

GUAM 2002 FISHERY STATISTICS

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

June 2004

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GUAM 2002 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: 163,941 (*The World Factbook*, 2003)

Economy: U.S. military, tourism, and fish and handicrafts exports



Guam

source: <<http://www.cia.gov/cia/publications/factbook/gq.html>>;
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. From the late 1980s to about 1996, the sportfishing charter boat industry grew significantly due to a strong Asian economy. Since 1996, declines in that economy have resulted in a downturn. However, charter boats still contribute considerably to the commercial landings on Guam since much of their catch is sold. In recent years, the consumption of reef fish has increased on Guam, making it profitable to sell locally caught bottomfish. This demand, however, appears to be stressing bottomfish stocks around Guam. Bottomfish and BMUS species are not caught by only bottomfishing, but also by other methods such as gillnetting and spearfishing.

In 1982, WPacFIN began working with staff of the 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

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estimated total commercial landings based on an estimated annual percent coverage factor.

COMMERCIAL LANDINGS DATA COLLECTION SYSTEM

There are three sources of fish in Guam's commercial market: 1) full-time commercial fishermen; 2) part-time commercial fishermen; and 3) subsistence or recreational "expense" fishermen 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.

In July 1979 the Guam Fishermen's Coop 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 fishermen had to develop their own markets and peddle fish after each trip.

In 1982, WPacFIN began working with the Coop to improve their invoicing system and to obtain data on all fish purchases. A cooperative system was established whereby the Coop would use forms and coding schemes designed by WPacFIN and would supply copies of all invoices to WPacFIN for computer data entry. In return, WPacFIN would provide the Coop with document quality control and computer-generated summary statistics. All purchase data back to July 1979 were also coded and computerized. As time progressed, other fish markets began to operate, and DAWR and WPacFIN staff worked with them to obtain data through the voluntary receipt book program.

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

Data collected on commercial receipts forms include:

- Date
- Number of fishermen
- Area fished
- Number of pieces caught
- Price per pound
- Fisherman code
- Hours fished
- Species caught
- Pounds caught

COMMERCIAL LANDINGS DATA PROCESSING SYSTEM

In earlier years data were processed at the central WPacFIN office in Honolulu. But beginning in 1994 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 practicable, number of pieces is also recorded). Once all the edits, adjustments, verifications, and corrections are made, summary reports are generated. Numerous standard reports are available, but only the monthly and annual landings by species are provided in this document.

COMMERCIAL LANDINGS DATA REPORTING SYSTEM

After completing all editing, adjusting, and quality control activities for the commercial landings data, monthly and annual summary reports by species are generated. 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. Included with the estimated commercial landings summary reports are graphs of some of the important statistics.

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.

The following groupings of species, species categories, and abbreviations are used in the tables and graphs for Guam's commercial landings:

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Note: Many of the species included in this report have been re-categorized over the years. For example, the Magnuson Fishery Conservation and Management Act of 1976 was amended in 1992 to include tunas in the 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.

I. Pelagic Management Unit Species (PMUS)

- Mahimahi (dolphin)
- Marlin (probably all blue but possibly striped or black)
- Spearfish
- Sailfish
- Wahoo
- Sharks

II. Bottomfish Management Unit Species (BMUS)

- Jacks (unclassified but excluding bigeye scad)
- Amberjack
- Bottomfish (unclassified)
- Ehu (red snapper)
- Gindai (flower snapper)
- Grouper
- Kalekale (pink snapper)
- Lehi (silverjaw snapper)
- Onaga (red or longtail snapper)
- Opakapaka (pink snapper)
- Uku (gray snapper)
- Emperor (mafute)

III. Billfish

- Marlin (probably all blue but possibly striped or black)
- Spearfish
- Sailfish

IV. Tunas

- Tunas (unclassified)
- Skipjack Tuna
- Yellowfin Tuna
- Dogtooth or White Tuna
- Kawakawa

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V. Other Tuna

All the above tunas excluding skipjack and yellowfin tunas.

VI. Fisheries Categories

A. Pelagic Species

All PMUS and tuna species plus the following:

Troll Fish (unclassified)
Barracuda
Rainbow Runner

B. Bottomfish

Same as the BMUS

C. Reef Fish

| | |
|--------------------------|-------------|
| Reef Fish (unclassified) | Parrotfish |
| Giant Wrasse | Snapper |
| Rabbitfish | Surgeonfish |
| Rudderfish | Unicornfish |
| Squirrelfish | Goatfish |

D. Other

| | |
|------------------------------|--------------|
| Miscellaneous (unclassified) | Coconut Crab |
| Bigeye Scad | Lobster |
| Mullet | Shrimp |
| Eels | Octopus |
| Milkfish | Squid |
| Invertebrates (unclassified) | Seaweeds |
| Crabs (unclassified) | Imported |

INTERPRETATION OF STATISTICS

The user is reminded again to pay heed to the precautions and assumptions identified earlier in this document when making interpretations of or inferences from data reported in the tables and graphs. Remember also that the commercial landings summaries are adjusted numbers based on samples of fishing activities.

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Table IV.1.1

Guam 2002 Estimated Commercial Landings

| Species | Pounds | Value | Price/Lb. |
|------------------------|----------------|------------------|---------------|
| Unknown | - | \$0 | \$0.00 |
| Assorted | 21 | \$51 | \$2.50 |
| Miscellaneous | 35 | \$88 | \$2.50 |
| Bigeye Scad (Atulai) | 5,123 | \$12,878 | \$2.51 |
| Black Jack | 12 | \$31 | \$2.50 |
| Jacks | 3,841 | \$9,823 | \$2.56 |
| Sharks | 21 | \$57 | \$2.75 |
| Bottom Fish | 643 | \$1,866 | \$2.90 |
| Ehu (Red Snapper) | 774 | \$2,881 | \$3.72 |
| Gindai (Flower Snap) | 421 | \$1,635 | \$3.88 |
| Grouper | 1,199 | \$3,556 | \$2.97 |
| Kalikali (Pink Snap) | 519 | \$1,557 | \$3.00 |
| Lehi (Silverjaw) | 717 | \$2,785 | \$3.88 |
| Onaga (Red Snapper) | 1,982 | \$9,416 | \$4.75 |
| Opakapaka (Pink Snp) | 581 | \$2,187 | \$3.76 |
| Uku (Gray Snapper) | 901 | \$2,306 | \$2.56 |
| Tagafi (Red Snapper) | 92 | \$231 | \$2.50 |
| Amberjack | 338 | \$905 | \$2.68 |
| Reef Fish | 123,954 | \$337,234 | \$2.72 |
| Wrasse | 792 | \$1,963 | \$2.48 |
| Rabbitfish | 1,781 | \$6,264 | \$3.52 |
| Mafute (Emperor) | 5,558 | \$15,065 | \$2.71 |
| Parrotfish | 472 | \$1,154 | \$2.45 |
| Snapper | 718 | \$1,845 | \$2.57 |
| Surgeonfish | 989 | \$2,521 | \$2.55 |
| Unicornfish | 10,339 | \$26,918 | \$2.60 |
| Goatfish | 57 | \$143 | \$2.50 |
| Troll Fish | 218 | \$318 | \$1.46 |
| Barracuda | 4,463 | \$8,383 | \$1.88 |
| Mahi / Dolphinfinh | 77,671 | \$126,850 | \$1.63 |
| Swordfish | 21 | \$21 | \$1.00 |
| Marlin | 31,341 | \$38,429 | \$1.23 |
| Spearfish | 184 | \$208 | \$1.13 |
| Sailfish | 1,602 | \$1,871 | \$1.17 |
| Rainbow Runner | 8,231 | \$14,902 | \$1.81 |
| Monchong | 329 | \$764 | \$2.32 |
| Wahoo | 53,683 | \$106,730 | \$1.99 |
| Tunas | 38 | \$48 | \$1.25 |
| Bonita/skipjack Tuna | 106,972 | \$125,369 | \$1.17 |
| Dogtooth Tuna | 3,027 | \$3,709 | \$1.23 |
| Yellowfin Tuna | 31,999 | \$59,289 | \$1.85 |
| Invertebrates | 41 | \$126 | \$3.03 |
| Lobster | 1,527 | \$5,543 | \$3.63 |
| Octopus | 2,764 | \$7,441 | \$2.69 |
| Shrimp\prawn(S. water) | 31 | \$76 | \$2.50 |
| TOTAL | 486,023 | \$945,435 | \$1.95 |

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Table IV.1.2

Guam January 2002 Estimated Commercial Landings

| Species | Pounds | Value | Price/Lb. |
|----------------------|---------------|-----------------|---------------|
| Bigeye Scad (Atulai) | 64 | \$139 | \$2.17 |
| Jacks | 256 | \$602 | \$2.35 |
| Ehu (Red Snapper) | 35 | \$140 | \$4.00 |
| Gindai (Flower Snap) | 12 | \$45 | \$3.62 |
| Grouper | 42 | \$108 | \$2.56 |
| Kalikali (Pink Snap) | 56 | \$168 | \$3.00 |
| Lehi (Silverjaw) | 18 | \$73 | \$4.00 |
| Onaga (Red Snapper) | 28 | \$138 | \$5.00 |
| Opakapaka (Pink Snp) | 24 | \$96 | \$4.00 |
| Uku (Gray Snapper) | 9 | \$26 | \$2.75 |
| Amberjack | 32 | \$87 | \$2.70 |
| Reef Fish | 16,675 | \$44,453 | \$2.67 |
| Wrasse | 149 | \$385 | \$2.59 |
| Mafute (Emperor) | 95 | \$239 | \$2.52 |
| Unicornfish | 46 | \$138 | \$3.00 |
| Barracuda | 361 | \$693 | \$1.92 |
| Mahi / Dolphinfish | 15,842 | \$25,904 | \$1.64 |
| Marlin | 346 | \$459 | \$1.33 |
| Sailfish | 79 | \$93 | \$1.17 |
| Rainbow Runner | 826 | \$1,411 | \$1.71 |
| Wahoo | 4,619 | \$9,738 | \$2.11 |
| Bonita/skipjack Tuna | 5,571 | \$7,000 | \$1.26 |
| Dogtooth Tuna | 181 | \$226 | \$1.25 |
| Yellowfin Tuna | 2,318 | \$4,712 | \$2.03 |
| Lobster | 24 | \$82 | \$3.50 |
| Octopus | 68 | \$173 | \$2.54 |
| TOTAL | 47,775 | \$97,330 | \$2.04 |

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Table IV.1.3

Guam February 2002 Estimated Commercial Landings

| Species | Pounds | Value | Price/Lb. |
|----------------------|---------------|------------------|---------------|
| Unknown | - | \$0 | \$0.00 |
| Jacks | 186 | \$441 | \$2.37 |
| Bottom Fish | 47 | \$142 | \$3.00 |
| Gindai (Flower Snap) | 8 | \$31 | \$4.00 |
| Grouper | 82 | \$245 | \$3.00 |
| Kalikali (Pink Snap) | 5 | \$16 | \$3.00 |
| Lehi (Silverjaw) | 28 | \$113 | \$4.00 |
| Onaga (Red Snapper) | 41 | \$203 | \$5.00 |
| Uku (Gray Snapper) | 31 | \$81 | \$2.60 |
| Amberjack | 21 | \$53 | \$2.54 |
| Reef Fish | 14,338 | \$37,842 | \$2.64 |
| Wrasse | 274 | \$680 | \$2.49 |
| Rabbitfish | 4 | \$9 | \$2.50 |
| Mafute (Emperor) | 310 | \$835 | \$2.69 |
| Parrotfish | 21 | \$41 | \$2.00 |
| Snapper | 74 | \$185 | \$2.50 |
| Surgeonfish | 64 | \$192 | \$3.00 |
| Unicornfish | 1,007 | \$2,800 | \$2.78 |
| Troll Fish | 161 | \$232 | \$1.44 |
| Barracuda | 1,245 | \$2,319 | \$1.86 |
| Mahi / Dolphinfinh | 25,417 | \$39,555 | \$1.56 |
| Swordfish | 21 | \$21 | \$1.00 |
| Marlin | 1,470 | \$1,777 | \$1.21 |
| Spearfish | 50 | \$50 | \$1.00 |
| Sailfish | 156 | \$162 | \$1.04 |
| Rainbow Runner | 583 | \$946 | \$1.62 |
| Wahoo | 8,274 | \$16,930 | \$2.05 |
| Bonita/skipjack Tuna | 13,683 | \$17,291 | \$1.26 |
| Dogtooth Tuna | 367 | \$463 | \$1.26 |
| Yellowfin Tuna | 2,660 | \$5,210 | \$1.96 |
| Lobster | 42 | \$152 | \$3.60 |
| Octopus | 191 | \$478 | \$2.50 |
| TOTAL | 70,860 | \$129,497 | \$1.83 |

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Table IV.1.4

Guam March 2002 Estimated Commercial Landings

| Species | Pounds | Value | Price/Lb. |
|----------------------|---------------|------------------|---------------|
| Miscellaneous | 35 | \$88 | \$2.50 |
| Bigeye Scad (Atulai) | 3 | \$9 | \$2.50 |
| Jacks | 48 | \$122 | \$2.56 |
| Grouper | 35 | \$104 | \$3.00 |
| Opakapaka (Pink Snp) | 3 | \$11 | \$4.00 |
| Uku (Gray Snapper) | 9 | \$24 | \$2.50 |
| Reef Fish | 12,503 | \$33,181 | \$2.65 |
| Wrasse | 195 | \$466 | \$2.39 |
| Rabbitfish | 6 | \$18 | \$3.00 |
| Mafute (Emperor) | 164 | \$399 | \$2.44 |
| Parrotfish | 8 | \$19 | \$2.25 |
| Snapper | 24 | \$59 | \$2.50 |
| Surgeonfish | 19 | \$58 | \$3.00 |
| Unicornfish | 1,212 | \$3,279 | \$2.71 |
| Troll Fish | 57 | \$86 | \$1.50 |
| Barracuda | 633 | \$1,114 | \$1.76 |
| Mahi / Dolphinfish | 18,231 | \$28,981 | \$1.59 |
| Marlin | 2,421 | \$3,115 | \$1.29 |
| Spearfish | 19 | \$19 | \$1.00 |
| Sailfish | 242 | \$242 | \$1.00 |
| Rainbow Runner | 531 | \$932 | \$1.75 |
| Wahoo | 7,313 | \$14,364 | \$1.96 |
| Bonita/skipjack Tuna | 9,728 | \$12,003 | \$1.23 |
| Dogtooth Tuna | 159 | \$215 | \$1.35 |
| Yellowfin Tuna | 3,555 | \$6,606 | \$1.86 |
| Lobster | 51 | \$159 | \$3.11 |
| Octopus | 136 | \$362 | \$2.66 |
| TOTAL | 57,340 | \$106,033 | \$1.85 |

IV.10

Table IV.1.5

Guam April 2002 Estimated Commercial Landings

| Species | Pounds | Value | Price/Lb. |
|------------------------|---------------|-----------------|---------------|
| Bigeye Scad (Atulai) | 1,352 | \$3,004 | \$2.22 |
| Jacks | 311 | \$745 | \$2.40 |
| Sharks | 21 | \$57 | \$2.75 |
| Gindai (Flower Snap) | 36 | \$144 | \$4.00 |
| Grouper | 190 | \$561 | \$2.95 |
| Kalikali (Pink Snap) | 79 | \$238 | \$3.00 |
| Lehi (Silverjaw) | 70 | \$280 | \$4.00 |
| Opakapaka (Pink Snp) | 14 | \$54 | \$4.00 |
| Uku (Gray Snapper) | 92 | \$241 | \$2.63 |
| Amberjack | 64 | \$168 | \$2.64 |
| Reef Fish | 9,595 | \$25,954 | \$2.70 |
| Rabbitfish | 208 | \$597 | \$2.87 |
| Mafute (Emperor) | 461 | \$1,260 | \$2.74 |
| Snapper | 110 | \$276 | \$2.51 |
| Surgeonfish | 316 | \$791 | \$2.50 |
| Unicornfish | 2,881 | \$7,600 | \$2.64 |
| Goatfish | 30 | \$75 | \$2.50 |
| Barracuda | 425 | \$781 | \$1.84 |
| Mahi / Dolphinfish | 7,979 | \$13,265 | \$1.66 |
| Marlin | 2,524 | \$3,572 | \$1.42 |
| Spearfish | 47 | \$54 | \$1.14 |
| Sailfish | 334 | \$405 | \$1.21 |
| Rainbow Runner | 644 | \$1,260 | \$1.96 |
| Wahoo | 5,624 | \$11,314 | \$2.01 |
| Bonita/skipjack Tuna | 10,750 | \$13,206 | \$1.23 |
| Dogtooth Tuna | 328 | \$422 | \$1.29 |
| Yellowfin Tuna | 3,709 | \$7,211 | \$1.94 |
| Lobster | 53 | \$197 | \$3.73 |
| Octopus | 316 | \$852 | \$2.70 |
| Shrimp\prawn(S. water) | 31 | \$76 | \$2.50 |
| TOTAL | 48,591 | \$94,658 | \$1.95 |

IV.11

Table IV.1.6

Guam May 2002 Estimated Commercial Landings

| Species | Pounds | Value | Price/Lb. |
|----------------------|---------------|-----------------|---------------|
| Bigeye Scad (Atulai) | 55 | \$137 | \$2.50 |
| Jacks | 720 | \$1,832 | \$2.55 |
| Bottom Fish | 311 | \$856 | \$2.76 |
| Ehu (Red Snapper) | 173 | \$529 | \$3.06 |
| Gindai (Flower Snap) | 126 | \$484 | \$3.83 |
| Grouper | 168 | \$500 | \$2.97 |
| Kalikali (Pink Snap) | 58 | \$175 | \$3.00 |
| Lehi (Silverjaw) | 37 | \$148 | \$4.00 |
| Onaga (Red Snapper) | 218 | \$1,067 | \$4.90 |
| Opakapaka (Pink Snp) | 56 | \$224 | \$4.00 |
| Uku (Gray Snapper) | 183 | \$462 | \$2.53 |
| Amberjack | 11 | \$30 | \$2.81 |
| Reef Fish | 11,468 | \$30,833 | \$2.69 |
| Wrasse | 175 | \$431 | \$2.47 |
| Rabbitfish | 825 | \$2,743 | \$3.32 |
| Mafute (Emperor) | 904 | \$2,440 | \$2.70 |
| Parrotfish | 443 | \$1,094 | \$2.47 |
| Snapper | 84 | \$215 | \$2.56 |
| Surgeonfish | 220 | \$556 | \$2.53 |
| Unicornfish | 1,405 | \$3,560 | \$2.53 |
| Goatfish | 27 | \$68 | \$2.50 |
| Barracuda | 296 | \$568 | \$1.92 |
| Mahi / Dolphinfish | 1,534 | \$2,737 | \$1.78 |
| Marlin | 2,511 | \$3,374 | \$1.34 |
| Sailfish | 217 | \$217 | \$1.00 |
| Rainbow Runner | 552 | \$1,065 | \$1.93 |
| Wahoo | 1,075 | \$2,048 | \$1.90 |
| Bonita/skipjack Tuna | 18,154 | \$19,910 | \$1.10 |
| Dogtooth Tuna | 168 | \$234 | \$1.39 |
| Yellowfin Tuna | 1,985 | \$3,485 | \$1.76 |
| Lobster | 223 | \$824 | \$3.70 |
| Octopus | 407 | \$1,075 | \$2.64 |
| TOTAL | 44,789 | \$83,923 | \$1.87 |

IV.12

Table IV.1.7

Guam June 2002 Estimated Commercial Landings

| Species | Pounds | Value | Price/Lb. |
|----------------------|---------------|-----------------|---------------|
| Assorted | 21 | \$51 | \$2.50 |
| Jacks | 445 | \$1,146 | \$2.57 |
| Bottom Fish | 11 | \$37 | \$3.50 |
| Ehu (Red Snapper) | 3 | \$12 | \$4.00 |
| Gindai (Flower Snap) | 46 | \$186 | \$4.00 |
| Grouper | 48 | \$143 | \$3.00 |
| Kalikali (Pink Snap) | 5 | \$14 | \$3.00 |
| Lehi (Silverjaw) | 31 | \$125 | \$4.00 |
| Onaga (Red Snapper) | 179 | \$888 | \$4.97 |
| Opakapaka (Pink Snp) | 44 | \$174 | \$4.00 |
| Uku (Gray Snapper) | 33 | \$83 | \$2.51 |
| Amberjack | 15 | \$46 | \$3.00 |
| Reef Fish | 9,528 | \$26,051 | \$2.73 |
| Rabbitfish | 31 | \$92 | \$3.00 |
| Mafute (Emperor) | 272 | \$745 | \$2.74 |
| Snapper | 67 | \$168 | \$2.50 |
| Surgeonfish | 52 | \$131 | \$2.50 |
| Unicornfish | 1,317 | \$3,302 | \$2.51 |
| Barracuda | 110 | \$220 | \$2.00 |
| Mahi / Dolphinfish | 206 | \$357 | \$1.73 |
| Marlin | 1,928 | \$2,109 | \$1.09 |
| Sailfish | 43 | \$43 | \$1.00 |
| Rainbow Runner | 542 | \$1,079 | \$1.99 |
| Wahoo | 411 | \$920 | \$2.24 |
| Bonita/skipjack Tuna | 8,889 | \$8,892 | \$1.00 |
| Dogtooth Tuna | 64 | \$86 | \$1.35 |
| Yellowfin Tuna | 4,315 | \$7,260 | \$1.68 |
| Invertebrates | 2 | \$8 | \$3.50 |
| Lobster | 277 | \$983 | \$3.55 |
| Octopus | 316 | \$849 | \$2.68 |
| TOTAL | 29,252 | \$56,201 | \$1.92 |

IV.13

Table IV.1.8

Guam July 2002 Estimated Commercial Landings

| Species | Pounds | Value | Price/Lb. |
|----------------------|---------------|-----------------|---------------|
| Bigeye Scad (Atulai) | 8 | \$19 | \$2.50 |
| Jacks | 249 | \$616 | \$2.47 |
| Ehu (Red Snapper) | 12 | \$47 | \$4.00 |
| Gindai (Flower Snap) | 21 | \$85 | \$4.00 |
| Grouper | 35 | \$104 | \$3.00 |
| Kalikali (Pink Snap) | 42 | \$127 | \$3.00 |
| Lehi (Silverjaw) | 74 | \$296 | \$4.00 |
| Onaga (Red Snapper) | 65 | \$333 | \$5.09 |
| Opakapaka (Pink Snp) | 78 | \$313 | \$4.00 |
| Uku (Gray Snapper) | 122 | \$303 | \$2.47 |
| Amberjack | 17 | \$38 | \$2.25 |
| Reef Fish | 6,698 | \$18,757 | \$2.80 |
| Rabbitfish | 124 | \$372 | \$3.00 |
| Mafute (Emperor) | 190 | \$528 | \$2.78 |
| Snapper | 29 | \$72 | \$2.50 |
| Unicornfish | 491 | \$1,228 | \$2.50 |
| Barracuda | 21 | \$45 | \$2.17 |
| Marlin | 2,428 | \$3,003 | \$1.24 |
| Sailfish | 48 | \$48 | \$1.00 |
| Rainbow Runner | 1,470 | \$2,826 | \$1.92 |
| Wahoo | 396 | \$793 | \$2.00 |
| Tunas | 38 | \$48 | \$1.25 |
| Bonita/skipjack Tuna | 11,036 | \$11,853 | \$1.07 |
| Dogtooth Tuna | 704 | \$738 | \$1.05 |
| Yellowfin Tuna | 2,988 | \$5,252 | \$1.76 |
| Invertebrates | 6 | \$21 | \$3.50 |
| Lobster | 193 | \$716 | \$3.72 |
| Octopus | 36 | \$91 | \$2.50 |
| TOTAL | 27,622 | \$48,672 | \$1.76 |

IV.14

Table IV.1.9

Guam August 2002 Estimated Commercial Landings

| Species | Pounds | Value | Price/Lb. |
|----------------------|---------------|-----------------|---------------|
| Bigeye Scad (Atulai) | 345 | \$896 | \$2.60 |
| Black Jack | 5 | \$13 | \$2.50 |
| Jacks | 605 | \$1,635 | \$2.70 |
| Bottom Fish | 55 | \$194 | \$3.50 |
| Ehu (Red Snapper) | 212 | \$825 | \$3.90 |
| Gindai (Flower Snap) | 66 | \$250 | \$3.76 |
| Grouper | 83 | \$249 | \$3.00 |
| Kalikali (Pink Snap) | 182 | \$545 | \$3.00 |
| Lehi (Silverjaw) | 138 | \$525 | \$3.80 |
| Onaga (Red Snapper) | 286 | \$1,290 | \$4.50 |
| Opakapaka (Pink Snp) | 108 | \$424 | \$3.94 |
| Uku (Gray Snapper) | 116 | \$301 | \$2.58 |
| Tagafi (Red Snapper) | 92 | \$231 | \$2.50 |
| Amberjack | 44 | \$109 | \$2.50 |
| Reef Fish | 8,823 | \$24,775 | \$2.81 |
| Rabbitfish | 165 | \$494 | \$3.00 |
| Mafute (Emperor) | 1,105 | \$3,000 | \$2.72 |
| Snapper | 14 | \$34 | \$2.50 |
| Unicornfish | 246 | \$651 | \$2.64 |
| Barracuda | 361 | \$688 | \$1.90 |
| Mahi / Dolphinfinh | 286 | \$549 | \$1.92 |
| Marlin | 4,298 | \$5,260 | \$1.22 |
| Rainbow Runner | 1,531 | \$2,498 | \$1.63 |
| Monchong | 62 | \$139 | \$2.25 |
| Wahoo | 1,626 | \$3,318 | \$2.04 |
| Bonita/skipjack Tuna | 9,472 | \$10,973 | \$1.16 |
| Dogtooth Tuna | 199 | \$276 | \$1.39 |
| Yellowfin Tuna | 3,694 | \$6,876 | \$1.86 |
| Invertebrates | 24 | \$62 | \$2.65 |
| Lobster | 231 | \$834 | \$3.62 |
| Octopus | 302 | \$827 | \$2.74 |
| TOTAL | 34,774 | \$68,741 | \$1.98 |

IV.15

Table IV.1.10

Guam September 2002 Estimated Commercial Landings

| Species | Pounds | Value | Price/Lb. |
|----------------------|---------------|-----------------|---------------|
| Bigeye Scad (Atulai) | 1,324 | \$3,330 | \$2.52 |
| Black Jack | 7 | \$18 | \$2.50 |
| Jacks | 517 | \$1,379 | \$2.67 |
| Bottom Fish | 46 | \$184 | \$4.00 |
| Ehu (Red Snapper) | 209 | \$813 | \$3.89 |
| Gindai (Flower Snap) | 54 | \$211 | \$3.89 |
| Grouper | 145 | \$436 | \$3.00 |
| Kalikali (Pink Snap) | 63 | \$188 | \$2.98 |
| Lehi (Silverjaw) | 219 | \$824 | \$3.76 |
| Onaga (Red Snapper) | 697 | \$3,196 | \$4.58 |
| Opakapaka (Pink Snp) | 164 | \$629 | \$3.83 |
| Uku (Gray Snapper) | 86 | \$224 | \$2.59 |
| Amberjack | 34 | \$86 | \$2.56 |
| Reef Fish | 11,384 | \$32,092 | \$2.82 |
| Mafute (Emperor) | 601 | \$1,637 | \$2.72 |
| Snapper | 88 | \$228 | \$2.58 |
| Surgeonfish | 258 | \$646 | \$2.50 |
| Unicornfish | 814 | \$2,043 | \$2.51 |
| Barracuda | 256 | \$510 | \$1.99 |
| Mahi / Dolphinfish | 341 | \$647 | \$1.90 |
| Marlin | 9,370 | \$10,700 | \$1.14 |
| Spearfish | 59 | \$74 | \$1.25 |
| Rainbow Runner | 498 | \$934 | \$1.87 |
| Wahoo | 2,214 | \$4,634 | \$2.09 |
| Bonita/skipjack Tuna | 7,649 | \$9,458 | \$1.24 |
| Dogtooth Tuna | 119 | \$156 | \$1.30 |
| Yellowfin Tuna | 1,738 | \$3,365 | \$1.94 |
| Lobster | 283 | \$1,037 | \$3.66 |
| Octopus | 273 | \$738 | \$2.71 |
| TOTAL | 39,510 | \$80,414 | \$2.04 |

IV.16

Table IV.1.11

Guam October 2002 Estimated Commercial Landings

| Species | Pounds | Value | Price/Lb. |
|----------------------|---------------|-----------------|---------------|
| Bigeye Scad (Atulai) | 1,123 | \$3,026 | \$2.69 |
| Jacks | 318 | \$807 | \$2.53 |
| Bottom Fish | 173 | \$454 | \$2.62 |
| Ehu (Red Snapper) | 90 | \$352 | \$3.91 |
| Gindai (Flower Snap) | 19 | \$74 | \$3.91 |
| Grouper | 291 | \$872 | \$3.00 |
| Lehi (Silverjaw) | 88 | \$346 | \$3.95 |
| Onaga (Red Snapper) | 295 | \$1,434 | \$4.86 |
| Opakapaka (Pink Snp) | 12 | \$41 | \$3.50 |
| Uku (Gray Snapper) | 107 | \$284 | \$2.66 |
| Amberjack | 91 | \$264 | \$2.90 |
| Reef Fish | 10,149 | \$28,049 | \$2.76 |
| Rabbitfish | 399 | \$1,879 | \$4.71 |
| Mafute (Emperor) | 1,116 | \$3,069 | \$2.75 |
| Snapper | 118 | \$319 | \$2.71 |
| Surgeonfish | 59 | \$147 | \$2.50 |
| Unicornfish | 791 | \$1,981 | \$2.50 |
| Barracuda | 434 | \$846 | \$1.95 |
| Mahi / Dolphinfish | 1,732 | \$3,365 | \$1.94 |
| Marlin | 2,156 | \$2,710 | \$1.26 |
| Spearfish | 9 | \$12 | \$1.25 |
| Sailfish | 234 | \$324 | \$1.38 |
| Rainbow Runner | 712 | \$1,308 | \$1.84 |
| Wahoo | 5,160 | \$10,438 | \$2.02 |
| Bonita/skipjack Tuna | 6,189 | \$7,548 | \$1.22 |
| Dogtooth Tuna | 334 | \$365 | \$1.09 |
| Yellowfin Tuna | 1,882 | \$3,643 | \$1.94 |
| Invertebrates | 10 | \$35 | \$3.57 |
| Lobster | 112 | \$416 | \$3.72 |
| Octopus | 379 | \$1,031 | \$2.72 |
| TOTAL | 34,580 | \$75,437 | \$2.18 |

IV.17

Table IV.1.12

Guam November 2002 Estimated Commercial Landings

| Species | Pounds | Value | Price/Lb. |
|----------------------|---------------|-----------------|---------------|
| Bigeye Scad (Atulai) | 849 | \$2,316 | \$2.73 |
| Jacks | 171 | \$462 | \$2.71 |
| Ehu (Red Snapper) | 21 | \$83 | \$4.00 |
| Gindai (Flower Snap) | 23 | \$92 | \$4.00 |
| Grouper | 45 | \$127 | \$2.84 |
| Kalikali (Pink Snap) | 28 | \$85 | \$3.00 |
| Onaga (Red Snapper) | 121 | \$606 | \$5.00 |
| Opakapaka (Pink Snp) | 80 | \$221 | \$2.76 |
| Uku (Gray Snapper) | 98 | \$246 | \$2.50 |
| Amberjack | 9 | \$24 | \$2.50 |
| Reef Fish | 9,029 | \$24,735 | \$2.74 |
| Mafute (Emperor) | 275 | \$740 | \$2.69 |
| Snapper | 42 | \$104 | \$2.50 |
| Unicornfish | 129 | \$336 | \$2.60 |
| Barracuda | 291 | \$541 | \$1.86 |
| Mahi / Dolphinfish | 5,419 | \$10,123 | \$1.87 |
| Marlin | 1,208 | \$1,464 | \$1.21 |
| Sailfish | 249 | \$337 | \$1.36 |
| Rainbow Runner | 261 | \$478 | \$1.84 |
| Monchong | 128 | \$289 | \$2.25 |
| Wahoo | 14,142 | \$26,854 | \$1.90 |
| Bonita/skipjack Tuna | 4,466 | \$5,481 | \$1.23 |
| Dogtooth Tuna | 334 | \$417 | \$1.25 |
| Yellowfin Tuna | 2,007 | \$3,305 | \$1.65 |
| Lobster | 28 | \$102 | \$3.60 |
| Octopus | 262 | \$744 | \$2.84 |
| TOTAL | 39,715 | \$80,311 | \$2.02 |

IV.18

Table IV.1.13

Guam December 2002 Estimated Commercial Landings

| Species | Pounds | Value | Price/Lb. |
|----------------------|--------|----------|-----------|
| Jacks | 15 | \$37 | \$2.50 |
| Ehu (Red Snapper) | 20 | \$80 | \$4.00 |
| Gindai (Flower Snap) | 9 | \$35 | \$4.00 |
| Grouper | 36 | \$108 | \$3.00 |
| Kalikali (Pink Snap) | 1 | \$2 | \$3.00 |
| Lehi (Silverjaw) | 14 | \$54 | \$4.00 |
| Onaga (Red Snapper) | 52 | \$262 | \$5.00 |
| Uku (Gray Snapper) | 13 | \$32 | \$2.50 |
| Reef Fish | 3,764 | \$10,512 | \$2.79 |
| Rabbitfish | 20 | \$60 | \$3.00 |
| Mafute (Emperor) | 67 | \$174 | \$2.60 |
| Snapper | 69 | \$185 | \$2.69 |
| Barracuda | 31 | \$58 | \$1.90 |
| Mahi / Dolphinfish | 684 | \$1,367 | \$2.00 |
| Marlin | 682 | \$885 | \$1.30 |
| Rainbow Runner | 82 | \$165 | \$2.00 |
| Monchong | 139 | \$336 | \$2.41 |
| Wahoo | 2,828 | \$5,380 | \$1.90 |
| Bonita/skipjack Tuna | 1,385 | \$1,753 | \$1.27 |
| Dogtooth Tuna | 70 | \$111 | \$1.58 |
| Yellowfin Tuna | 1,147 | \$2,363 | \$2.06 |
| Lobster | 11 | \$39 | \$3.61 |
| Octopus | 78 | \$221 | \$2.85 |
| TOTAL | 11,216 | \$24,219 | \$2.16 |

Figure IV.1.1

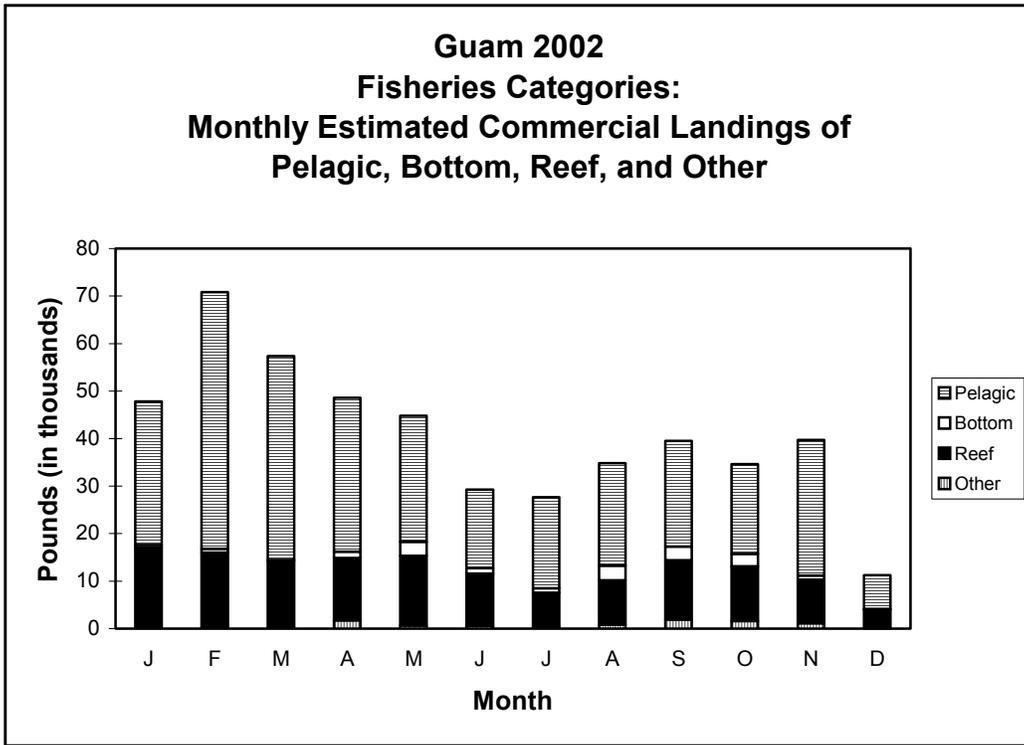


Figure IV.1.2

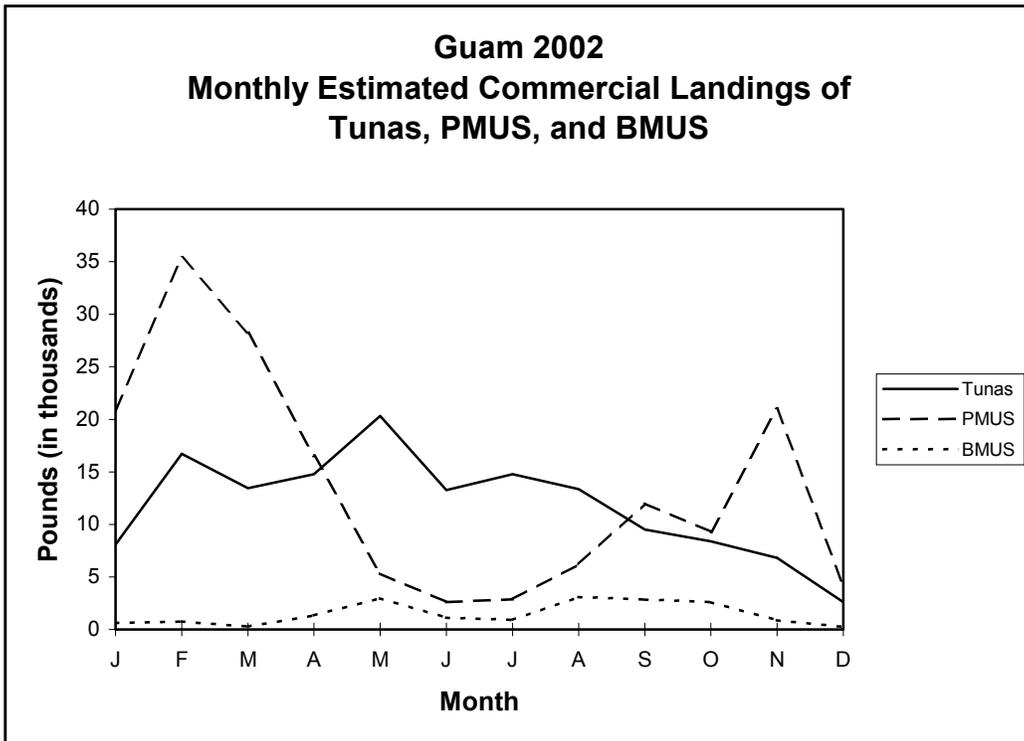


Figure IV.1.3

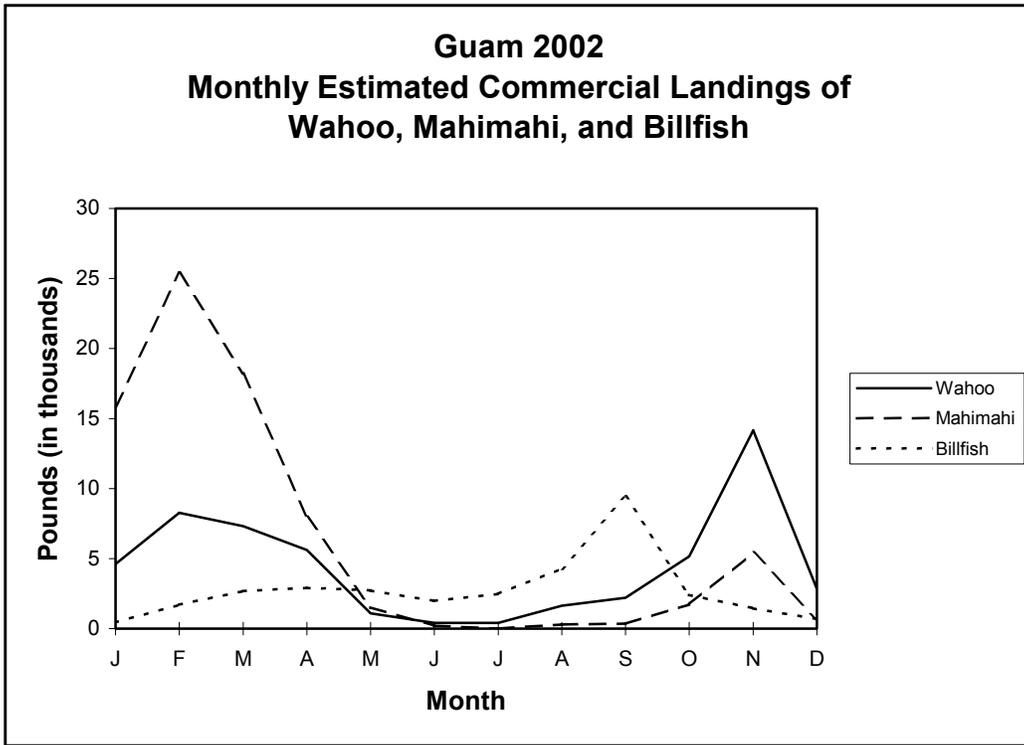


Figure IV.1.4

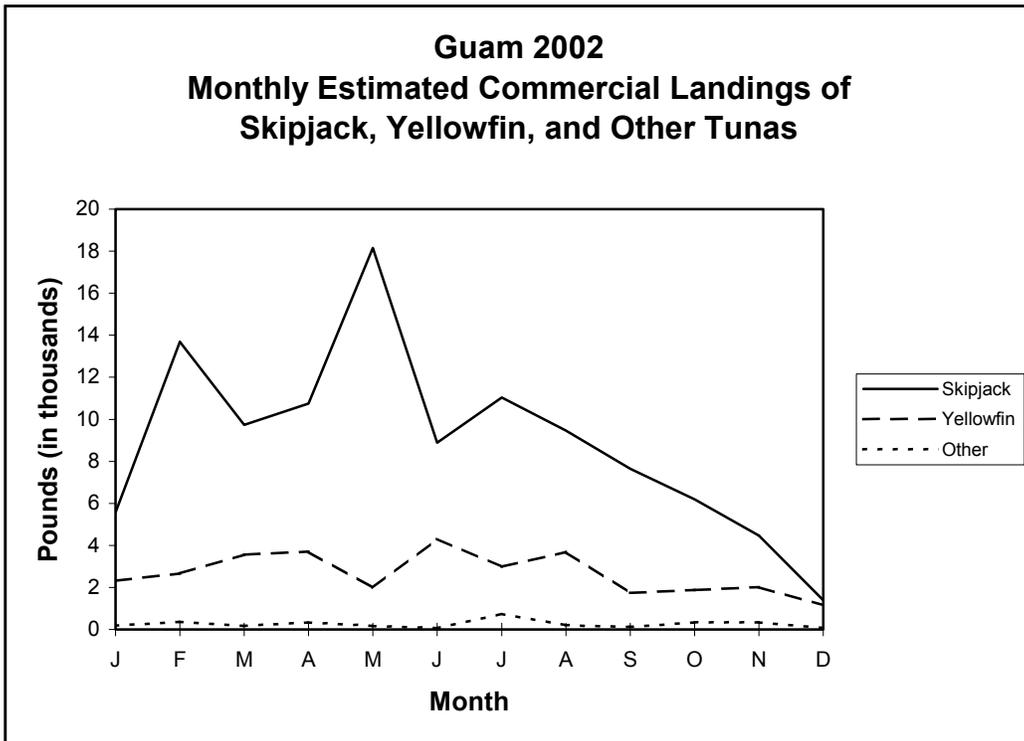


Figure IV.1.5

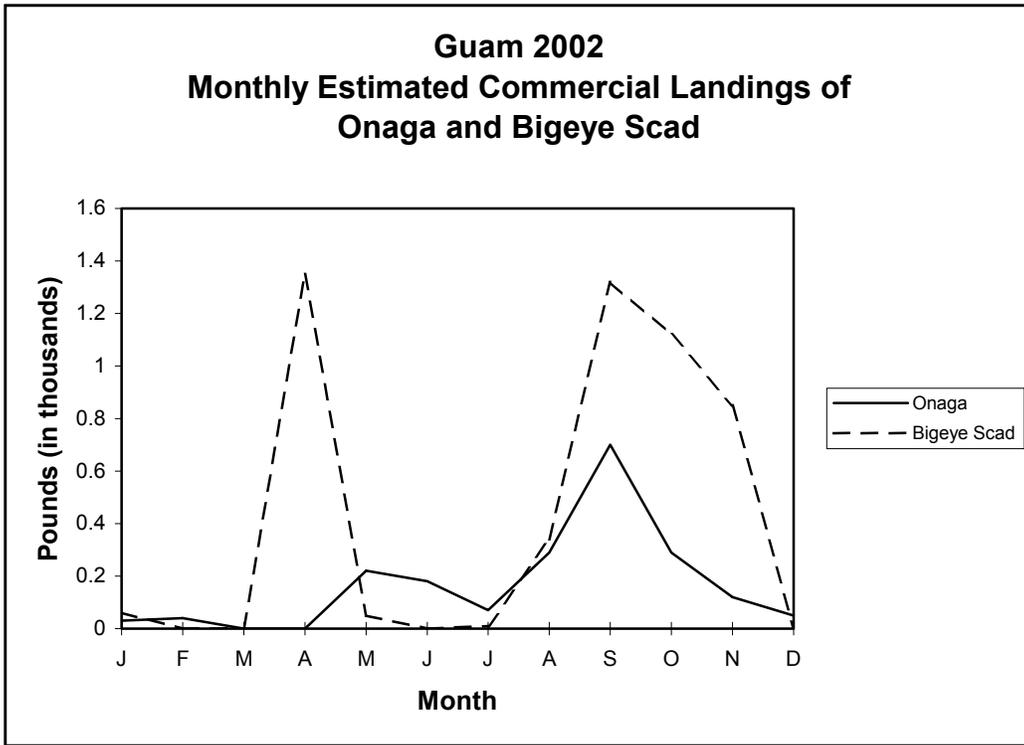


Figure IV.2.1

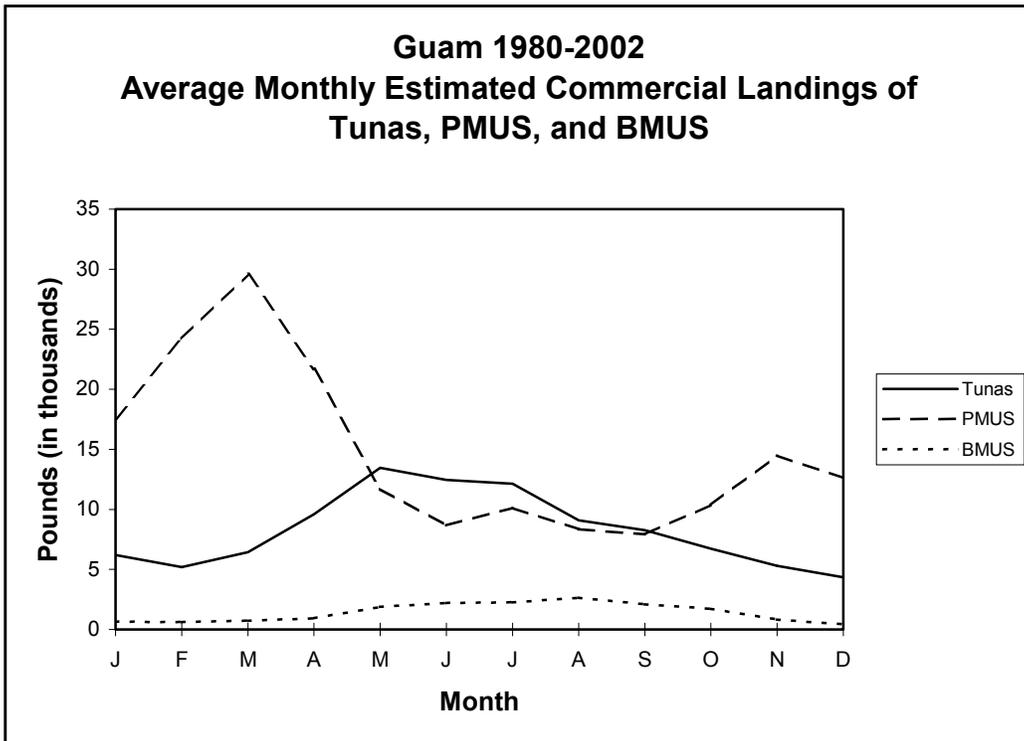


Figure IV.2.2

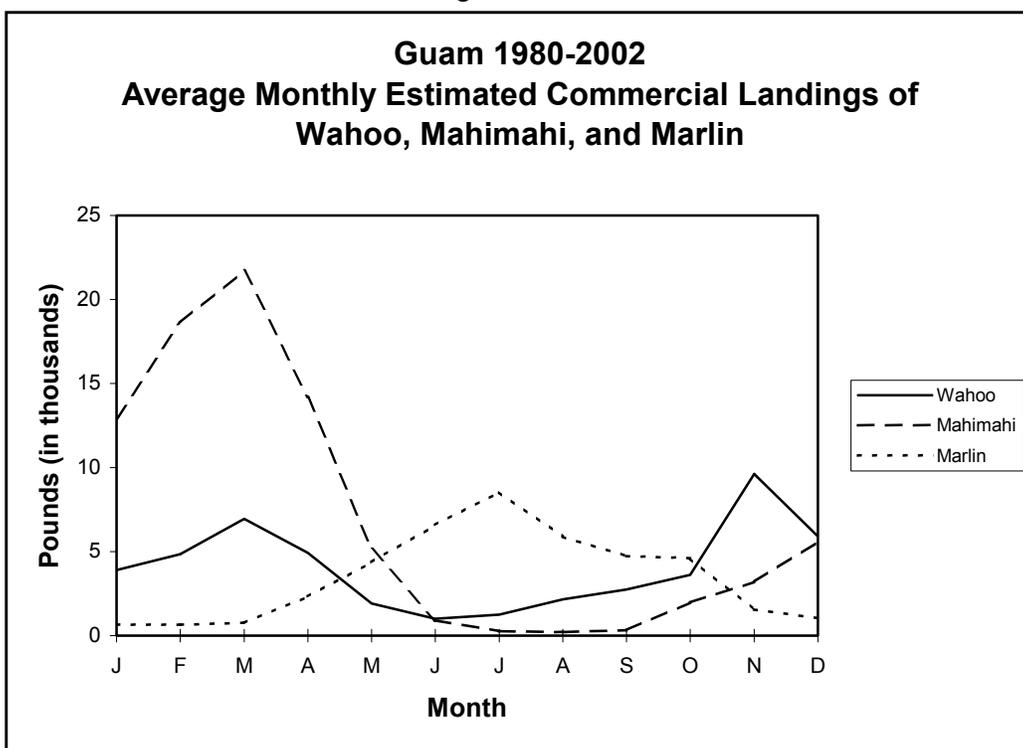


Figure IV.2.3

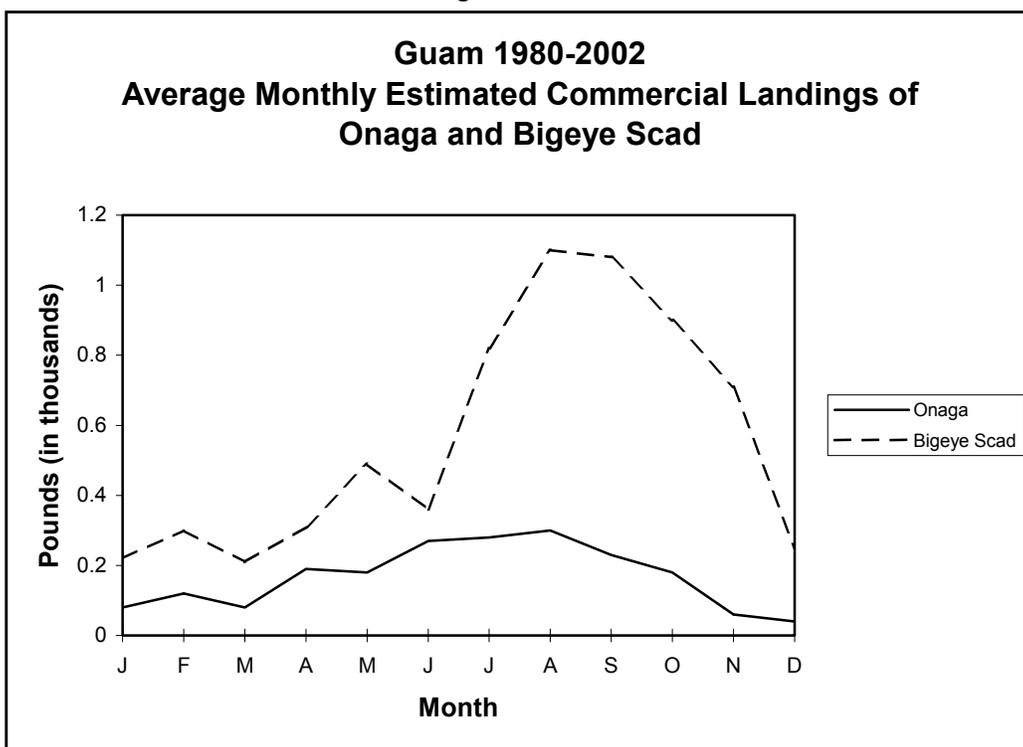


Figure IV.2.4

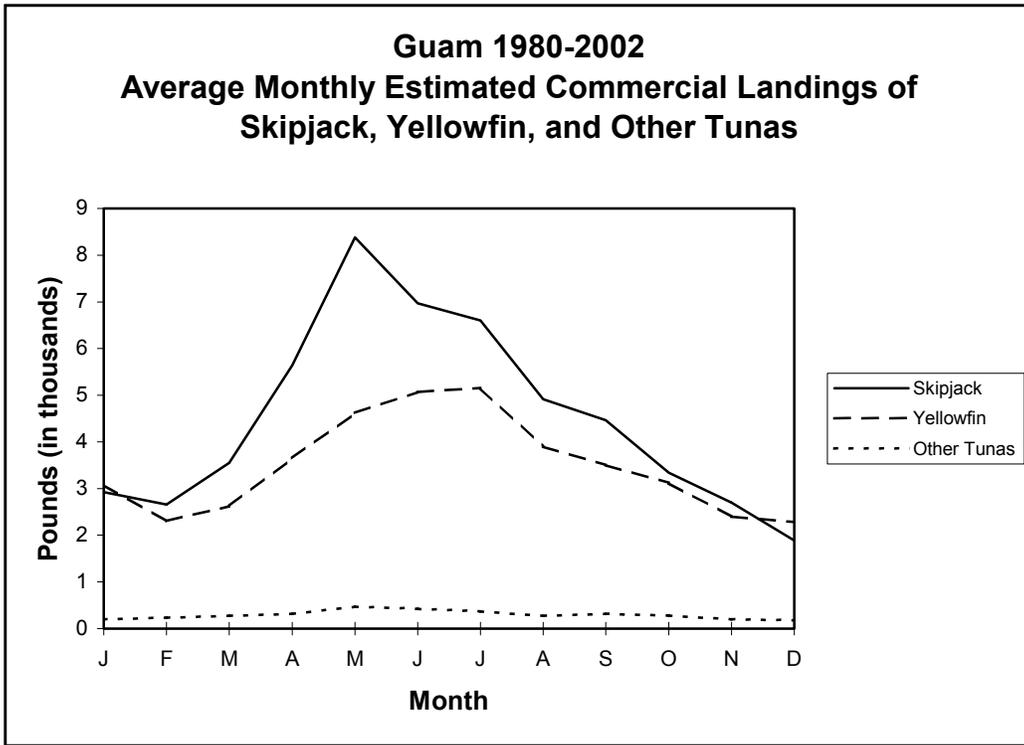


Figure IV.2.5

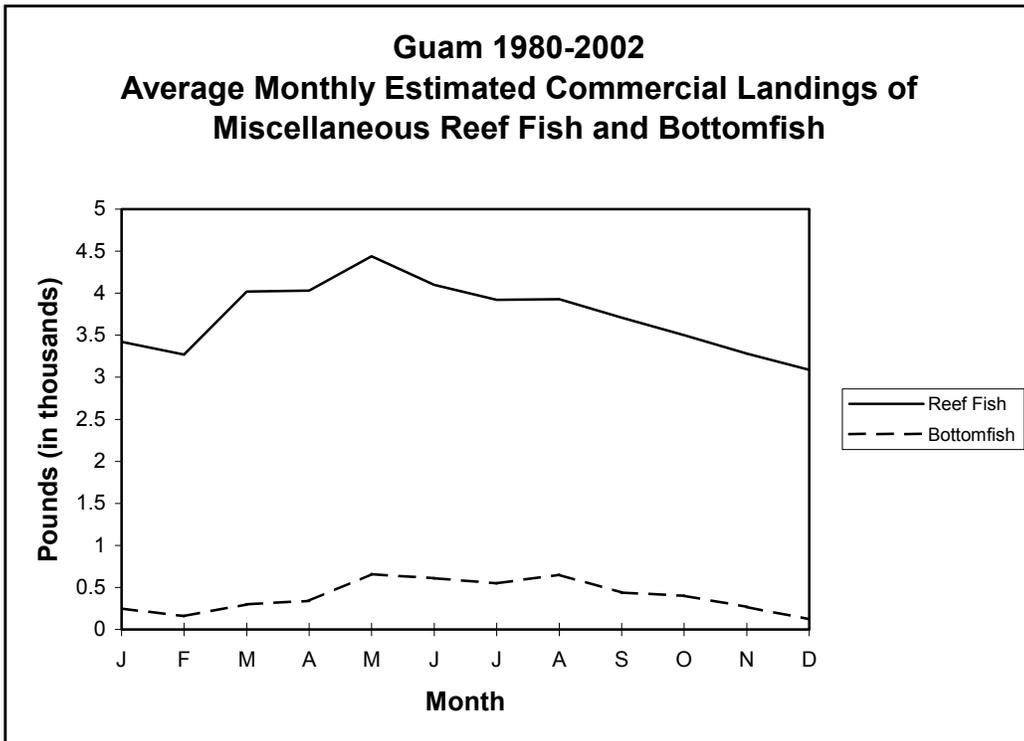


Figure IV.3.1

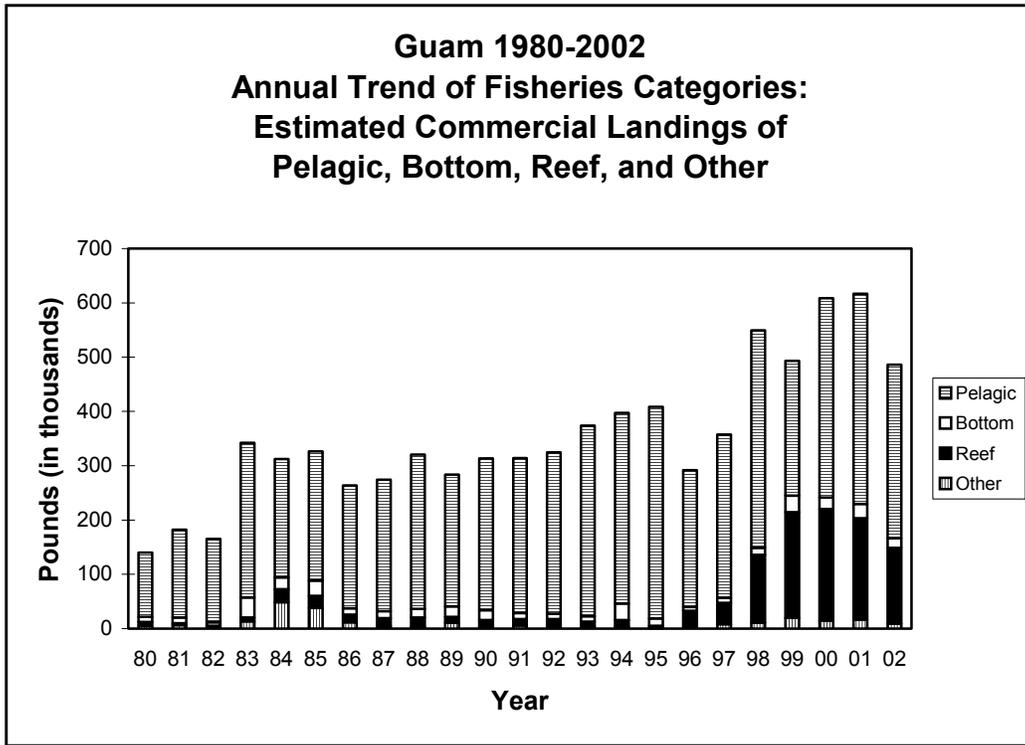


Figure IV.3.2

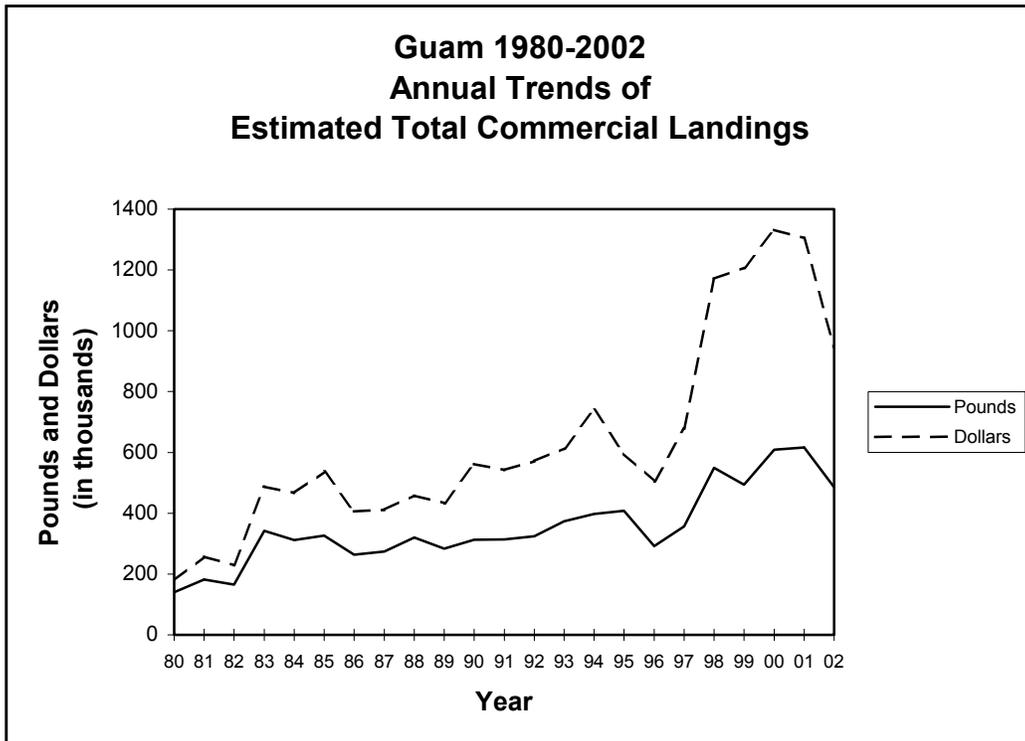


Figure IV.3.3

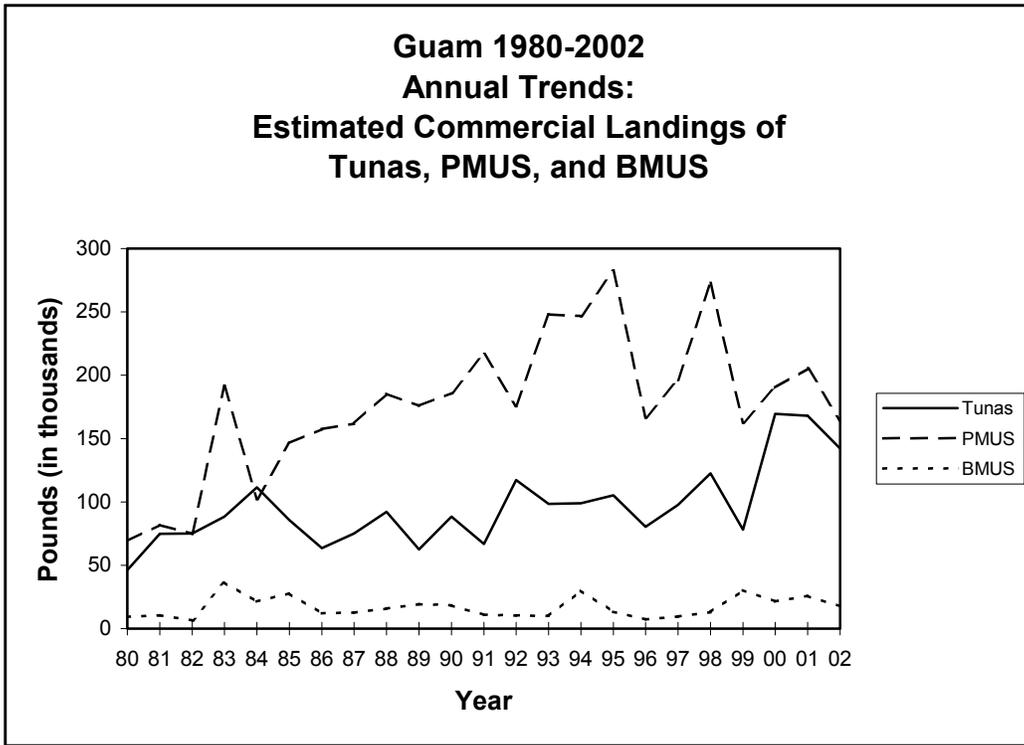


Figure IV.3.4

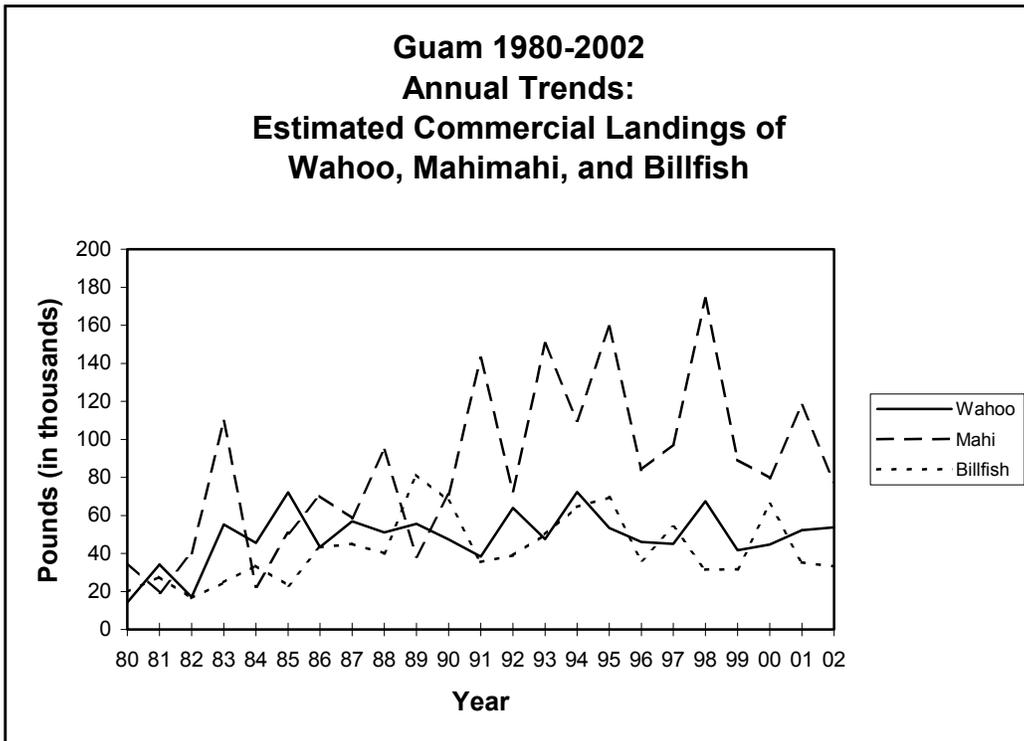


Figure IV.3.5

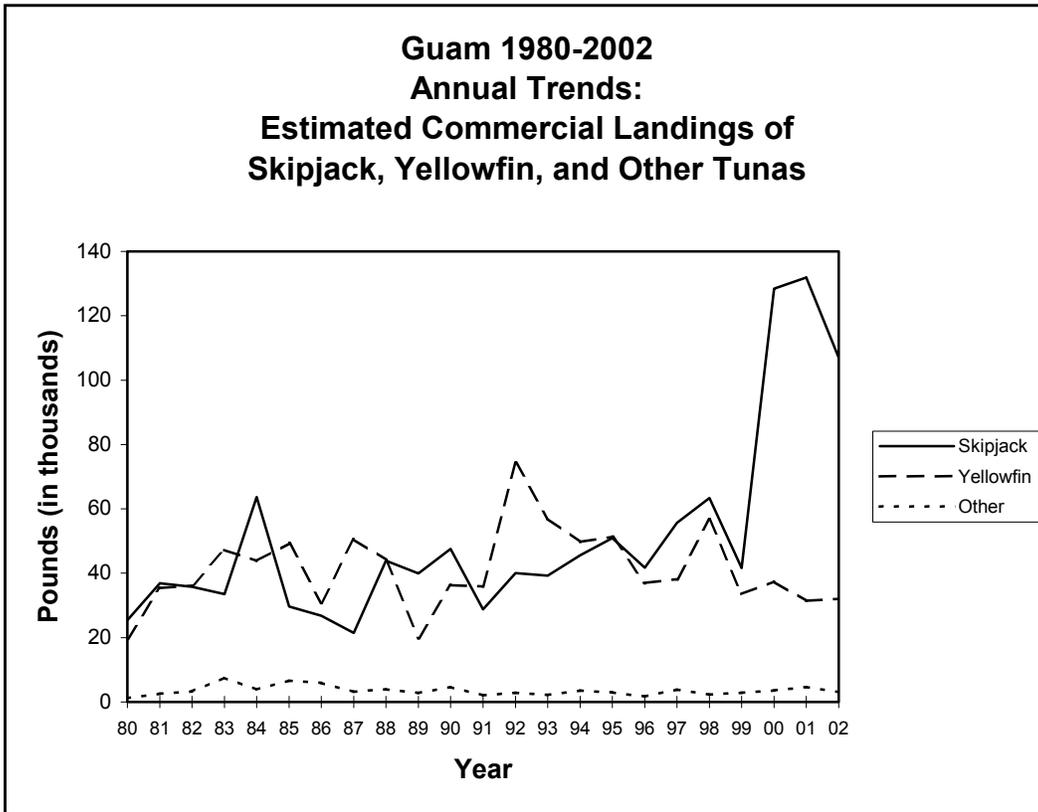


Figure IV.3.6

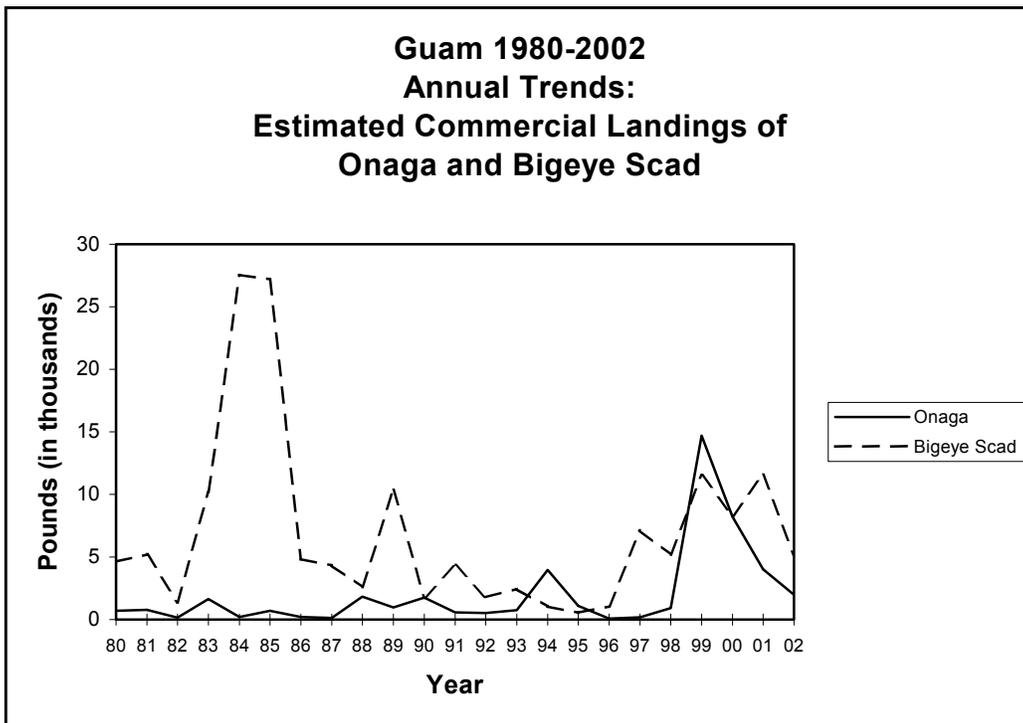


Figure IV.3.7

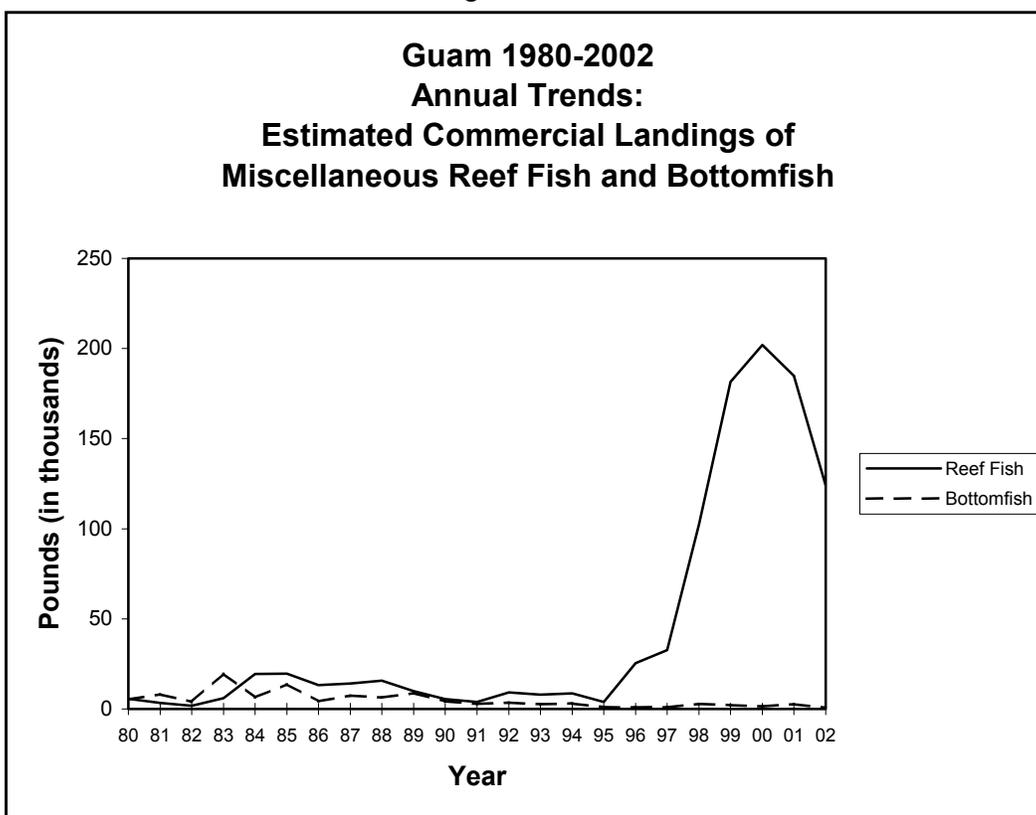


Figure IV.4.1

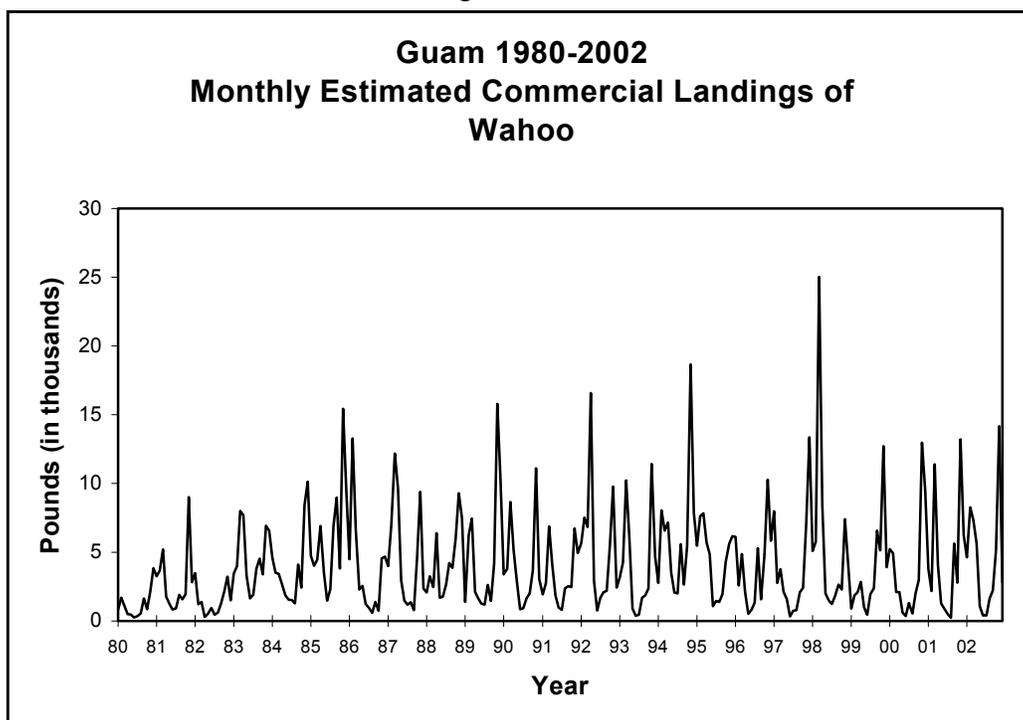


Figure IV.4.2

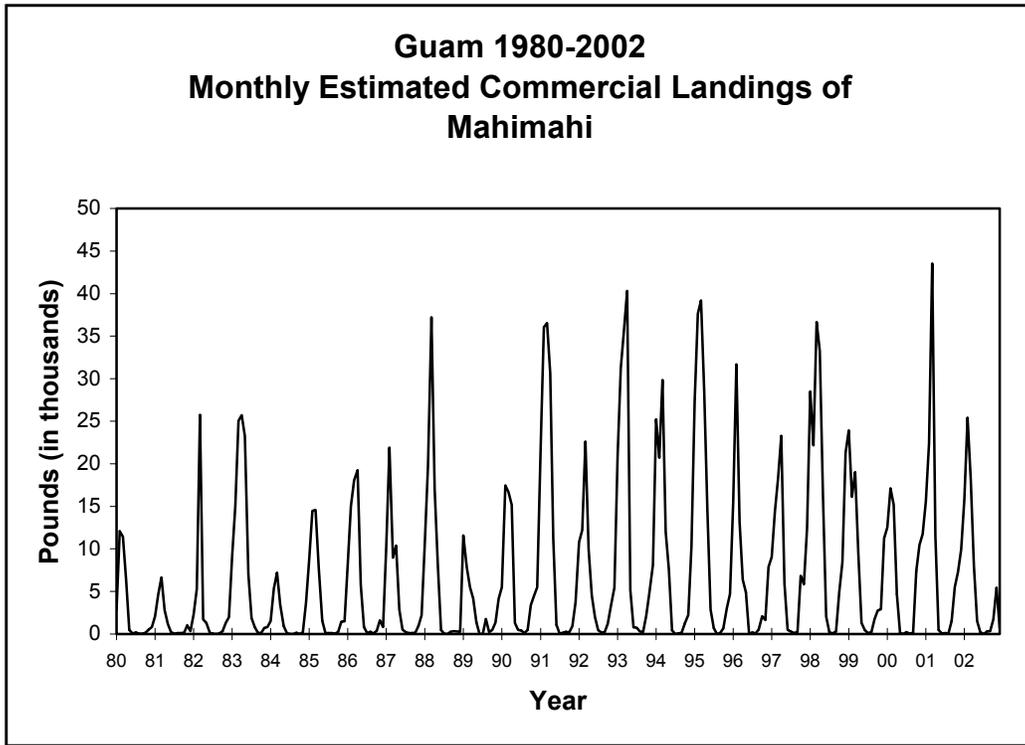


Figure IV.4.3

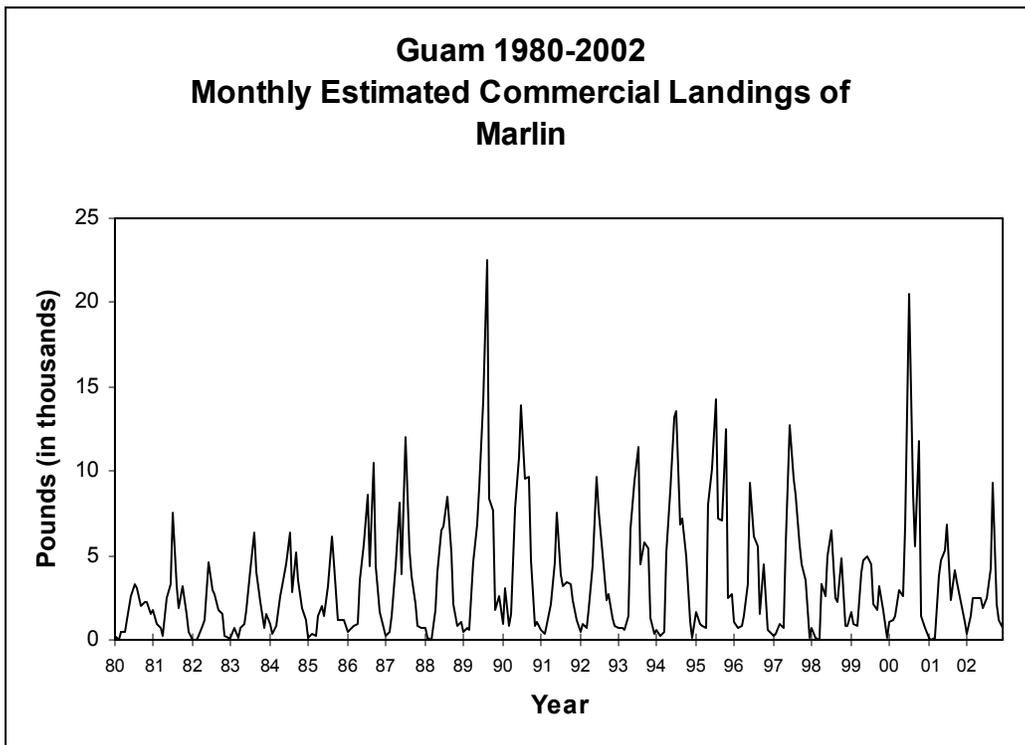


Figure IV.4.4

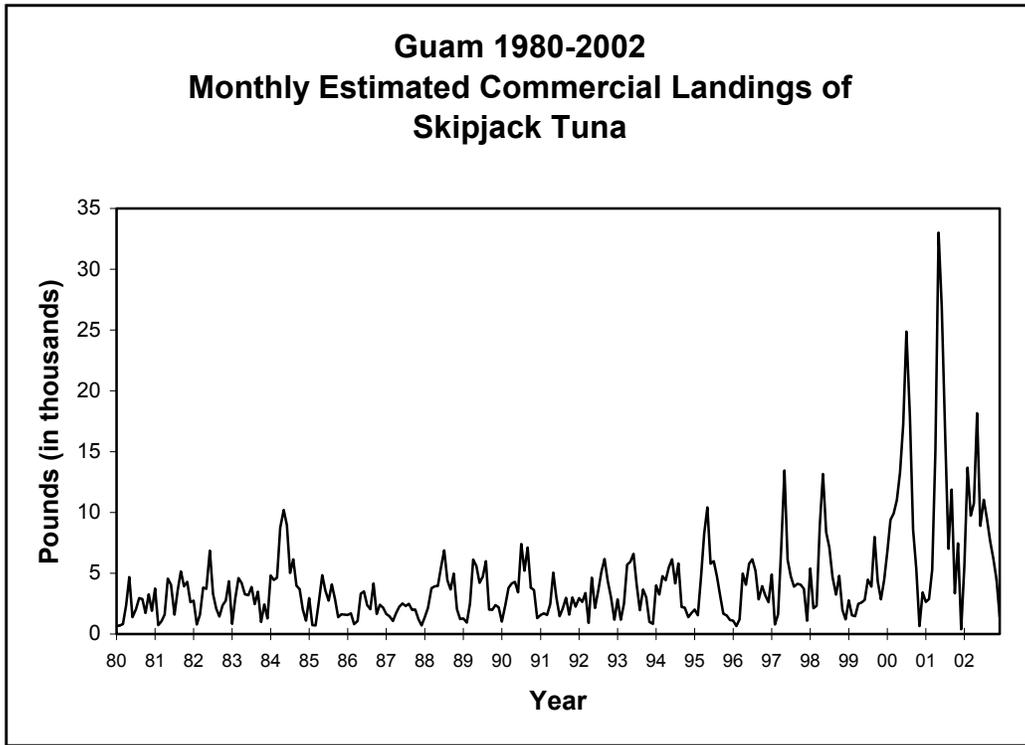


Figure IV.4.5

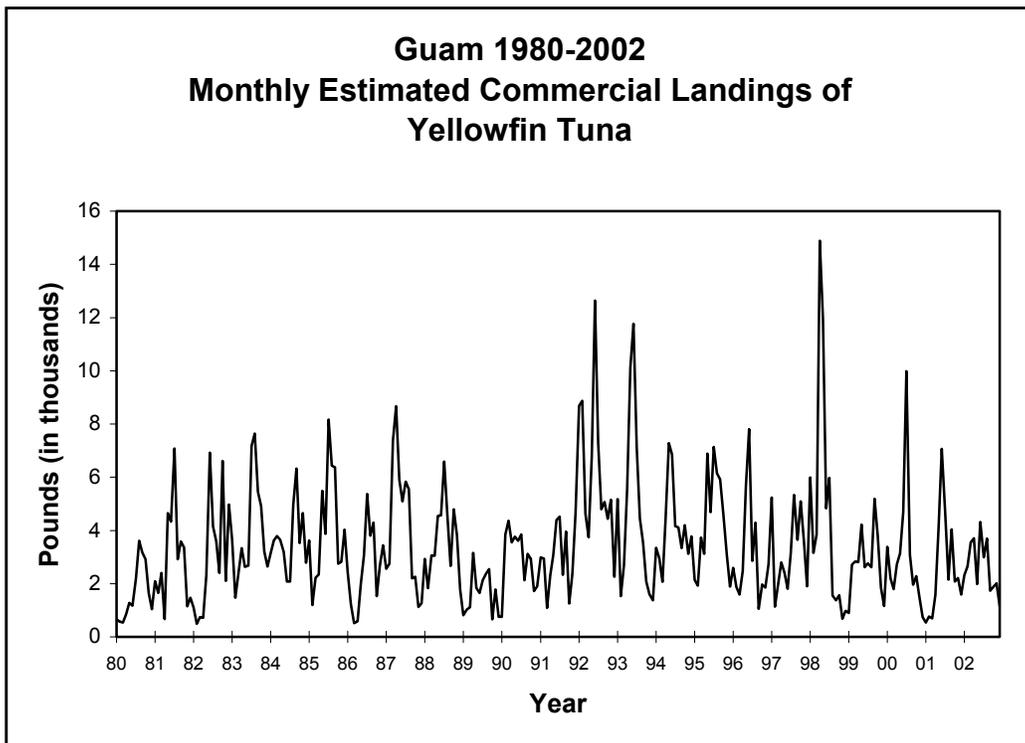


Figure IV.4.6

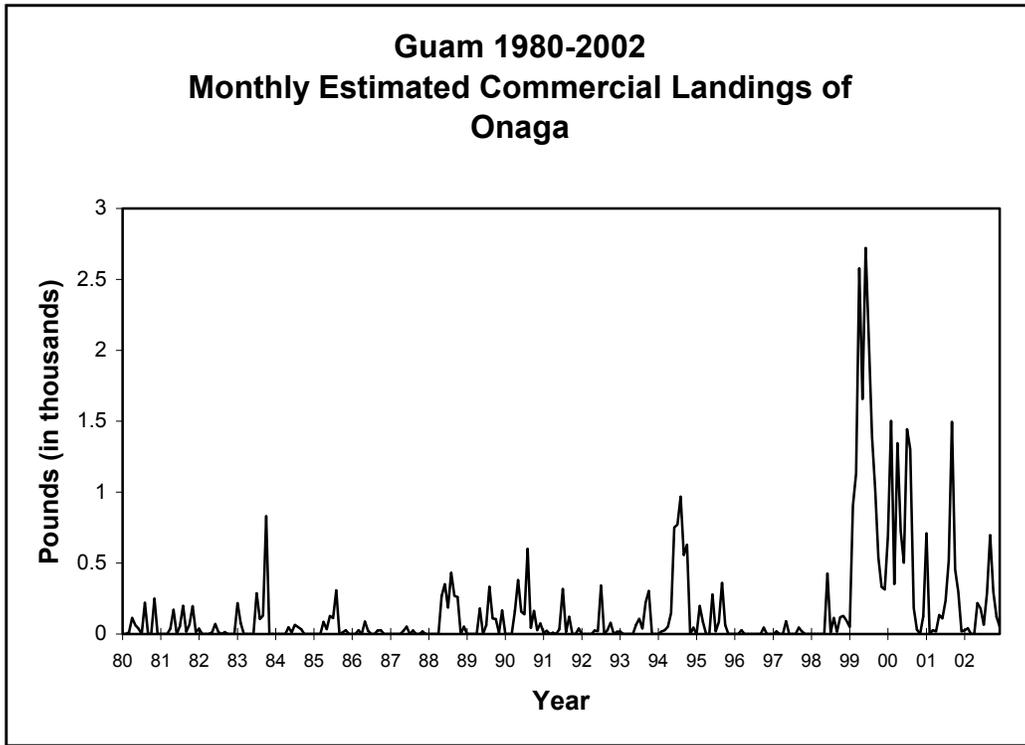


Figure IV.4.7

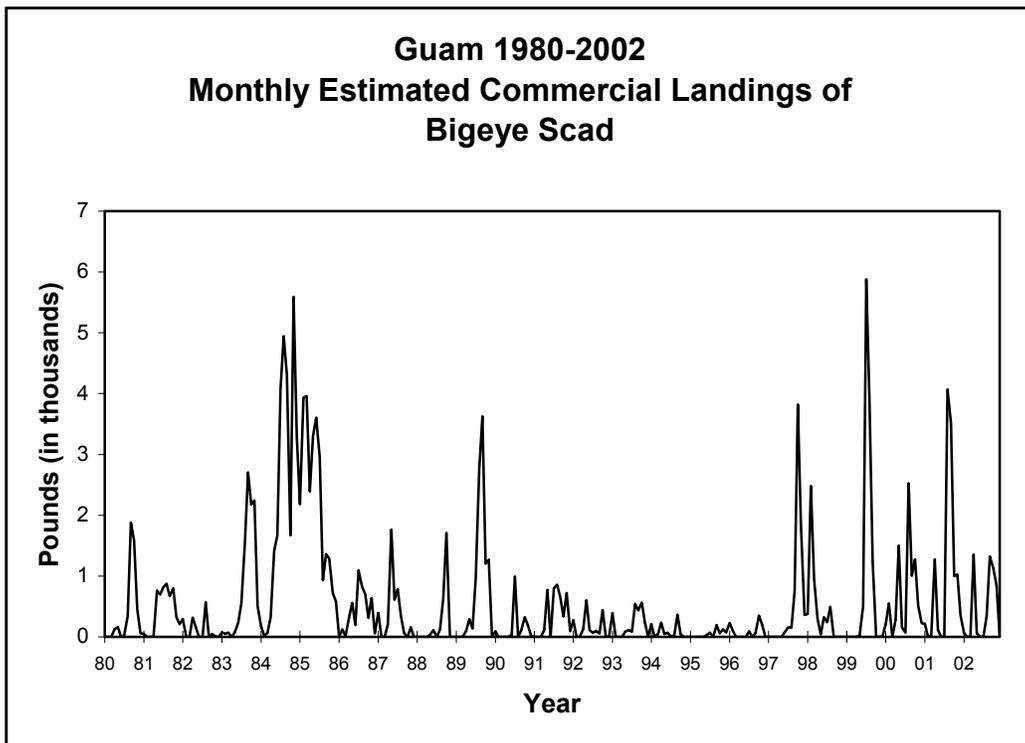


Figure IV.4.8

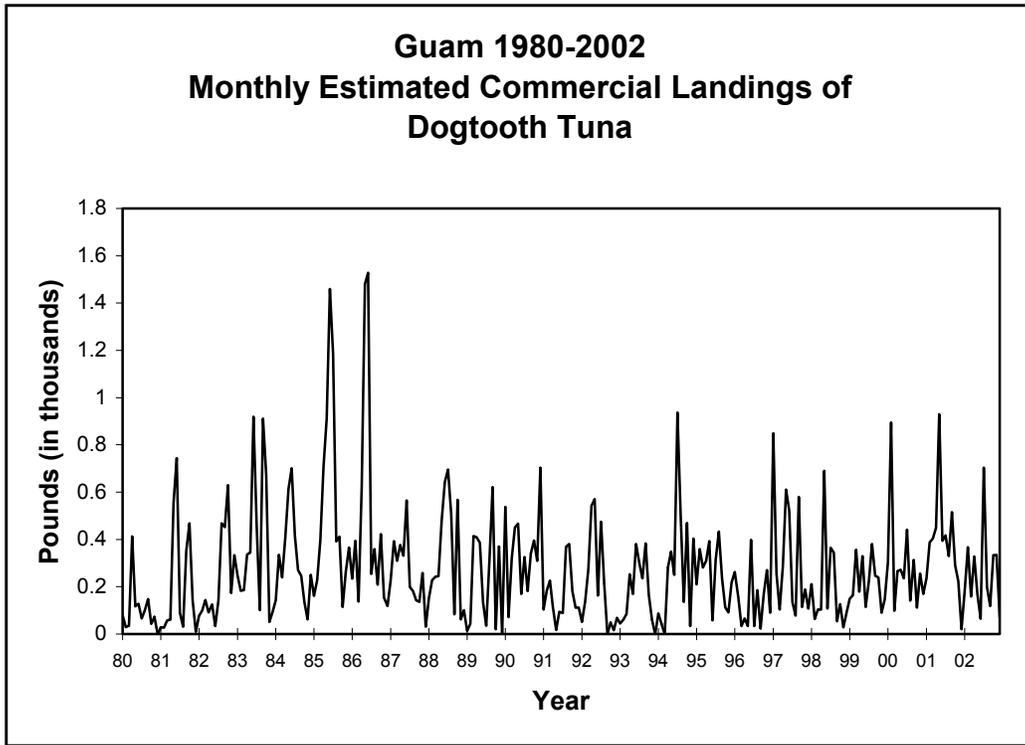


Figure IV.4.9

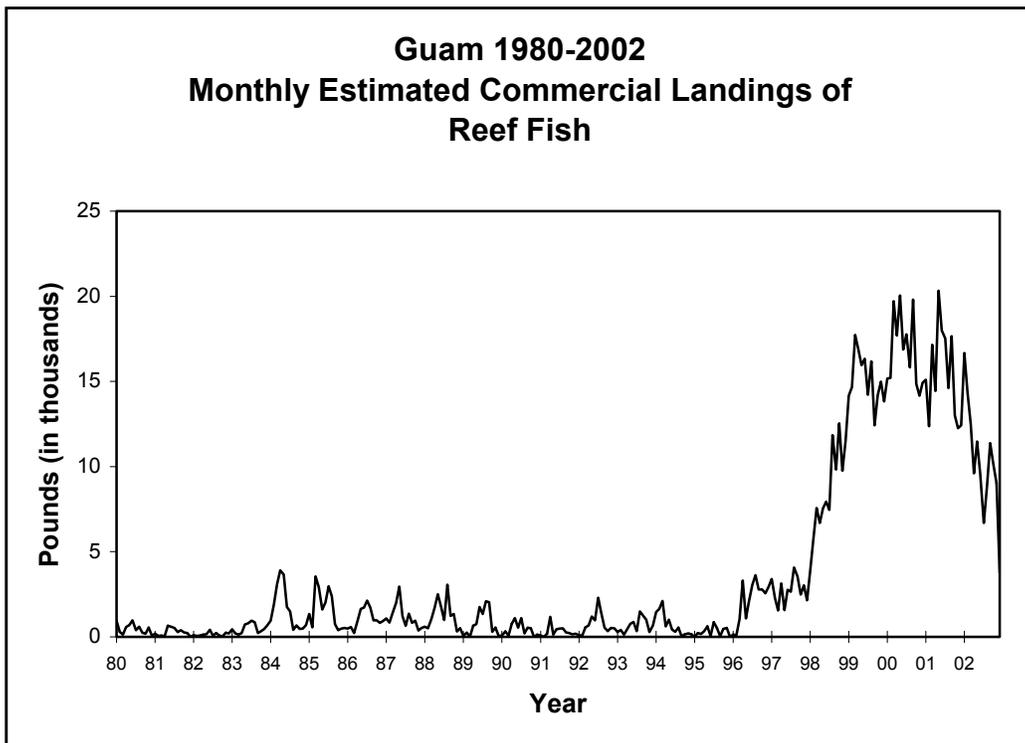


Figure IV.4.10

