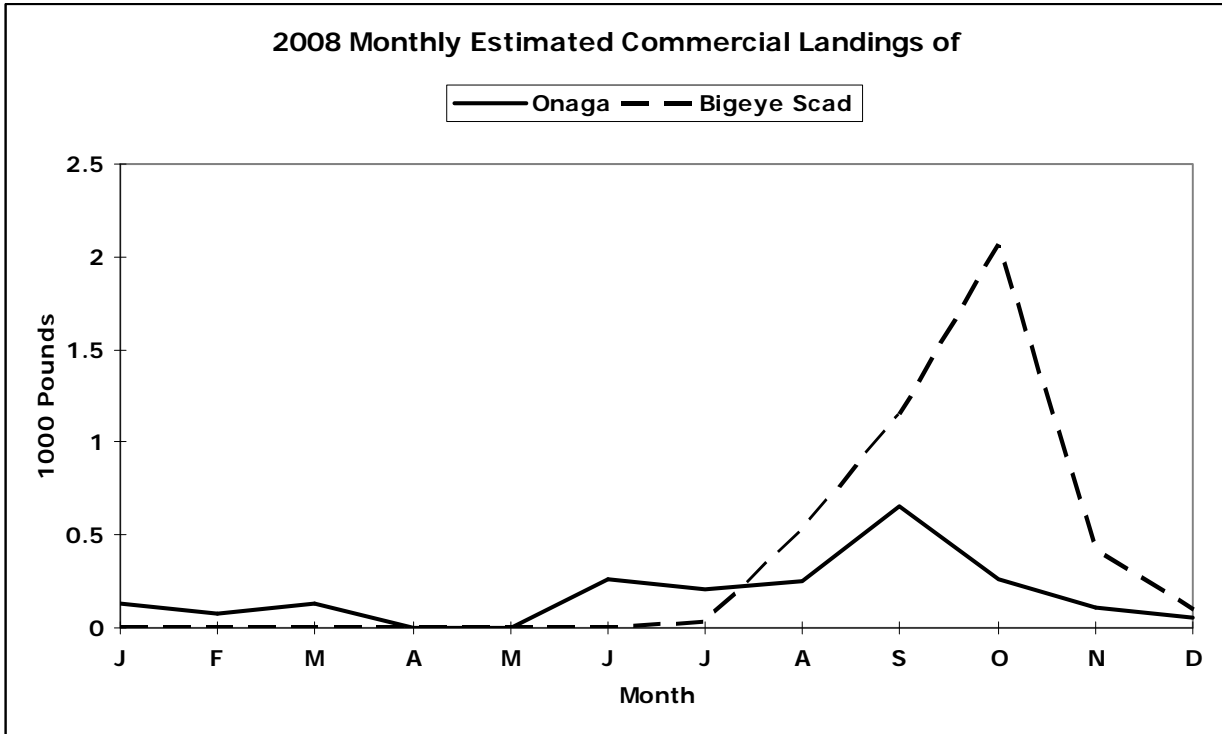


Figure C-1-5

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

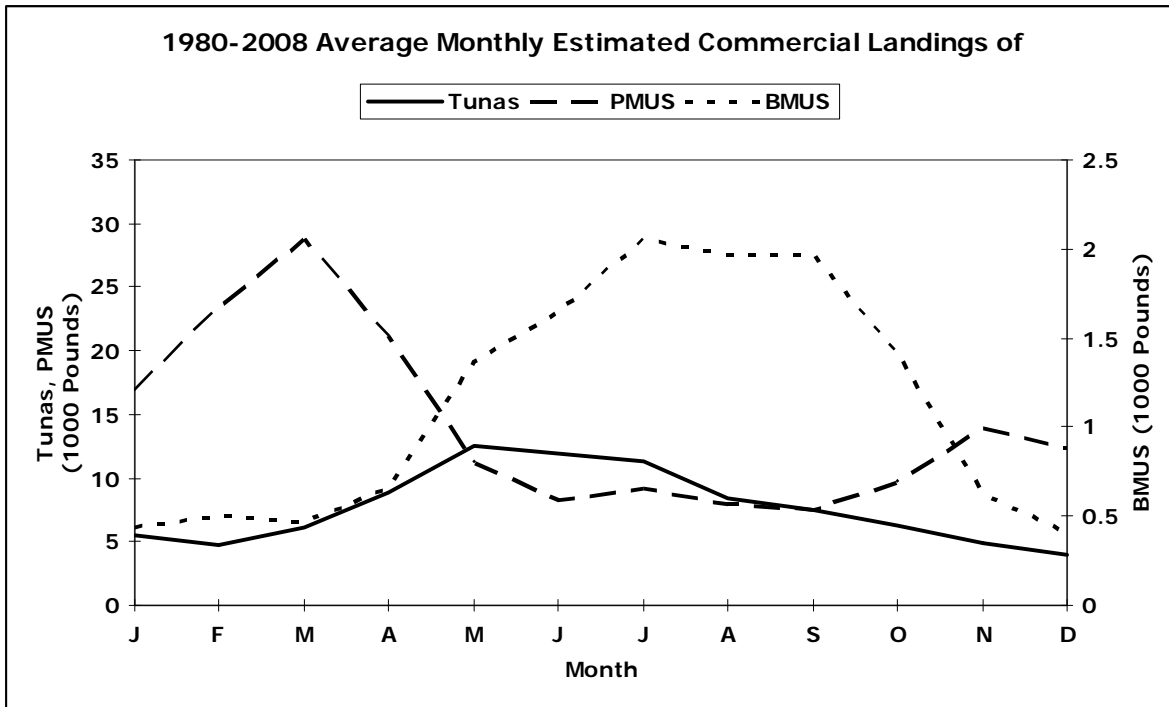


Figure C-2-1

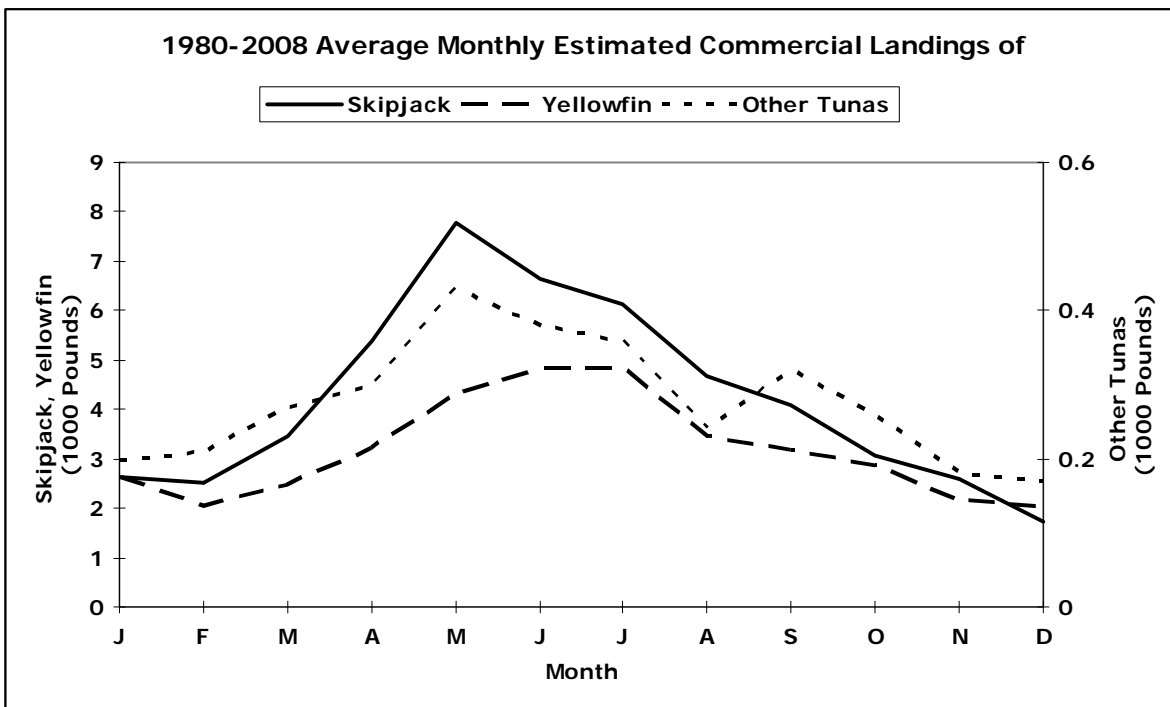


Figure C-2-2

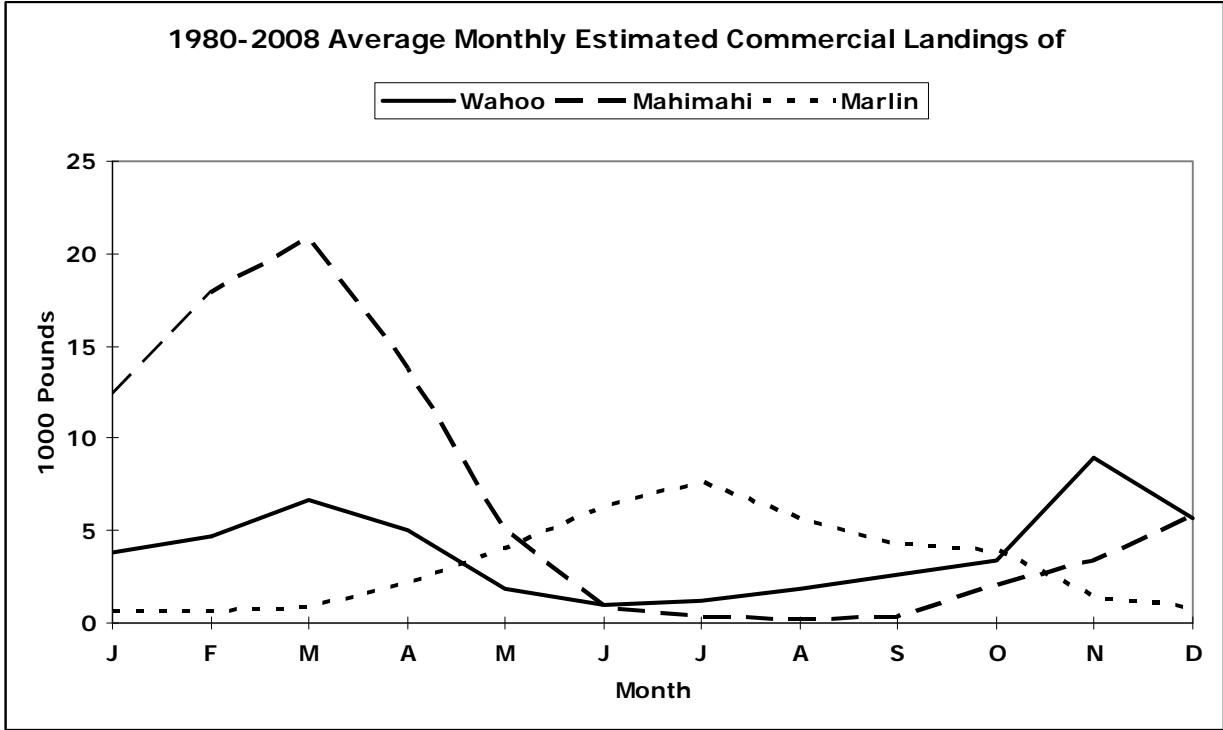


Figure C-2-3

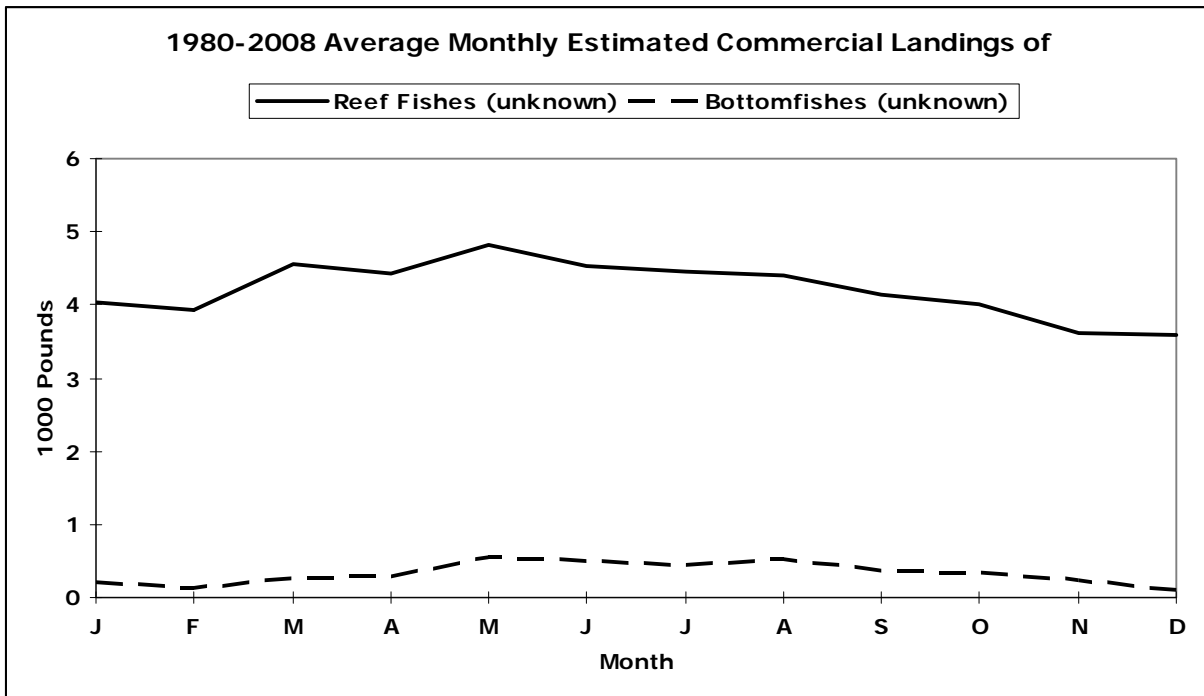


Figure C-2-4

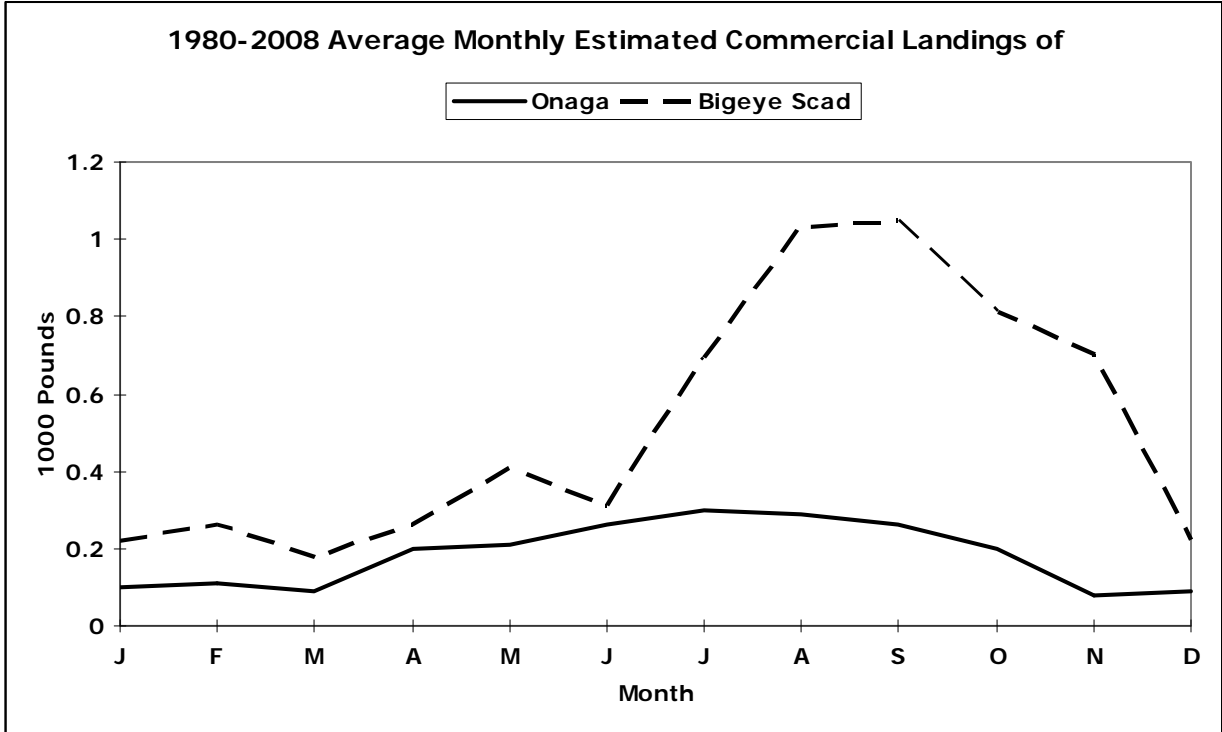


Figure C-2-5

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

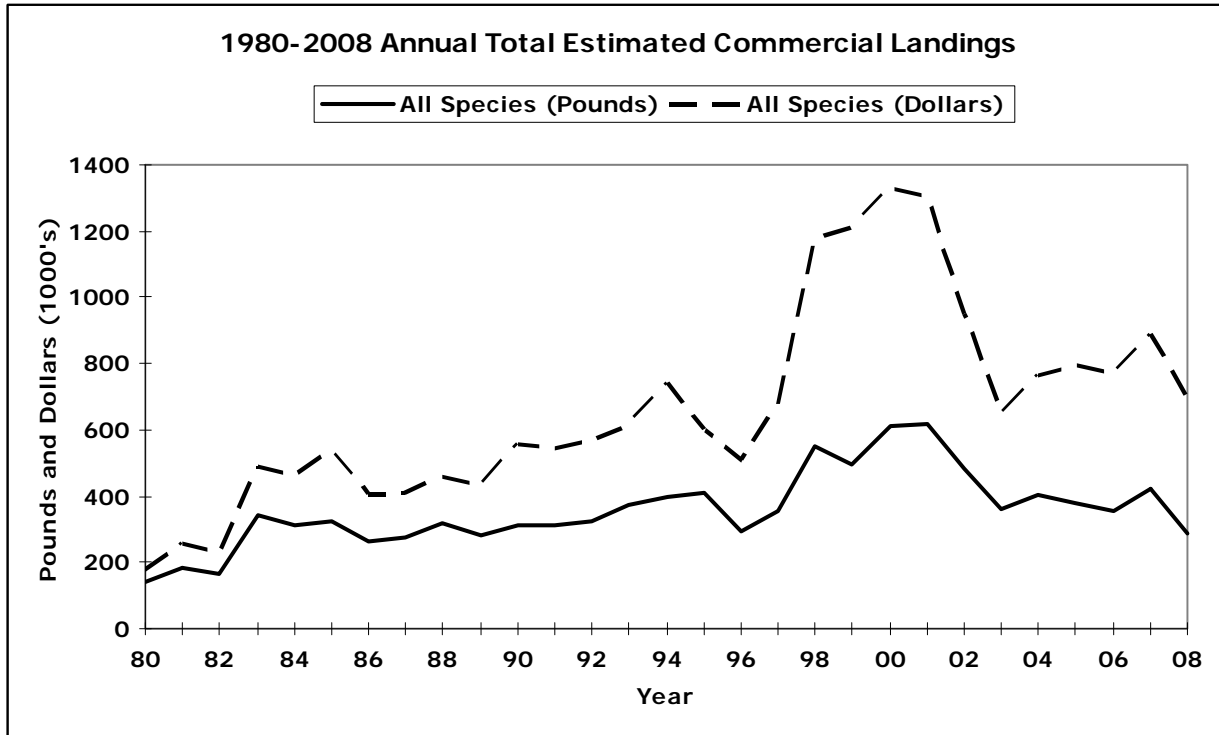


Figure C-3-1

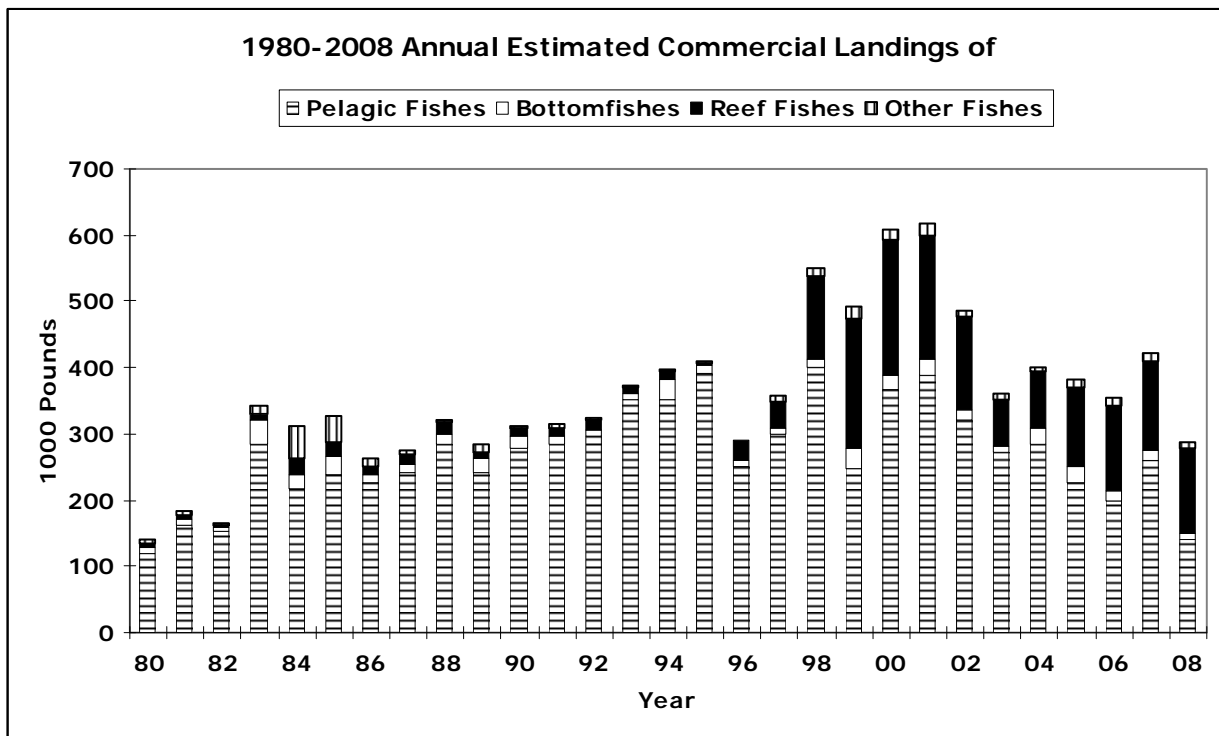


Figure C-3-2

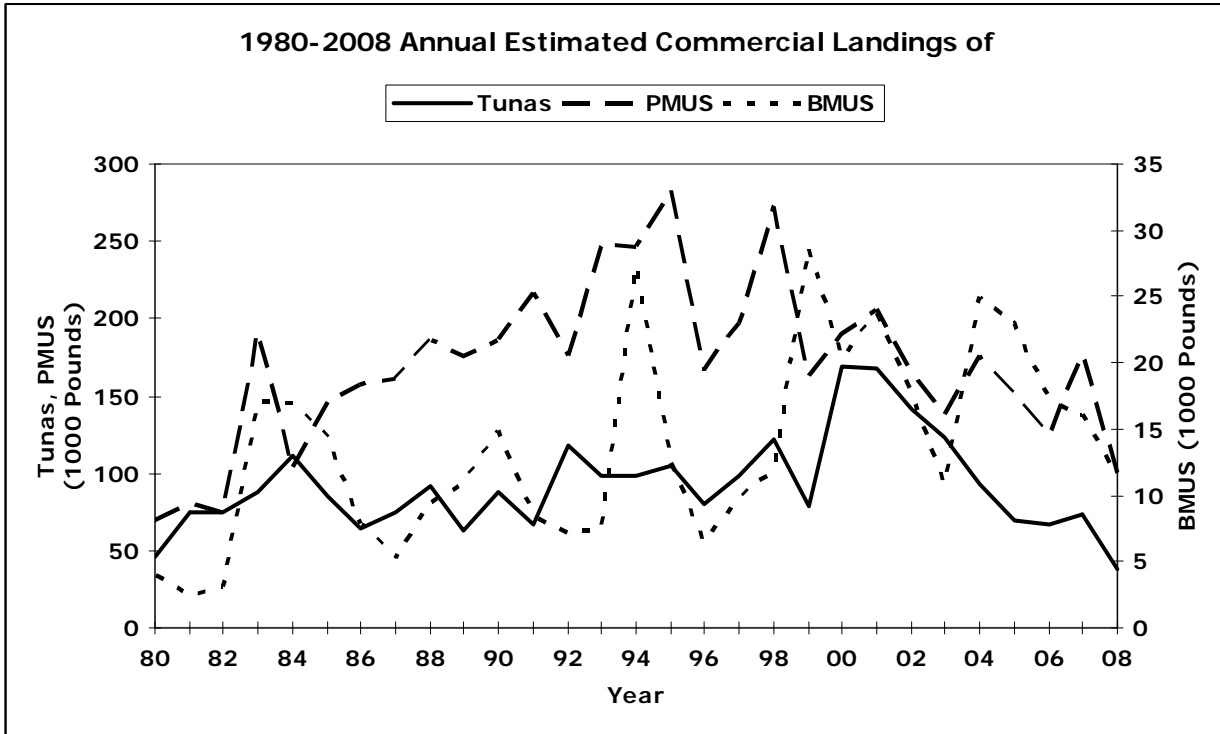


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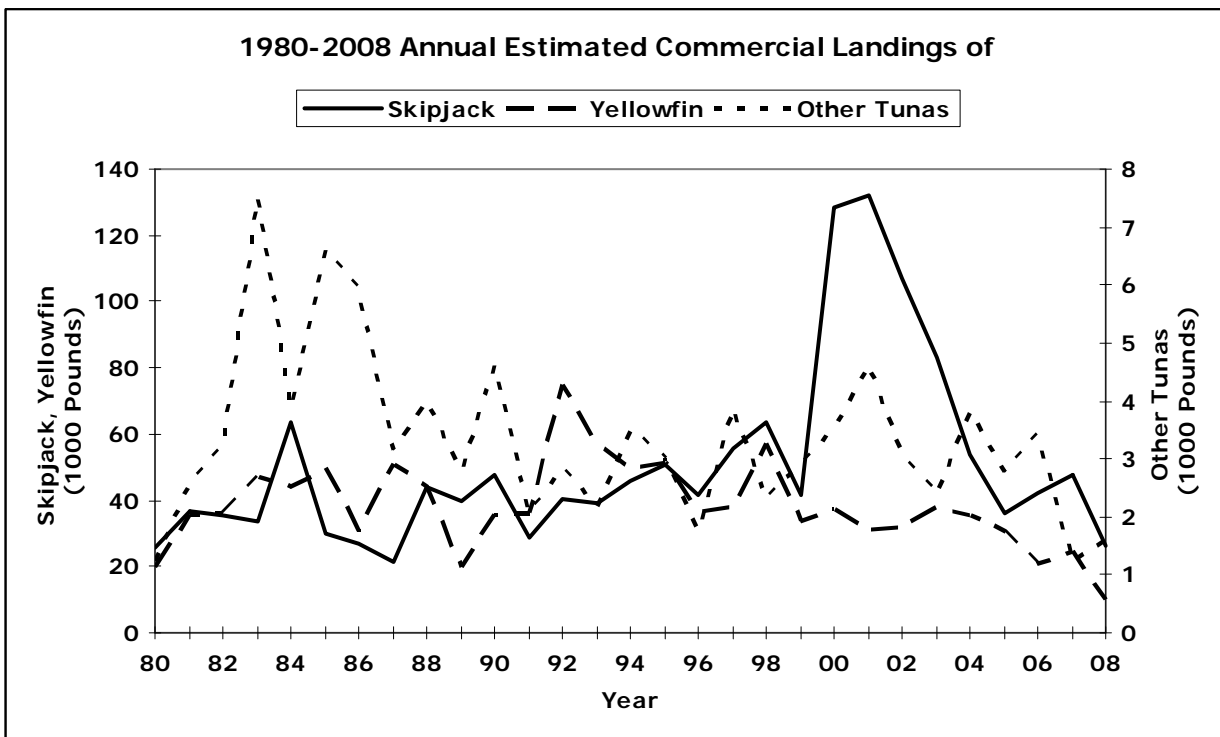


Figure C-3-4

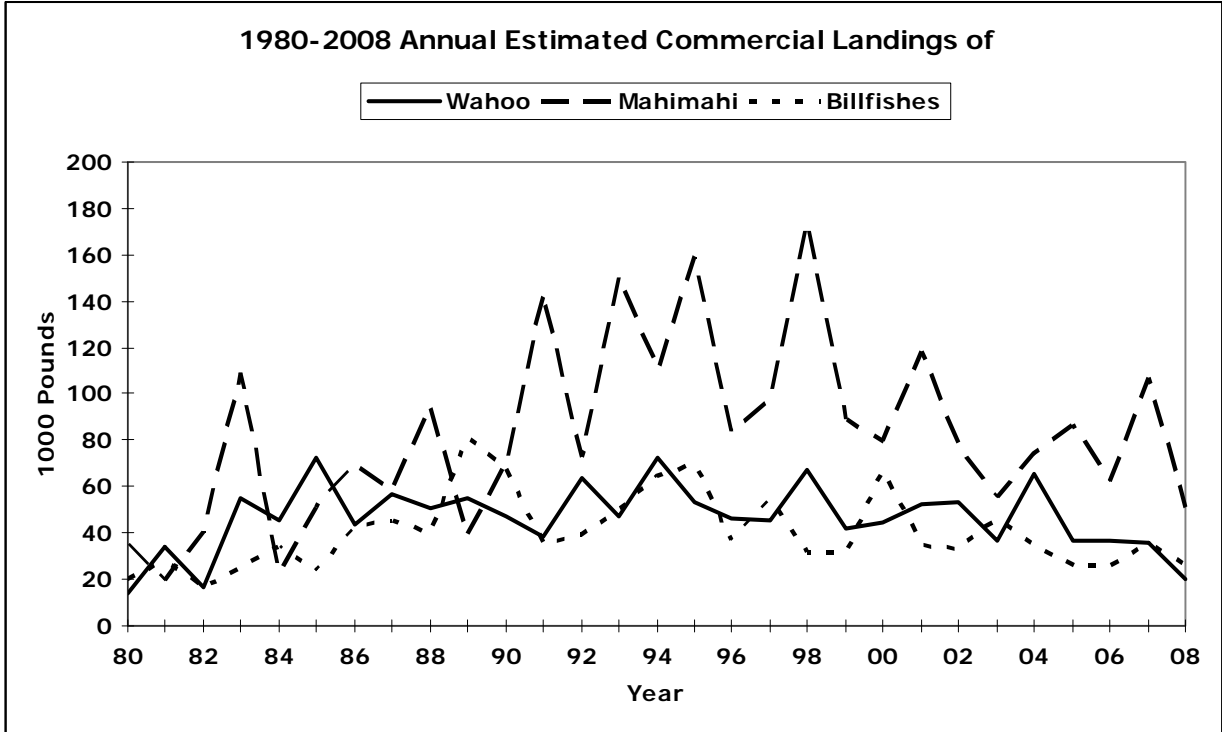


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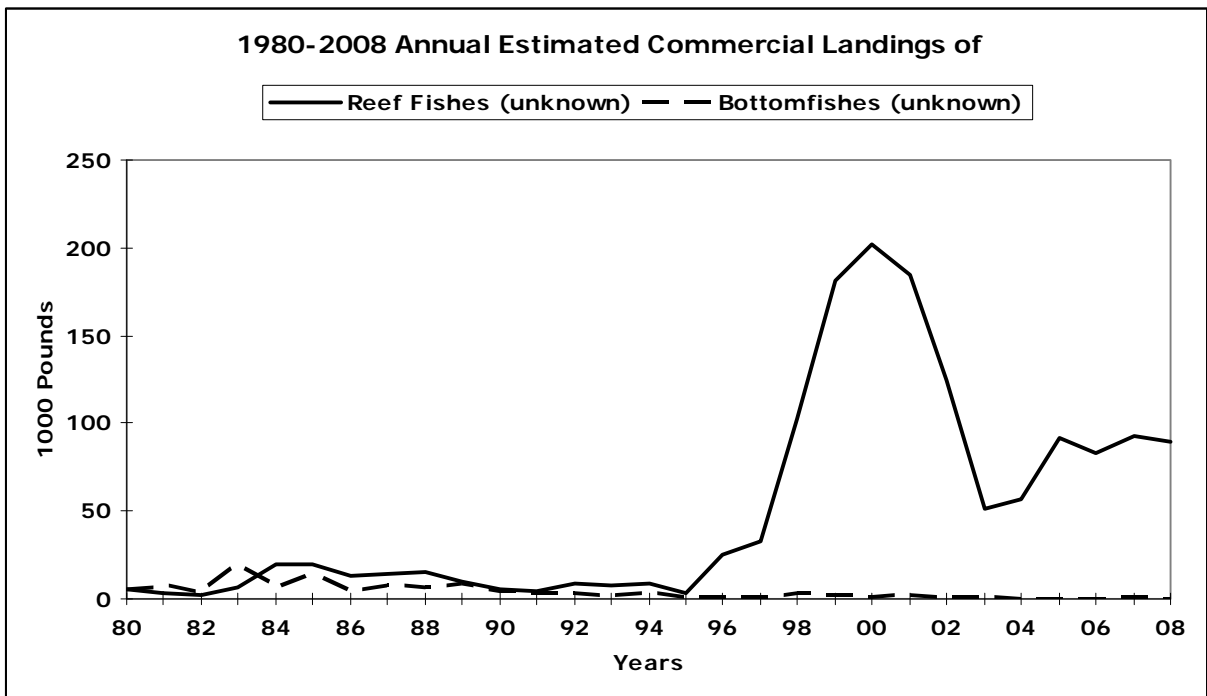


Figure C-3-6

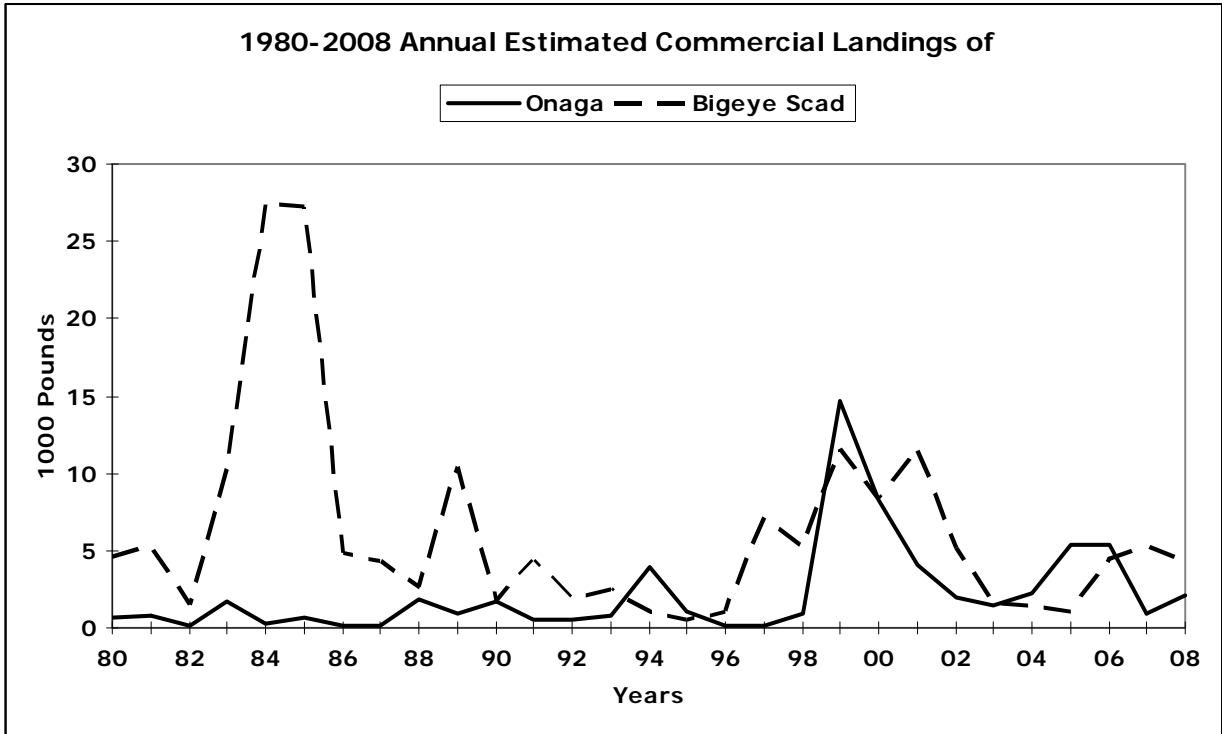


Figure C-3-7

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

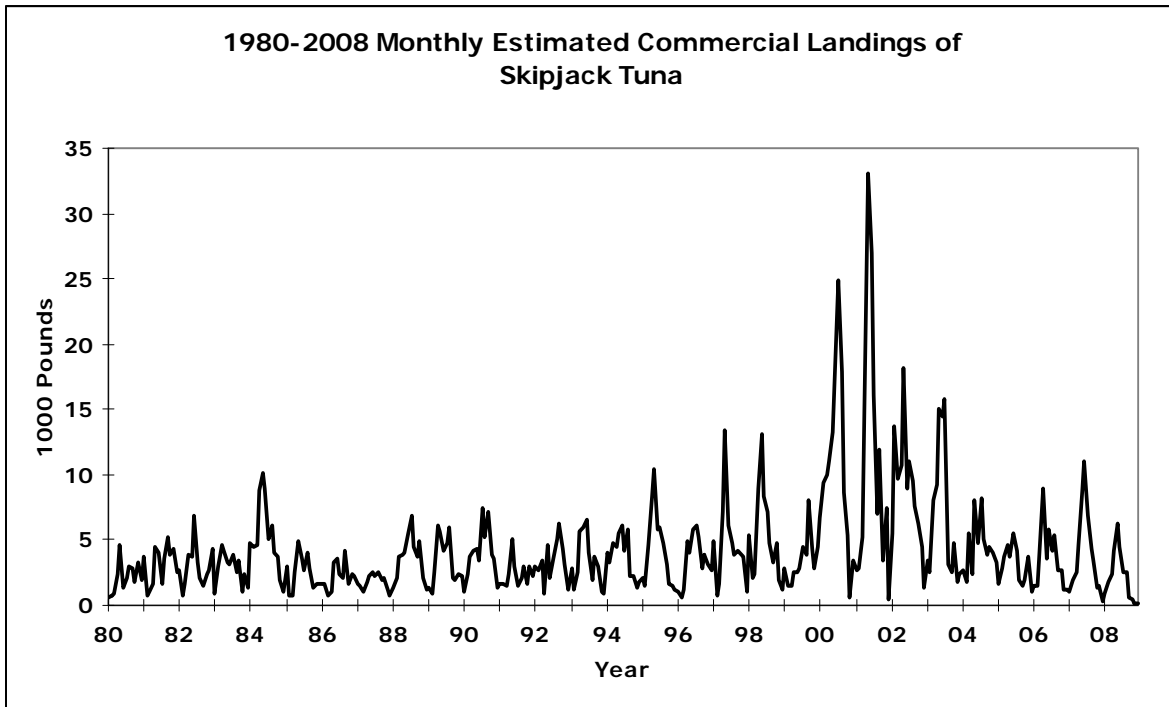


Figure C-4-1

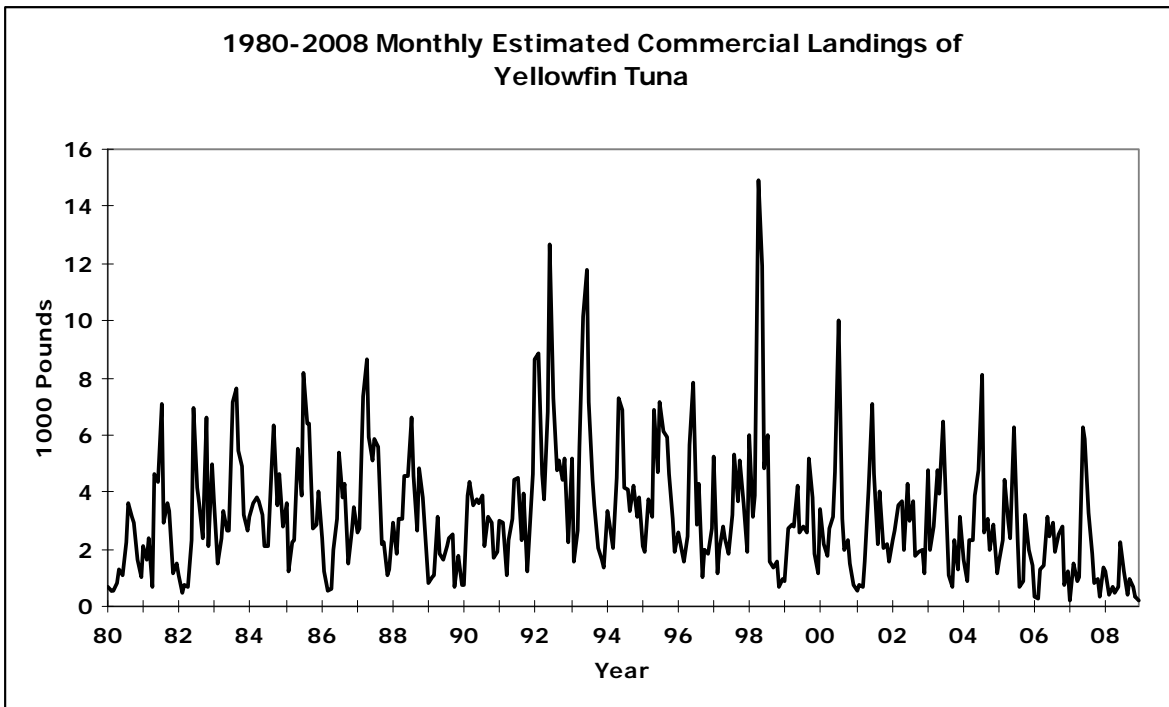


Figure C-4-2

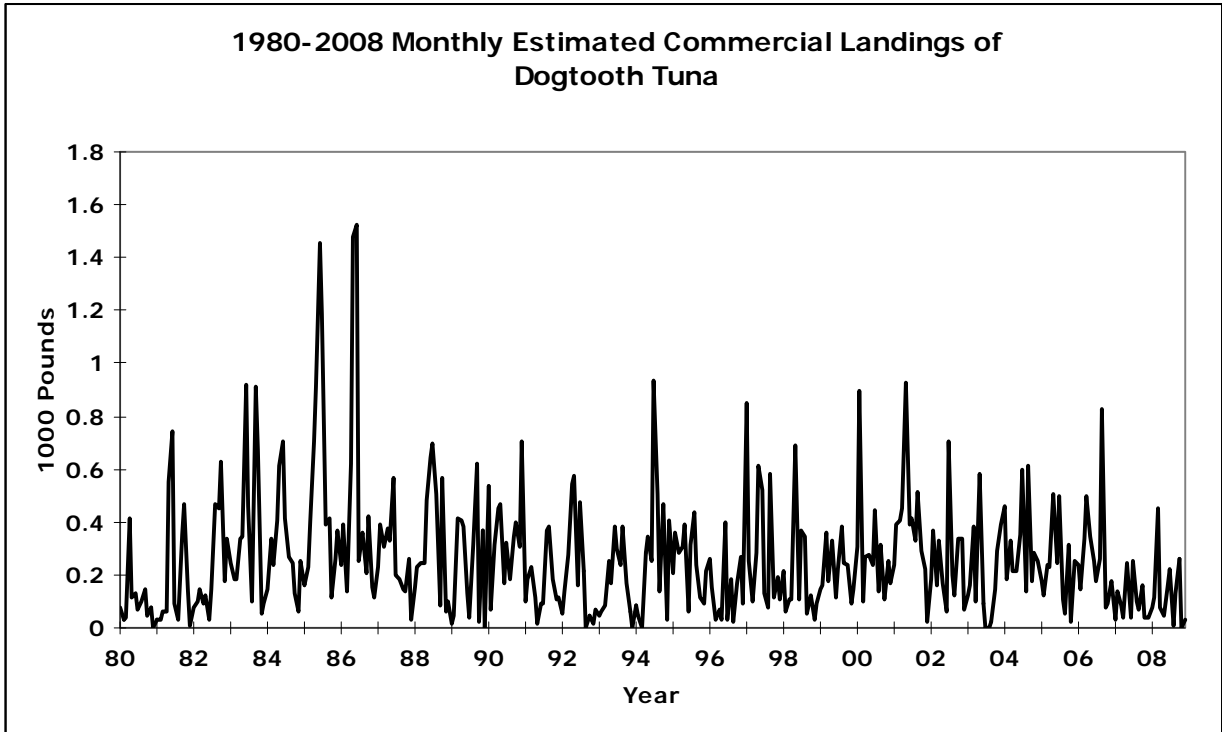


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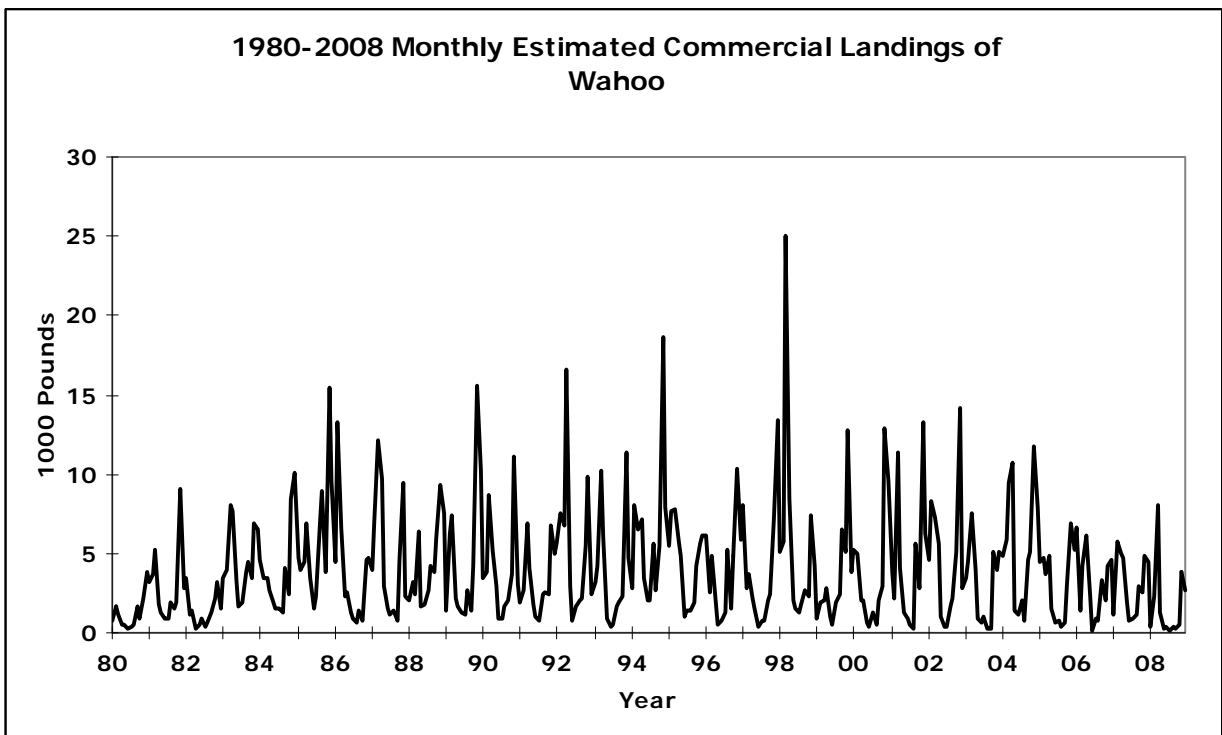


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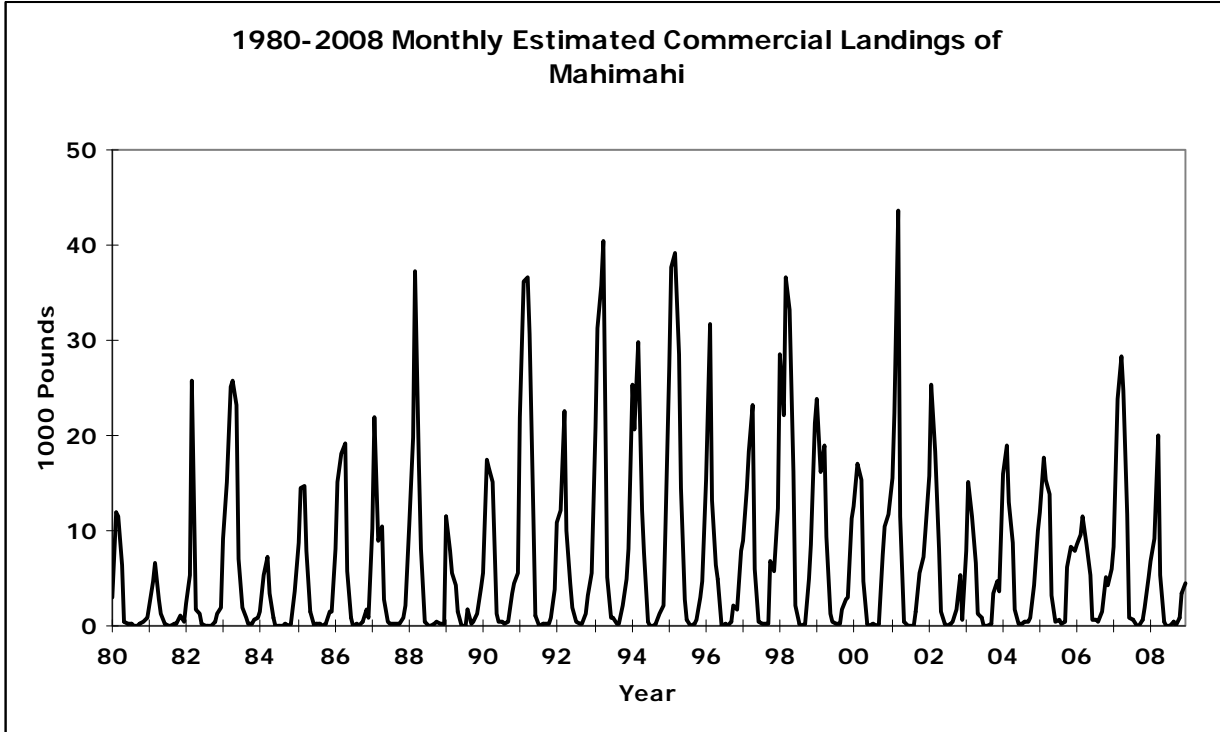


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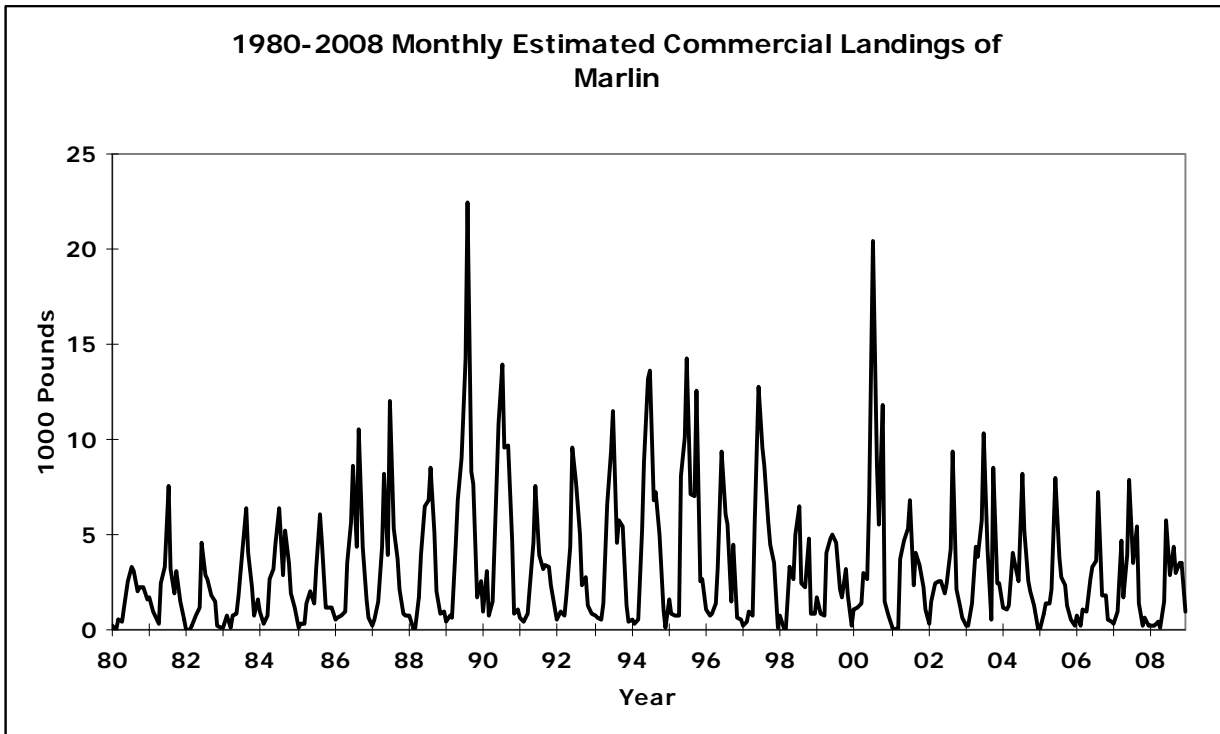


Figure C-4-6

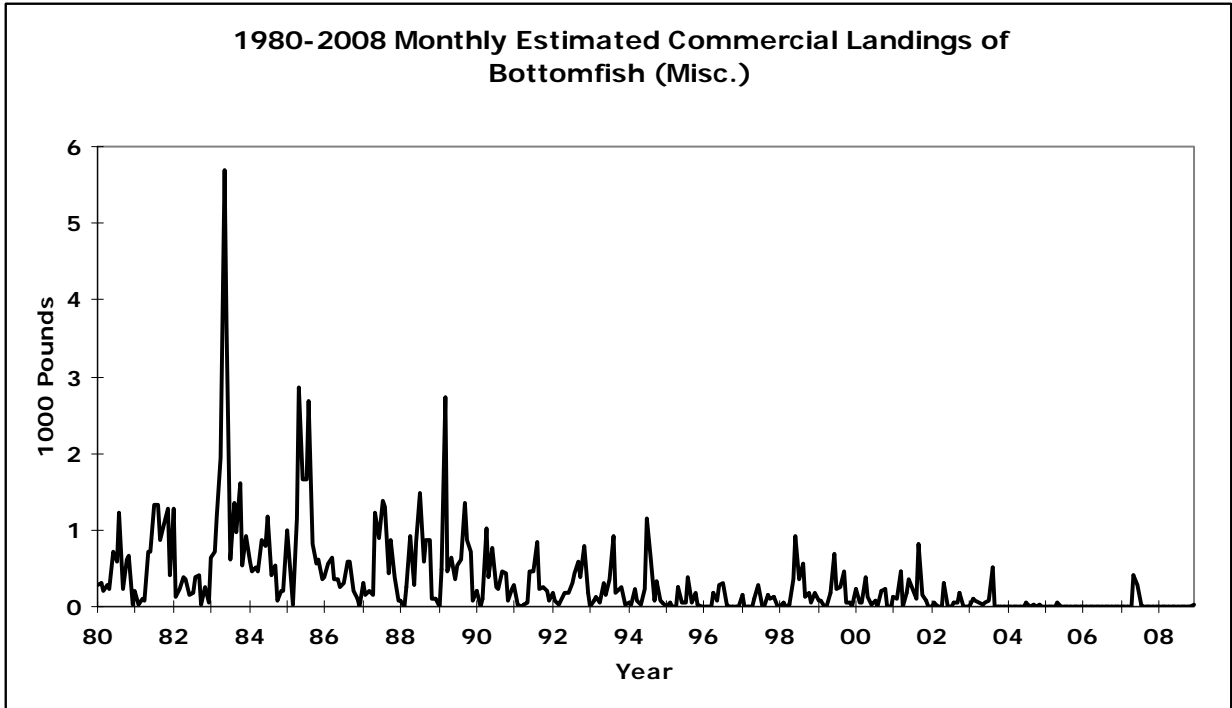


Figure C-4-7

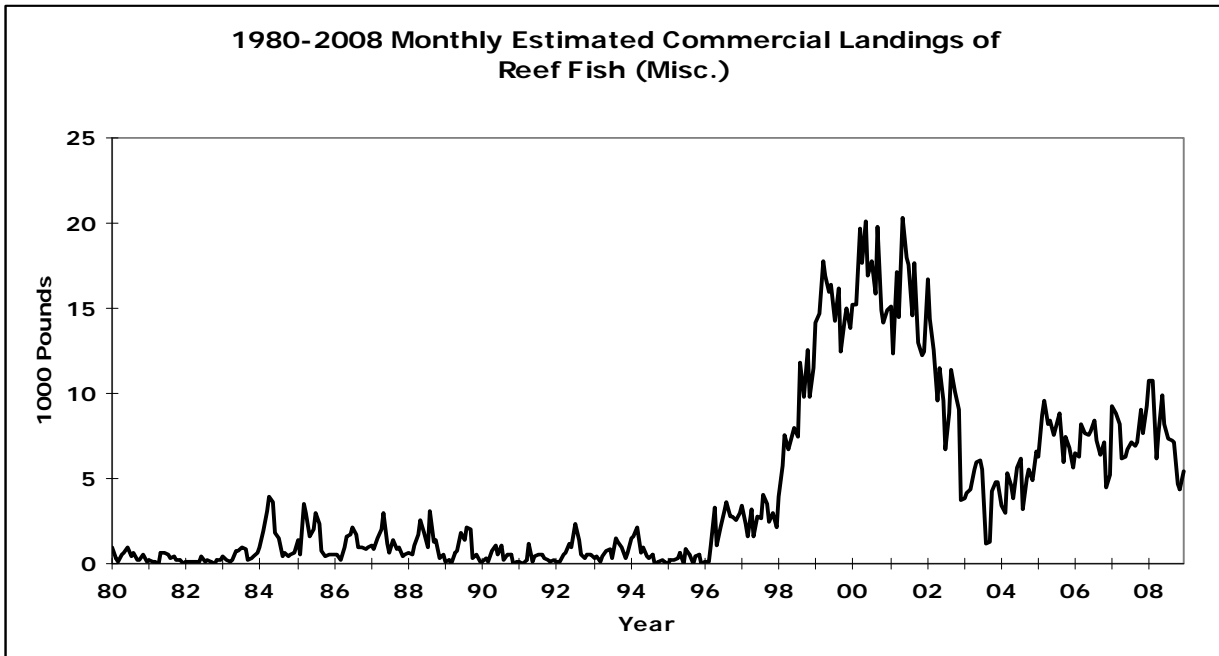


Figure C-4-8

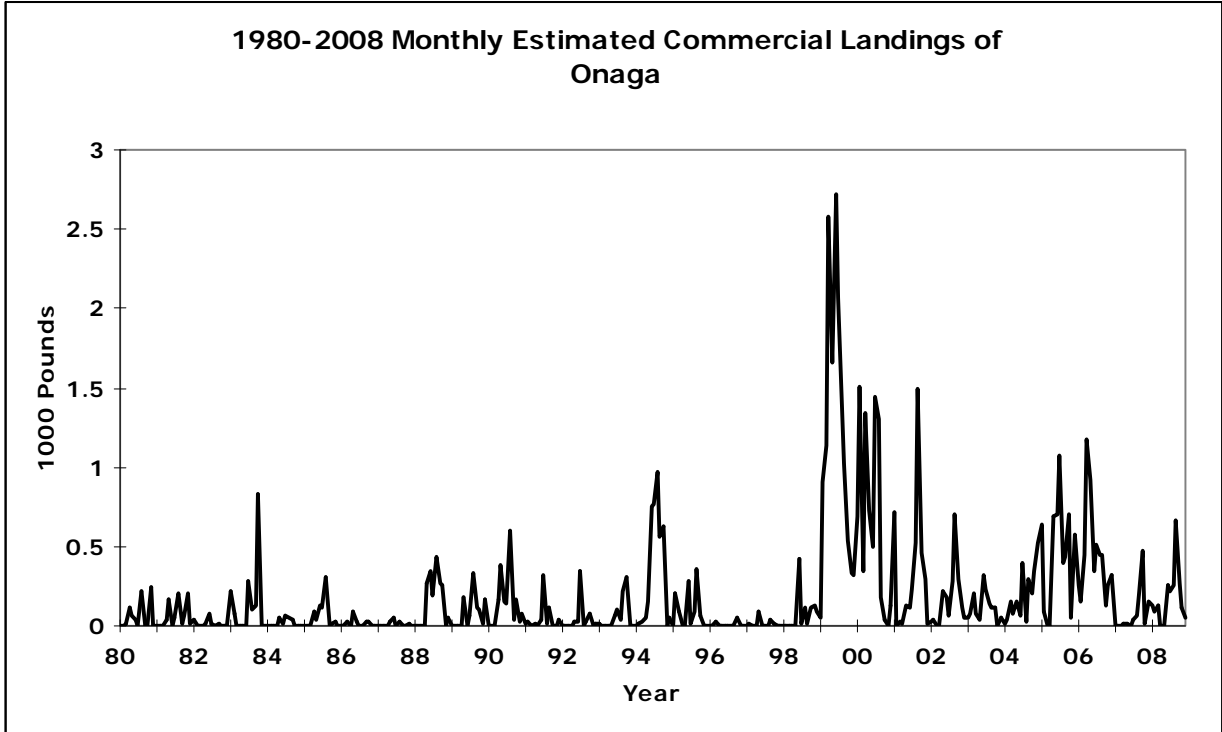


Figure C-4-9

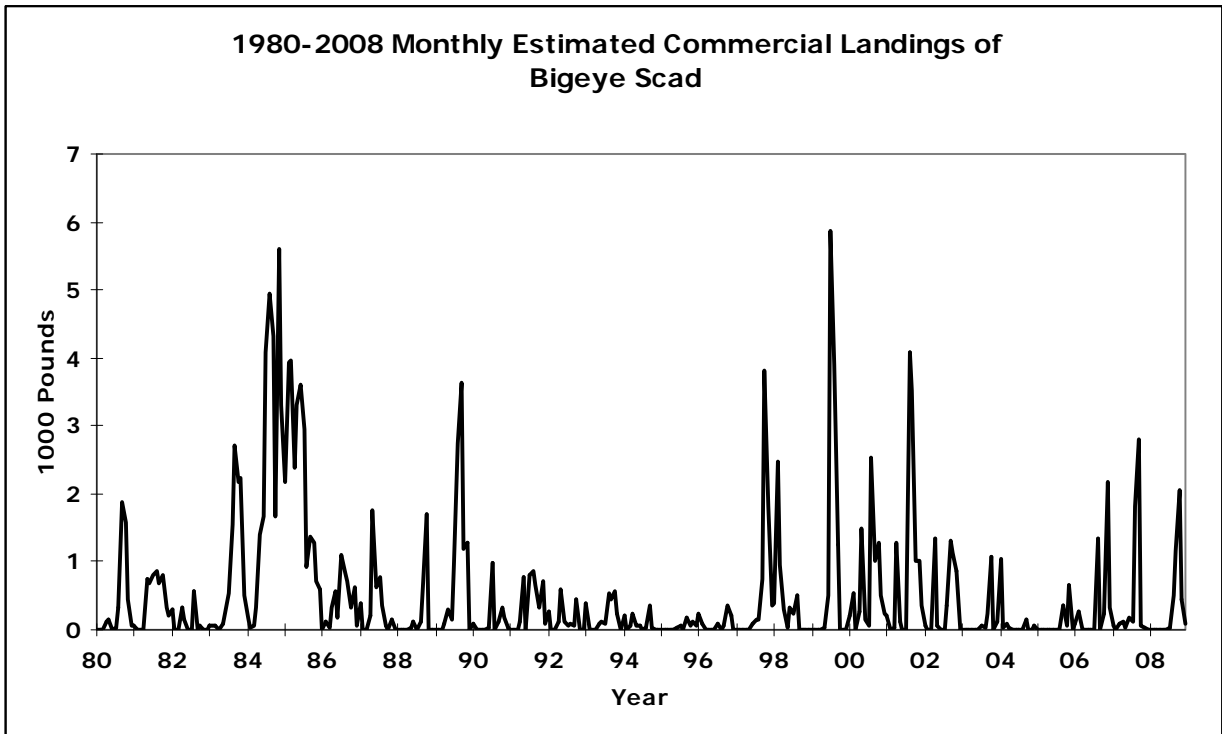


Figure C-4-10

STATE OF HAWAII 2008 FISHERY STATISTICS

Compiled by
Division of Aquatic Resources
and the
Western Pacific Fishery Information Network

August 2010

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STATE OF HAWAII 2008 FISHERY STATISTICS

INTRODUCTION

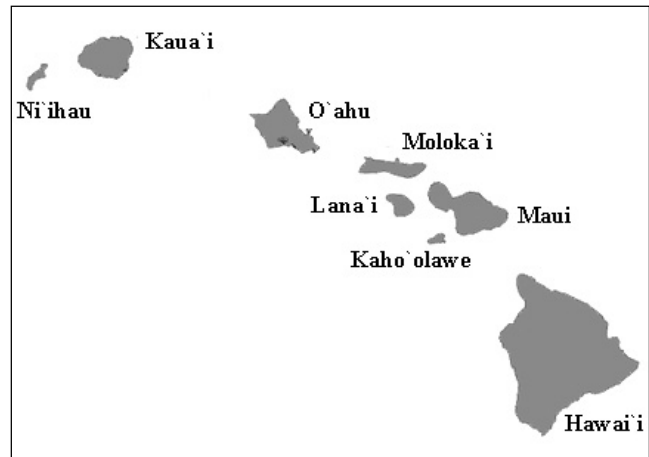
The Hawaiian Archipelago stretches northwestward over 1500 miles.

Location: 19° N latitude, 155° W longitude to about 28° N latitude and 178° W longitude

Islands: Hawaii, Maui, Lanai, Molokai, Oahu, Kauai, Kahoolawe, and Niihau (comprise over 99% of the total land area)

Population: 1,287,500 (*The State of Hawaii Data Book, 2008 Update*)

Commercial Catch Breakdown (lbs): about 90% on Oahu, 5% on Hawaii (Big Island), 1% on Kona, and 4% unknown or on other islands



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

The commercial fisheries of the State of Hawaii are quite diverse; they vary from shore-based algae (limu) harvesting by hand to large vessel-based fisheries such as the offshore pelagic longline fishery that operates on the high seas. There are several major fisheries in Hawaii. Tuna fishing using various methods, deepwater hook-and-line bottomfish fishing for groupers and snappers, various forms of net fishing that target nearshore pelagic and reef fish species, and trolling for such pelagic species as tuna, marlin, wahoo (ono), and mahimahi constitute the top producing fisheries.

Commercial fishing (i.e., selling catches or providing charter fishing services) in Hawaii requires purchasing an annually renewable commercial marine license (CML). In 2008 there were 4263 licensed commercial fishers. The summary catch data for 2008 were created from a combination of Hawaii Division of Aquatic Resources' (HDAR) fishers and dealer reports processed through the Dealer Reporting System (DRS) and Fisherman Reporting System (FRS), as well as additional fishery reports (including federal longline logbooks).

In 2008 the main Hawaiian Islands (MHI) deepwater bottomfish fishery was managed through the implementation of a total allowable catch (TAC) of 241,000 pounds. The implementation of the TAC was a federally mandated management measure to end overfishing of specific deepwater bottomfish species within the MHI. The managed species are known as the "deep 7" and are comprised of onaga, opakapaka, kalekale, hapuupuu, ehu, gindai, and lehi. The fishing season opened on November 15, 2008 and was closed July 6, 2009. For more information about this fishery, please visit <http://www.hawaiibottomfish.info>. None of the other MHI commercial fisheries are constrained by TAC management measures.

DATA COLLECTING

Previously, 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, HDAR implemented several new FRS forms that no longer required sales information reporting as a trade-off for requiring improved catch, effort, and bycatch statistics. The FRS was modified to accommodate these new forms.

The Dealer Reporting System (DRS) was computerized in 2000 and is now a major source of sales data used to create the tables and charts. Data from the NOAA Fisheries Longline Logbook Program are integrated with DRS and FRS data to create the "best available" summaries presented in this report.

Dealers are required by state law to submit a Commercial Marine Dealer's Report for each month that they are in the business of purchasing marine life. Information collected includes

- Dealer Name
- Dealer Number
- Month and Year
- Date
- First and Last Name from Whom Fish was Bought
- Fisherman's Commercial Marine License Number
- Species Bought
- Pounds Bought
- Pieces Bought
- Amount Paid
- Condition

Likewise, all holders of a Commercial Marine License are required by state law to report on their fishing activity. The majority of commercial fishers use the Monthly Fishing Report, a replacement for the old General Fish Catch Report (C-3 Form). This form collects data on fishing catch and effort for each day, method, and area fished, and it is processed in the FRS. Information collected includes

- Fisherman's Name and Commercial License Number
- Boat's Name and Registration/USCG Number
- Month and Year Fished
- Day Fished
- Charter Trip (y/n)
- Buoy or Area Fished
- Fishing Method
- Hours Fished per Method/Area
- Number of Net Sets
- Number of Fishing Lines, Traps, or Net Length
- Port of Landing
- Species Name
- Number Landed
- Pounds Landed
- 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 NWHI Bottomfish Trip Daily Log. Commercial collectors of tropical marine fish are required to have an aquarium permit in addition to their commercial marine

D.3

license, and they are required to report monthly on the C-6 Aquarium Fish Catch Report. Aquarium fish catches, however, are not included in this report's statistics.

This report assumes that the data submitted by fishers are complete and accurate. The HDAR continually attempts to improve the quality of data and decrease the time delays in receiving and processing the data.

DATA PROCESSING

When HDAR receives various data reporting forms, staff code and edit the data before keypunching. Forms that fail initial editing are returned for correction and resubmission, or minor problems may be cleared up over the telephone. Delinquency notices are sent to those who fall more than a few months behind in their reporting. Once the data are keypunched, HDAR staff use computer-generated reports to verify and correct errors in the database. When the database is considered to be reasonably complete and error free, it is ready for use in producing various summary catch reports.

DATA REPORTING

More than 150 marine species and species groups are recorded in HDAR's monthly landings reports, many of which are insignificant in the total catch. To help reduce this document's size and improve the usability of the tables, WPacFIN staff combined some of the less important species, reorganized the order of presentation, created a new species coding system, and translated all records in the database. The new coding system has 100 species and species groups based on flexible ecological and phylogenetic criteria. All of the commercially important pelagic and bottomfish species or unique species groups have individual codes and are reported separately.

The monthly and annual reports included in this document contain the common name, pounds caught, pounds sold, value rounded to the nearest dollar, and the average price per pound for each species. Pounds caught data is from the Longline Logbooks, Dealer Reports, and Fisherman Catch Reports; the pounds sold, value and price/pound data is from Dealer Reports. 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 modified from earlier volumes. More up-to-date tables and charts are available at the WPacFIN website <http://www.pifsc.noaa.gov/wpacfin>.

SPECIES CATEGORIES

The species and species groups used in the tables and graphs are defined in this section. 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 report maintains the original species categorizations from previous FSWP reports for comparative purposes. As such, tunas are kept in a separate category.

I. Pelagic Management Unit Species (PMUS)

Billfishes (unknown)	Sharks
Black marlin	Shortnose spearfish
Blue marlin	Striped marlin
Mahimahi	Swordfish
Sailfish	Wahoo

II. Bottomfish Management Unit Species (BMUS)

Armorhead	Lehi (silverjaw)
Butaguchi (pig-lipped ulua)	Onaga (red snapper)
Ehu (red snapper)	Opakapaka (pink snapper)
Gindai (flower snapper)	Taape (blue lined snapper)
Gunkin (black) ulua	Uku (gray snapper)
Hapuupuu (hawaiian grouper)	White ulua
Kahala (amberjack)	Yellow-tail kali
Kalekale	

III. Billfishes

Billfishes (unknown)	Shortnose spearfish
Black marlin	Striped marlin
Blue marlin	Swordfish
Sailfish	

IV. Tunas

Albacore tuna	Skipjack tuna
Bigeye tuna	Tunas (unknown)
Kawakawa	Yellowfin tuna

V. Other Tunas

Kawakawa	Tunas (unknown)
----------	-----------------

VI. Fisheries Categories

A. *Pelagic Fishes*

Albacore tuna	Pomfret
Barracudas	Rainbow runner
Bigeye tuna	Rays
Billfishes (unknown)	Sailfish
Black marlin	Sharks
Blue marlin	Shortnose spearfish
Japanese mackerel	Skipjack tuna
Kawakawa	Striped marlin
Mahimahi	Swordfish
Moonfish (opah)	Tunas (unknown)
Oilfish	Wahoo
Pelagic fishes (unknown)	Yellowfin tuna

B. *Bottomfishes*

Armorhead	Lehi (silverjaw)
Blue spot grouper	Onaga (red snapper)
Blue trevally	Opakapaka (pink snapper)
Butaguchi (pig-lipped ulua)	Papa ulua
Dobe ulua	Porgy
Ehu (red snapper)	Sasa ulua
Gindai (flower snapper)	Snake mackerel
Golden kalekale	Snappers
Gunkin (black) ulua	Taape (blue lined snapper)
Hapuupuu (hawaiian grouper)	Uku (gray snapper)
Jacks	White ulua
Kahala (amberjack)	Yellow-tail kali
Kalekale	

C. *Reef Fishes*

Bigeyes	Reef fishes (unknown)
Damselfishes	Reef jacks
Filefishes	Rudderfish
Flounders	Scorpionfishes
Goatfishes	Squirrelfishes
Gobies	Surgeonfishes/tangs
Hawkfish	Tilapia
Mountain bass	Trumpetfish
Parrotfishes	Wrasses
Pufferfishes	

D. *Other Fishes*

Algae	Miscellaneous
Bigeye scad (akule)	Mulletts
Bonefish	Needlefishes
Clams	Octopus
Crabs	Sea turtles
Eels	Shrimp (freshwater)
Flying fishes	Shrimp (saltwater)
Freshwater fishes	Silversides
Herrings/sardines	Slipper lobsters
Invertebrates	Spiny lobsters
Leatherjacket	Squid
Limpets (saltwater)	Ten pounder
Mackerel scad	Threadfin
Milkfish	

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Table D-1
Hawaii Annual 2008 Reported Commercial Landings

Species	Caught	Sold	Value (\$)	Price/Lb (\$)
Miscellaneous	1,767	1,725	2,638	1.53
Sharks	443,129	339,332	150,104	0.44
Rays	18	0	0	0.00
Eels	740	605	621	1.03
Armorhead	40	10	6	0.64
Bigeye scad (akule)	358,582	156,398	452,361	2.89
Mackerel scad	262,082	163,939	443,588	2.71
Leatherjacket	322	303	558	1.84
Ten pounder	581	432	425	0.98
Bonfish	11,341	10,649	11,203	1.05
Milkfish	2,696	2,609	3,014	1.16
Flying fishes	6	1	2	2.00
Needlefishes	672	294	520	1.77
Threadfin	660	422	2,673	6.34
Mulletts	9,847	9,155	34,146	3.73
Pomfret	685,382	671,636	1,664,622	2.48
Oilfish	491,248	491,248	917,004	1.87
Jacks	1,855	1,450	5,124	3.53
Kahala (amberjack)	12,696	868	1,105	1.27
Sasa ulua	744	460	1,250	2.72
Butaguchi (pig-lipped ulua)	10,662	8,307	16,831	2.03
Dobe ulua	283	109	221	2.03
Papa ulua	4,961	1,941	5,695	2.93
White ulua	19,276	12,991	30,600	2.36
Gunkin (black) ulua	1,176	496	893	1.80
Blue trevally	7,961	5,470	12,147	2.22
Hapuupuu (hawaiian grouper)	21,994	17,525	93,994	5.36
Blue spot grouper	2,728	1,874	5,218	2.78
Kalekale	8,025	5,159	18,580	3.60
Snappers	3,485	2,984	11,704	3.92
Yellow-tail kali	22	10	29	2.85
Taape (blue lined snapper)	41,681	37,587	60,461	1.61
Ehu (red snapper)	23,550	15,342	78,071	5.09
Gindai (flower snapper)	3,829	2,449	9,718	3.97
Golden kalekale	132	9	25	2.95
Lehi (silverjaw)	12,039	9,916	38,760	3.91
Onaga (red snapper)	98,167	71,590	458,322	6.40
Opakapaka (pink snapper)	121,523	95,879	545,558	5.69
Uku (gray snapper)	165,815	137,415	495,676	3.61
Snake mackerel	36	5	1	0.10
Porgy	3,436	3,138	11,155	3.56
Reef fishes (unknown)	811	5	5	1.01
Reef jacks	156	129	454	3.52
Squirrelfishes	62,279	57,616	262,597	4.56
Trumpetfish	51	17	17	1.00
Scorpionfishes	2,063	1,368	5,900	4.31

Table D-1 (continued)
Hawaii Annual 2008 Reported Commercial Landings

Species	Caught	Sold	Value (\$)	Price/Lb (\$)
Mountain bass	4,407	3,041	10,810	3.55
Bigeyes	3,985	3,271	10,512	3.21
Goatfishes	39,432	36,777	149,655	4.07
Rudderfish	38,198	37,658	48,795	1.30
Damselfishes	2,086	1,591	4,787	3.01
Hawkfish	931	845	2,228	2.64
Tilapia	10,535	657	2,059	3.14
Wrasses	6,008	3,627	15,848	4.37
Parrotfishes	46,904	44,596	167,595	3.76
Surgeonfishes/tangs	84,652	78,879	146,846	1.86
Flounders	46	31	61	1.96
Filefishes	609	583	642	1.10
Pelagic fishes (unknown)	6,424	79	8	0.10
Moonfish (opah)	1,333,015	1,313,319	2,197,381	1.67
Rainbow runner	4,598	2,799	5,558	1.99
Mahimahi	1,449,895	1,252,472	3,182,350	2.54
Barracudas	37,275	32,710	29,421	0.90
Wahoo	976,583	852,662	2,235,226	2.62
Tunas (unknown)	10,813	4,537	10,771	2.37
Skipjack tuna	1,297,977	910,564	1,187,888	1.30
Yellowfin tuna	3,467,141	3,206,876	8,658,554	2.70
Albacore tuna	853,488	803,249	1,343,759	1.67
Bigeye tuna	13,771,330	13,377,125	49,672,237	3.71
Kawakawa	8,397	2,444	4,616	1.89
Billfishes (unknown)	5,165	121	90	0.75
Swordfish	4,248,857	3,834,729	7,175,727	1.87
Blue marlin	1,167,763	922,288	1,019,047	1.10
Black marlin	8,254	6,217	4,673	0.75
Striped marlin	1,030,688	1,023,462	1,048,102	1.02
Shortnose spearfish	536,435	508,220	358,728	0.71
Sailfish	24,566	11,251	11,761	1.05
Spiny lobsters	11,868	9,912	120,317	12.1
Slipper lobsters	43	1	4	6.00
Crabs	45,643	13,228	56,942	4.30
Shrimp (saltwater)	10,175	160	659	4.11
Octopus	30,000	20,874	83,691	4.01
Squid	1,627	1,479	3,262	2.21
Limpets (saltwater)	11,186	6,526	56,144	8.60
Invertebrates	9,457	5,551	189,168	34.1
Algae	10,908	6,322	50,081	7.92
TOTAL	33,507,900	30,681,594	85,119,601	2.77

Table D-2
Hawaii January 2008 Reported Commercial Landings

Species	Caught	Sold	Value (\$)	Price/Lb (\$)
Miscellaneous	249	249	209	0.84
Sharks	32,510	25,505	18,541	0.73
Eels	102	102	102	1.00
Armorhead	40	10	6	0.64
Bigeye scad (akule)	21,608	7,821	21,059	2.69
Mackerel scad	23,057	15,375	36,887	2.40
Leatherjacket	13	13	25	1.93
Bonefish	491	491	769	1.57
Milkfish	1	0	0	0.00
Needlefishes	74	12	22	1.79
Threadfin	9	9	45	5.11
Mulletts	66	66	137	2.09
Pomfret	41,616	38,938	133,174	3.42
Oilfish	39,572	39,572	88,629	2.24
Jacks	43	16	33	2.10
Kahala (amberjack)	3,144	252	429	1.70
Sasa ulua	4	4	9	2.25
Butaguchi (pig-lipped ulua)	714	714	1,927	2.70
Dobe ulua	4	0	0	0.00
Papa ulua	544	142	394	2.77
White ulua	879	325	709	2.18
Gunkin (black) ulua	257	121	197	1.62
Blue trevally	431	409	901	2.21
Hapuupuu (hawaiian grouper)	1,851	1,401	9,057	6.46
Blue spot grouper	42	10	25	2.50
Kalekale	779	390	1,599	4.10
Snappers	71	69	262	3.82
Yellow-tail kali	8	2	7	3.50
Taape (blue lined snapper)	3,820	3,820	5,522	1.45
Ehu (red snapper)	4,004	2,690	14,963	5.56
Gindai (flower snapper)	507	278	1,201	4.31
Golden kalekale	19	6	19	3.10
Lehi (silverjaw)	1,762	1,633	7,271	4.45
Onaga (red snapper)	10,461	7,829	64,965	8.30
Opakapaka (pink snapper)	15,414	12,640	86,554	6.85
Uku (gray snapper)	10,847	9,051	38,764	4.28
Snake mackerel	15	5	1	0.10
Porgy	184	184	588	3.19
Reef fishes (unknown)	4	0	0	0.00
Squirrelfishes	2,170	2,170	9,062	4.18
Trumpetfish	1	1	1	1.00
Scorpionfishes	222	177	942	5.34
Mountain bass	326	150	911	6.07
Bigeyes	486	466	1,587	3.41
Goatfishes	2,500	2,383	8,654	3.63
Rudderfish	484	484	764	1.58

Table D-2 (continued)
Hawaii January 2008 Reported Commercial Landings

Species	Caught	Sold	Value (\$)	Price/Lb (\$)
Damselfishes	238	99	177	1.79
Hawkfish	14	14	23	1.63
Tilapia	346	36	162	4.50
Wrasses	205	85	504	5.90
Parrotfishes	1,688	1,688	5,683	3.37
Surgeonfishes/tangs	7,301	7,301	13,835	1.89
Flounders	2	2	2	1.00
Filefishes	4	4	7	1.75
Pelagic fishes (unknown)	8	8	1	0.10
Moonfish (opah)	53,183	50,230	140,596	2.80
Rainbow runner	60	36	58	1.61
Mahimahi	114,281	90,560	213,358	2.36
Barracudas	622	423	641	1.52
Wahoo	32,546	29,594	116,957	3.95
Tunas (unknown)	607	142	169	1.20
Skipjack tuna	80,770	24,004	17,573	0.73
Yellowfin tuna	282,159	274,533	749,357	2.73
Albacore tuna	110,740	105,554	172,129	1.63
Bigeye tuna	1,487,471	1,395,480	4,230,143	3.03
Kawakawa	766	138	252	1.82
Billfishes (unknown)	270	0	0	0.00
Swordfish	265,333	229,168	768,586	3.35
Blue marlin	24,495	19,319	36,518	1.89
Striped marlin	35,655	34,357	82,051	2.39
Shortnose spearfish	105,479	99,483	52,895	0.53
Sailfish	2,108	587	633	1.08
Spiny lobsters	661	655	8,314	12.7
Slipper lobsters	4	0	0	0.00
Crabs	4,654	1,806	7,979	4.42
Shrimp (saltwater)	425	0	0	0.00
Octopus	1,795	1,104	3,972	3.60
Limpets (saltwater)	596	596	6,731	11.3
Invertebrates	67	27	106	4.00
Algae	536	169	1,931	11.4
TOTAL	2,836,495	2,543,182	7,188,260	2.83

Table D-3
Hawaii February 2008 Reported Commercial Landings

Species	Caught	Sold	Value (\$)	Price/Lb (\$)
Miscellaneous	220	220	784	3.57
Sharks	25,541	21,546	18,999	0.88
Eels	8	8	12	1.49
Bigeye scad (akule)	16,297	12,944	33,663	2.60
Mackerel scad	18,909	8,638	21,807	2.52
Leatherjacket	20	20	28	1.38
Ten pounder	21	21	21	1.00
Bonefish	1,814	1,761	1,761	1.00
Milkfish	21	21	30	1.44
Needlefishes	49	17	34	2.00
Threadfin	194	194	1,164	5.99
Mulletts	35	35	76	2.15
Pomfret	51,225	51,225	152,307	2.97
Oilfish	46,573	46,573	106,191	2.28
Jacks	70	0	0	0.00
Kahala (amberjack)	3,480	39	67	1.73
Butaguchi (pig-lipped ulua)	572	404	1,408	3.49
Dobe ulua	3	0	0	0.00
Papa ulua	770	287	680	2.37
White ulua	2,016	1,965	5,307	2.70
Gunkin (black) ulua	86	59	174	2.95
Blue trevally	876	770	1,467	1.91
Hapuupuu (hawaiian grouper)	2,017	1,337	8,454	6.32
Blue spot grouper	180	104	257	2.47
Kalekale	1,373	804	3,187	3.96
Snappers	131	131	492	3.76
Yellow-tail kali	4	1	4	3.50
Taape (blue lined snapper)	3,378	2,710	4,085	1.51
Ehu (red snapper)	4,090	2,746	13,812	5.03
Gindai (flower snapper)	501	212	913	4.30
Golden kalekale	13	0	0	0.00
Lehi (silverjaw)	2,805	2,293	9,799	4.27
Onaga (red snapper)	13,513	10,209	69,592	6.82
Opakapaka (pink snapper)	26,013	21,023	124,104	5.90
Uku (gray snapper)	12,491	7,460	30,229	4.05
Porgy	276	87	258	2.98
Reef fishes (unknown)	27	0	0	0.00
Squirrelfishes	2,854	2,339	9,554	4.08
Trumpetfish	13	0	0	0.00
Scorpionfishes	236	117	597	5.11
Mountain bass	136	136	606	4.48
Bigeyes	547	479	1,438	3.00
Goatfishes	3,745	3,508	11,543	3.29
Rudderfish	1,343	1,343	1,886	1.40
Damselfishes	54	54	138	2.55
Hawkfish	71	9	25	2.68

Table D-3 (continued)
Hawaii February 2008 Reported Commercial Landings

Species	Caught	Sold	Value (\$)	Price/Lb (\$)
Tilapia	551	39	176	4.50
Wrasses	341	141	860	6.09
Parrotfishes	3,066	2,513	8,030	3.20
Surgeonfishes/tangs	7,586	6,143	11,992	1.95
Flounders	4	0	0	0.00
Filefishes	19	19	35	1.81
Pelagic fishes (unknown)	71	71	7	0.10
Moonfish (opah)	55,891	55,314	160,129	2.89
Rainbow runner	151	108	239	2.22
Mahimahi	112,756	99,031	223,199	2.25
Barracudas	3,130	2,768	3,610	1.30
Wahoo	32,937	28,090	124,234	4.42
Tunas (unknown)	236	129	181	1.41
Skipjack tuna	78,636	28,373	27,994	0.99
Yellowfin tuna	396,354	395,333	897,815	2.27
Albacore tuna	167,437	159,387	226,961	1.42
Bigeye tuna	1,306,632	1,306,632	4,407,937	3.37
Kawakawa	419	131	228	1.75
Billfishes (unknown)	90	0	0	0.00
Swordfish	658,960	547,354	1,305,447	2.39
Blue marlin	33,653	27,200	48,177	1.77
Black marlin	325	325	603	1.86
Striped marlin	51,662	51,662	93,812	1.82
Shortnose spearfish	78,331	78,331	54,713	0.70
Sailfish	1,985	237	203	0.86
Spiny lobsters	1,648	1,344	16,577	12.3
Slipper lobsters	5	0	0	0.00
Crabs	3,811	1,542	6,846	4.44
Shrimp (saltwater)	2,560	36	36	1.00
Octopus	1,840	1,071	4,223	3.94
Squid	43	29	55	1.90
Limpets (saltwater)	1,062	647	4,789	7.40
Invertebrates	710	0	0	0.00
Algae	601	601	7,069	11.8
TOTAL	3,248,112	2,998,445	8,273,128	2.76

**Table D-4
Hawaii March 2008 Reported Commercial Landings**

Species	Caught	Sold	Value (\$)	Price/Lb (\$)
Miscellaneous	191	191	185	0.97
Sharks	37,717	37,591	17,496	0.47
Eels	61	61	63	1.04
Bigeye scad (akule)	60,363	12,535	29,645	2.37
Mackerel scad	14,046	9,947	24,014	2.41
Leatherjacket	8	8	13	1.65
Ten pounder	93	93	116	1.24
Bonfish	49	16	19	1.23
Milkfish	118	118	139	1.18
Flying fishes	1	1	2	2.00
Needlefishes	193	73	115	1.59
Threadfin	106	46	309	6.76
Mulletts	8	8	21	2.50
Pomfret	56,178	55,568	146,719	2.64
Oilfish	50,919	50,919	101,837	2.00
Jacks	120	35	87	2.49
Kahala (amberjack)	1,661	60	63	1.06
Sasa ulua	21	11	31	2.78
Butaguchi (pig-lipped ulua)	682	682	1,821	2.67
Dobe ulua	100	96	193	2.00
Papa ulua	921	108	283	2.62
White ulua	4,361	1,895	4,766	2.52
Gunkin (black) ulua	30	30	82	2.76
Blue trevally	1,224	879	1,952	2.22
Hapuupuu (hawaiian grouper)	1,258	509	3,291	6.46
Blue spot grouper	186	39	98	2.50
Kalekale	924	433	1,600	3.69
Snappers	393	363	1,427	3.93
Taape (blue lined snapper)	2,964	2,964	4,286	1.45
Ehu (red snapper)	2,789	1,730	9,255	5.35
Gindai (flower snapper)	442	208	976	4.69
Golden kalekale	9	0	0	0.00
Lehi (silverjaw)	1,727	1,320	5,103	3.87
Onaga (red snapper)	12,298	5,652	38,392	6.79
Opakapaka (pink snapper)	14,857	11,078	60,730	5.48
Uku (gray snapper)	12,771	8,801	29,084	3.30
Snake mackerel	5	0	0	0.00
Porgy	172	105	342	3.25
Reef fishes (unknown)	58	0	0	0.00
Squirrelfishes	2,767	2,450	10,922	4.46
Trumpetfish	6	0	0	0.00
Scorpionfishes	211	124	526	4.26
Mountain bass	1,178	504	1,449	2.88
Bigeyes	282	123	384	3.11
Goatfishes	3,937	3,826	13,836	3.62
Rudderfish	5,389	4,849	5,423	1.12

Table D-4 (continued)
Hawaii March 2008 Reported Commercial Landings

Species	Caught	Sold	Value (\$)	Price/Lb (\$)
Damselfishes	254	37	102	2.79
Hawkfish	31	31	81	2.61
Tilapia	1,001	61	275	4.50
Wrasses	408	176	696	3.95
Parrotfishes	4,869	4,454	16,961	3.81
Surgeonfishes/tangs	6,383	5,326	10,669	2.00
Filefishes	87	87	144	1.66
Pelagic fishes (unknown)	144	0	0	0.00
Moonfish (opah)	63,161	62,625	149,913	2.39
Rainbow runner	697	168	371	2.21
Mahimahi	207,306	177,667	361,821	2.04
Barracudas	5,416	5,416	4,837	0.89
Wahoo	64,157	57,582	183,333	3.18
Tunas (unknown)	137	0	0	0.00
Skipjack tuna	55,225	30,551	38,522	1.26
Yellowfin tuna	296,482	291,235	881,966	3.03
Albacore tuna	106,833	91,292	190,735	2.09
Bigeye tuna	787,395	787,395	3,368,791	4.28
Kawakawa	801	95	199	2.09
Billfishes (unknown)	1,440	0	0	0.00
Swordfish	821,737	771,264	1,211,121	1.57
Blue marlin	58,369	47,638	71,067	1.49
Black marlin	290	140	128	0.91
Striped marlin	51,865	51,739	96,284	1.86
Shortnose spearfish	68,392	68,392	54,764	0.80
Sailfish	1,357	259	471	1.82
Spiny lobsters	1,928	1,453	18,682	12.9
Slipper lobsters	16	0	0	0.00
Crabs	2,705	1,590	6,882	4.33
Shrimp (saltwater)	1,210	74	546	7.34
Octopus	2,119	1,917	9,596	5.01
Limpets (saltwater)	1,088	332	2,827	8.51
Invertebrates	1,605	57	220	3.86
Algae	755	531	5,387	10.2
TOTAL	2,909,453	2,675,625	7,204,480	2.69

Table D-5
Hawaii April 2008 Reported Commercial Landings

Species	Caught	Sold	Value (\$)	Price/Lb (\$)
Miscellaneous	59	59	29	0.50
Sharks	43,278	30,764	11,734	0.38
Rays	9	0	0	0.00
Eels	36	36	40	1.12
Bigeye scad (akule)	53,273	15,678	38,749	2.47
Mackerel scad	10,079	4,083	11,360	2.78
Leatherjacket	53	53	105	2.00
Ten pounder	64	64	64	1.00
Bonfish	475	424	449	1.06
Milkfish	555	555	682	1.23
Needlefishes	49	3	6	2.50
Threadfin	86	53	366	6.92
Mulletts	3,197	3,197	11,779	3.68
Pomfret	74,413	73,057	154,978	2.12
Oilfish	46,899	46,899	95,454	2.04
Jacks	62	27	68	2.53
Kahala (amberjack)	384	124	141	1.13
Sasa ulua	10	0	0	0.00
Butaguchi (pig-lipped ulua)	1,035	221	277	1.25
Dobe ulua	2	2	4	1.95
Papa ulua	262	124	387	3.11
White ulua	1,576	1,046	2,104	2.01
Gunkin (black) ulua	115	9	5	0.50
Blue trevally	832	563	1,311	2.33
Hapuupuu (hawaiian grouper)	1,116	179	1,274	7.14
Blue spot grouper	85	10	30	3.07
Kalekale	249	67	242	3.64
Snappers	256	256	1,089	4.25
Taape (blue lined snapper)	1,531	1,148	1,929	1.68
Ehu (red snapper)	881	654	3,843	5.88
Gindai (flower snapper)	68	21	95	4.61
Golden kalekale	8	0	0	0.00
Lehi (silverjaw)	308	287	1,430	4.99
Onaga (red snapper)	4,291	4,291	26,279	6.12
Opakapaka (pink snapper)	3,277	2,373	16,600	7.00
Uku (gray snapper)	17,774	17,774	56,283	3.17
Porgy	348	348	1,296	3.73
Reef fishes (unknown)	4	0	0	0.00
Reef jacks	33	29	102	3.50
Squirrelfishes	1,926	865	3,675	4.25
Scorpionfishes	38	38	174	4.60
Mountain bass	96	78	289	3.71
Bigeyes	152	70	218	3.12
Goatfishes	3,107	2,582	9,723	3.77
Rudderfish	564	564	871	1.54
Damselfishes	29	29	69	2.37

Table D-5 (continued)
Hawaii April 2008 Reported Commercial Landings

Species	Caught	Sold	Value (\$)	Price/Lb (\$)
Hawkfish	90	90	267	2.96
Tilapia	887	34	153	4.50
Wrasses	438	161	1,099	6.82
Parrotfishes	5,260	5,225	20,286	3.88
Surgeonfishes/tangs	6,030	5,446	9,954	1.83
Flounders	4	4	10	2.50
Filefishes	20	20	38	1.91
Moonfish (opah)	50,729	47,429	117,390	2.48
Rainbow runner	82	20	20	1.00
Mahimahi	189,216	163,019	413,450	2.54
Barracudas	7,180	7,180	5,681	0.79
Wahoo	184,626	168,147	311,757	1.85
Tunas (unknown)	3,097	3,097	6,980	2.25
Skipjack tuna	107,920	74,495	80,708	1.08
Yellowfin tuna	282,471	245,614	617,375	2.51
Albacore tuna	152,934	152,934	216,036	1.41
Bigeye tuna	827,051	795,372	2,976,278	3.74
Kawakawa	732	364	276	0.76
Swordfish	813,895	813,895	1,086,720	1.34
Blue marlin	101,232	79,314	73,152	0.92
Striped marlin	71,469	67,757	85,258	1.26
Shortnose spearfish	64,683	58,133	30,440	0.52
Sailfish	1,504	231	266	1.15
Spiny lobsters	1,382	1,047	13,212	12.6
Crabs	4,244	2,326	9,619	4.14
Shrimp (saltwater)	1,085	0	0	0.00
Octopus	1,376	1,011	3,842	3.80
Squid	40	40	79	2.00
Limpets (saltwater)	1,866	222	1,922	8.68
Invertebrates	850	0	0	0.00
Algae	1,098	279	2,997	10.8
TOTAL	3,156,430	2,901,605	6,540,861	2.25

Table D-6
Hawaii May 2008 Reported Commercial Landings

Species	Caught	Sold	Value (\$)	Price/Lb (\$)
Miscellaneous	124	124	31	0.25
Sharks	40,744	33,401	10,248	0.31
Eels	74	74	74	1.00
Bigeye scad (akule)	39,001	21,242	56,377	2.65
Mackerel scad	13,279	7,062	19,214	2.72
Leatherjacket	18	14	23	1.65
Ten pounder	106	106	76	0.72
Bonefish	3,121	2,793	2,933	1.05
Milkfish	333	333	416	1.25
Needlefishes	25	22	46	2.13
Threadfin	138	47	223	4.74
Mulletts	961	935	3,329	3.56
Pomfret	78,007	78,007	136,661	1.75
Oilfish	58,439	58,439	73,969	1.27
Jacks	122	74	195	2.64
Kahala (amberjack)	167	7	4	0.54
Sasa ulua	17	4	9	2.51
Butaguchi (pig-lipped ulua)	1,797	1,797	2,784	1.55
Dobe ulua	2	0	0	0.00
Papa ulua	348	144	556	3.85
White ulua	3,239	2,267	4,586	2.02
Gunkin (black) ulua	20	17	29	1.70
Blue trevally	418	264	579	2.19
Hapuupuu (hawaiian grouper)	2,907	2,663	11,954	4.49
Blue spot grouper	224	224	716	3.20
Kalekale	191	191	593	3.10
Snappers	473	420	1,647	3.92
Taape (blue lined snapper)	5,668	4,976	7,953	1.60
Ehu (red snapper)	1,517	1,114	2,168	1.95
Gindai (flower snapper)	251	251	499	1.99
Onaga (red snapper)	4,276	3,794	16,948	4.47
Opakapaka (pink snapper)	3,060	3,060	12,609	4.12
Uku (gray snapper)	19,204	16,202	48,623	3.00
Porgy	867	867	2,999	3.46
Reef fishes (unknown)	261	0	0	0.00
Reef jacks	93	93	325	3.52
Squirrelfishes	7,131	6,261	36,913	5.90
Trumpetfish	3	3	3	1.00
Scorpionfishes	149	149	497	3.33
Mountain bass	317	317	1,142	3.60
Bigeyes	276	185	627	3.39
Goatfishes	6,381	6,381	23,739	3.72
Rudderfish	1,663	1,663	2,320	1.39
Damselfishes	150	150	419	2.79
Hawkfish	74	74	186	2.52
Tilapia	1,041	221	342	1.55

Table D-6 (continued)
Hawaii May 2008 Reported Commercial Landings

Species	Caught	Sold	Value (\$)	Price/Lb (\$)
Wrasses	721	283	976	3.44
Parrotfishes	7,363	7,363	28,894	3.92
Surgeonfishes/tangs	8,804	8,804	16,384	1.86
Flounders	11	11	17	1.56
Filefishes	163	163	185	1.13
Moonfish (opah)	106,348	106,348	159,375	1.50
Rainbow runner	334	267	472	1.77
Mahimahi	172,636	149,218	352,070	2.36
Barracudas	6,084	6,084	2,649	0.44
Wahoo	185,263	155,246	288,833	1.86
Tunas (unknown)	544	472	1,590	3.37
Skipjack tuna	89,118	54,715	62,496	1.14
Yellowfin tuna	339,263	322,814	934,950	2.90
Albacore tuna	84,965	84,965	146,890	1.73
Bigeye tuna	1,282,715	1,248,284	4,747,975	3.80
Kawakawa	908	95	145	1.54
Billfishes (unknown)	90	0	0	0.00
Swordfish	642,957	606,744	970,962	1.60
Blue marlin	138,482	78,599	68,493	0.87
Black marlin	1,712	1,712	1,207	0.71
Striped marlin	223,903	223,903	123,415	0.55
Shortnose spearfish	51,300	51,300	15,438	0.30
Sailfish	1,419	306	157	0.51
Crabs	1,682	189	1,173	6.21
Shrimp (saltwater)	615	0	0	0.00
Octopus	2,004	1,625	6,101	3.76
Squid	433	433	898	2.08
Limpets (saltwater)	764	680	9,191	13.5
Invertebrates	5,388	5,388	188,580	35.0
Algae	2,192	1,644	13,569	8.26
TOTAL	3,654,856	3,374,082	8,628,668	2.56

Table D-7
Hawaii June 2008 Reported Commercial Landings

Species	Caught	Sold	Value (\$)	Price/Lb (\$)
Miscellaneous	208	208	664	3.20
Sharks	35,633	29,452	18,347	0.62
Eels	110	60	60	1.00
Bigeye scad (akule)	17,961	17,230	48,774	2.83
Mackerel scad	15,717	8,148	22,629	2.78
Leatherjacket	4	4	7	1.72
Ten pounder	3	0	0	0.00
Bonfish	770	764	779	1.02
Milkfish	503	503	402	0.80
Needlefishes	25	25	52	2.05
Threadfin	2	2	9	6.16
Mulletts	90	72	269	3.75
Pomfret	59,120	53,982	153,309	2.84
Oilfish	36,241	36,241	86,067	2.37
Jacks	1,055	1,055	4,092	3.88
Kahala (amberjack)	147	147	184	1.25
Sasa ulua	75	59	175	2.97
Butaguchi (pig-lipped ulua)	947	752	1,483	1.97
Papa ulua	508	73	227	3.11
White ulua	1,324	841	1,722	2.05
Gunkin (black) ulua	14	14	34	2.45
Blue trevally	1,024	537	1,202	2.24
Hapuupuu (hawaiian grouper)	2,124	2,124	11,521	5.42
Blue spot grouper	129	32	89	2.78
Kalekale	191	191	777	4.08
Snappers	406	204	817	4.00
Taape (blue lined snapper)	3,715	3,715	5,728	1.54
Ehu (red snapper)	901	575	2,522	4.39
Gindai (flower snapper)	251	251	1,067	4.25
Lehi (silverjaw)	50	50	205	4.10
Onaga (red snapper)	8,243	3,056	18,479	6.05
Opakapaka (pink snapper)	1,977	1,937	11,638	6.01
Uku (gray snapper)	19,392	13,181	47,542	3.61
Porgy	180	174	612	3.51
Reef fishes (unknown)	20	5	5	1.01
Squirrelfishes	2,976	2,090	9,746	4.66
Scorpionfishes	89	78	255	3.29
Mountain bass	567	322	1,259	3.91
Bigeyes	353	88	299	3.41
Goatfishes	2,048	1,661	7,600	4.58
Rudderfish	4,211	4,211	6,012	1.43
Damselfishes	107	85	251	2.96
Hawkfish	64	63	190	3.00
Tilapia	987	52	260	5.00
Wrasses	213	111	435	3.92
Parrotfishes	3,882	3,882	14,310	3.69

Table D-7 (continued)
Hawaii June 2008 Reported Commercial Landings

Species	Caught	Sold	Value (\$)	Price/Lb (\$)
Surgeonfishes/tangs	6,455	6,455	11,406	1.77
Flounders	3	3	7	2.50
Filefishes	33	23	27	1.17
Moonfish (opah)	137,361	131,407	215,972	1.64
Rainbow runner	244	208	352	1.70
Mahimahi	94,041	77,945	239,329	3.07
Barracudas	3,270	738	1,136	1.54
Wahoo	140,104	113,005	275,020	2.43
Tunas (unknown)	382	382	963	2.52
Skipjack tuna	50,965	16,581	30,271	1.83
Yellowfin tuna	400,556	324,914	872,985	2.69
Albacore tuna	29,290	28,902	56,856	1.97
Bigeye tuna	1,288,150	1,156,272	4,175,825	3.61
Kawakawa	1,178	200	461	2.31
Billfishes (unknown)	121	121	90	0.75
Swordfish	383,611	380,446	848,802	2.23
Blue marlin	142,898	72,689	75,273	1.04
Black marlin	1,805	854	114	0.13
Striped marlin	210,649	210,649	123,897	0.59
Shortnose spearfish	27,383	25,392	19,798	0.78
Sailfish	1,707	275	265	0.96
Crabs	1,359	39	275	7.01
Shrimp (saltwater)	1,455	0	0	0.00
Octopus	2,331	1,610	6,170	3.83
Squid	29	29	58	2.00
Limpets (saltwater)	222	170	2,194	12.9
Invertebrates	250	0	0	0.00
Algae	2,048	527	2,964	5.62
TOTAL	3,152,455	2,738,140	7,442,617	2.72

Table D-8
Hawaii July 2008 Reported Commercial Landings

Species	Caught	Sold	Value (\$)	Price/Lb (\$)
Miscellaneous	153	153	188	1.23
Sharks	31,195	28,430	13,303	0.47
Eels	138	135	135	1.00
Bigeye scad (akule)	12,694	11,860	34,961	2.95
Mackerel scad	18,584	12,373	34,169	2.76
Leatherjacket	7	3	5	1.99
Ten pounder	61	61	61	1.00
Bonfish	472	443	460	1.04
Milkfish	279	279	348	1.25
Needlefishes	20	17	26	1.50
Mulletts	663	573	2,228	3.89
Pomfret	57,322	55,880	157,486	2.82
Oilfish	25,436	25,436	61,320	2.41
Jacks	58	40	141	3.55
Kahala (amberjack)	253	123	93	0.76
Sasa ulua	231	231	616	2.67
Butaguchi (pig-lipped ulua)	237	237	557	2.35
Papa ulua	427	298	509	1.71
White ulua	1,115	1,014	2,417	2.38
Gunkin (black) ulua	26	0	0	0.00
Blue trevally	753	753	1,576	2.09
Hapuupuu (hawaiian grouper)	1,284	1,284	6,133	4.78
Blue spot grouper	364	115	283	2.46
Kalekale	40	22	79	3.60
Snappers	421	421	1,637	3.89
Taape (blue lined snapper)	3,389	2,967	4,744	1.60
Ehu (red snapper)	304	304	1,081	3.56
Gindai (flower snapper)	70	70	242	3.45
Onaga (red snapper)	8,304	8,304	39,989	4.82
Opakapaka (pink snapper)	461	461	2,406	5.22
Uku (gray snapper)	13,021	13,021	49,177	3.78
Porgy	371	361	1,340	3.71
Reef fishes (unknown)	11	0	0	0.00
Squirrelfishes	6,410	5,980	29,048	4.86
Scorpionfishes	151	99	323	3.25
Mountain bass	364	364	1,590	4.37
Bigeyes	211	211	514	2.44
Goatfishes	3,952	3,952	16,704	4.23
Rudderfish	2,569	2,569	3,394	1.32
Damselfishes	287	287	1,152	4.01
Hawkfish	78	78	232	2.99
Tilapia	22	22	110	5.00
Wrasses	352	145	298	2.05
Parrotfishes	3,843	3,843	15,366	4.00
Surgeonfishes/tangs	7,354	6,269	12,270	1.96
Flounders	9	9	14	1.46

Table D-8 (continued)
Hawaii July 2008 Reported Commercial Landings

Species	Caught	Sold	Value (\$)	Price/Lb (\$)
Filefishes	50	50	80	1.61
Moonfish (opah)	170,897	170,897	239,412	1.40
Rainbow runner	143	122	230	1.89
Mahimahi	80,705	70,555	191,896	2.72
Barracudas	5,991	5,991	4,819	0.80
Wahoo	93,130	83,259	228,868	2.75
Tunas (unknown)	1,355	147	588	4.00
Skipjack tuna	137,800	96,730	101,034	1.04
Yellowfin tuna	388,390	345,387	916,437	2.65
Albacore tuna	47,672	40,793	69,318	1.70
Bigeye tuna	1,039,031	1,036,439	4,016,063	3.87
Kawakawa	1,085	355	753	2.12
Swordfish	156,154	156,154	343,243	2.20
Blue marlin	118,450	103,147	123,411	1.20
Black marlin	755	316	304	0.96
Striped marlin	34,560	34,560	62,830	1.82
Shortnose spearfish	17,102	16,805	24,091	1.43
Sailfish	1,288	898	1,056	1.18
Crabs	1,611	177	1,107	6.24
Shrimp (saltwater)	685	0	0	0.00
Octopus	4,039	3,301	13,326	4.04
Squid	2	2	3	2.00
Limpets (saltwater)	433	270	1,570	5.81
Invertebrates	11	11	41	3.75
Algae	539	539	2,850	5.28
TOTAL	2,505,640	2,356,401	6,842,053	2.90

Table D-9
Hawaii August 2008 Reported Commercial Landings

Species	Caught	Sold	Value (\$)	Price/Lb (\$)
Miscellaneous	95	95	106	1.11
Sharks	51,974	37,516	11,412	0.30
Eels	93	44	44	1.00
Bigeye scad (akule)	43,717	5,559	17,760	3.20
Mackerel scad	18,440	9,742	27,567	2.83
Leatherjacket	47	47	68	1.47
Ten pounder	66	11	11	1.00
Bonfish	974	974	999	1.03
Milkfish	292	235	347	1.48
Flying fishes	0	0	0	0.00
Needlefishes	21	16	31	1.94
Mulletts	1,576	1,408	5,538	3.93
Pomfret	53,074	51,970	170,833	3.29
Oilfish	38,072	38,072	106,460	2.80
Jacks	17	12	33	2.85
Kahala (amberjack)	176	24	19	0.82
Sasa ulua	90	44	153	3.52
Butaguchi (pig-lipped ulua)	643	247	740	3.00
Papa ulua	295	280	990	3.54
White ulua	800	800	2,451	3.06
Gunkin (black) ulua	75	39	34	0.87
Blue trevally	556	291	846	2.91
Hapuupuu (hawaiian grouper)	1,213	441	3,145	7.13
Blue spot grouper	333	333	1,220	3.66
Kalekale	109	44	172	3.92
Snappers	248	152	632	4.16
Taape (blue lined snapper)	3,388	3,388	5,834	1.72
Ehu (red snapper)	327	282	1,308	4.64
Gindai (flower snapper)	70	34	146	4.29
Golden kalekale	12	0	0	0.00
Onaga (red snapper)	7,895	7,895	47,821	6.06
Opakapaka (pink snapper)	1,681	1,151	7,319	6.36
Uku (gray snapper)	15,703	13,479	59,607	4.42
Porgy	624	624	2,381	3.81
Reef fishes (unknown)	95	0	0	0.00
Reef jacks	28	5	19	3.75
Squirrelfishes	3,753	3,753	16,707	4.45
Trumpetfish	3	0	0	0.00
Scorpionfishes	122	92	322	3.50
Mountain bass	131	71	245	3.47
Bigeyes	248	248	801	3.23
Goatfishes	3,025	2,843	12,110	4.26
Rudderfish	5,447	5,447	7,237	1.33
Damselfishes	486	391	1,167	2.99
Hawkfish	195	195	495	2.54
Tilapia	1,184	192	582	3.04

Table D-9 (continued)
Hawaii August 2008 Reported Commercial Landings

Species	Caught	Sold	Value (\$)	Price/Lb (\$)
Wrasses	424	282	1,026	3.63
Parrotfishes	3,840	3,840	14,319	3.73
Surgeonfishes/tangs	8,697	8,697	14,483	1.67
Flounders	2	0	0	0.00
Filefishes	25	25	13	0.50
Moonfish (opah)	190,238	186,823	307,544	1.65
Rainbow runner	506	383	919	2.40
Mahimahi	104,893	90,500	279,669	3.09
Barracudas	2,282	1,425	2,286	1.60
Wahoo	65,430	55,199	210,726	3.82
Tunas (unknown)	2,631	10	23	2.26
Skipjack tuna	190,023	157,138	248,720	1.58
Yellowfin tuna	258,240	222,243	745,185	3.35
Albacore tuna	64,701	64,701	118,130	1.83
Bigeye tuna	929,129	875,839	4,274,657	4.88
Kawakawa	828	119	311	2.61
Billfishes (unknown)	1,406	0	0	0.00
Swordfish	153,396	153,396	325,351	2.12
Blue marlin	130,746	110,560	153,257	1.39
Black marlin	194	194	354	1.83
Striped marlin	44,684	43,846	78,169	1.78
Shortnose spearfish	14,127	12,244	26,237	2.14
Sailfish	2,025	1,163	1,773	1.52
Crabs	3,889	458	2,347	5.12
Shrimp (saltwater)	455	0	0	0.00
Octopus	3,801	2,839	11,308	3.98
Squid	281	281	563	2.00
Limpets (saltwater)	685	542	2,892	5.34
Invertebrates	9	9	34	3.75
Algae	248	248	1,853	7.48
TOTAL	2,435,243	2,181,485	7,337,862	3.36

Table D-10
Hawaii September 2008 Reported Commercial Landings

Species	Caught	Sold	Value (\$)	Price/Lb (\$)
Miscellaneous	127	127	159	1.25
Sharks	31,626	27,660	11,562	0.42
Eels	25	25	25	1.00
Bigeye scad (akule)	6,254	4,847	44,991	9.28
Mackerel scad	25,046	18,134	51,984	2.87
Leatherjacket	19	19	38	2.00
Ten pounder	112	21	21	1.00
Bonfish	552	470	470	1.00
Milkfish	427	427	533	1.25
Needlefishes	17	17	34	2.00
Threadfin	28	11	88	8.00
Mulletts	1,138	1,010	3,622	3.59
Pomfret	58,449	57,774	116,466	2.02
Oilfish	29,179	29,179	51,618	1.77
Jacks	78	78	198	2.56
Kahala (amberjack)	156	22	22	1.00
Sasa ulua	84	35	82	2.32
Butaguchi (pig-lipped ulua)	1,129	552	1,023	1.85
Papa ulua	409	185	792	4.28
White ulua	1,162	656	1,660	2.53
Gunkin (black) ulua	379	103	192	1.86
Blue trevally	451	172	434	2.52
Hapuupuu (hawaiian grouper)	1,562	1,562	8,975	5.75
Blue spot grouper	265	265	759	2.86
Kalekale	250	148	590	4.00
Snappers	557	538	2,088	3.88
Yellow-tail kali	3	0	0	0.00
Taape (blue lined snapper)	5,658	5,197	8,827	1.70
Ehu (red snapper)	355	175	786	4.49
Gindai (flower snapper)	56	37	159	4.30
Onaga (red snapper)	4,038	1,865	12,333	6.61
Opakapaka (pink snapper)	3,238	1,736	11,003	6.34
Uku (gray snapper)	11,387	6,669	29,770	4.46
Porgy	129	111	424	3.83
Reef fishes (unknown)	74	0	0	0.00
Squirrelfishes	12,001	11,487	50,120	4.36
Trumpetfish	7	7	7	1.00
Scorpionfishes	111	111	419	3.78
Mountain bass	257	257	731	2.84
Bigeyes	402	395	1,270	3.21
Goatfishes	3,473	3,473	15,125	4.36
Rudderfish	5,381	5,381	6,927	1.29
Damselfishes	113	112	311	2.78
Hawkfish	144	144	338	2.34
Tilapia	1,285	0	0	0.00
Wrasses	919	701	2,815	4.02

Table D-10 (continued)
Hawaii September 2008 Reported Commercial Landings

Species	Caught	Sold	Value (\$)	Price/Lb (\$)
Parrotfishes	3,360	3,360	12,455	3.71
Surgeonfishes/tangs	8,443	8,363	15,815	1.89
Flounders	12	2	12	5.00
Filefishes	110	110	55	0.50
Moonfish (opah)	191,021	191,021	200,434	1.05
Rainbow runner	674	428	833	1.95
Mahimahi	95,528	84,585	243,237	2.88
Barracudas	1,352	1,352	2,249	1.66
Wahoo	53,151	48,661	146,266	3.01
Tunas (unknown)	513	36	54	1.50
Skipjack tuna	204,548	175,544	235,908	1.34
Yellowfin tuna	174,143	159,310	412,189	2.59
Albacore tuna	19,725	19,725	37,161	1.88
Bigeye tuna	1,190,623	1,177,939	4,099,838	3.48
Kawakawa	501	143	259	1.82
Billfishes (unknown)	1,118	0	0	0.00
Swordfish	9,709	9,709	32,727	3.37
Blue marlin	117,203	117,203	109,844	0.94
Black marlin	829	829	741	0.89
Striped marlin	29,842	28,588	45,555	1.59
Shortnose spearfish	18,680	18,649	24,621	1.32
Sailfish	2,178	1,688	2,010	1.19
Spiny lobsters	2,817	2,291	27,987	12.2
Slipper lobsters	10	0	0	0.00
Crabs	5,154	843	3,590	4.26
Shrimp (saltwater)	495	0	0	0.00
Octopus	2,862	1,748	6,805	3.89
Squid	410	382	845	2.21
Limpets (saltwater)	926	926	7,512	8.11
Invertebrates	2	2	7	3.50
Algae	1,235	423	2,900	6.85
TOTAL	2,345,682	2,235,751	6,111,699	2.73

Table D-11
Hawaii October 2008 Reported Commercial Landings

Species	Caught	Sold	Value (\$)	Price/Lb (\$)
Miscellaneous	179	179	227	1.27
Sharks	26,619	21,429	7,300	0.34
Eels	27	27	31	1.13
Bigeye scad (akule)	5,893	3,170	10,292	3.25
Mackerel scad	36,859	27,918	79,285	2.84
Leatherjacket	35	31	60	1.96
Ten pounder	53	53	53	1.00
Bonfish	76	62	109	1.77
Milkfish	73	73	101	1.38
Flying fishes	5	0	0	0.00
Needlefishes	49	19	38	2.03
Threadfin	36	14	99	6.90
Mulletts	1,676	1,645	6,368	3.87
Pomfret	68,506	68,506	144,243	2.11
Oilfish	30,824	30,824	69,669	2.26
Jacks	69	69	157	2.29
Kahala (amberjack)	105	8	8	1.00
Sasa ulua	158	56	133	2.40
Butaguchi (pig-lipped ulua)	2,457	2,457	4,062	1.65
Dobe ulua	1	1	1	0.50
Papa ulua	161	128	315	2.46
White ulua	1,054	1,034	2,225	2.15
Gunkin (black) ulua	68	68	102	1.50
Blue trevally	475	221	563	2.55
Hapuupuu (hawaiian grouper)	2,355	2,355	11,651	4.95
Blue spot grouper	230	120	348	2.91
Kalekale	357	357	1,207	3.38
Snappers	371	306	1,200	3.92
Taape (blue lined snapper)	2,585	2,136	3,610	1.69
Ehu (red snapper)	237	237	915	3.86
Gindai (flower snapper)	177	177	724	4.10
Onaga (red snapper)	2,250	2,250	12,963	5.76
Opakapaka (pink snapper)	2,938	2,938	16,642	5.66
Uku (gray snapper)	11,398	11,398	42,022	3.69
Porgy	172	172	627	3.64
Reef fishes (unknown)	24	0	0	0.00
Squirrelfishes	9,775	9,705	41,288	4.25
Trumpetfish	6	4	4	1.00
Scorpionfishes	27	21	69	3.27
Mountain bass	453	453	1,510	3.34
Bigeyes	309	309	1,058	3.43
Goatfishes	2,778	2,652	12,900	4.86
Rudderfish	3,879	3,879	5,066	1.31
Damselfishes	183	163	466	2.86
Hawkfish	54	54	111	2.04
Tilapia	898	0	0	0.00

Table D-11 (continued)
Hawaii October 2008 Reported Commercial Landings

Species	Caught	Sold	Value (\$)	Price/Lb (\$)
Wrasses	745	745	3,949	5.30
Parrotfishes	4,766	4,198	16,351	3.90
Surgeonfishes/tangs	7,367	7,367	13,872	1.88
Filefishes	26	26	25	0.96
Pelagic fishes (unknown)	6,201	0	0	0.00
Moonfish (opah)	137,529	136,447	196,418	1.44
Rainbow runner	828	429	841	1.96
Mahimahi	136,918	119,354	331,075	2.77
Barracudas	659	253	398	1.58
Wahoo	42,258	36,399	124,989	3.43
Tunas (unknown)	122	5	20	4.00
Skipjack tuna	201,039	179,824	253,102	1.41
Yellowfin tuna	179,626	167,869	488,162	2.91
Albacore tuna	5,867	3,658	11,769	3.22
Bigeye tuna	1,360,738	1,332,164	5,123,689	3.85
Kawakawa	487	232	394	1.70
Billfishes (unknown)	270	0	0	0.00
Swordfish	13,676	12,542	38,691	3.08
Blue marlin	118,992	110,222	115,093	1.04
Black marlin	769	769	661	0.86
Striped marlin	55,038	55,038	72,155	1.31
Shortnose spearfish	20,203	19,452	26,160	1.34
Sailfish	4,654	4,654	4,556	0.98
Spiny lobsters	819	819	8,424	10.3
Slipper lobsters	1	0	0	0.00
Crabs	4,671	721	3,318	4.60
Shrimp (saltwater)	420	0	0	0.00
Octopus	3,276	2,299	8,750	3.81
Squid	339	240	644	2.69
Limpets (saltwater)	1,285	1,033	8,506	8.24
Invertebrates	205	55	180	3.27
Algae	605	567	2,944	5.19
TOTAL	2,527,308	2,395,053	7,334,953	3.06

Table D-12
Hawaii November 2008 Reported Commercial Landings

Species	Caught	Sold	Value (\$)	Price/Lb (\$)
Miscellaneous	72	72	13	0.19
Sharks	42,136	22,267	5,505	0.25
Eels	23	17	17	1.00
Bigeye scad (akule)	37,994	25,489	67,557	2.65
Mackerel scad	37,098	21,903	58,897	2.69
Leatherjacket	91	91	180	1.99
Ten pounder	4	4	4	1.00
Bonefish	2,508	2,449	2,449	1.00
Milkfish	87	67	16	0.24
Needlefishes	97	21	39	1.85
Threadfin	60	46	370	7.97
Mulletts	431	199	758	3.80
Pomfret	45,890	45,148	96,089	2.13
Oilfish	33,575	33,575	36,174	1.08
Jacks	88	17	34	2.00
Kahala (amberjack)	902	15	23	1.50
Sasa ulua	27	3	8	2.50
Butaguchi (pig-lipped ulua)	80	80	167	2.10
Dobe ulua	46	5	12	2.50
Papa ulua	201	124	429	3.46
White ulua	791	586	1,514	2.58
Blue trevally	644	409	860	2.10
Hapuupuu (hawaiian grouper)	2,371	2,175	10,435	4.80
Blue spot grouper	414	346	697	2.01
Kalekale	1,042	587	1,707	2.91
Snappers	75	57	203	3.57
Yellow-tail kali	1	1	4	3.00
Taape (blue lined snapper)	2,196	1,907	3,239	1.70
Ehu (red snapper)	2,478	1,501	7,335	4.89
Gindai (flower snapper)	562	390	1,501	3.85
Golden kalekale	9	0	0	0.00
Lehi (silverjaw)	1,335	863	3,004	3.48
Onaga (red snapper)	7,508	4,934	28,879	5.85
Opakapaka (pink snapper)	15,878	11,226	57,498	5.12
Uku (gray snapper)	11,087	9,640	35,456	3.68
Porgy	51	43	162	3.78
Reef fishes (unknown)	149	0	0	0.00
Reef jacks	2	2	8	3.53
Squirrelfishes	5,940	5,940	25,593	4.31
Trumpetfish	6	3	3	1.00
Scorpionfishes	231	125	489	3.91
Mountain bass	315	315	699	2.22
Bigeyes	375	375	1,331	3.55
Goatfishes	1,467	1,096	5,533	5.05
Rudderfish	2,184	2,184	2,960	1.36
Damselfishes	41	41	123	2.99

Table D-12 (continued)
Hawaii November 2008 Reported Commercial Landings

Species	Caught	Sold	Value (\$)	Price/Lb (\$)
Hawkfish	72	48	150	3.12
Tilapia	1,123	0	0	0.00
Wrasses	686	452	2,103	4.66
Parrotfishes	1,694	1,506	5,351	3.55
Surgeonfishes/tangs	4,109	3,649	7,094	1.94
Filefishes	44	28	18	0.63
Moonfish (opah)	97,257	95,378	142,895	1.50
Rainbow runner	628	483	934	1.94
Mahimahi	98,611	90,940	214,675	2.36
Barracudas	673	673	644	0.96
Wahoo	36,924	31,424	98,288	3.13
Tunas (unknown)	698	79	113	1.43
Skipjack tuna	53,742	41,906	47,399	1.13
Yellowfin tuna	242,501	239,570	468,371	1.96
Albacore tuna	12,818	10,787	26,044	2.41
Bigeye tuna	1,105,579	1,098,494	3,380,122	3.08
Kawakawa	415	323	778	2.41
Billfishes (unknown)	180	0	0	0.00
Swordfish	43,252	15,576	36,693	2.36
Blue marlin	103,931	88,586	77,069	0.87
Black marlin	1,078	1,078	560	0.52
Striped marlin	85,042	85,042	70,350	0.83
Shortnose spearfish	28,641	22,566	12,077	0.54
Sailfish	2,528	812	327	0.40
Spiny lobsters	870	648	7,612	11.8
Slipper lobsters	3	0	0	0.00
Crabs	5,968	2,186	8,344	3.82
Shrimp (saltwater)	420	51	77	1.53
Octopus	2,598	1,367	5,532	4.05
Squid	44	37	99	2.64
Limpets (saltwater)	525	525	4,835	9.20
Invertebrates	270	0	0	0.00
Algae	685	428	2,047	4.78
TOTAL	2,192,168	2,030,975	5,078,570	2.50

Table D-13
Hawaii December 2008 Reported Commercial Landings

Species	Caught	Sold	Value (\$)	Price/Lb (\$)
Miscellaneous	91	49	43	0.87
Sharks	44,158	23,772	5,658	0.24
Rays	9	0	0	0.00
Eels	43	17	19	1.13
Bigeye scad (akule)	43,528	18,024	48,533	2.69
Mackerel scad	30,969	20,614	55,774	2.71
Leatherjacket	9	4	7	2.02
Bonfish	38	3	5	1.58
Milkfish	8	0	0	0.00
Needlefishes	54	53	77	1.46
Mulletts	7	7	22	3.00
Pomfret	41,581	41,581	102,355	2.46
Oilfish	55,520	55,520	39,616	0.71
Jacks	75	31	88	2.89
Kahala (amberjack)	2,121	48	53	1.09
Sasa ulua	26	14	34	2.50
Butaguchi (pig-lipped ulua)	371	164	582	3.54
Dobe ulua	125	5	13	2.50
Papa ulua	116	47	135	2.85
White ulua	958	562	1,138	2.03
Gunkin (black) ulua	107	36	45	1.25
Blue trevally	277	204	454	2.23
Hapuupuu (hawaiian grouper)	1,936	1,496	8,105	5.42
Blue spot grouper	276	276	699	2.53
Kalekale	2,521	1,926	6,828	3.54
Snappers	84	68	210	3.10
Yellow-tail kali	6	6	16	2.52
Taape (blue lined snapper)	3,389	2,658	4,705	1.77
Ehu (red snapper)	5,669	3,334	20,083	6.02
Gindai (flower snapper)	874	521	2,196	4.21
Golden kalekale	62	3	7	2.60
Lehi (silverjaw)	4,052	3,471	11,948	3.44
Onaga (red snapper)	15,091	11,513	81,683	7.09
Opakapaka (pink snapper)	32,728	26,257	138,454	5.27
Uku (gray snapper)	10,739	10,739	29,119	2.71
Snake mackerel	16	0	0	0.00
Porgy	62	62	128	2.08
Reef fishes (unknown)	84	0	0	0.00
Squirrelfishes	4,575	4,575	19,969	4.36
Trumpetfish	6	0	0	0.00
Scorpionfishes	476	239	1,288	5.39
Mountain bass	268	75	379	5.02
Bigeyes	345	322	984	3.05
Goatfishes	3,019	2,420	12,188	5.04
Rudderfish	5,083	5,083	5,937	1.17
Damselfishes	143	143	411	2.88

Table D-13 (continued)
Hawaii December 2008 Reported Commercial Landings

Species	Caught	Sold	Value (\$)	Price/Lb (\$)
Hawkfish	45	45	132	2.96
Tilapia	1,210	0	0	0.00
Wrasses	557	344	1,086	3.16
Parrotfishes	3,272	2,724	9,591	3.52
Surgeonfishes/tangs	6,124	5,060	9,072	1.79
Filefishes	29	29	17	0.57
Moonfish (opah)	79,400	79,400	167,303	2.11
Rainbow runner	252	149	289	1.94
Mahimahi	43,004	39,100	118,572	3.03
Barracudas	616	408	469	1.15
Wahoo	46,057	46,057	125,954	2.73
Tunas (unknown)	491	39	92	2.36
Skipjack tuna	48,192	30,702	44,161	1.44
Yellowfin tuna	226,958	218,056	673,764	3.09
Albacore tuna	50,507	40,553	71,730	1.77
Bigeye tuna	1,166,816	1,166,816	4,870,918	4.17
Kawakawa	278	250	560	2.24
Billfishes (unknown)	180	0	0	0.00
Swordfish	286,178	138,482	207,385	1.50
Blue marlin	79,310	67,814	67,695	1.00
Black marlin	497	0	0	0.00
Striped marlin	136,320	136,320	114,327	0.84
Shortnose spearfish	42,113	37,474	17,495	0.47
Sailfish	1,814	142	45	0.31
Spiny lobsters	1,742	1,657	19,509	11.8
Slipper lobsters	5	1	4	6.00
Crabs	5,895	1,350	5,462	4.05
Shrimp (saltwater)	350	0	0	0.00
Octopus	1,960	982	4,067	4.14
Squid	8	8	18	2.35
Limpets (saltwater)	1,734	583	3,175	5.45
Invertebrates	90	2	0	0.00
Algae	366	366	3,570	9.75
TOTAL	2,544,060	2,250,850	7,136,449	3.17

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

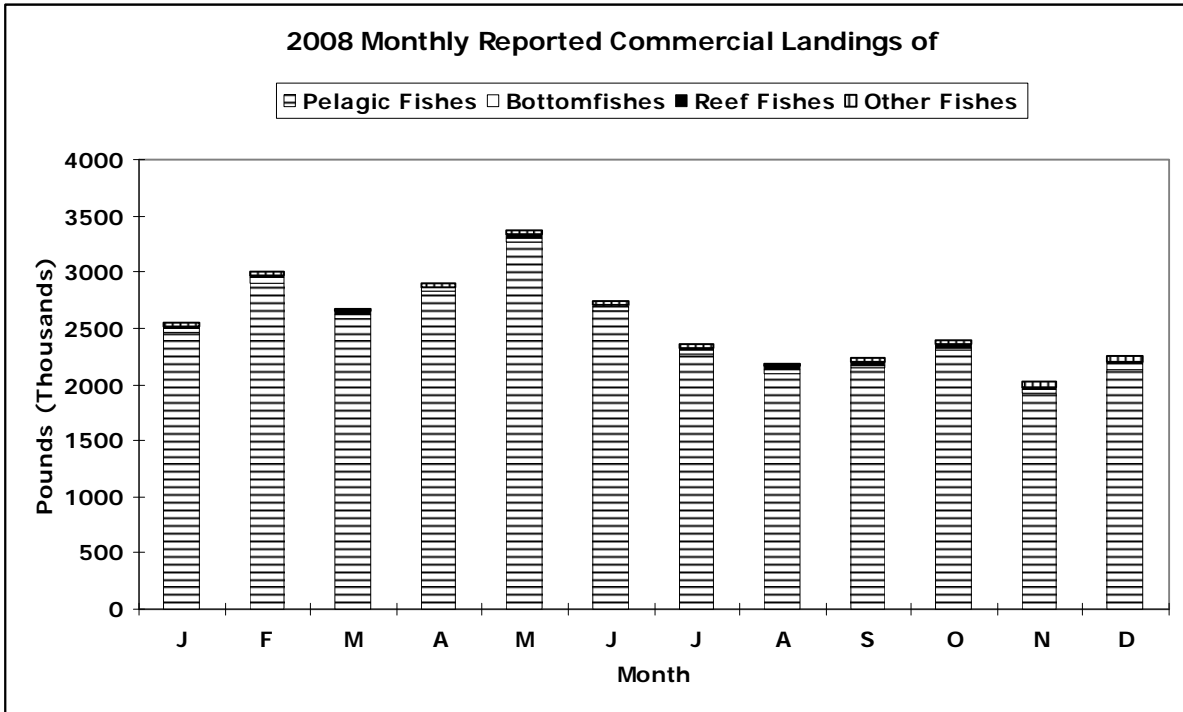


Figure D-1-1

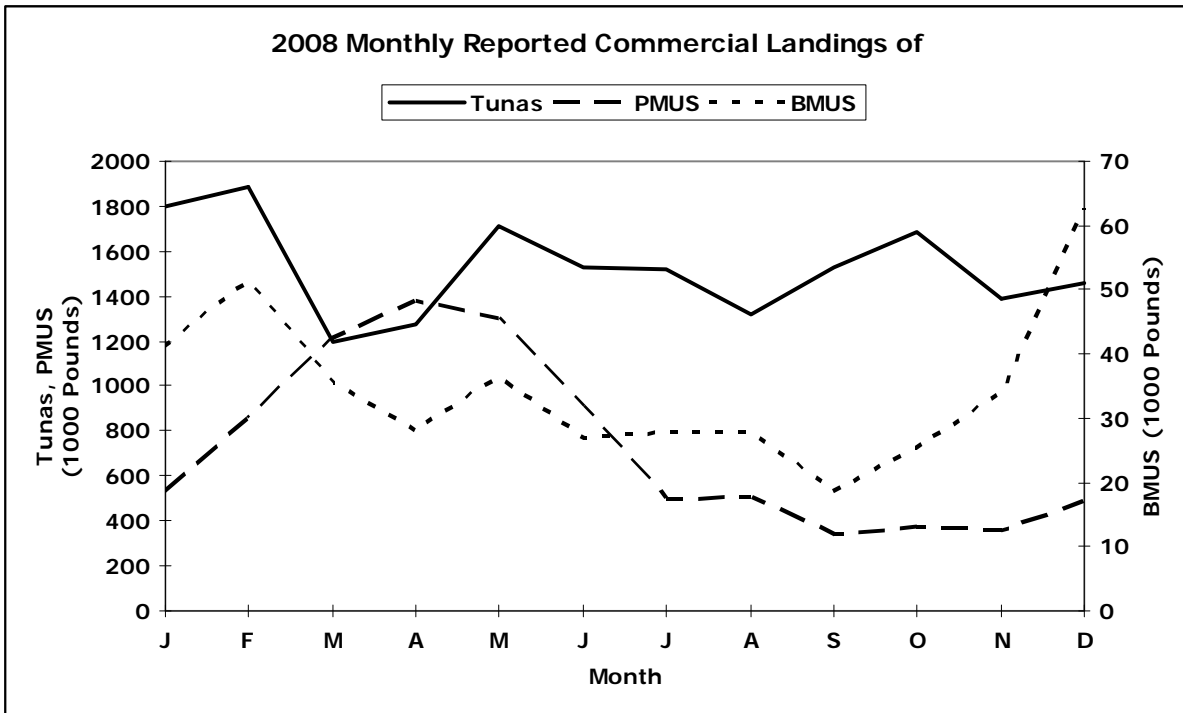


Figure D-1-2

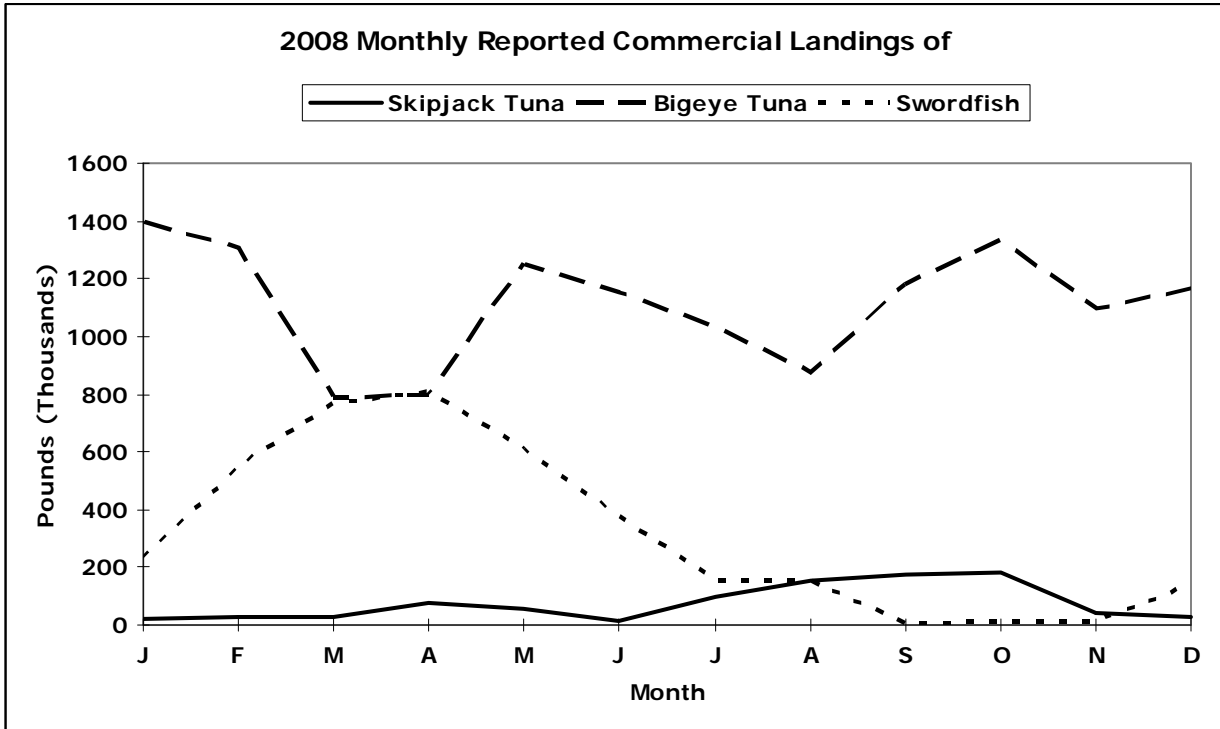


Figure D-1-3

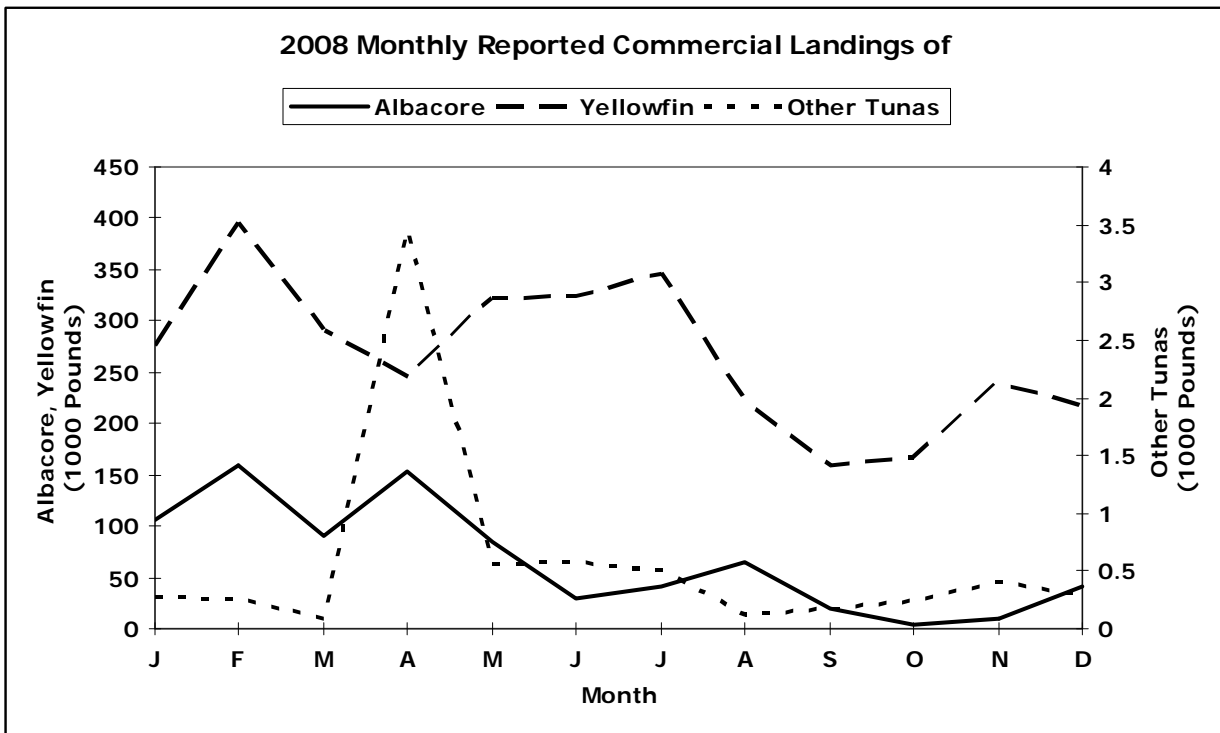


Figure D-1-4

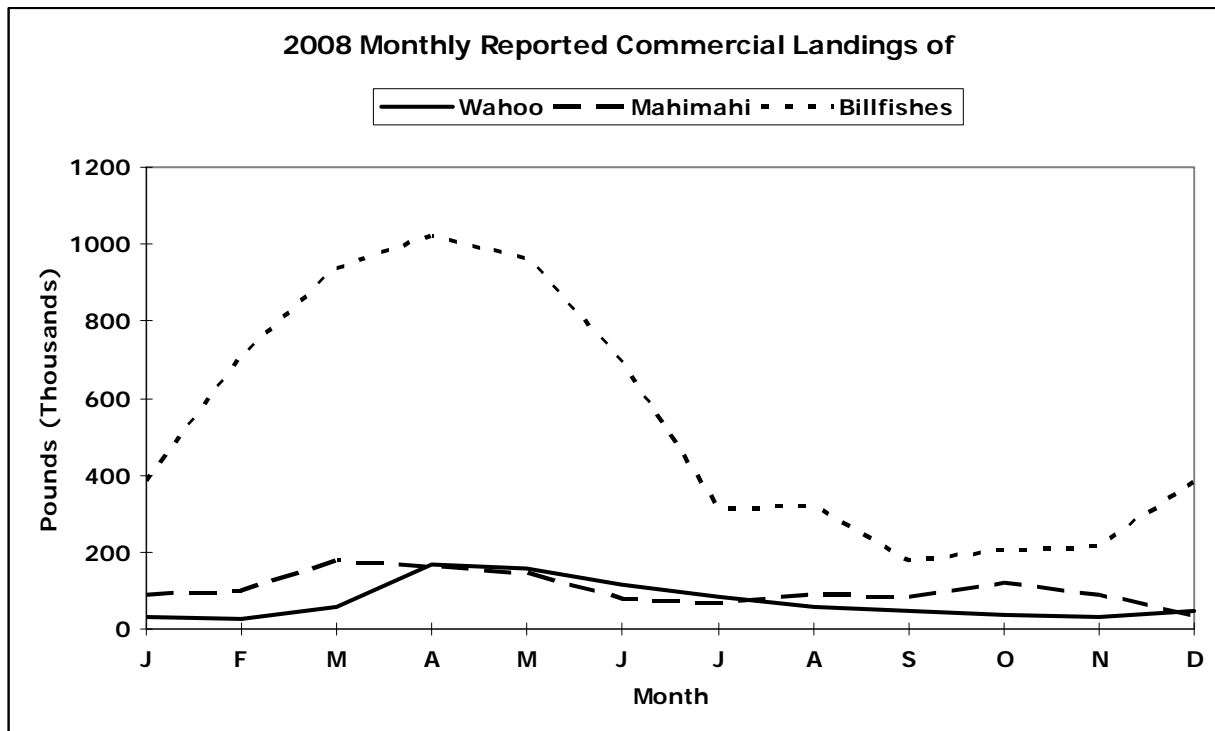


Figure D-1-5

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

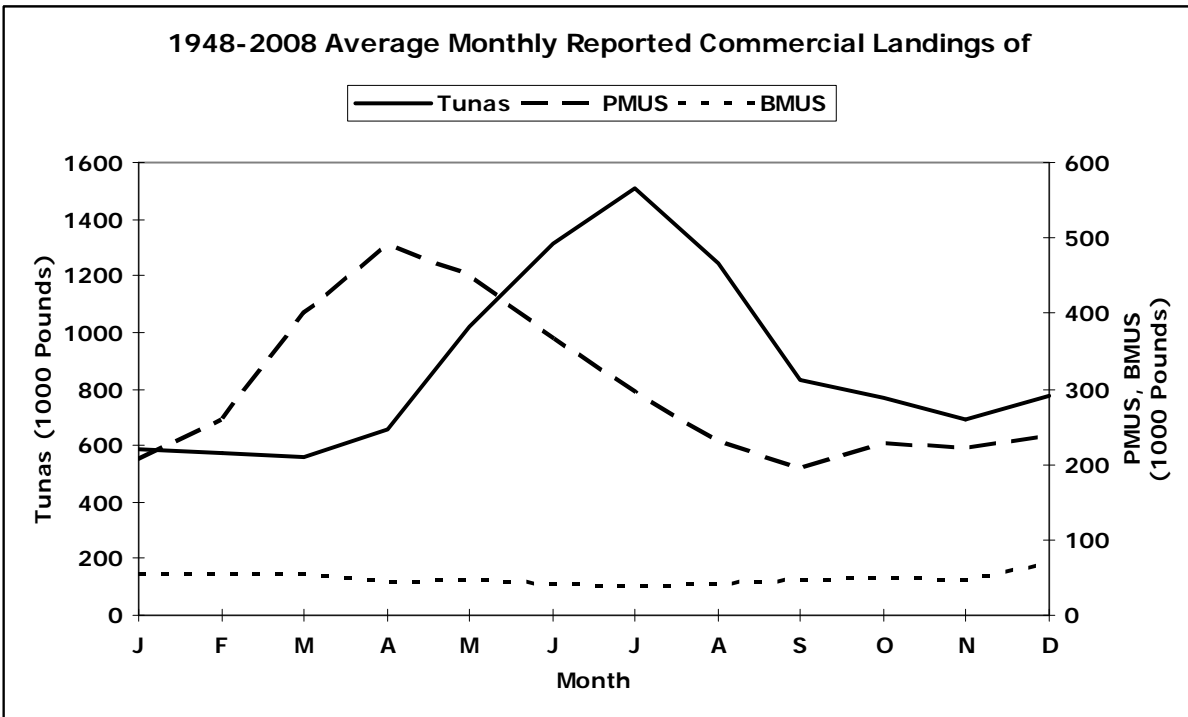


Figure D-2-1

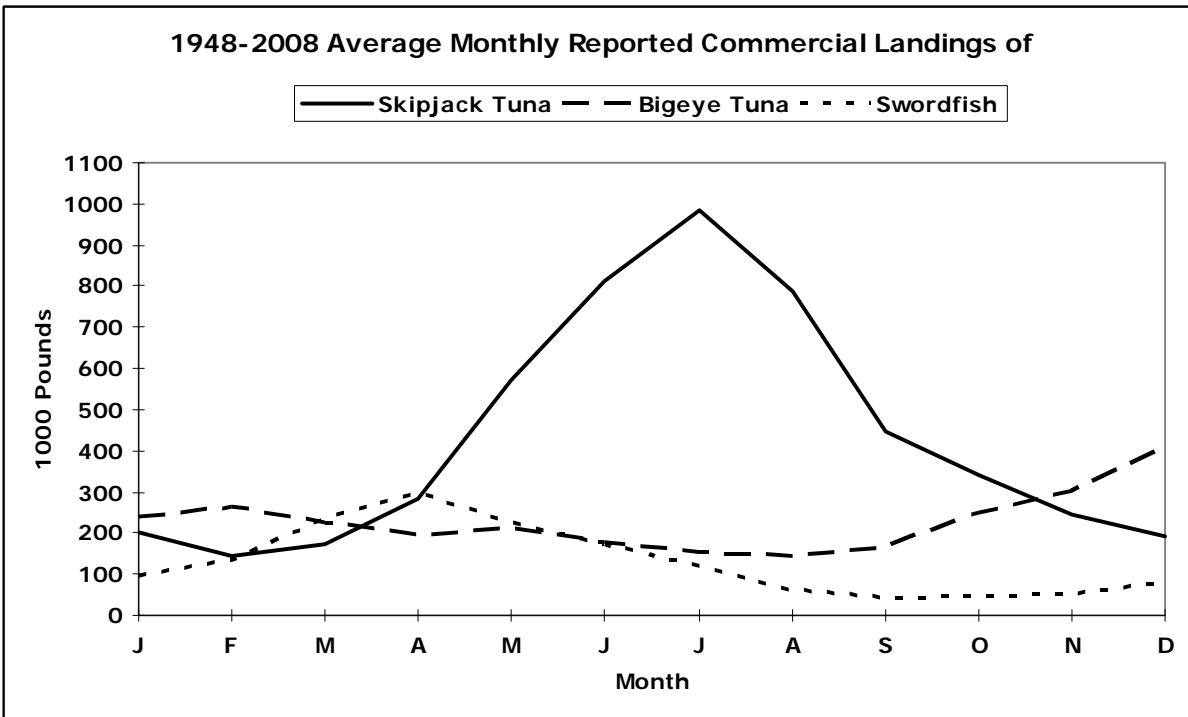


Figure D-2-2

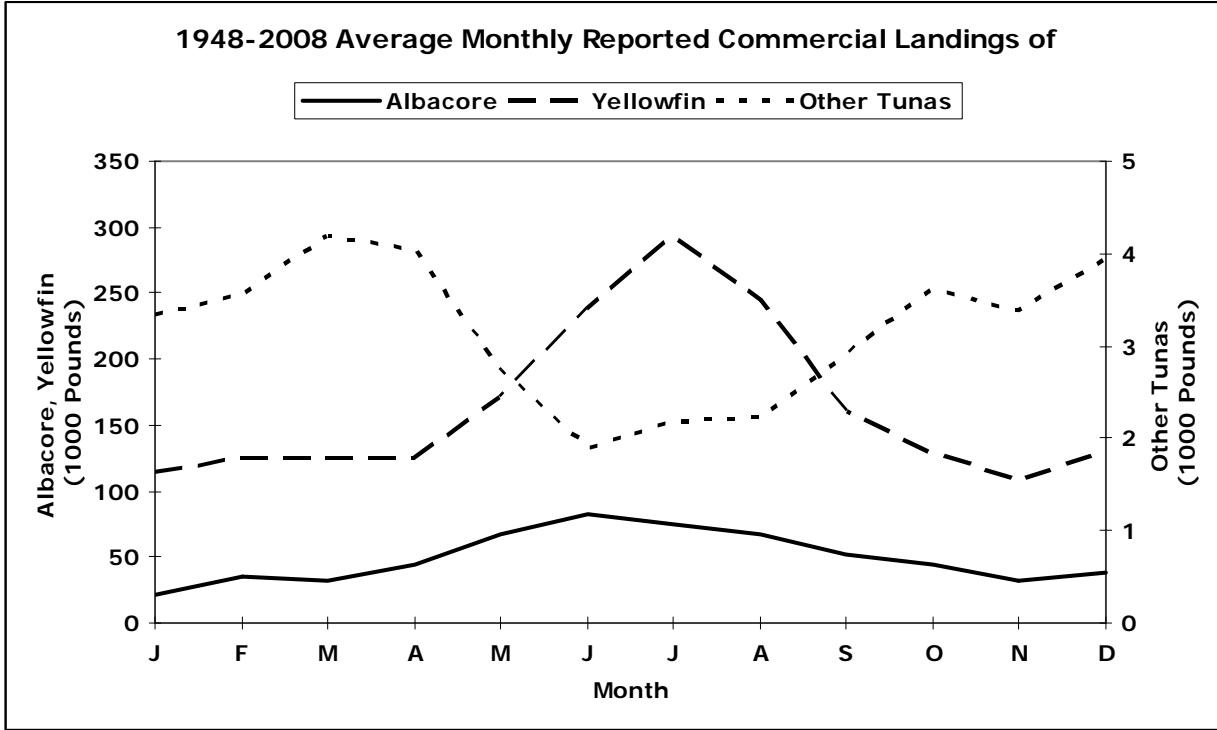


Figure D-2-3

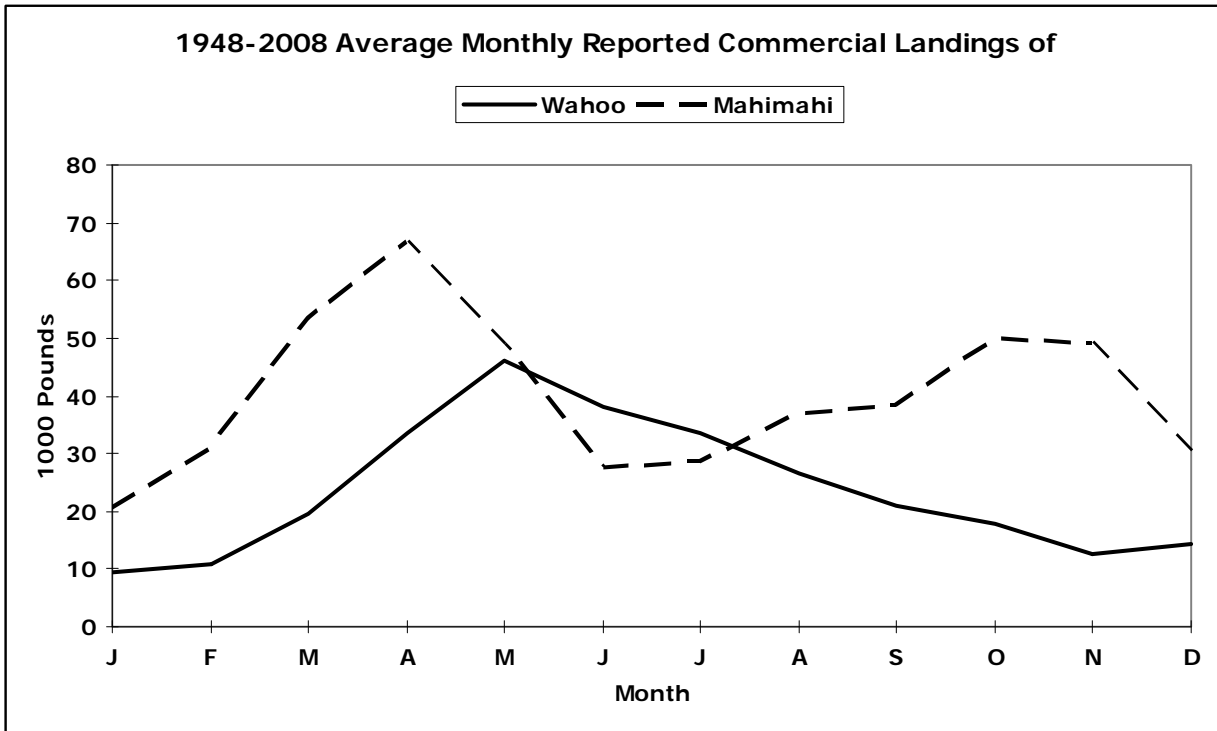


Figure D-2-4

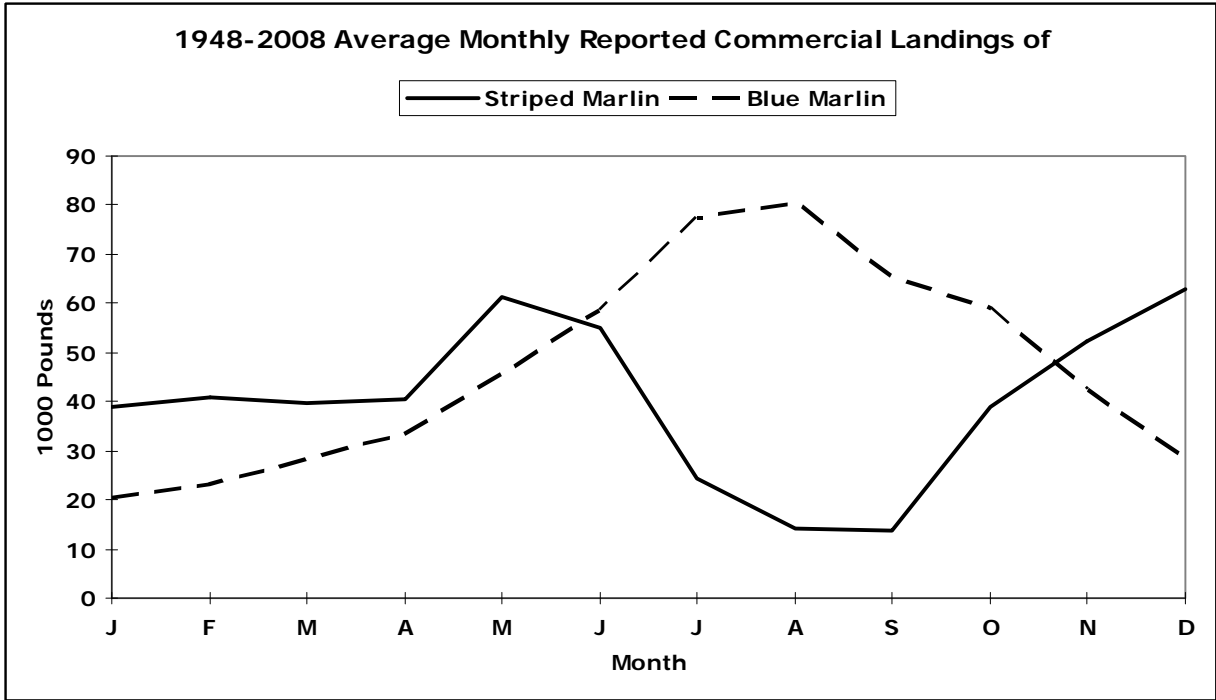


Figure D-2-5

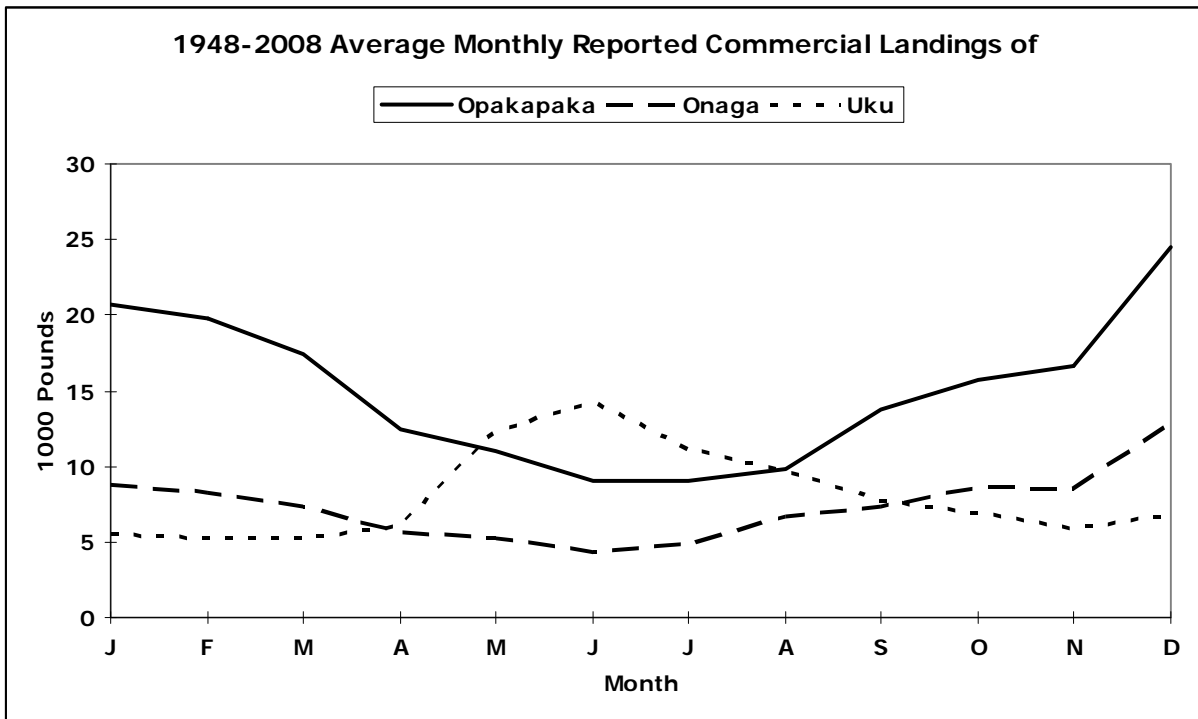


Figure D-2-6

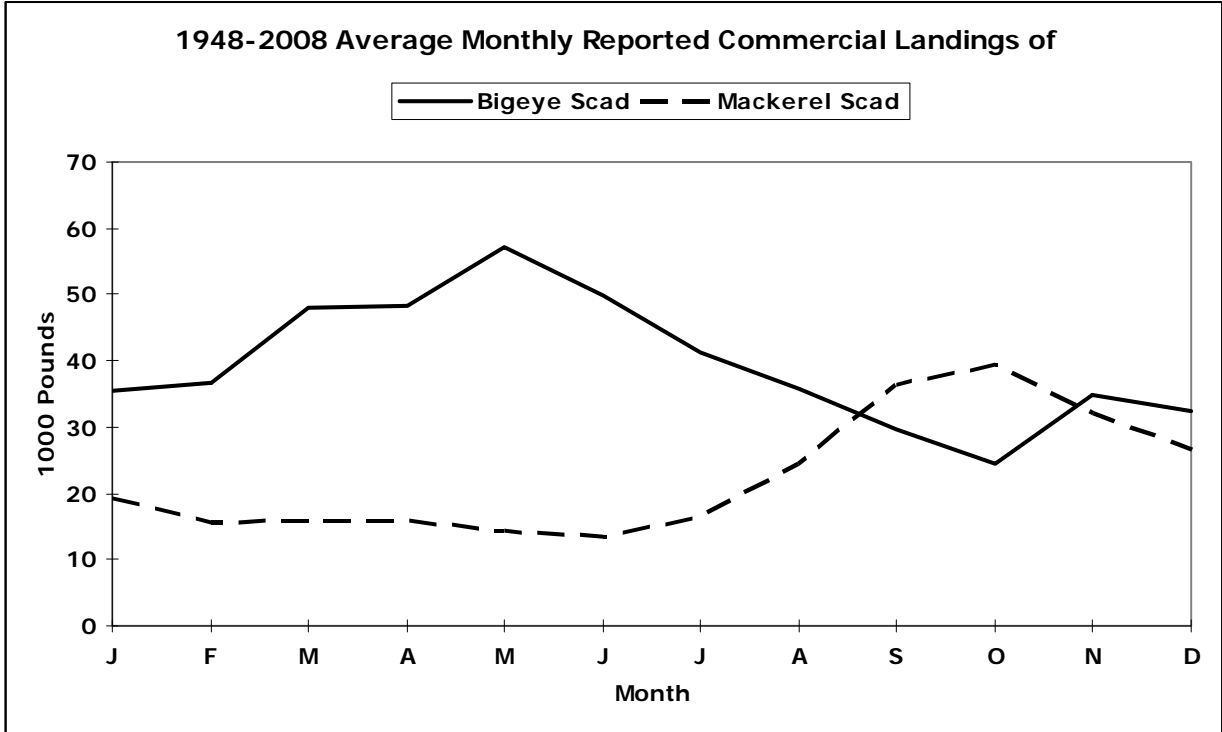


Figure D-2-7

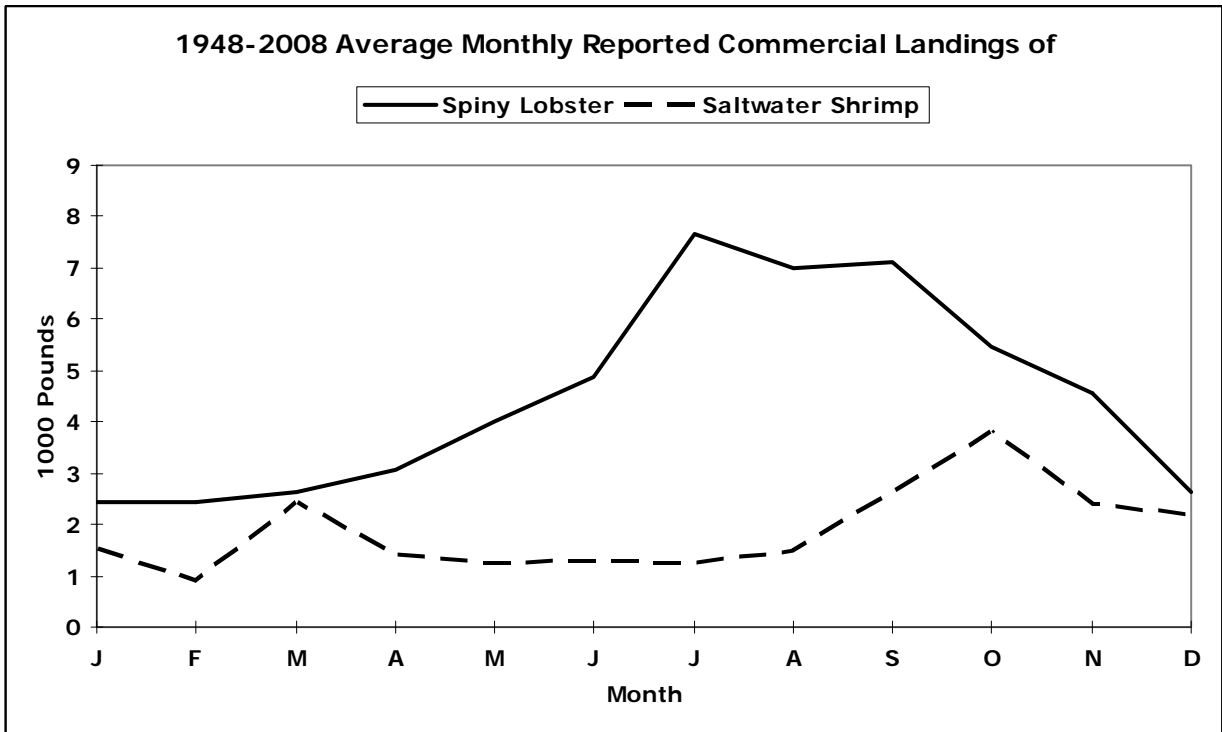


Figure D-2-8

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

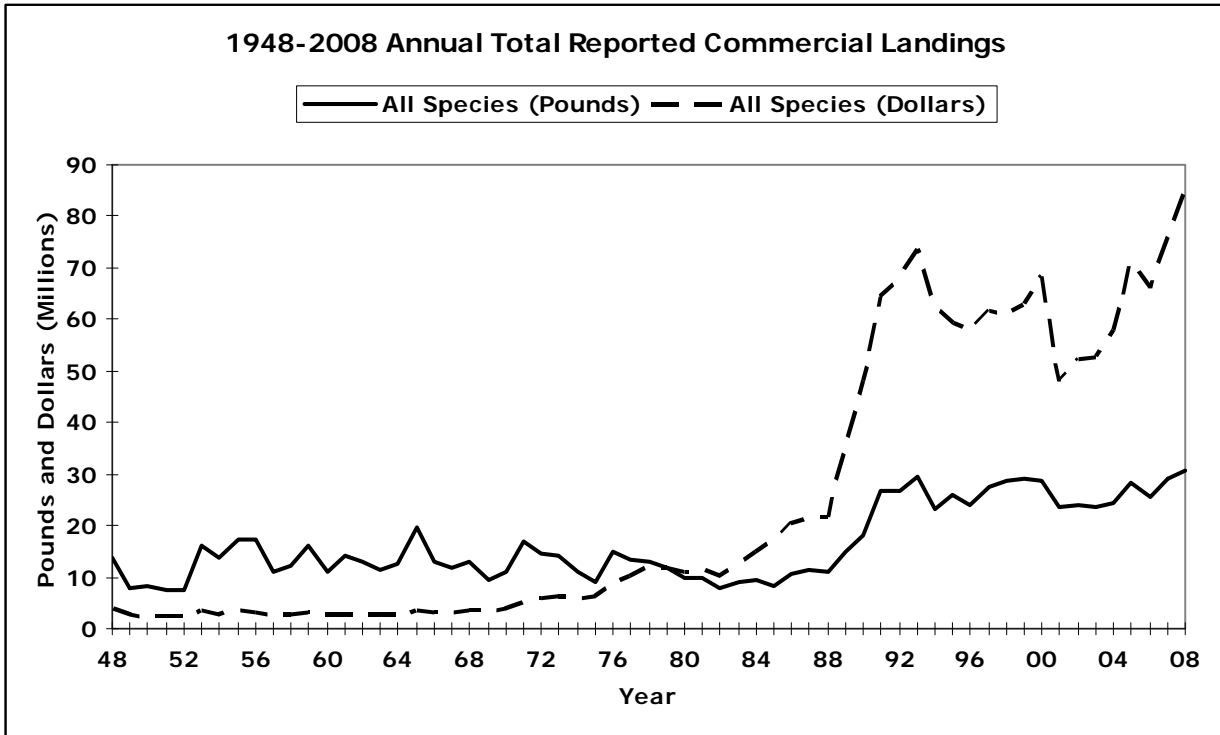


Figure D-3-1

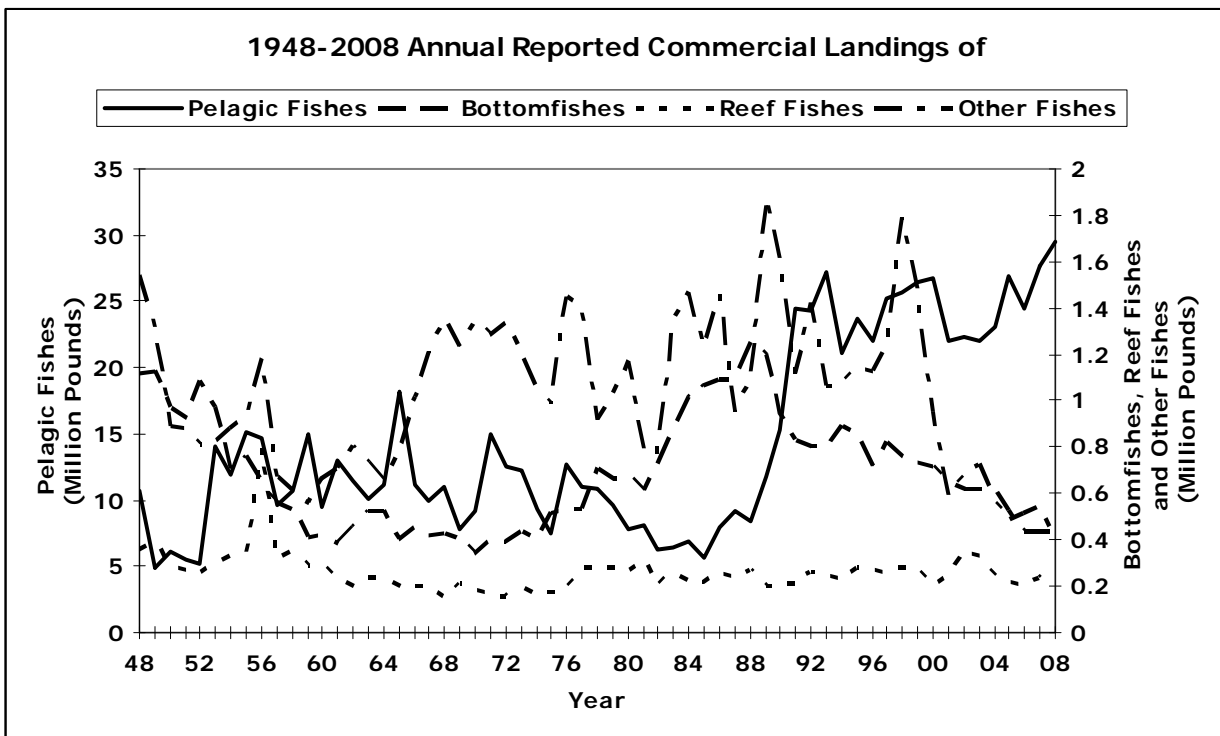


Figure D-3-2

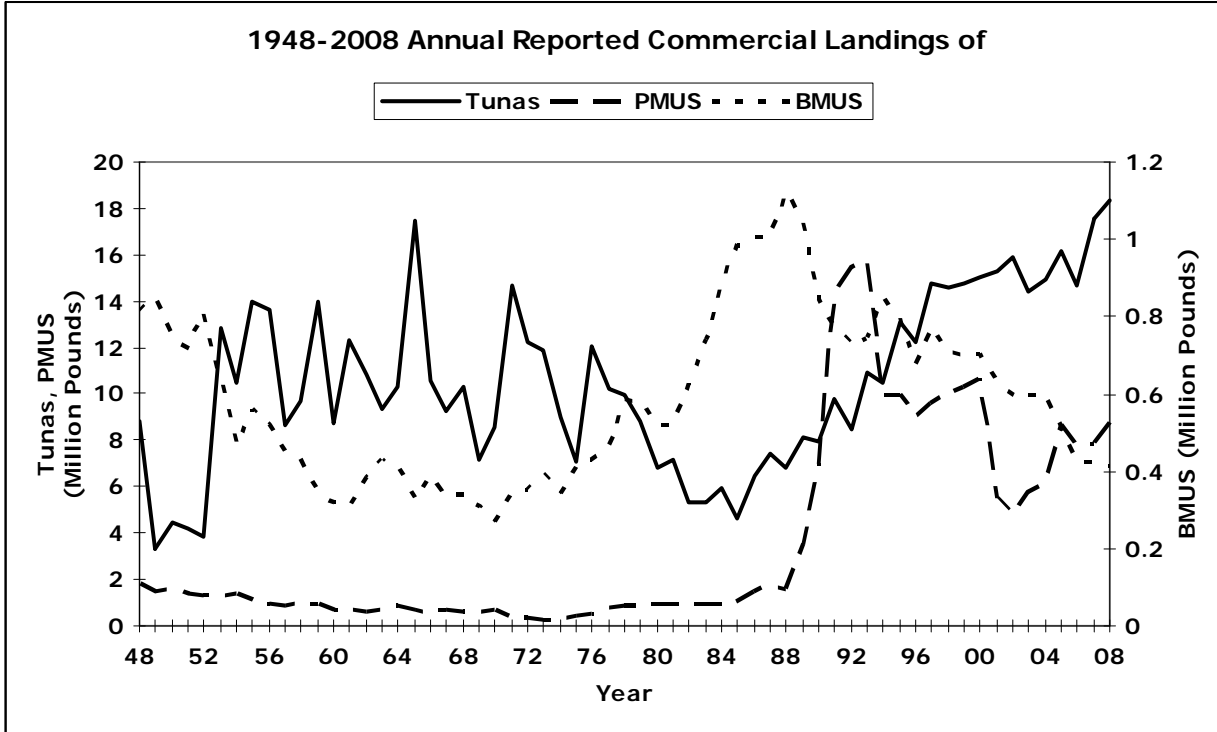


Figure D-3-3

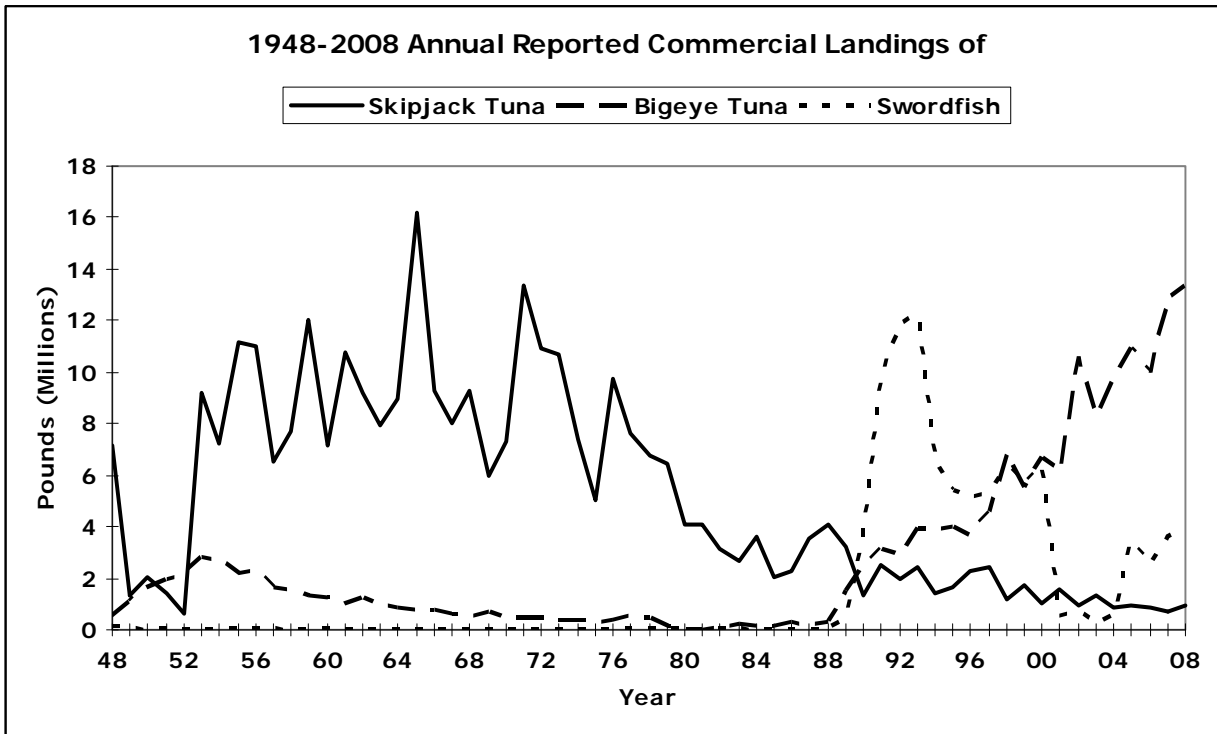


Figure D-3-4

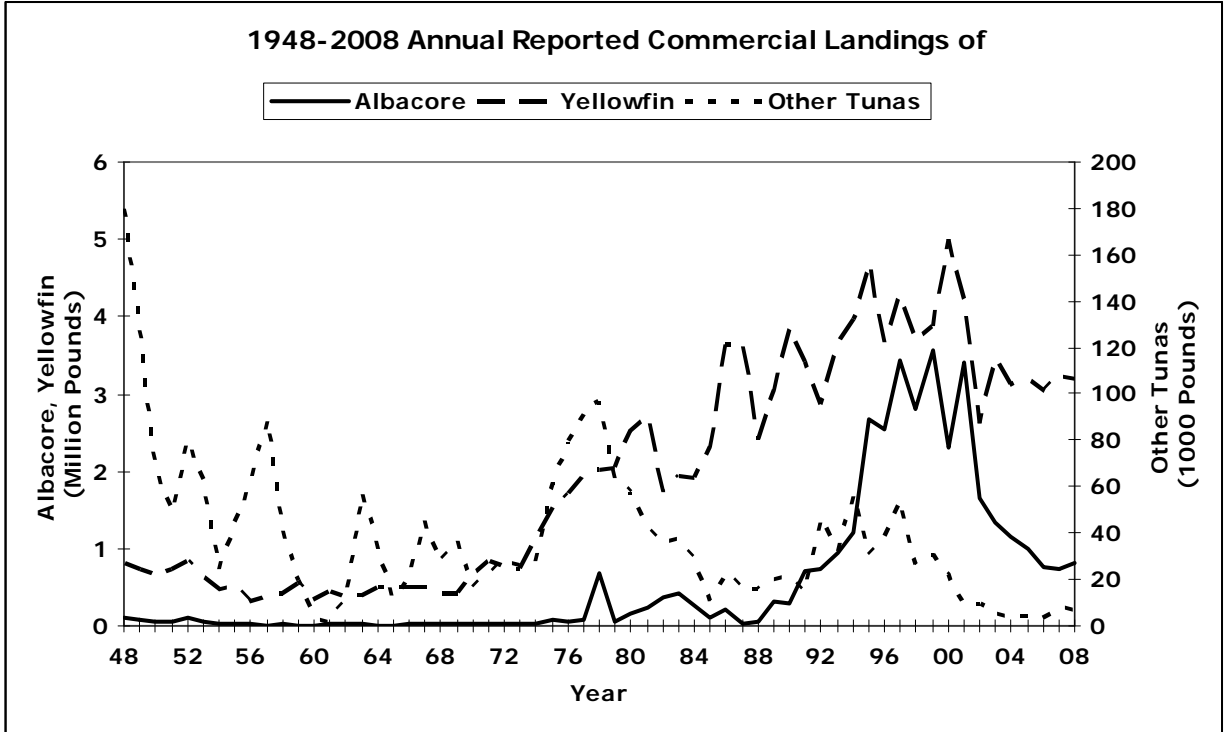


Figure D-3-5

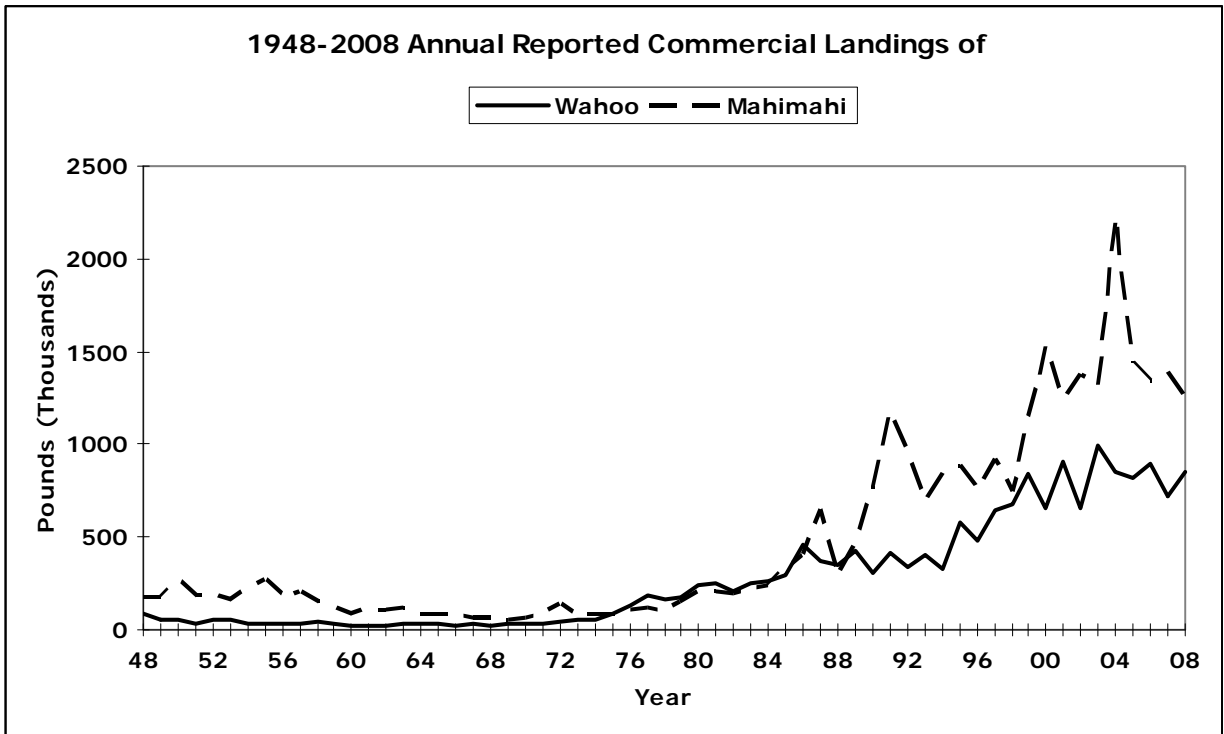


Figure D-3-6

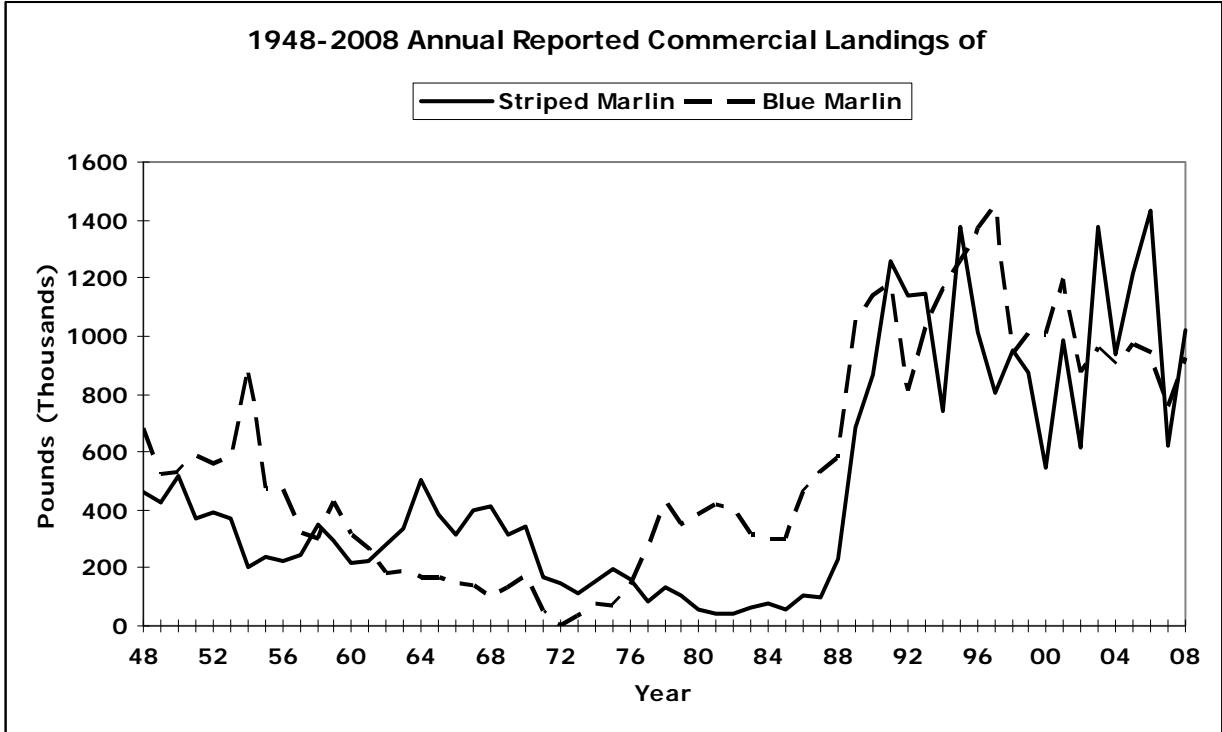


Figure D-3-7

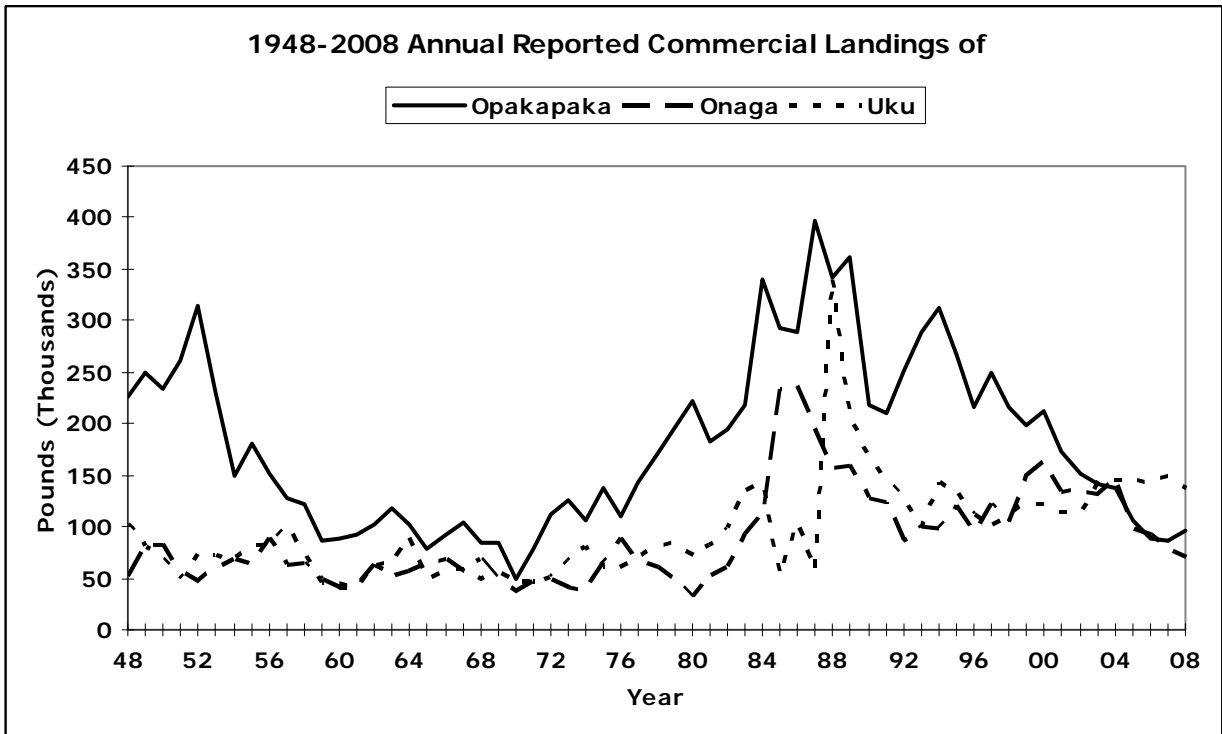


Figure D-3-8

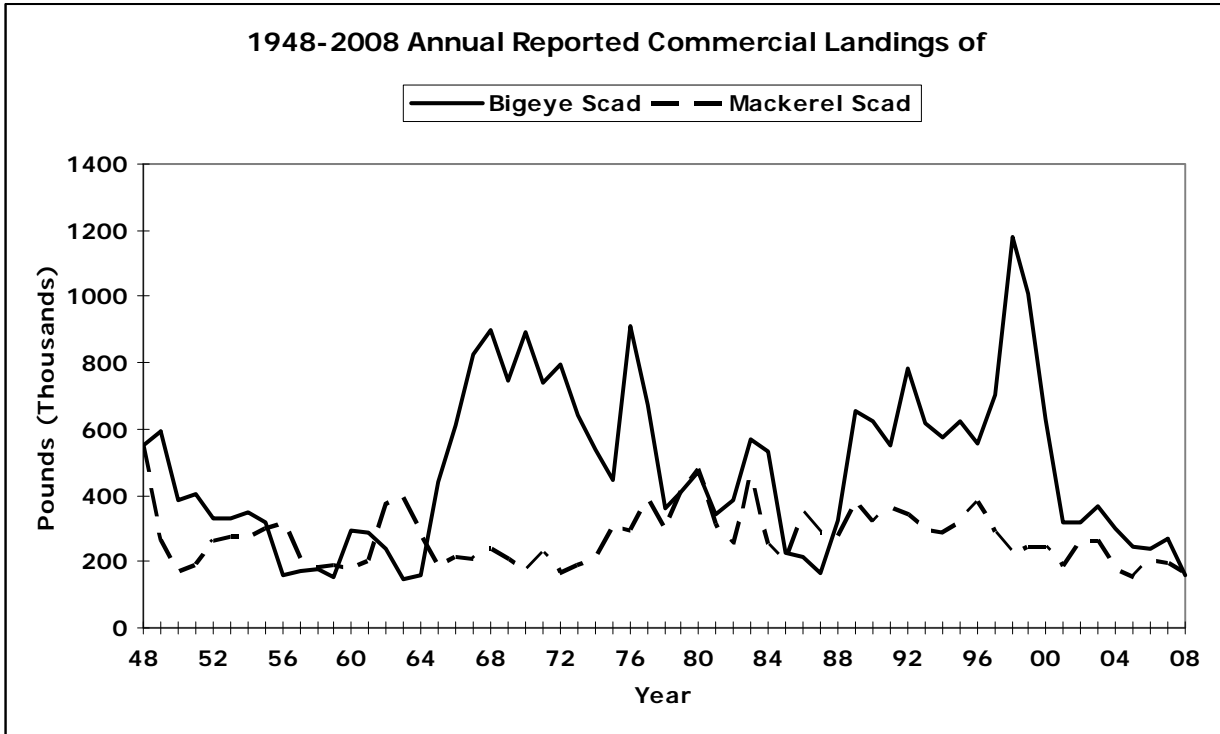


Figure D-3-9

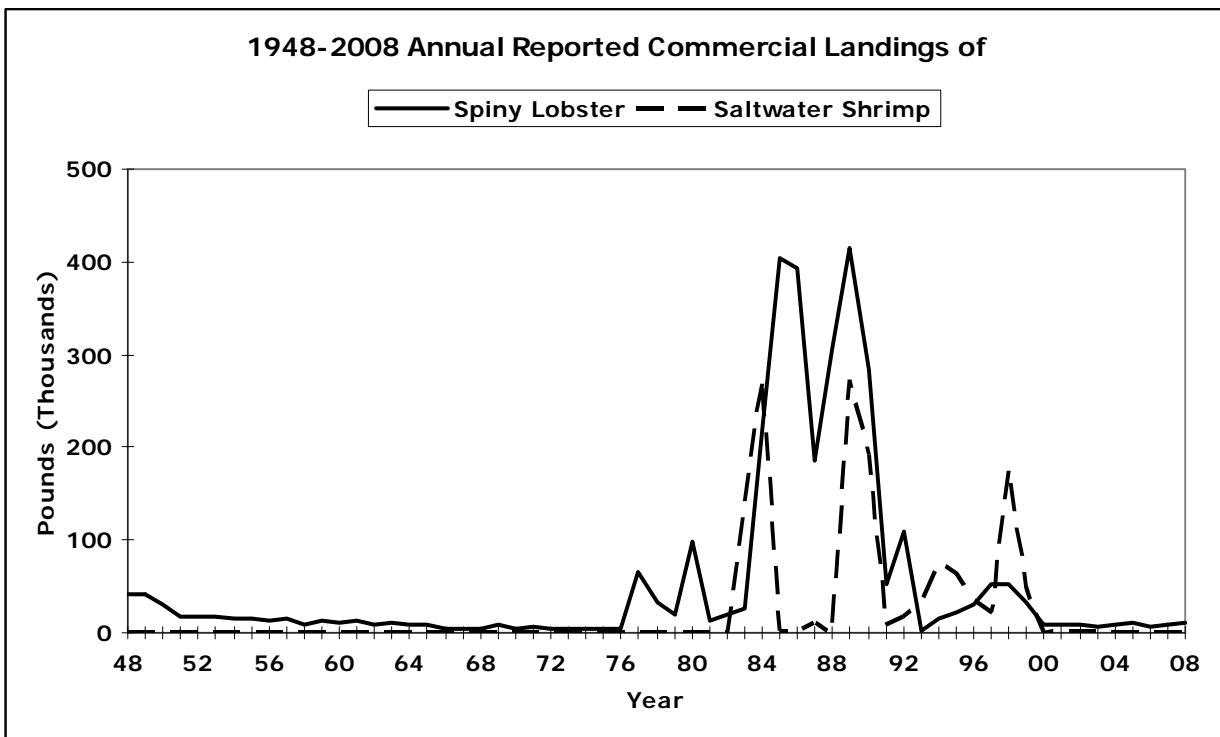


Figure D-3-10

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

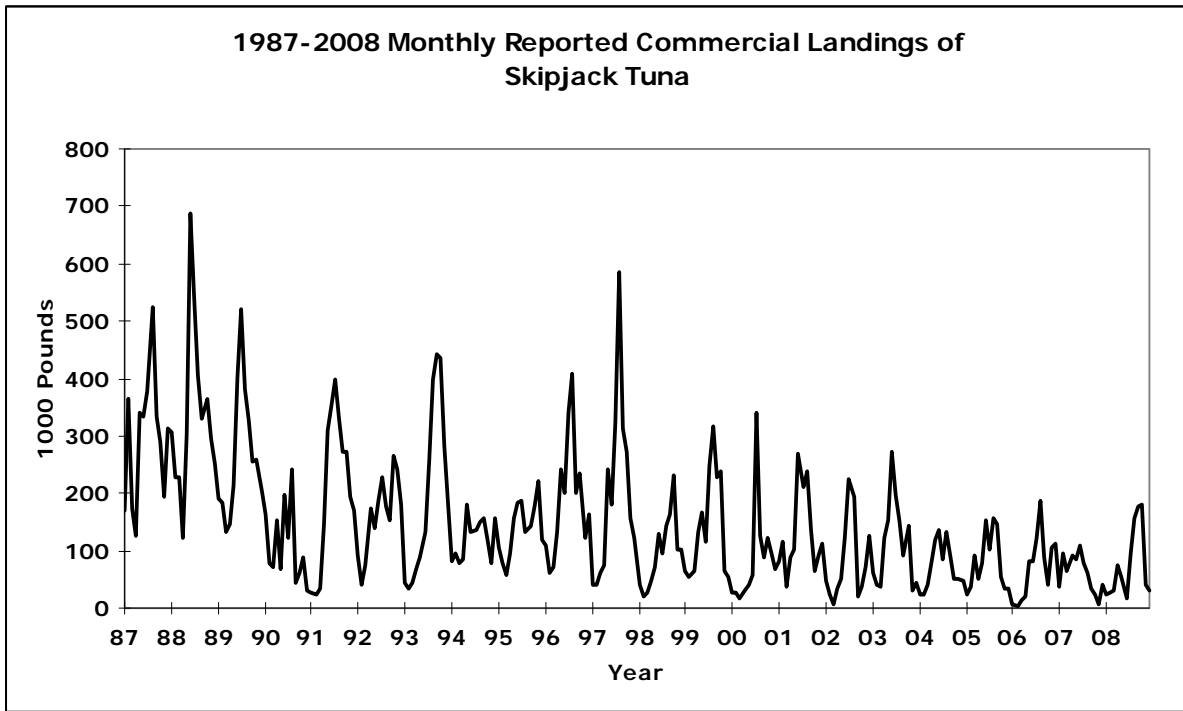


Figure D-4-1

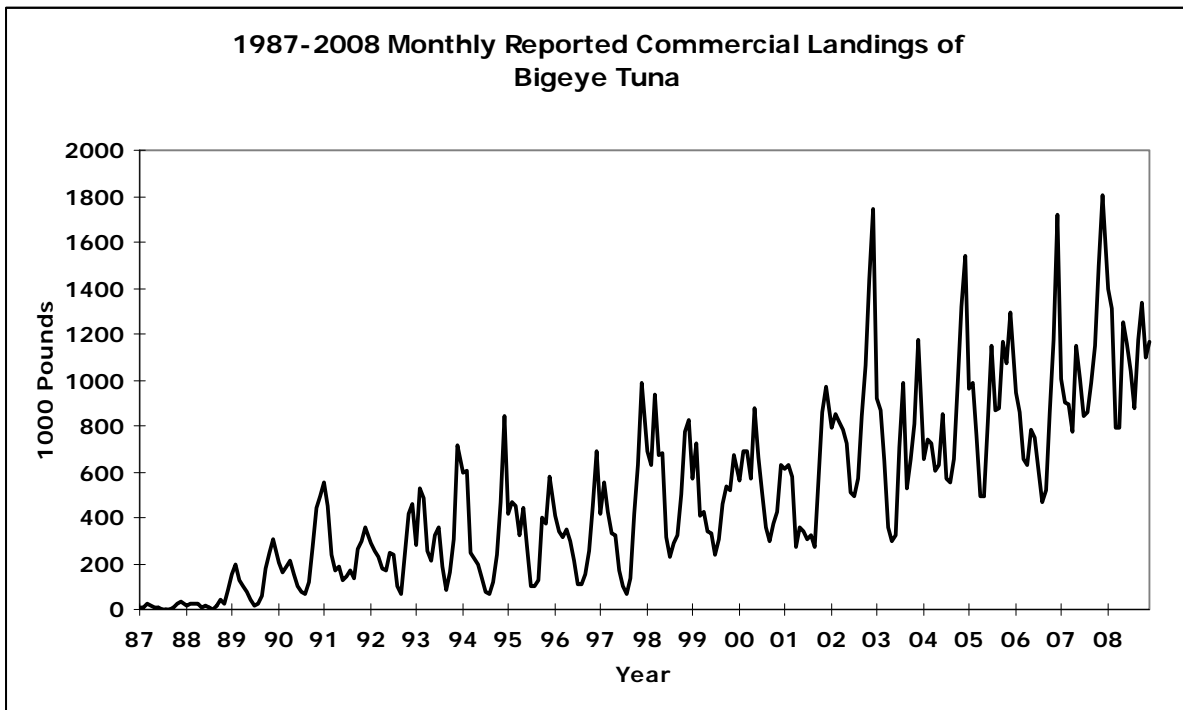


Figure D-4-2

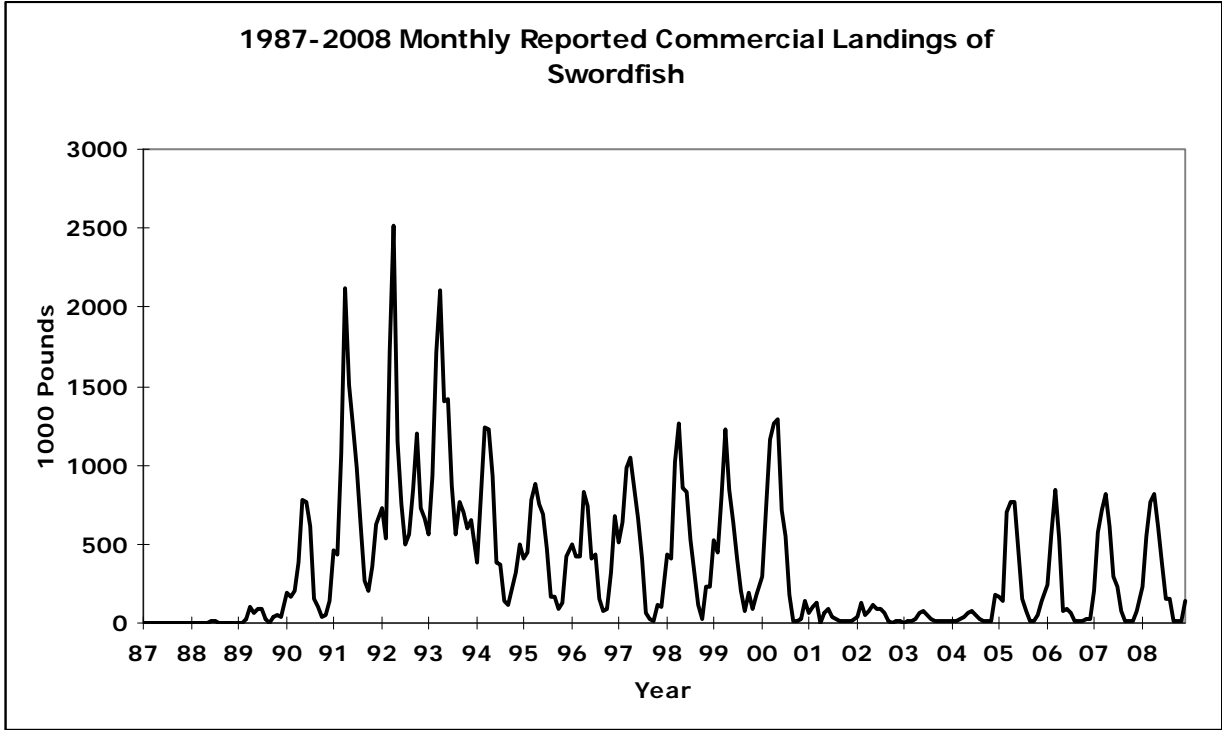


Figure D-4-3

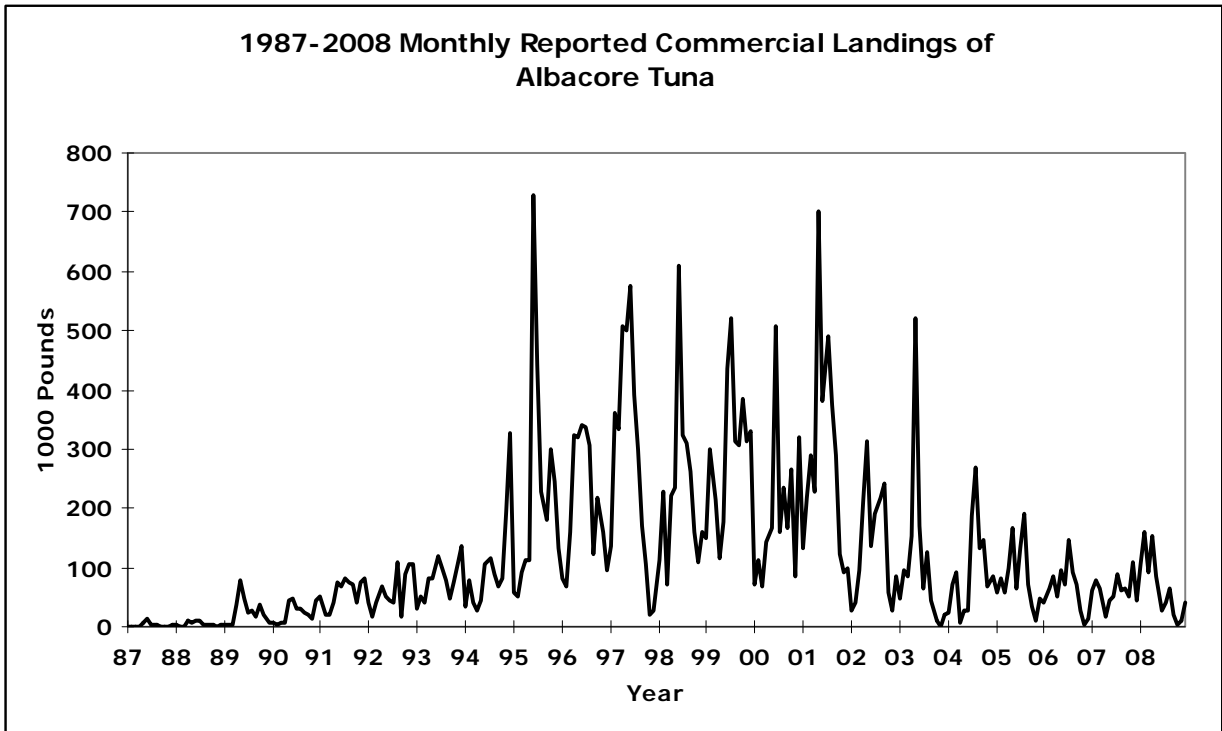


Figure D-4-4

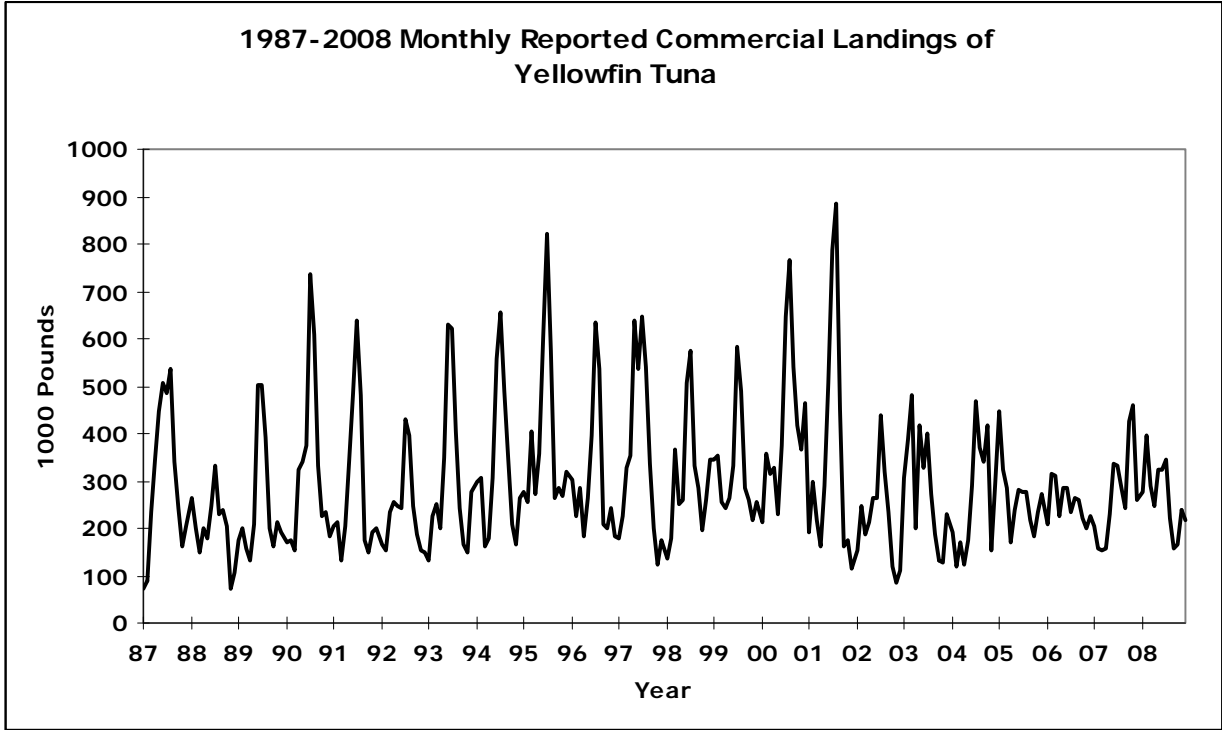


Figure D-4-5

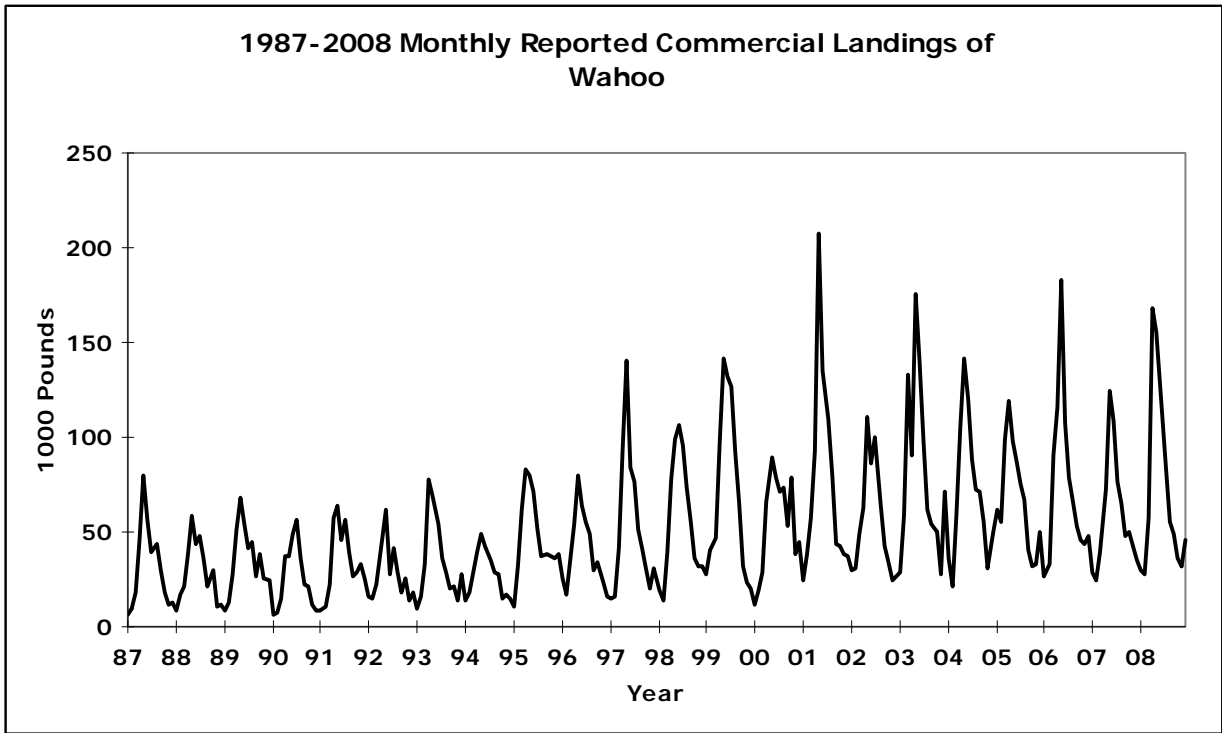


Figure D-4-6

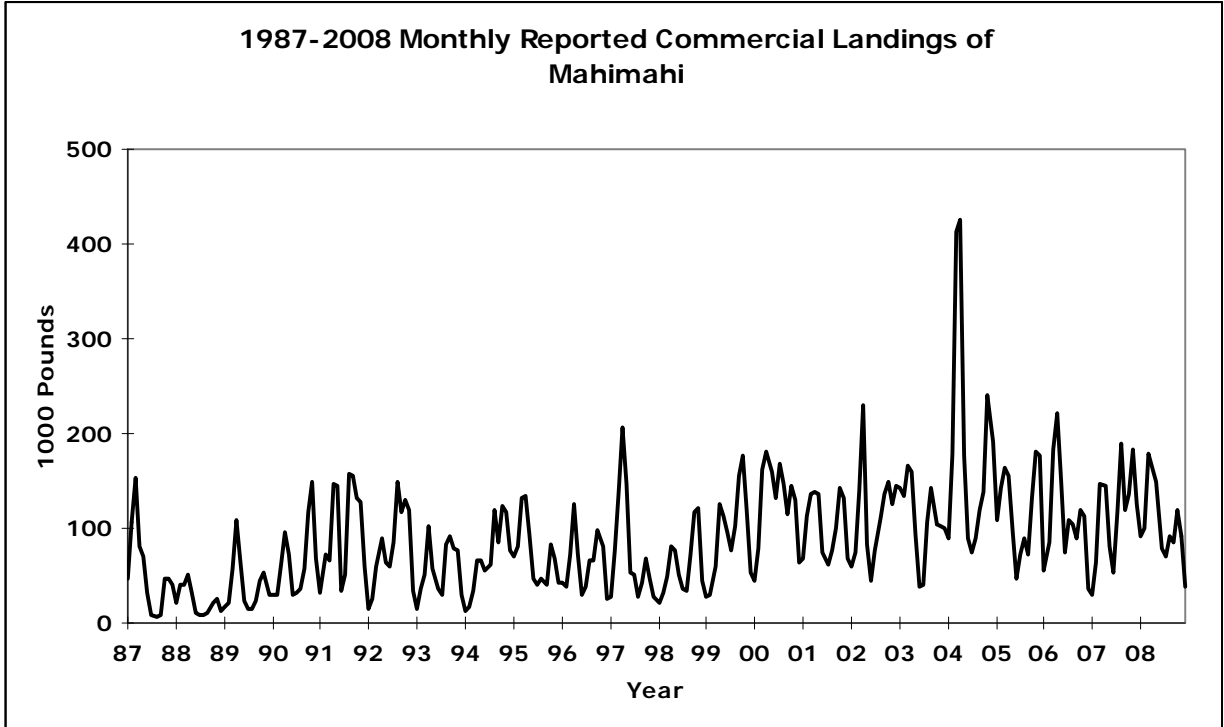


Figure D-4-7

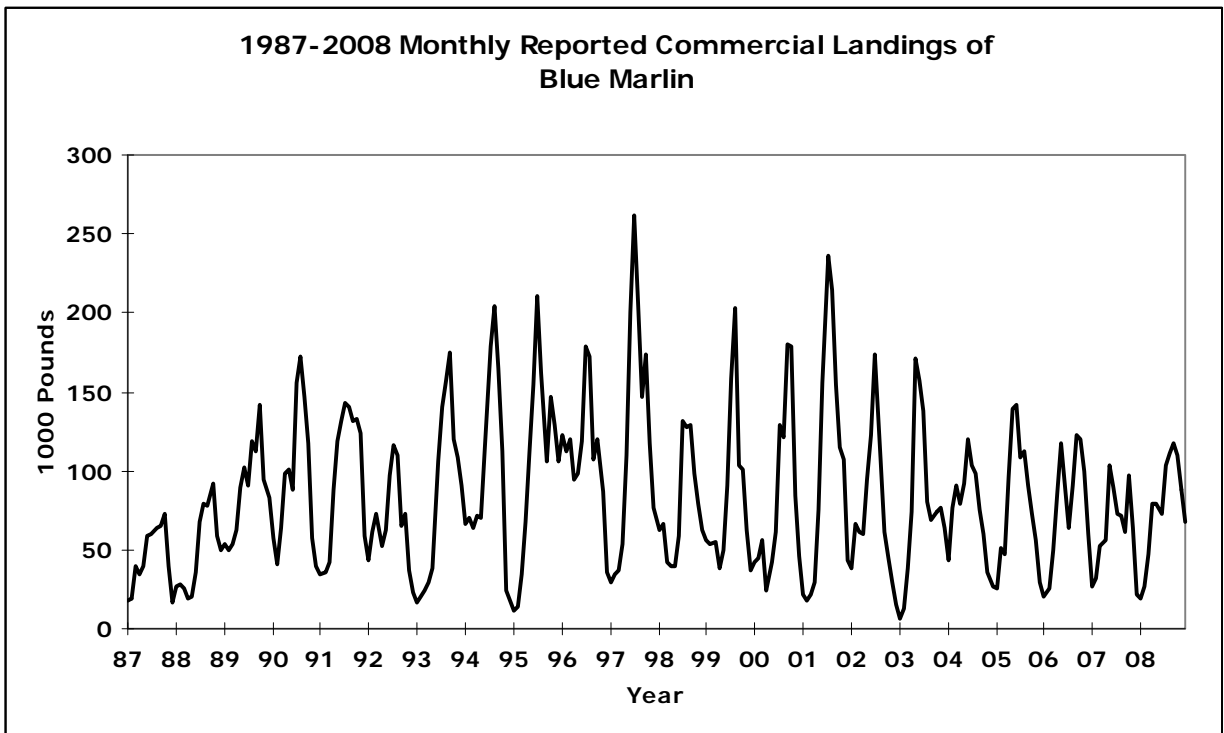


Figure D-4-8

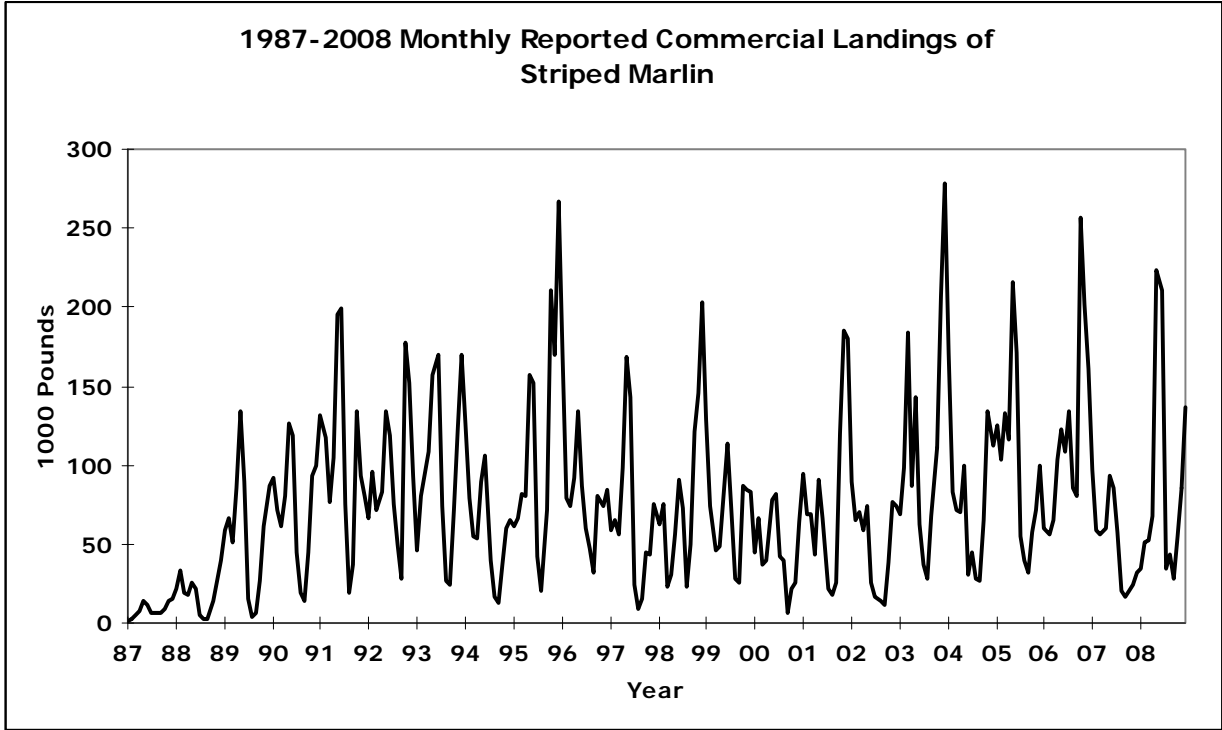


Figure D-4-9

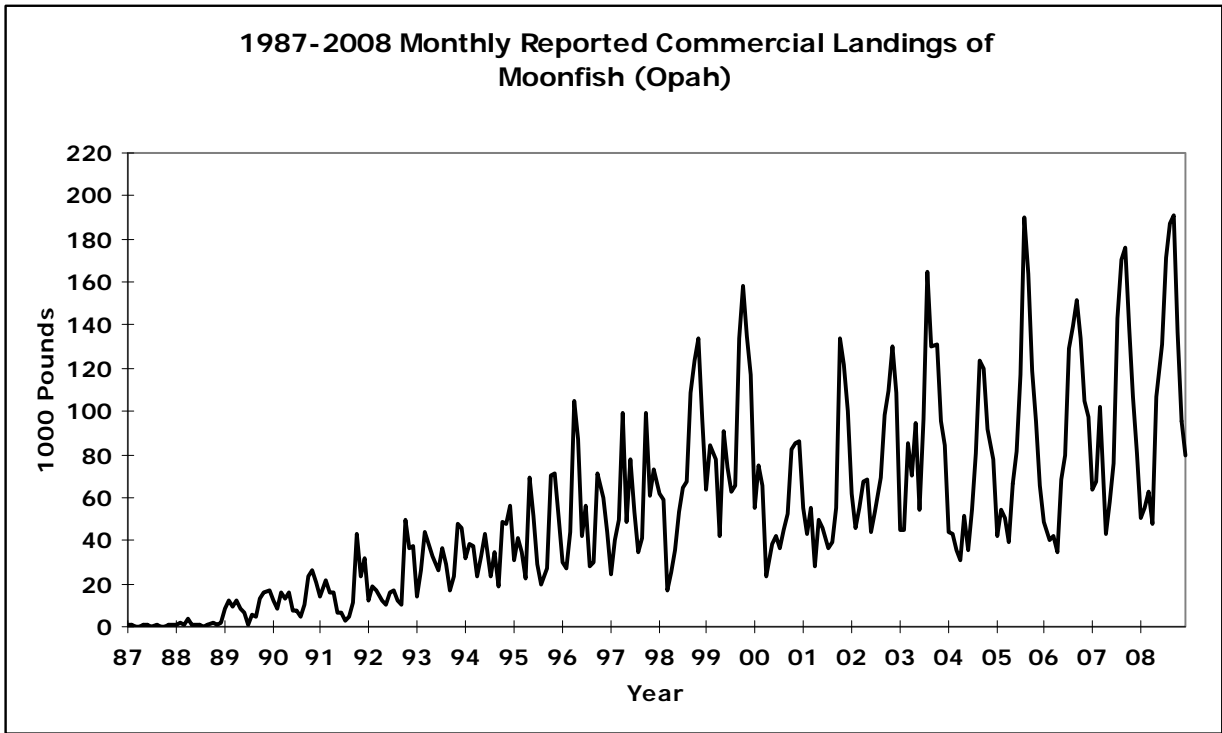


Figure D-4-10

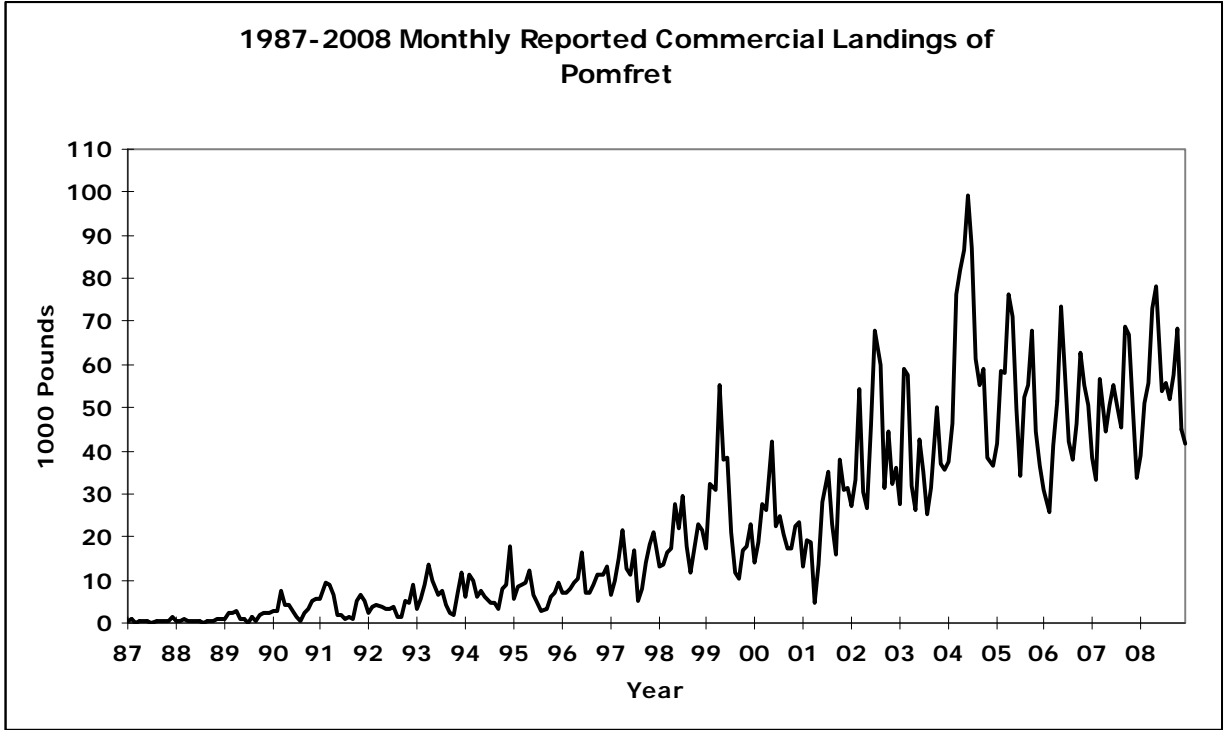


Figure D-4-11

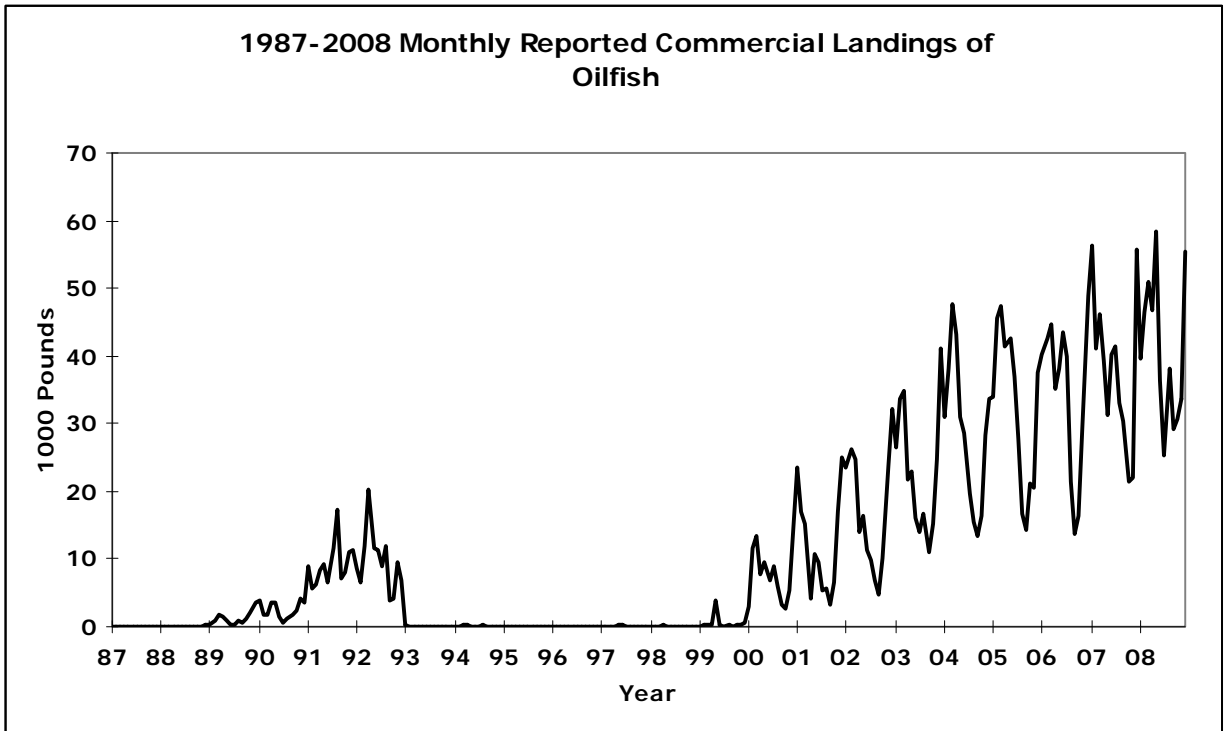


Figure D-4-12

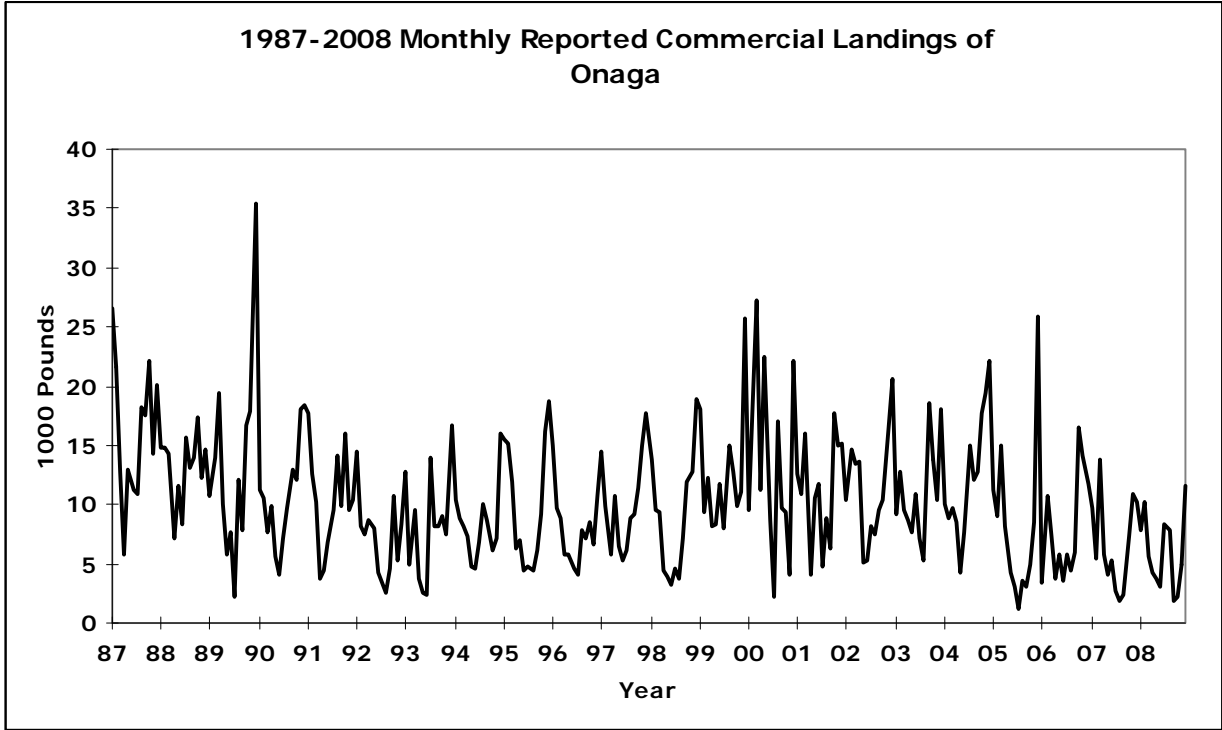


Figure D-4-13

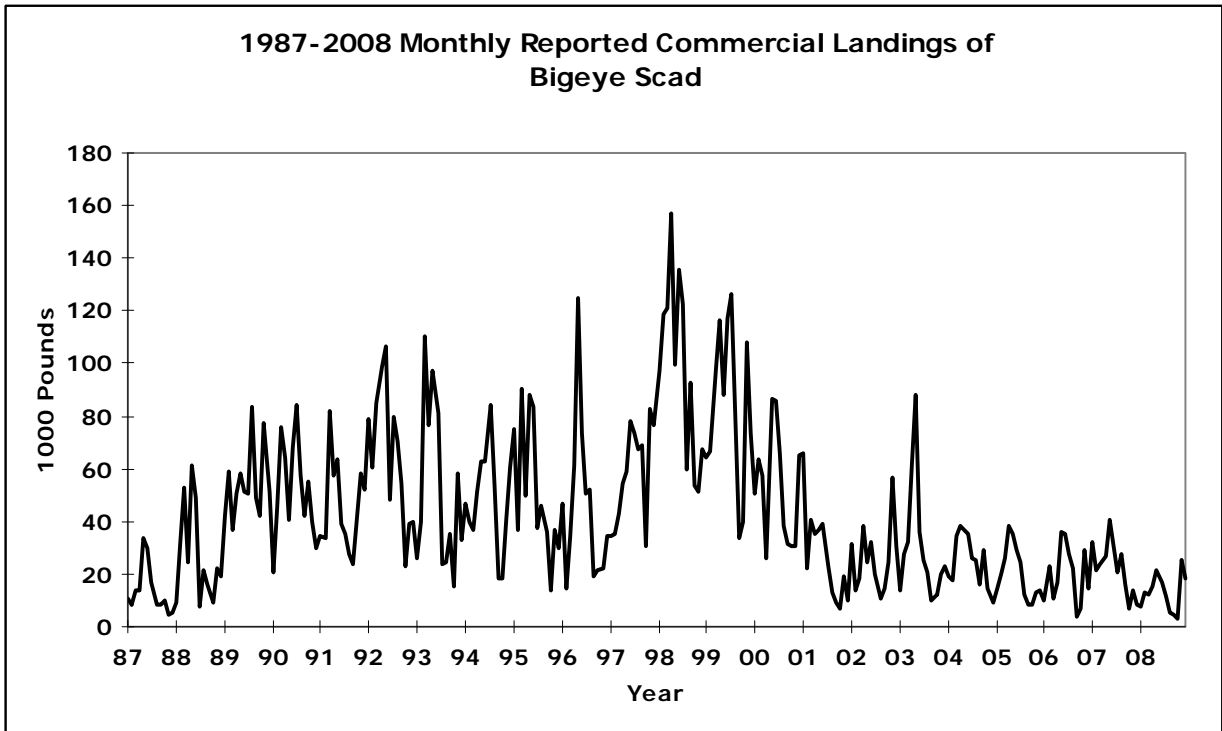


Figure D-4-14