FLORIDA SEA GRANT COLLEGE PROGRAM
SGEP-11

FLSGP-T-96-007 C3

IW96-6

INTERNATIONAL AGRICULTURAL TRADE AND DEVELOPMENT CENTER

LOAN COPY ONLY

THE COMMERCIAL FISHERIES INDUSTRIES OF CUBA AND FLORIDA

By
Chuck Adams and Anicia E. García Alvarez

IW96-6 April 1996

INTERNATIONAL WORKING PAPER SERIES

UNIVERSITY OF FLORIDA
Institute of Food and Agricultural Sciences
Food and Resource Economics Department
Gainesville, FL 32611

MISSION AND OBJECTIVE
OF THE
INTERNATIONAL AGRICULTURAL TRADE
AND DEVELOPMENT CENTER

MISSION:

To enhance understanding of the vital role that international agricultural trade plays in the economic development of Florida, and to provide an institutional base for interaction on agricultural trade issues and problems.

OBJECTIVE:

The Center's objective is to initiate and enhance teaching, research, and extension programs focused on international agricultural trade and development issues. It does so by:

1. Serving as a focal point and resource base for research on international agricultural trade, related development, and policy issues.

2. Coordinating and facilitating formal and informal educational opportunities for students, faculty, and Floridians in general, on agricultural trade issues and their implications.

3. Facilitating the dissemination of agricultural trade-related research results and publications.

4. Encouraging interaction between the University community and business and industry groups, state and federal agencies and policy makers, and other trade centers in the examination and discussion of agricultural trade policy questions.

THE COMMERCIAL FISHERIES INDUSTRIES OF CUBA AND FLORIDA

by

Chuck Adams
Anicia E. García Alvarez[a]

---

[a]Chuck Adams is Professor, Food and Resource Economics Department, and Marine Economics Specialist, Florida Sea Grant College, University of Florida, Gainesville, FL. Anicia E. García Alvarez is Research Economist, Center for Research on the International Economy, University of Havana, and Associate Researcher, National Institute for Economic Research, Ministry of Economics and Planning, Havana, Cuba.

The Commercial Fisheries Industries of Cuba and Florida

Abstract

This paper provides detailed information on the commercial fisheries industries of Cuba and Florida. The last year for which the Cuban government released its official, detailed, statistical summary was 1989. Through a program of active collaboration between the University of Florida, International Agricultural Trade and Development Center, and the University of Havana, Center for Research on the International Economy (Centro de Investigaciones de Economía Internacional), more current data is presented on the Cuban industry. Descriptions of the structure and organization of the industries in both Cuba and Florida are also included; however, it should be noted that Cuba's commercial fisheries sector is presently undergoing rapid and significant structural change.

Key words: Cuba, Florida, fisheries, fish, management, trade, distant water fleet

Table of Contents

The Commercial Fisheries Industries of Cuba and Florida

Preface

Developments in the former Soviet Union and Eastern Europe since 1989 have had a dramatic impact on the economic situation in Cuba. This, in turn, has placed a great deal of pressure upon the Cuban government. In response, the Cuban government has entered into a process of economic reforms. There is speculation that these reforms, combined with other factors, may eventually lead to a resumption of trade and commercial relations between the United States and Cuba.

Given the striking similarity between historical agricultural production and fisheries harvest patterns in Cuba and Florida and the extensive pattern of agricultural and fisheries trade between the United States and Cuba prior to 1960, agricultural producers and the commercial fisheries industries in Cuba, Florida and throughout the United States will face both challenges and opportunities if and when the U.S. embargo is lifted.

In an effort to provide timely research on this important potential policy issue, the International Agricultural Trade and Development Center (IATDC) in the Food and Resource Economics Department, Institute of Food and Agricultural Sciences at the University of Florida has initiated a comprehensive research project to study Cuba's agricultural and fisheries sectors. The project does not address the question of whether or not commercial relations between the United States and Cuba should be resumed. Rather, the research is designed to provide objective and current information on these sectors in Cuba and Florida for Federal and State legislators, government agencies, private firms, consumer groups and others to draw upon for discussion and debate if the issue should arise.

With the support of the John D. and Catherine T. MacArthur Foundation, this research is being conducted via a program of active collaboration between the IATDC and the University of Havana, Center for Research on the International Economy (Centro de Investigaciones de Economía Internacional, or CIEI). The MacArthur Foundation support has been a pivotal element of this research project and is hereby very gratefully acknowledged.

The initial phase of this research included the identification of potential commodities or groups of commodities that would become likely candidates for trade or investment once commercial relations between the two countries have resumed. Six commodity sub-sectors were identified:

1. sugar;
2. citrus: grapefruit, lemon, *lima*, orange and tangerine;
3. fisheries and aquaculture;
4. vegetables: cabbage, *calabaza* (pumpkin), cucumber, garlic, lettuce, onion, peppers, plantain and tomato; roots and tubers: *boniato* (sweet potato), *malanga* (taro), potato and *yuca*;
5. tropical fruits: avocado, coconut, guava, mango, papaya and pineapple; and
6. tobacco.

The current phase of the research project consists of a thorough diagnostic review of each of these commodities or commodity groups in Florida and Cuba. This paper focuses on the commercial fisheries sector. These diagnostic reviews should lead to preliminary assessments of potential competition and complementarity and further estimation of potential costs and benefits associated with a resumption of trade with Cuba.

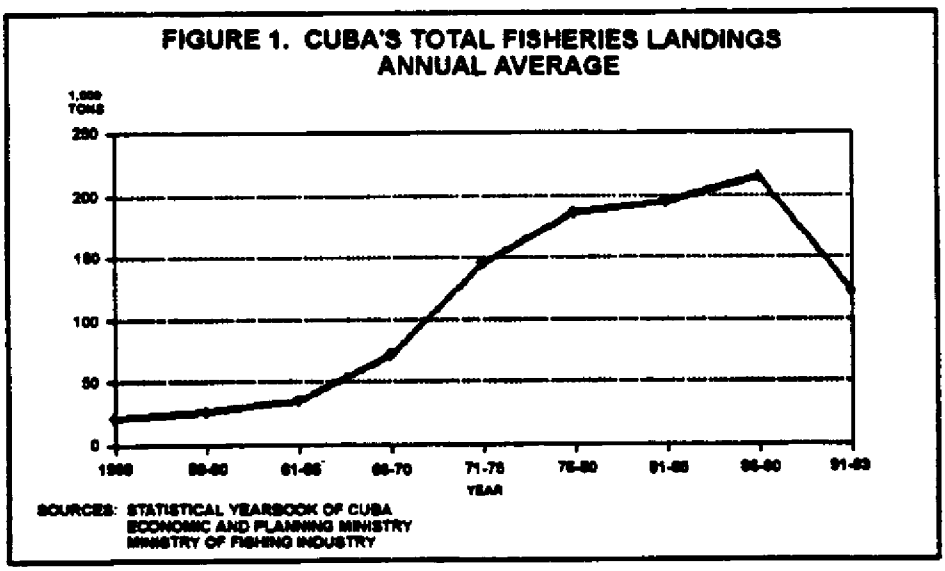
The authors wish to acknowledge the assistance of a number of individuals in the preparation of this publication. Carlos E. Jauregui translated the chapter on Cuba's fisheries industry, provided extensive editorial assistance on that chapter and prepared all of the graphics and figures for the document. Kim Box provided invaluable assistance with her thorough copy editing and formatting of the final document.

CUBA'S COMMERCIAL FISHERIES INDUSTRY

by Anicia E. García Alvarez[a]

Introduction and General Information

The Cuban archipelago, including the islands of Cuba and the Isle of Youth (Juventud), has more than 6,000 kilometers of shoreline. Nevertheless, prior to January 1959, Cuban fisheries resources were only partially exploited because of the use of only rudimentary fishing techniques. The fishing fleet of that period consisted mainly of rowing and sailing vessels. Its annual catch was less than 25,000 tons, and the per capita consumption of fisheries products in Cuba was not greater than 4 kg per year. Only a few processing plants existed, and processed production did not exceed 2,000 tons (figure 1) (Domínguez and Acosta).



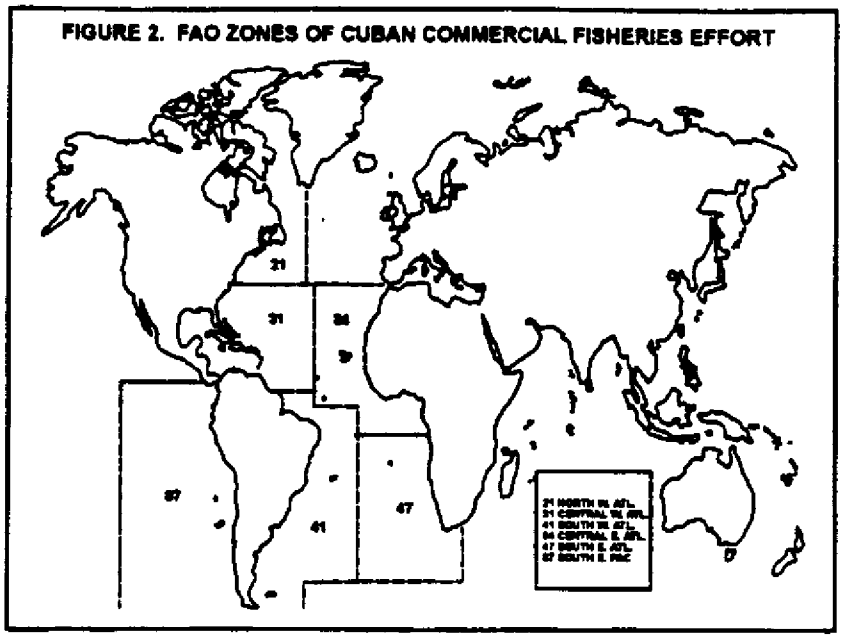
After the revolutionary victory the High Seas Fleet was developed. The fleet, comprised of the Cuban Fishing Fleet (Flota Cubana de Pesco, or FCP), the Cuban Tuna Fleet (Flota Atunera de Cuba, or FAC) and the Gulf Fleet (Flota de Golfo, or FG), fished in international waters or in other countries' territorial waters according to established agreements. Its catch consisted primarily of species with low commercial value that were destined mainly for domestic consumption.

The presence of the High Seas Fleet in world oceans has increased considerably in more recent years. The fishing zones for the fleet are listed in figure 2. Annex 1 shows the nominal or gross catch per fishing zone.

---

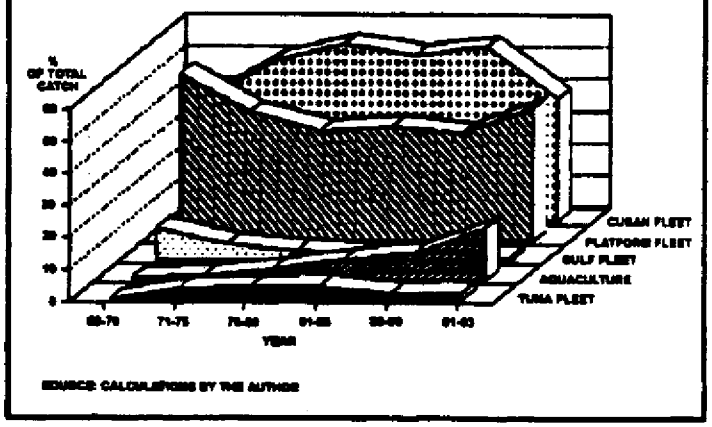
[a]Anicia E. García Alvarez is Research Economist with the University of Havana's Center for Research on the International Economy and Associate Researcher with the National Institute for Economic Research, Ministry of Economics and Planning. This paper was edited by Chuck Adams, Professor, Food and Resource Economics Department, and Marine Economics Specialist, Florida Sea Grant College, University of Florida, and Carlos E. Jauregui, Research Assistant, Food and Resource Economics Department, University of Florida.

FIGURE 2. FAO ZONES OF CUBAN COMMERCIAL FISHERIES EFFORT



The Platform Fleet's catch is not significant relative to the total catch, but in absolute terms, it has increased to levels close to its potential limit (figure 3). The catch of this near-shore fleet is mainly destined for export because the species harvested are of high economic value.

FIGURE 3. DISTRIBUTION OF THE GROSS CATCH BY FLEET



Marine and freshwater aquaculture was also promoted during those years and increased significantly as a share of the total supply of fisheries products. Freshwater aquaculture and shrimp culture are practiced on commercial scale, but most saltwater aquaculture is still experimental.

The Cuban catch primarily consists of the following species: aquaculture —the *tilapia*; FCP—North American (silver) Hake, Cape Hake, Atlantic redfish, Chilean jack mackerel, Cape horse mackerel and the Araucanian sardine; FAC—tuna, sharks and rays; FP waters of the insular platform—the common lobster and the Guinea prawn (pink shrimp); and FG—sea bass and porgy (table 1 and annexes 2,3,4 and 8).

Table 1. Main species included in Cuba's total catch.

Species	1980-89	1990-91
	------Percentage------	
Tilapia	6.1	10.0
North American Hake	5.6	9.2
Cape Hake	3.0	1.1
Atlantic Redfish	2.9	4.4
Chilean Jack Mackerel	25.1	20.4
Cape Horse Mackerel	7.6	2.2
Araucanian Sardine	2.1	9.0
Sharks	2.0	1.5
Common Lobster	5.7	5.0
Guinea Prawn	1.8	1.5
Other	38.1	35.7
Total	100.0	100.0

Source: FAO, *Fishery Statistics, Catches and Landings* (1989 and 1991); computations by the author.

At present, commercial fishing activities, the industrial processing of catch, the culture of marine and freshwater organisms and other fisheries-related activities—shipyards, construction of small and medium-sized boats, refrigeration plants, transport, commerce and research—are planned, organized and implemented by the Fishing Industry Ministry (Ministereo de la Industria Pesquera, or MIP) (table 2). The MIP was created in 1976. From 1959 to 1963 the fishing industry was managed by the Fishing Department of the National Institute of the Agrarian Reform (INRA), and between 1964 and 1976, fisheries were managed by the National Institute of Fisheries.

Table 2. Structure of the MIP.

STRUCTURE OF THE MIP			
	Fishing Industry	Platform	18 companies
		Aquaculture	1 national company 1 research area
		Shrimp-culture	Territorial companies 1 research area
		International fishing or del Alto fleet	Cuban Fishing Fleet Company (FCP) Gulf Fleet Company (FG) Cuban Tuna Fleet Company (FAC)
		Industrial processing	2 specialized industrial companies
	Construction of non-electric machinery	6 shipyard companies fishing port of La Habana	
	Graphics	1 company	
	Construction and assembly	1 specialized company	
	Commercial	3 wholesale central companies in Habana, Cienfuegos and Stgo. de Cuba 1 specialized exporting company (CARIBEX)	
	Research	3 units	
	Education	1 technological institute	

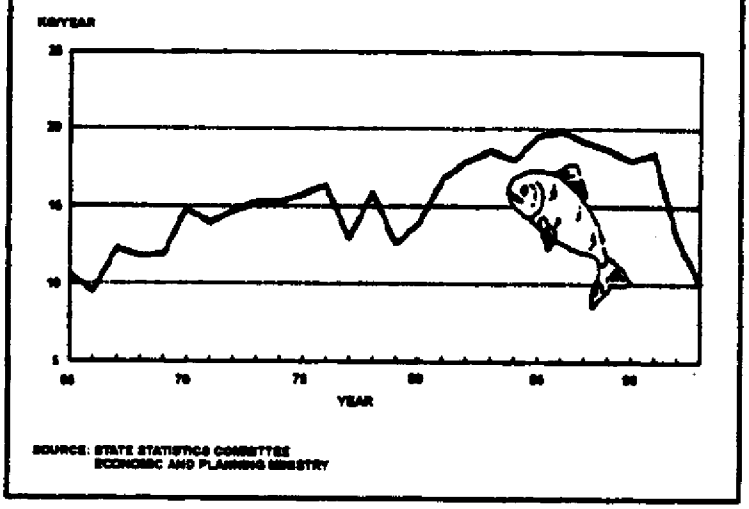
Source: MIP.

The commercial fishing industry's share of gross national product (GNP) is relatively small. In the 1980s the industry only represented between 1.7 percent and 2.7 percent of GNP. Nevertheless, it supplied between 4 percent and 4.6 percent of industrial jobs during that period. The industry's share of Cuban exports averaged 2.4 percent in the 1970s and 2.2 percent in the 1980s.

Approximately 300 billion pesos were invested in the commercial fisheries industry between 1980 and 1989. This amount represents 2.3 percent of total investment in all areas of Cuban industry during that period.

The development of the commercial fishing industry considerably increased fish consumption in Cuba. About 20 kg per capita were consumed in 1986, but consumption declined considerably by 1992 (figure 4). The causes of this decline will be discussed in the next section in the analysis of the harvesting characteristics of the FCP, the main supplier of seafood for the domestic population.

FIGURE 4. PERCAPITA CONSUMPTION OF FISH IN CUBA



The economic situation in Cuba during the past few years has required the establishment of decentralized management mechanisms to guarantee more flexible, responsive management of foreign currency. One of these mechanisms is a finance program, designed for certain state enterprises —mainly those generating exports (Espinosa and U-Echevarría). The commercial fishing industry was just one of the industries to benefit from the program.

All fishing activities (for both export and domestic consumption) are financed with foreign currency. This type of finance program, which backs the activity in integral fashion, is believed to be the most successful. A share of the profits from the export of products is given to the MIP to compensate for its current expenses in *MLC*.

Although the finance program does not measure the efficiency of using foreign currency for specific benefitting activities, it is assumed that this evaluation has already been conducted. The following are some of the benefits of using the existing finance program: a more rational and rigorous administration of resources; the adoption of measures to increase quality (because exports are a source of foreign currency that make the continuity of the productive process possible); a decrease in the consumption index and in raw material waste; and a higher level of conservation and maintenance of equipment. In reality, the effects of the finance program have impacted the fishing industry, which was forced to revamp its harvesting activities during the past several years in order to comply with foreign currency economic efficiency criteria. (This criteria is presented in the annex section.)

Characteristics of Commercial Fishing Activities

• Cuban Fishing Fleet (FCP)

Further development of the Cuban fishing fleet occurred in 1962. The fleet now conducts bottom and medium-depth fishing in the southeast Pacific and in areas of the northwest and southwest Atlantic. These activities are conducted 20 miles beyond the limit of the exclusive economic zone (EEZ) of coastal countries. The fleet's catch is abundant but is characterized by the presence of only a few species, mainly hake and jacks. Its season can last up to four to six months but typically only lasts 100 to 140 days.

In 1980 the fleet had 46 ships: five Atlantik (from the former Democratic Republic of Germany, RDA); two Tasba 67; two Tasba 96; one cod-fishing ship; one SRT-M; 26 TACSA 95-TF (Spanish drag); eight transporters; and one other ship (*Statistical Yearbook of Cuba*, 1980).

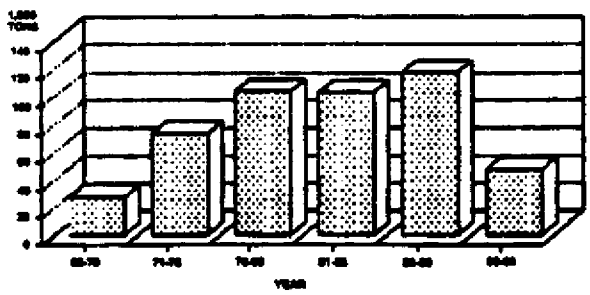
In 1985 the fleet had 38 large ships, with a total gross registry of 137,000 tons. Its composition was as follows: 33 draggers (two from Japan, two from the former RDA and 27 from Spain); four transports for refrigerated freight (two from Italy and two from Japan); and a Japanese tanker (*Cuban Registry of Ships).*

The draggers are factory ships that can process and freeze a portion of the catch as filets and headed and eviscerated fish. The unprocessed portion is also frozen. A dragger can freeze 35 to 40 tons of fish per day. The discarded portions of the processed products and the species with no commercial food value are processed into meal that is later used for animal consumption. Each dragger has a freezer capacity of 1,300 to 1,400 tons for fish and 230 to 250 tons for fish meal (*Business Tips on Cuba).* All draggers were acquired between 1968 and 1979: five in 1968-71; 14 in 1975; four in 1976; five in 1977; and five in 1978-79.

The processing equipment aboard the draggers includes Baader processing machinery and other Cuban-produced equipment. The vessels have equipment to detect fish and to control their nets. They have means of communication and navigation by satellite, besides the conventional methods. In 1990 there were still 25 of such vessels in operation, of which only 32 percent were in good technical condition (Alayeto).

By analyzing the catch of this fleet in five-year periods, it is evident that the catch slightly decreased during the 1981-85 period in relation to the 1976-80 period (figure 5). The catch decreased primarily because of the establishment of a 200-mile EEZ for most coastal

FIGURE 5. GROSS CATCH OF THE CUBAN FISHING FLEET ANNUAL AVERAGE



countries. To maintain catch levels under these circumstances it was necessary to operate farther away from the coast where the catch was less abundant. The movement of the operation contributed to the progressive deterioration of the fleet because vessels had to work under high seas conditions for which they were not designed (García and Alayeto).

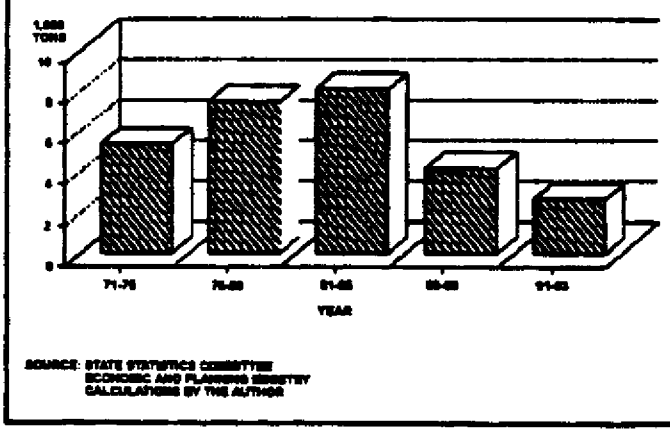
It has been stated that the abrupt decrease in the fleet's catch in 1992 was mainly a result of the limited quantity of the targeted species in the southeast Pacific zone—the zone that contributed about three-fourths of the fleet's catch (FAO, *Fishery Statistics, Catches and Landings*). But in the author's judgment, what was more influential was the decision to stop fishing because of the high costs in foreign currency.

It has been concluded that the FCP will be unable to regain its catch level of the 1980s because of the exhaustion of fish stocks in the traditional fishing zones. Another reason for its inability to regain its catch level is that it is unable to replace its ships with modern ones, which have greater capacity and involve less cost, because of the precarious condition that Cuba faces in relation to foreign currency (FAO, *Fishery Statistics, Catches and Landings*).

•Cuban Tuna Fleet (FAC)

This fleet is committed primarily to the catch of tuna but also harvests other species such as marlin, swordfish and shark. Although its first vessel was acquired in 1962, statistical information about its catch has only been available since 1973. The fleet's operation zone is mainly the east/central Atlantic, and its season lasts 130 days. It also operates in the Cuban EEZ. The fleet mainly uses dated fishing techniques —such as the Japanese method of rod and cord which requires live bait. This method is limited to the catch of small tuna (mainly bonito in nearshore waters). Long lines are used for the catch of large tuna (yellow fin, big eye and albacore), swordfish, marlin and sharks. The fleet has one *cerquero* that utilizes advanced and efficient techniques, such as equipment for search, detection and capture. Landings peaked during the 1981-85 period and have been decreasing ever since (figure 6).

FIGURE 6. GROSS CATCH OF THE TUNA FLEET OF CUBA
ANNUAL AVERAGE



In 1980 the tuna fleet had 31 ships: three Japanese long liners; 19 Spanish long liners; one Japanese *cerquero*; and eight ships of other types (*Statistical Yearbook of Cuba*, 1980). In 1985 the fleet was composed of 24 vessels: 23 tuna ships (one Japanese *cerquero*, 21 Spanish *palangreros*, or long line vessels, and one Cuban *palangrero*) and one Cuban tanker. The *cerquero* was acquired in 1962. Of the Spanish *palangreros*, 18 were acquired in 1966; two were acquired in 1967; and one was acquired in 1970. The Cuban *palangrero* was built in 1971 (*Cuban Registry of Ships*).

In 1985 a decision was made to gradually retire these ships because of the bad technical condition in which they were operating in international waters, the declining catch of tuna and the economic efficiency criteria. Only the medium-sized *palangreros* would continue operating in the Cuban EEZ, where their catch could reach 1,500 tons per year.

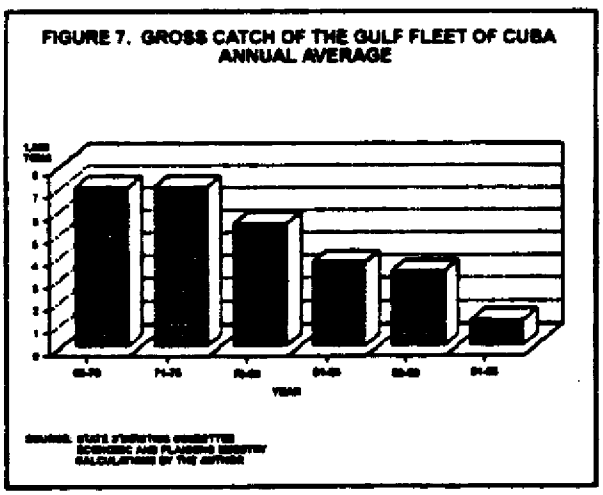
In 1990 there were still 12 tuna ships in operation. The Japanese *cerquero* and 11 Spanish *palangreros* were still operating as a result of repairs made by their crews. In perspective, it looks as if this fleet may be discontinued.

- **Gulf Fleet (FG)**

This fleet specializes in the catch of sea bass and porgy using the *palangre de fondo*, or deep long lining, technique. Its season lasts about 37 days, with eight seasons per year.

The FG's fishing was initially conducted adjacent to the coasts of Yucatán and Florida, areas characterized by high yields. Later, the U.S. government banned Cuban operations in this zone. Since 1978, Mexico has allowed Cuba to fish in its waters but only outside the 12 miles of Mexican territorial waters.

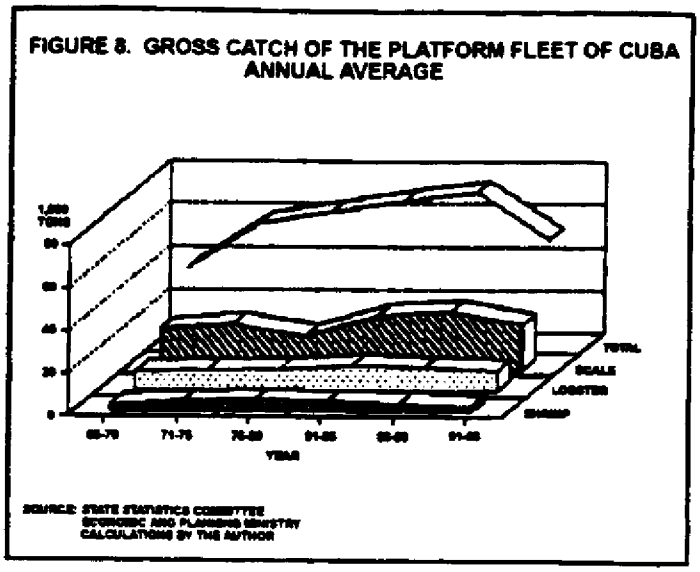
This fleet also operated in the waters of the northwest Cuban platform, catching about 1,000 tons per year. Since 1991 this catch has been considered platform fleet catch.



In 1980 the fleet had 128 ships: 41 Lambdas; three Gulfs; one sounder; and 83 ships of other types (*Statistical Yearbook of Cuba*, 1980). During the 1980s the wooden Lambdas were replaced by steel ships with greater capacity that would enable the fleet to make more efficient use of the fishing quota at their disposition.

The fleet had 49 ships of medium size in 1985, with a gross registry of 5,500 tons and a catch of 3,400 tons (Alayeto). In 1990 the catch decreased to 1,700 tons. In the following years the catch further decreased, reaching 700 tons in 1993 (figure 7). An increase in the activity level of this fleet is not projected because of historical fishing quota agreements with Mexico.

• **Platform Fleet (FP)**



The coastal zone in Cuba is harvested by the platform fleet, which consists of 18 enterprises and 65 fishing units. Their catch increased more than threefold between 1959 and 1990 as a result of economic changes in the fishing industry, which stemmed from the revolution in this activity (figure 8).

Although their share of the total catch has declined, the platform fleet is still important from an economic standpoint because of the species that it targets—mainly crustaceans, such as shrimp and lobster.

The industry should be capitalizing on the estimated fishing potential of this zone without compromising the existence of future resources. The potential of these resources has been established through the studies of the Fishing Research Center (Centro de Investigaciones Pesqueras, or CIP), which is part of the Fishing Administration Committee (table 3). These two entities, together with other authorities of the MIP, recommend advisable catch levels.

Table 3. Condition of the Cuban platform's fishing resources.

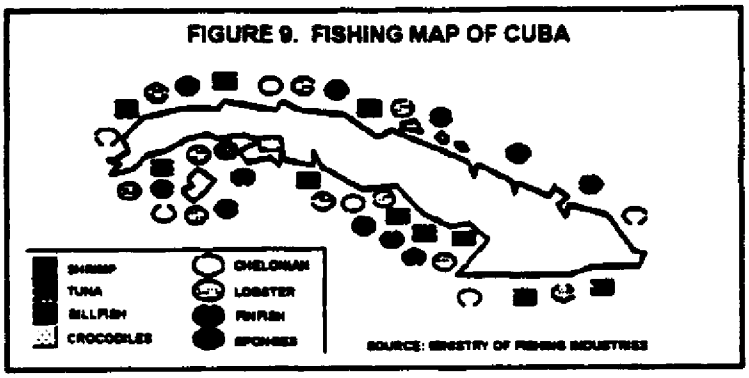
Resource	Potential Yield	Current Condition
	--1,000 tons--	
Scaled finfish	25.7	Overexploited
Bonito and albacore	2.0-2.5	Increase in possible landings
Lobster	10.9	At the limit in Batabanó; increase in possible landings within other zones
Shrimp	5.7-6.0	At the limit

Source: Condition of the main fishing resources of the Cuban platform and recommendations for 1985 and 1986, MIP and CIP (October 1984).

In 1985 it was determined that the potential catch in platform waters was 75,000 tons. This total is comprised of a complement of species associated with specific habitats around coastal Cuba (figure 9). Also, few possibilities existed to increase future catch because platform resources were near, or had reached, the fishing limits estimated by the CIP. The

CIP's recommendations for increasing the catch included the following: increasing the catch of the underexploited species; establishing a rigorous control of the catch, setting limits according to potential; introducing new fishing techniques and modernizing existing ones; using nets made of monofilament; creating artificial shelter for fish; and following the *palangre* (long line) technique (drifting and bottom netting).

FIGURE 9. FISHING MAP OF CUBA



At the beginning of the 1990s the platform's catch decreased notably. It has been reported that the marine ecosystem is damaged, causing a reduction in harvest. As a result of that damage, 1,000 tons of shrimp and 5,000 tons of its accompanying fauna have been irreversibly lost. On that basis, the potential of the platform is now about 68,000 tons. It has been reported that a scarcity of fuel has affected the work of this fleet in past years.

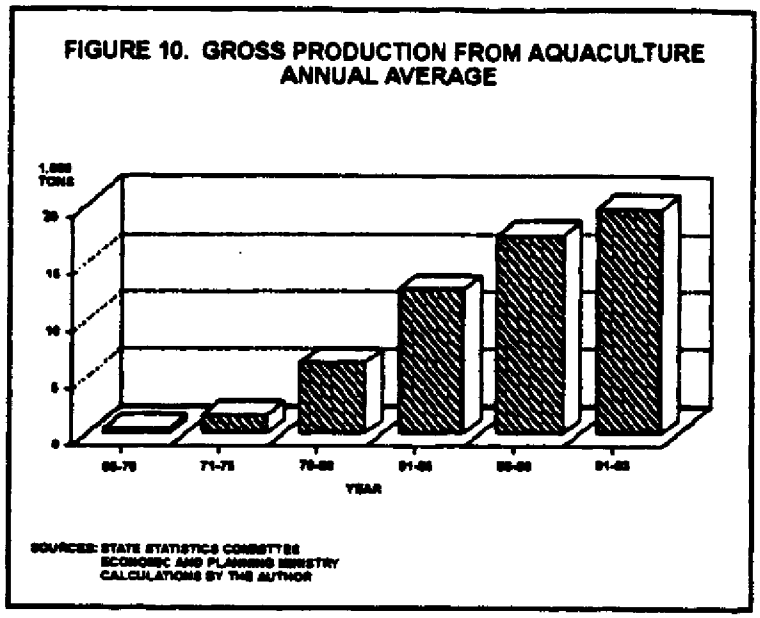
- **Aquaculture**

The culture of fish has been practiced since colonial times when the dominant species was the striped mullet (lisa). Between 1923 and 1927 the activity was restarted with freshwater species, such as false trout, sun fish and common carp. These efforts were unsuccessful.

In the 1960s, with hydraulic development, the construction of many ponds and reservoirs created the necessary conditions for the development of aquaculture. Another condition, the availability of species suited for aquaculture —mainly tilapia and, in less proportion, *amura*, tench and carp—was satisfied by imports from countries that had had good results with the culture. In 1968 the first production of 91 tons was reported.

Cuban aquaculture is characterized by the extensive monoculture that exists in ponds because of the natural food generated by these bodies of water. Harvests are conducted about 1½ years after the fry sowing, and the ponds are systematically resown.

On a worldwide basis, aquaculture has generally developed faster than oceanic fisheries, especially in less-developed countries. This rapid development has occurred because of the critical food supply situation, because of the limitations on the international fisheries after the adoption of the 200-mile EEZ by the coastal countries and because of the high operational costs of these fisheries. Cuba is no exception. The country's aquaculture has grown rapidly in the past few years and will grow even more rapidly in the future (figure 10).



The decision, made in the mid-1980s, to give more attention to the country's hydraulic activity strengthened aquaculture (tables 4 and 5). Countless ponds, channels and dikes, which were constructed for agricultural irrigation, were also used for fish culture.

ENACUI, a national aquaculture enterprise that consists of 11 provincial administrative units and has 28 establishments and a research area, prepared a short-run development program based on an investment plan. The program was designed to guarantee a fry station in every province, to harvest and conserve through adequate installations, to build housing for technical personnel, to build 200 hectares of small ponds for semi-intensive production, to satisfy the demand for ice in each territory and to supply the enterprise with storage and workshops to support the activity (Puentes).

Table 4. Catch from aquaculture in the quinquennium, 1986-90.

Year	Forecast	Actual	Extensive	Semi-intensive	Intensive	Percent of Total
	1,000 tons					
1986	18.0	15.6	15.4	NA	0.2	86.7
1987	19.0	16.4	16.2	NA	0.2	86.3
1988	22.0	14.9	14.5	0.1	0.3	67.7
1989	25.0	18.0	16.8	0.9	0.3	72.0
1990	30.0	21.8	20.2	1.3	0.3	72.7

Source: Directorate for Food and Agriculture, Ministry of Economy and Planning.

Table 5. Fry sowing.

Year	Forecast	Actual	Percent of Total
	----millions of units----		
1986	20.6	18.2	88.3
1987	22.8	26.0	114.0
1988	25.6	33.1	129.2
1989	31.5	34.0	107.9
1990	38.1	47.4	124.4

Source: Directorate for Food and Agriculture, Economic and Planning Ministry.

The ENACUI program did not produce the expected results, even though the fry sowing was carried out according to plan. One of the problems that may have affected the results is the insufficient development of the potential area (table 6). Only 73 percent of the potential areas for culture were utilized in 1989. The greatest underutilization occurred in small ponds, where only 15 percent of the area was utilized. The type of development that occurs there is semi-intensive, from sowing to total drainage of the pond after a year of sowing. Once the ponds are empty, they are fertilized with organic and inorganic fertilizers to encourage the growth of food for fish.

The following are other potential causes of the program's failure: adverse climatic factors that hindered navigation—such as drought, excessive rain and bad weather; lack of coordination between the organizations that controlled the ponds and the organizations that operated them, which caused the pond's water level to be lower than what is required for aquaculture or caused the pond not to be emptied as required; application of passive methods of fishing; lack of spare parts, fuel, lubricants, ice, systems of fishing and transportation and adequate personnel; breakdown of equipment and installations; low level of execution of the programmed investments in the first four years; and inadequate programmed participation in intensive and semi-intensive development (Puentes). As a result of these difficulties, the yields per developed aquaculture unit have not reached expected levels (table 7).

Table 6. Area utilized by aquaculture.

Type of construction	Potential area	Developed area 1985	Developed area 1989	Type of development
	---------1,000 hectares---------			
Total	102.1	58.9	74.9	
Reservoirs	82.1	50.6	72.0*	Extensive
Ponds	20.0	8.3	2.9	Semi-intensive

*Including ponds with extensive development
Source: Directorate for Food and Agriculture, Economic and Planning Ministry.

Table 7. Aquaculture systems and yields.

Type of development	Adequate yield	Actual yield
	------tons/hectare-------	
Extensive	0.3-0.9	0.28
Semi-intensive	1.0-2.0	0.45

Source: Directorate for Food and Agriculture, Economic and Planning Ministry.

Requirements for the subsequent development of aquaculture include an increase in semi-intensive development to promote high yields and because small ponds are much easier to manage than larger ponds; a change in the system of harvesting to facilitate more active methods, such as the seine method that is beginning to be used with favorable results; work in electric fisheries; and the use of the intensive method only for exotic species that promote the growth of international tourism. The latter is an issue because of the high level of imported feed, electricity usage and other imports required for the maintenance of exotic species. These species require an established diet and direct feeding, accomplished by placing food into metal cages and submerging the cages into ponds (Puentes).

- **Shrimp Culture**

Shrimp culture was introduced in Cuba in 1970. The first steps toward commercial production were taken in 1981, but small production, at pilot scale, did not begin until 1985. Research into the possibilities of developing shrimp culture under Cuban conditions was first conducted using native species with which little culture experience existed. The development of shrimp culture in Cuba has progressed through the following stages.

1976	Experimental culture of the larva stage of white and pink shrimp
1981	Experimental raising of larvae collected from their natural environment
1983	First massive spawning of white shrimp
1984-85	First production, at pilot scale, of 5.7 tons of shrimp in a 10-hectare pond at the Tunas de Zaza station

With these results the decision was made to promote commercial shrimp culture in Cuba. An investment program was initiated in three provinces—Granma, Camagüey and Sancti Spíritus. Spawning centers—ponds for the pre-fattening and fattening of brood stock, processing areas, administrative buildings and houses were constructed.

In 1986, Cuba requested and received assistance from the United Nations Development Program (UNDP) to increase its shrimp culture program. This grant allowed the training of shrimp culture specialists. The budgeted unit for shrimp culture includes three territorial stations—Tunas de Zaza, Manzanillo and Santa Cruz del Sur—and one research area. The results of this activity, since 1986, are provided in table 8. Since 1992, 3,000 tons of shrimp have been produced annually at a production plant in Santa Cruz del Sur.

Table 8. Shrimp culture program statistics, 1986 to 1993.

Year	Catch	Area Developed	Yields	(kg/ha/cycle)
	-tons-	-hectares-	(kg/ha/year)	
1986*	48	NA	NA	NA
1987	346.0	689.0	503.0	385.0
1988	502.6	892.0	563.4	445.0
1989	800	NA	NA	362.0
1990*	1,206	NA	NA	394.0
1991	1,400	NA	NA	420.0
1992	1,000	NA	NA	295.2
1993	800	NA	NA	220.0

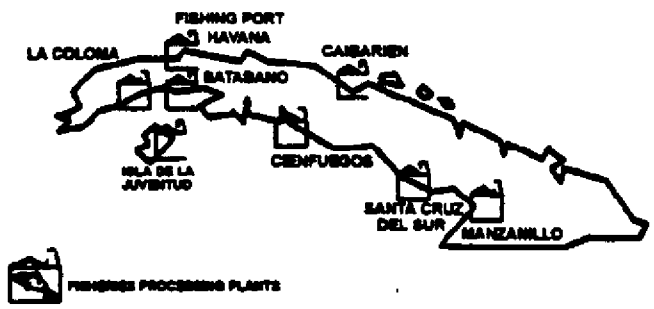
Source: Directorate for Food and Agriculture, Economic and Planning Ministry;
**Business TIPS on Cuba*

Parallel to the work with white shrimp, the work with pink shrimp resulted in the production of larvae and juveniles. Research, designed to further study intensive culture and to increase shrimp yields, is still being conducted. The trials that began in 1991 for the repopulation of shrimp in Ensenada de la Broa, south of La Habana where resources were exhausted because of indiscriminate fishing, are also still being conducted.

• Industrial Processing

There are two main types of fisheries processing—freezing and canning. Nine Combined Fisheries Processing Units (Combinades Pesqueros Industriales, or CPI) existed in Cuba in 1980. These combines were processing lobster and shrimp—frozen or canned. Together they produced about 26,000 tons of frozen products in 1980. The CPI were located in La Coloma, Batabano´, Isla de la Juventud, Caibari´en, Cienfuegos, Manzanillo, Santa Cruz del Sur, Niquero and Casilda (figure 11).

FIGURE 11. LOCATION OF CUBAN FISHERIES PROCESSING PLANTS



In the fishing terminal of Regla, many species are processed, which makes it difficult to determine capacity. The terminal's production is mainly intended for domestic consumption.

At the beginning of the 1980s, three canning plants—Hacendados, Isla de la Juventud and La Coloma—existed in Cuba. The first two plants were deactivated because of their deficient technical condition. Another plant, the Canning Plant Habana, began production in 1987. Thus, at the end of the decade, there were only two canning plants in operation.

In the 1990s the fish processing industry had a finfish and shellfish freezing capacity of about 35,000 tons and a canning capacity of 8,000 tons. Annex 5 shows the trends in fisheries processing volumes during the 1970-93 period.

Commerce Flow in the Fishing Area

Fishery products, after sugar, tourism and nickel, are a primary Cuban export. The high quality of Cuba's fishery products is widely recognized in international markets, and exports are mainly destined for Japan, France and Italy.

CARIBEX is an MIP enterprise in charge of the exportation of fishery products, such as lobster, shrimp, frozen and canned tuna, crawfish, frog legs, fish eggs, natural sponges and shark fins. Historically, the exported products were fish of low value that had been caught by the FCP. This practice was abandoned, however, because it was not advantageous given Cuba's economic conditions. (The advantageous economic relations with the former USSR were severed.)

Cuba is the world's second largest producer of spiny lobster, which is the most important item in the complement of seafood exports—comprising 60 percent of total export volume in 1993 (figure 12). The product's forms include the following: live lobster; raw, frozen lobster; precooked, frozen whole lobster (with all the flavor and aroma of live lobster); fresh lobster tails; and raw or precooked whole lobster.

FIGURE 12. FISHERIES EXPORTS AS PERCENT OF CUBAN EXPORTS

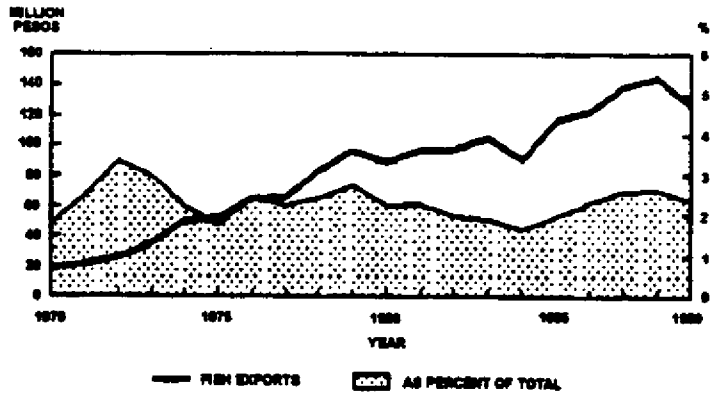
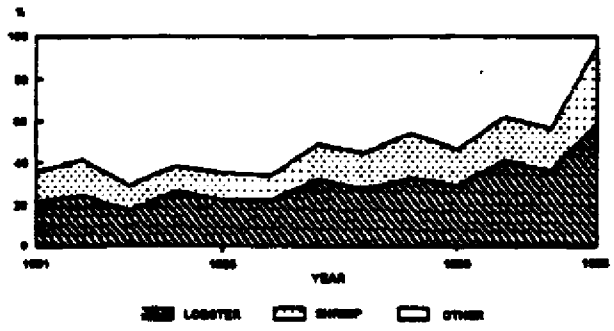


FIGURE 13. LOBSTER AND SHRIMP EXPORTS AS PERCENT OF TOTAL FISHERIES



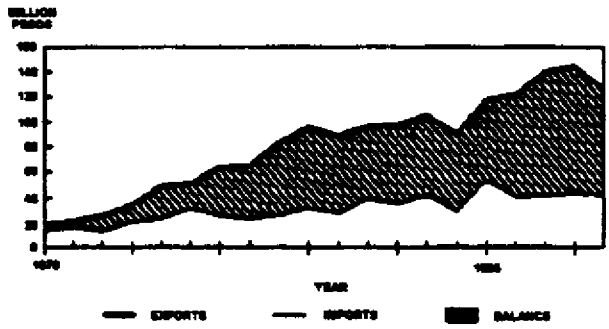
SOURCE: ECONOMIC AND PLANNING MINISTRY
CALCULATIONS BY THE AUTHOR

The next most important export item is shrimp, which represented 36 percent of fish exports in 1993 (27 percent from the platform and 9 percent from culture) (figure 13). Shrimp product forms include frozen whole shrimp, frozen fresh shrimp tails in their shell and frozen split shrimp tails.

Historically, Cuba has imported fish of low value for internal consumption because a large percentage of its valuable catch was exported (Economic and Planning Ministry). This foreign trade pattern resulted in an increasing surplus that exhibited an upward trend during the 1980s (figure 14 and annex 6).

At the beginning of the 1990s, fishery imports decreased notably because of the difficulties that the country was facing with external sources of revenue. At present, after a thorough analysis of the economic characteristics of the different extractive activities, fish imports have been given priority.

FIGURE 14. EXPORTS AND IMPORTS OF FISHERIES PRODUCTS



SOURCE: STATISTICAL YEARBOOK OF CUBA
CALCULATIONS BY THE AUTHOR

In 1992 an attempt was made, using the CEPAL approach, to measure the competitiveness of the main Cuban exports through 1989 (Gálvez). Fisheries products were among the examined commodities. For this analysis, indicators—such as the contribution to commercial trade balance and the relative competitive position—that applied to total fisheries exports were used. According to the results obtained for both indicators, Cuban exports in this sector had comparative advantages.

For a more detailed analysis of comparative advantage, a specific group of products was selected. Frozen seafood and canned seafood were selected (Gálvez). This analysis showed that, in reality, seafood is a market in which Cuba has a clear, worldwide comparative advantage because of its specialization. Some of the competitiveness results are summarized in annex 7. In fact, since 1993, fishing exports were concentrated in lobster and shrimp (figure 13).

Research

The scientific and technical activity associated with the commercial fishing industry has advanced considerably. The MIP, at present, has three scientific institutions for commercial fishing research, technology, projects and naval technology.

The Fishing Research Center (CIP) integrates all the scientific and research disciplines concerning marine and freshwater fishing resources. Its area of investigation includes the following: the study of commercially important species, their environments and their extraction; marine aquaculture; and the technology used in the processing and development of new fisheries products. Its main accomplishments include the following:

- development of new fishing zones and the utilization of new species;
- an increase in catch and a decrease in exploitation cost through the establishment of regulations in some fisheries;
- the establishment of the foundation for discussions of quotas in international negotiations;
- the development of technology for the design of new industrial products;
- the introduction, acclimatization and artificial reproduction of different species of finfish for the development of aquaculture;
- the development of biotechnology for the commercial culture of shrimps; and
- the establishment of measures to protect species and fishing zones.

CIP researchers are prepared to perform as experts or consultants in fishing biology, marine aquaculture and the technology of seafood products. The center also offers postgraduate courses and training for national and international scientists. Some of the courses are listed below.

- Fishing: the evaluation of the contamination of fishing zones; the evaluation of crustacean stocks; fishing oceanography; the design and construction of equipment; and fishing techniques.
- Sea aquaculture: the culture and utilization of seaweed.
- Technological research: the sensorial evaluation of seafood; the tracing of metals in seafood; fish biochemistry; and sea lipids.

Other training courses are seafood biology; the evaluation of fishing resources through sampling, data collection and abundance estimation; stock evaluation of tropical fish; water sanitation for the control of diseases and parasites of cultivated organisms; the biotechnology of cultivated aquatic organisms; and the technology for the processing and quality control of seafood.

The center also offers videos about its research results and about Cuban commercial fishing activities. The following are a few of the videos available.

- *Steps in the Harvest and Processing of Lobster*
- *Protection of Species in Danger of Extinction*
- *Recovery of Coastal Lagoons for the Culture of Shrimp*
- *Shrimp Culture—from the Collection of Larvae to the Juvenile State, with Commercial Industrial Processing Aspects*
- *Oyster Culture*
- *Description of the Methods Used to Diagnose the Diseases of Cultivated Sea Organisms*
- *Development of Popular Aquaculture*
- *Nutritional Value and Processing Methods of Seafood*
- *Fishing Development Until 1992*

Business Opportunities

Business opportunities exist throughout the MIP system—in extractive activities, in industrial processing and in the research field. These business opportunities include the following:

- taking advantage of the experience and knowledge of high seas fishermen;
- utilizing the catch and transport capacity of large ships;
- utilizing industrial and production installations for the local or export market;
- constructing small and medium-sized vessels; and
- utilizing the shipyards to repair ships.

Annex 1. Cuban nominal catch per fishing zone.

FISHING AREA		1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
02	CONTIN. WATERS OF NORTH AMERICA	339	10 314	13 629	14 121	16 199	16 881	17 580	16 739	15 589	18 165	23 317	21 676
21	N.E. ATLANTIC	9 255	6 668	18 565	14 786	20 521	23 509	24 806	28 833	16 864	24 130	27 611	26 106
31	CENTRAL WEST ATLANTIC	68 424	59 846	68 718	74 437	76 818	79 651	78 415	80 927	78 213	77 391	60 534	59 308
34	CENTRAL EAST ATLANTIC	9 258	9 016	6 874	6 670	17 685	12 732	5 493	3 349	3 946	2 958	2 991	2 071
41	S.W. ATLANTIC	0	0	0	0	56	4 557	3 993	7 213	5 043	2 223	1 616	0
47	S.E. ATLANTIC	4 555	0	689	32 741	34 162	35 634	24 980	37 496	24 561	29 447	11 766	0
87	S.E PACIFIC	88 650	78 971	86 771	55 639	34 131	46 867	89 406	40 442	87 031	37 778	60 378	56 075
	TOTAL	186 481	164 815	195 246	198 394	199 572	219 831	244 673	214 999	231 247	192 092	188 213	165 236

Source: FAO, *Fishery Statistics, Catches and Landings*, vol. 60 (1985), vol. 64 (1987), vol. 68 (1989) and vol. 72 (1991).

Annex 2. Gross catch per Cuban fleet.
(in 1,000 tons)

Year	Total	FCP	FG	FAC	Platf.	Aquacul.	Shrimp culture
1965	40.4	4.3	5.8		30.2	.1	
1966	43.6	5.4	7.0		31.2	.0	
1967	63.4	20.7	8.5		33.7	.5	
1968	65.2	20.9	6.3		37.6	.4	
1969	79.8	31.7	5.4		42.2	.5	
1970	106.4	56.2	7.8		41.6	.8	
1971	126.1	66.2	6.8		52.2	.9	
1972	139.7	75.9	7.7		55.1	1.0	
1973	150.3	76.9	6.5	9.6	56.2	1.1	
1974	165.2	83.9	6.7	9.5	63.0	2.1	
1975	143.5	60.1	7.2	7.3	65.9	3.0	
1976	193.6	105.1	7.4	6.3	70.6	4.2	
1977	184.6	102.5	7.2	7.3	62.7	4.9	
1978	213.1	130.7	5.0	6.7	64.2	6.5	
1979	153.8	74.7	2.7	7.5	60.4	8.5	
1980	184.9	102.5	4.7	9.2	61.7	6.8	
1981	164.5	85.6	4.3	8.7	57.2	8.7	
1982	195.3	106.0	3.8	7.3	66.6	11.6	
1983	198.5	103.2	3.4	7.8	71.5	12.6	
1984	199.6	99.2	3.4	8.4	74.0	14.6	
1985	219.8	115.7	3.4	8.0	77.3	15.4	
1986	244.6	143.2	3.4	6.2	76.2	15.6	.0
1987	214.2	113.9	3.8	4.4	75.5	16.3	.3
1988	231.6	133.7	3.8	4.1	74.6	14.9	.5
1989	193.8	93.4	3.9	2.9	74.8	18.0	.8
1990	190.4	101.4	1.7	2.9	61.4	21.8	1.2
1991	165.4	82.2	1.6	2.0	57.9	20.3	1.4
1992	109.2	29.2	1.1	2.7	54.3	20.9	1.0
1993	93.5	30.3	.7	3.1	41.3	17.3	.8

Source: García and Alayeto (1988); Alayeto (1991); Puentes (1992); Economic and Planning Ministry.

Annex 3. Gross Cuban catch per group of species.
(includes river and lake fishing)
(in 1,000 tons)

YEAR	TOTAL	FISH	CRUSTAC.	MOLUSC	TURTLES	AMPHIBIANS	OTHERS
1965	40.4	25.9	11.4	2.8	.1	.1	.1
1970	106.0	83.3	13.6	4.8	1.0	.4	2.9
1975	144.0	100.2	20.0	4.1	1.4	.7	17.6
1976	194.1	145.1	21.7	4.3	1.0	.5	21.5
1977	185.2	135.6	18.1	11.3	.9	.4	18.9
1978	213.2	162.5	20.7	6.6	.9	.4	22.1
1979	153.8	110.1	18.8	3.2	.8	.4	20.5
1980	186.5	143.3	17.2	2.4	.9	.3	22.4
1981	164.5	129.1	16.9	3.2	1.0	.5	13.8
1982	195.2	153.4	19.2	4.4	1.0	.4	16.8
1983	198.4	153.8	17.4	4.6	1.0	.4	21.2
1984	199.6	152.0	19.2	5.0	.8	.4	22.2
1985	219.9	170.6	20.7	5.0	1.2	.3	22.1
1986	244.6	192.2	19.2	8.4	1.0	.3	23.5
1987	214.4	159.6	19.6	11.4	.8	.1	22.9
1988	231.6	178.9	19.0	9.6	.7	.2	23.2
1989	192.0	141.8	17.6	8.0	.7	.2	23.7
1990	188.2	149.1	13.0	8.7	1.5	.1	15.8
1991	165.3	127.4	15.4	6.3	1.0	.1	15.0
1992	109.5	76.1	14.5	2.9	...	...	16.0(*)
1993	93.5	67.2	13.0	2.6	...	...	10.6(*)

(*) Includes turtles and amphibians.
... Information is not available

Source: *Statistical Yearbook of Cuba*, 1987 (1965-86 data), 1989 (1987-89 data), 1991 (1990-91 data); FAO, *Fishery Statistics, Catches and Landings*, 1991 (1990-91 data); State Committee of Statistics.

Annex 4. Cuban unloading by groups of species.
(includes river and lake fishing)
(in 1,000 tons)

YEAR	TOTAL	FISH	CRUSTAC.	MOLUSC	TURTLES	AMPHIBIANS	OTHERS
1965	40.3	25.9	11.4	2.8	.1	.1	.0
1970	91.4	68.7	12.9	4.8	1.0	.2	3.8
1975	113.8	67.4	17.4	3.3	1.4	.4	23.9
1976	138.9	87.1	19.5	8.0	1.0	.3	23.0
1977	136.4	92.8	16.1	1.9	.9	.2	24.5
1978	170.5	117.6	19.1	2.4	.9	.2	30.3
1979	124.9	78.0	17.8	3.2	.8	.2	24.9
1980	152.7	104.9	16.6	2.4	.7	.2	27.9
1981	126.0	86.1	16.6	3.2	.7	.4	19.0
1982	152.4	104.7	18.7	4.2	.7	.4	23.7
1983	164.7	115.9	17.1	4.2	.7	.4	26.4
1984	170.8	119.1	18.8	4.7	.6	.4	27.2
1985	182.9	126.5	20.1	4.7	.8	.3	30.5
1986	193.8	133.2	18.5	8.3	.6	.3	32.9
1987	182.9	122.6	19.2	10.9	.5	.1	29.6
1988	178.1	119.0	18.7	9.5	.4	.2	30.3
1989	170.4	113.9	17.1	7.9	.4	.2	30.9
1990	161.5	115.8	12.8	9.0	...	...	23.9(*)
1991	78.7	43.0	13.2	2.9	...	...	19.5(*)
1992	76.2	44.9	12.4	2.9	...	...	16.1(*)
1993	59.5	34.7	10.9	-	...	...	13.9(*)

(*) Includes turtles and amphibians.
... Information is not available
- Quantity is less than 100 tons

Source: *Statistical Yearbook of Cuba*, 1987 (1965-86 data), 1989 (1987-89 data); State Committee of Statistics.

Annex 5. Processed fish production in Cuba.

PRODUCT	UNIT	1970	1975	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
FROZEN WHOLE SEA FISH	1000 T	...	18.0	29.3	24.4	26.6	40.8	38.7	46.8	57.7	44.9	58.3	40.7				
EVIS. DECAP. SEA FISH	1000 T	...	10.3	26.3	27.8	41.9	32.4	29.7	25.3	31.5	26.3	25.8	17.7				
SELECT FROZEN SEA FISH	Ton	-	-	2932.4	2823.9	2737.5	2022.9	2269.1	3076.3	3347.8	5013.7	5096.8	3386.9				
DOUGH OF FISH	Ton	-	-	553.7	1797.3	2433.6	2979.7	4774.1	5517.4	7531.8	6757.1	5217.0	3820.9				
FISH FILET	Ton	354.1	815.7	11.2	638.0	2644.7	3271.6	4770.5	5381.0	6544.2	6074.8	4883.3	2878.4	1645	389		
CANNED TUNA	Ton	1111.0	559.6	954.6	758.9	906.4	1129.5	935.9	858.9	1019.6	1834.0	1845.9	1144.3	1297	1147		
WHOLE PRECOOK. FROZ. LOBS.	Ton	663.4	3348.8	3167.7	4338.2	4780.1	4043.5	5761.0	6952.5	5125.0	5645.2	5501.0	5597.0				
FROZEN LOBSTER TAIL	Ton	1312.0	1347.4	2021.6	1510.8	1755.2	1747.2	1732.9	1381.7	1554.1	1698.0	1423.6	1224.0				
FROZEN WHOLE SHRIMP	Ton	1062.4	2121.3	3420.3	3292.2	3739.5	3265.8	2977.1	3625.5	3466.1	3656.7	3720.1	3114.0				
FROZEN SHRIMP TAIL	Ton	2322.5	3328.3	1096.7	435.5	515.0	428.6	381.1	433.3	354.8	420.6	425.0	339.9	518	619		
TOTAL FISH MEAL	Ton	2848.5	7704.4	6179.6	5469.6	7812.8	6029.7	5973.6	9316.6	10171.9	6828.1	8211.5	7814.2	5636	3799		
FRESH WATER FISH MEAL	Ton	1456.4	1110.7	581.0	558.0	971.3	1019.4	1068.9	1111.5	926.9	135.4	739.2	915.3				
SEA WATER FISH MEAL	Ton	1392.1	6593.7	5598.6	4911.6	6841.5	5010.3	4904.7	8205.1	9245.0	6692.7	7472.3	6898.9	6842	3696	2782	2172

Source: *Statistical Yearbook of Cuba*, 1984 pg. 154 (1980, 1982-84 data), 1987 pg. 255 (1985-86 data), 1986 pg. 254 (1970, 1975, 1981 data), 1989 pg. 160 (1987-89 data); FAO, *Fishing Statistics, Products*, 1991 (1990-91 data).

Annex 6. Flows of foreign commerce in the Cuban fishing industry sector (volume and value).

SECTOR-PRODUCT TABLE *** 1981-90 EXPORTS ***
VOLUME

PRODUCT	UNITS	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
** FISH PRODUCTION SECTOR											
FRESH AND FROZEN WHOLE FISH	T	12282	2447	13053	7937	5483	16105	10543	9556	8469	7137
FRESH AND FROZEN PROCESS. FISH	T	4997	12424	9700	7291	15793	5982	942	3110	1517	942
FRESH AND FROZEN LOBSTER	T	6230	6241	5779	6913	7947	8273	7697	7037	7144	5140
FRESH AND FROZEN SHRIMP	T	4062	4254	3951	3072	4423	4368	4023	4156	3461	2955
FRESH AND FROZEN CRAB	T	0	0	0	0	0	0	0	0	0	0
FRESH AND FROZEN FROG	T	0	40	54	33	29	29	33	37	30	22
FRESH AND FROZEN OYSTER	T	0	0	0	0	0	0	0	0	0	0
FRESH AND FROZEN SQUID	T	309	0	0	0	0	1500	0	0	0	0
CANNED NATIONAL FISH	T	601	47	410	538	749	588	476	775	567	781
CANNED IMPORTED FISH	T	0	7	404	0	0	0	0	0	0	0
FOOD FISHING PRODUCTS	P	0	0	0	0	0	0	0	0	0	0
NON-FOOD FISHING PRODUCTS	P	0	0	0	0	0	0	0	0	0	0
TOTAL		28481	25460	33351	25784	34424	36845	23714	24671	21188	16977

SECTOR-PRODUCT TABLE *** 1981-90 EXPORTS ***
VALUE IN THOUSANDS OF PESOS

PRODUCT	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
** FISH PRODUCTION SECTOR										
FRESH AND FROZEN WHOLE FISH	7023.7	912.8	4950.0	3969.6	2865.6	4873.2	3835.8	3259.3	2898.7	2337.4
FRESH AND FROZEN PROCESS. FISH	7582.9	10920.1	9787.0	7442.9	10893.5	5560.4	1199.3	2517.7	1887.0	831.9
FRESH AND FROZEN LOBSTER	54892.4	62776.2	62073.3	61286.3	77148.6	86852.7	101852.3	100121.7	93217.7	71429.8
FRESH AND FROZEN SHRIMP	24683.1	22200.0	25898.6	16092.9	24099.5	23296.0	32973.1	38808.6	29589.0	24796.9
FRESH AND FROZEN CRAB	0.0	0.0	0.0	0.0	1.1	0.0	0.0	0.0	0.0	0.0
FRESH AND FROZEN FROG	0.0	98.4	157.4	95.2	96.8	112.8	131.5	167.6	107.5	100.3
FRESH AND FROZEN OYSTER	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0
FRESH AND FROZEN SQUID	144.5	0.0	0.0	0.0	0.0	1264.3	0.0	0.0	0.0	0.0
CANNED NATIONAL FISH	1969.0	167.1	1070.2	1275.1	2083.6	1267.6	911.3	2063.9	1184.9	1293.1
CANNED IMPORTED FISH	0.0	25.4	1036.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
FOOD FISHING PRODUCTS	296.7	346.8	407.1	515.4	818.9	677.2	1236.0	1475.3	728.3	1236.8
NON-FOOD FISHING PRODUCTS	1706.7	1194.3	1197.6	1152.7	1609.2	1699.0	3524.6	3001.3	1593.3	3102.2
** Subtotal **	98299.0	98641.1	106577.7	91830.1	119617.0	125603.2	145663.9	151395.4	131206.4	105128.4
*** Total ***	98299.0	98641.1	106577.7	91830.1	119617.0	125603.2	145663.9	151395.4	131206.4	105128.4

Annex 6 (continued)

SECTOR-PRODUCT TABLE *** 1981-90 IMPORTS ***
VOLUME

PRODUCT	UNITS	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
** SELECTED INPUTS											
POLYETHYLENE TO PACK FISH	MU	0	0	0	0	3950	0	0	0	0	0
NETS USED IN FISHING NETS	P	0	0	0	0	0	0	0	0	0	0
ACC FOR NETS AND PALANGRE	P	0	0	0	0	0	0	0	0	0	0
HOOKS	P	0	28500	962	5435	0	0	0	4550	550	0
WHOLE NETS	P	0	0	0	0	0	0	0	0	0	0
LIGHTING LAMPS FOR FISHING	P	0	0	0	0	0	0	0	0	0	0
ARTIFICIAL AND SYNTHETIC CORDS	P	0	0	0	0	0	0	0	592791	790376	512867
OTHER FISHING EQUIPMENT	P	0	0	0	0	0	0	0	0	0	0
MACHINERY TO PROCESS SEA FISH	U	0	7	15	28	23	55	11	30	25	12
PPA MACHINERY FOR THE FISH. IND.	P	0	0	0	0	0	0	0	0	0	0
** FISH PRODUCTS											
FRESH AND FROZEN WHOLE FISH	T	12775	9142	10608	7616	9222	7094	3254	4296	455	988
FRESH AND FROZEN PROCESSED FISH	T	19227	20165	23037	15959	29857	30338	37186	27209	29033	31299
FRESH AND FROZEN SQUID	T	31	22	1	3387	1133	0	476	0	0	0
IMPORTED CANNED FISH	T	5227	6738	6250	3036	0	12666	10304	15368	11222	10272
CANNED SEAFOOD	T	0	0	0	0	0	0	0	0	0	0
SALTED FISH PRODUCTS	T	0	359	556	0	0	66	1062	1983	399	0
DRY FISH PRODUCTS	T	0	0	0	30	0	0	0	0	0	0
PICKLED FISH PRODUCTS	T	10656	5151	7124	4987	534	0	0	0	0	0
FOOD FISHING PRODUCTS	P	0	0	0	0	0	0	0	0	0	0
NON-FOOD FISHING PRODUCTS	P	0	0	0	0	0	0	0	0	0	0

Annex 6 (continued)

SECTOR-PRODUCT TABLE *** 1981-90 IMPORTS ***
VALUE IN THOUSANDS OF PESOS

PRODUCT	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
** SELECTED INPUTS										
POLYETHYLENE TO PACK FISH	26.7	0.0	0.0	134.6	21.5	0.0	0.0	0.0	0.0	0.0
NETS USED IN FISHING NETS	1182.2	1153.6	1527.0	2239.2	2286.8	0.0	0.0	876.7	1343.0	1013.0
ACC FOR NETS AND PALANGRE	351.8	544.4	690.0	636.6	485.8	0.0	0.0	472.1	404.9	188.3
HOOKS	44.5	88.7	72.0	75.1	50.1	0.0	0.0	112.4	20.3	0.0
WHOLE NETS	535.8	535.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LIGHTING LAMPS FOR FISHING	41.7	5.1	141.0	83.1	47.6	0.0	0.0	95.0	10.1	31.1
ARTIFICIAL AND SYNTHETIC CORDS	1138.1	1322.6	2066.8	2099.6	2880.4	0.0	0.0	2037.0	2779.5	2433.8
OTHER FISHING EQUIPMENT	50.0	16.0	59.3	73.6	143.2	0.0	0.0	214.1	1299.4	66.4
MACHINERY TO PROCESS SEA FISH	145.5	943.2	165.9	355.5	271.4	399.2	293.0	336.0	824.6	109.0
PPA MACHINERY FOR THE FISH. IND.	142.9	276.0	7.4	94.1	51.5	89.5	45.3	120.7	271.7	220.2
** Subtotal **	3659.2	4885.3	4729.4	5791.4	6238.3	488.7	338.3	4264.0	6953.3	4061.8
** FISH PRODUCTS										
FRESH AND FROZEN WHOLE FISH	6320.2	4872.1	5755.1	3971.8	4405.9	3446.6	1442.8	1946.9	300.4	540.8
FRESH AND FROZEN PROCESSED FISH	14796.0	14514.0	15797.2	12676.4	21362.3	18323.3	24868.3	18328.6	24806.0	21683.2
FRESH AND FROZEN SQUID	11.9	9.5	0.3	1710.7	624.2	0.0	240.9	0.0	0.0	0.0
IMPORTED CANNED FISH	8934.8	9447.8	10154.2	4915.5	0.0	19068.3	15123.3	23009.7	16393.5	15661.2
CANNED SEAFOOD	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0
SALTED FISH PRODUCTS	0.0	692.4	1026.2	0.0	0.0	135.3	1792.4	2425.5	1368.2	0.0
DRY FISH PRODUCTS	0.0	0.0	0.0	67.1	0.0	0.0	0.0	0.0	0.0	0.0
FISH PRODUCTS IN PICKLE	8505.9	5554.1	8359.8	5649.6	583.7	0.0	0.0	0.0	0.0	0.0
FOOD FISHING PRODUCTS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.9	155.1
NON-FOOD FISHING PRODUCTS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	97.3	0.0
** Subtotal **	38568.8	35089.9	41092.8	28991.4	26976.1	40973.5	43467.7	45710.7	42971.3	38040.3
*** Total ***	42228.0	39975.2	45822.2	34782.8	33214.4	41462.2	43806.0	49974.7	49924.6	42102.1

Annex 7. Competitiveness of Cuban fishing products.

YEAR	TOTAL EXPORTS		FRESH AND PROCESSED FISH		FRESH AND PROCESSED SEAFOOD	
	CSC	PCR	CSC	PCR	CSC	PCR
1980	0.96	0.28	0.04	-0.03	1.59	1.84
1981	0.91	0.22	-0.35	-0.28	1.82	1.98
1982	1.94	0.73	-0.11	-0.11	2.16	2.36
1983	1.94	0.77	-0.07	-0.09	2.06	2.23
1984	1.04	0.38	0.03	-0.04	1.13	1.16
1985	1.17	0.38	-0.40	-0.42	1.66	1.71
1986	1.65	0.39	-0.29	-0.26	2.03	1.49
1987	1.76	0.32	-0.47	-0.24	2.15	1.25
1988	1.68	0.27	-0.48	-0.24	2.09	1.17
1989	1.41	0.27	-0.43	-0.20	1.81	1.04
1990	1.22	0.18	-0.45	-0.15	1.60	0.74
1991	...	0.30	...	-0.05	...	0.90

Where:

$$CSC_{ij} = \left(\frac{X_{ij}-M_{ij}}{X_{it}+M_{it}} - \frac{X_{it}-M_{it}}{X_{it}+M_{it}} * \frac{X_{ij}+M_{ij}}{X_{it}+M_{it}} \right) * 100$$

X_{ij}: Exports of country i in sector j

M_{ij}: Imports by country i in sector j

X_{it}: Total exports of country i

M_{it}: Total imports by country i

W_{wj}: World trade in sector j
(in this case the world exports are taken)

CSC:Contribution to the commercial balance
PCR:Relative competitiveness

Source: Gálvez, 1992 (indicators until 1986); computed by the author (1987-91 indicators).

Annex 8. Cuban nominal catch by species.

GROUP OF SPECIES/Specie		Fishing zone	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1980-89	Estr.(%)	1990	1991	1990-91	Estr.(%)
FRESHWATER FISH	FRESHWATER FISH		5737	8822	11720	12677	14529	15473	15772	16357	14793	17874	133762	6.5	22134	20345	42479	12.0
CIPRINIDOS	CIPRINIDS		105	99	280	385	252	459	414	472	1240	1860	5566	.3	2873	3452	6325	1.8
Grass carp	Grass carp	02					...	7	17	17	42	31	114	.0	42	45	87	.0
Silver carp	Silver carp	02					...	213	257	257	803	1360	2890	.1	2315	2973	5288	1.5
Ciprinidos nep	Cyprinids nei	02	105	99	280	385	252	239	140	198	395	469	2562	.1	516	434	950	.3
CICLIDOS	CICHLIDS		5059	8376	11136	12004	14042	14890	15224	15432	13268	15748	125175	6.1	18864	16743	35607	10.1
Blue tilapia	Blue tilapia	02	5059	8376	11136	12004	14042	14890	15224	15432	13052	15551	124766	6.1	18663	16567	35230	10.0
Tilapias nep	Tilapias nei	02									216	193	409	.0	201	176	377	.1
PECES AGUA DULCE DIV.	MISCELL. FRESHWATER FISH		573	347	312	288	235	124	134	453	285	270	3021	.1	397	150	547	.2
Buffalo fish	Buffalo fish	02					...	...	...	...	34	22	56	.0	13	4	17	.0
Channel catfish	Channel catfish	02					...	...	...	...	92	111	203	.0	220	76	304	.1
Peces de agua dulce nep	Freshwater fish nei	02	573	347	312	288	235	124	134	453	159	137	2762	.1	156	70	226	.1
PECES DIADROMOS	DIADROMOUS FISH		82	53	72	99	88	66	67	85	57	85	756	.0	38	35	73	.0
Anguila americana	American eel	02	-	-	0	0	0	0	0	0	0	1	1	.0	0	0	0	.0
Truchas nep	Trouts nei	02	82	53	72	99	88	66	67	85	57	84	753	.0	38	35	73	.0
PECES MARINOS	MARINE FISH		150127	132471	150177	162214	159302	172599	199997	166056	186339	147653	1643015	80.2	143447	122491	265938	75.2
PLATIJAS,HALIB.,LENGUADOS	FLOUNDERS,HALIBUTS,SOLES		25	2	11	84	52	193	169	28	20	6	590	.0	61	75	136	.0
Peces planos nep	Flatfish nei	21,34,87	23	2	3	66	11	40	37	14	0	0	196	.0	36	24	60	.0
Falso halibut del Canadá	Summer flounder	21	-	-	-	-	3	-	-	-	-	-	3	.0	-	2	2	.0
Halibut	Atlantic Halibut	21	2	0	1	5	4	40	42	3	0	1	98	.0	3	8	11	.0
Mendo	Witch flounder	21	-	-	2	-	0	34	46	5	3	-	90	.0	-	-	0	.0
Platija canadiense	Amer. plaice (Long rough)	21	-	-	-	10	20	61	30	5	13	5	144	.0	21	40	61	.0
Limanda nórdica	Yellowtail flounder	21	-	0	2	0	14	18	4	1	1	-	40	.0	1	1	2	.0
Lenguados australes nep	Southeast Atlantic sole	47	-	-	3	3	-	-	10	-	3	-	19	.0	-	-	0	.0
BACALAOS,MERLUZAS,EGLEF.	CODS,HAKES,HADDOCKS		2655	1446	12488	23376	30593	31300	28617	23947	30841	19189	212540	10.4	18257	19232	37489	10.6
Brosmio	Tusk (Cusk)	21	-	-	-	-	-	24	4	-	7	-	35	.0	-	0	0	.0
Bacalao del Atlántico	Atlantic cod	21	114	36	36	60	40	136	51	36	22	31	562	.0	84	77	161	.0
Locha roja	Red hake	21	52	5	93	189	108	92	133	225	56	146	1099	.1	107	203	310	.1
Locha blanca	White hake	21	-	-	-	-	-	9	-	-	1	5	15	.0	-	-	0	.0
Eglefino	Haddock	21	20	15	41	130	236	91	79	74	98	176	960	.0	95	44	139	.0
Carbonero (=Colin)	Saithe (Pollock)	21	33	1	85	261	123	70	389	343	225	568	2898	.1	263	458	721	.2
Merluza senegalesa	Senegalese hake	38	-	-	-	-	104	-	-	-	-	-	104	.0	-	-	0	.0
Merluza norteamericana	Silver hake	21	2380	642	11970	7410	14496	17727	16321	20277	9814	14541	114786	5.6	13926	18450	32376	9.2
	Chilean hake	87	-	747	-	-							747	.0			0	.0
Merluza del Pacífico Sur	South Pacific hake	87					0	3	5618	1355	20826	2588	30370	1.5	-	-	0	.0
Merluza argentina	Argentine hake	41	-	-	-	-	4	29	240	59	26	29	387	.0	6	-	4	.0
Merluza de Benguela	Benguela hake	47	-	-	-	-	-	-	-	-	-	-	0	.0	-	-	0	.0
Merluzas nep	Hakes nei	41,87					-	-	8	-	-	-	8	.0	-	-	0	.0
Merluzas del Cabo	Cape hake	47	56	-	263	15318	23482	13202	5779	1578	566	1113	61357	3.0	3776	-	3776	1.1
Gadiformes nep	Gadiformes nei	41	0	0	0	0	0	5	3	-	-	-	8	.0	2	-	2	.0

Annex 8. (CONTINUED)

GROUP OF SPECIES/Specie		Fishing zone	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1980-89	Estr.(%)	1990	1991	1990-91	Estr.(%)
GALLINETAS,RUBINAS,CONGR.	REDFISH,BASS,CONGERS		16058	14961	17451	17559	16640	16027	18449	19367	18260	21522	176782	8.6	19298	15257	34555	9.8
Argentinas	Argentines	21	4	-	54	364	152	177	55	6	29	5	846	.0	59	52	111	.0
Congrios nep	Conger eels nei	47	111	-	-	-	-	-	-	-	-	-	111	.0	-	-	0	.0
Percomorfos demers. nep	Demersal percomorphs nei	34,41,47	10	-	10	375	54	284	26	101	25	10	895	.0	7	-	7	.0
Cherna criolla	Nassau grouper	31	656	385	409	377	341	403	262	332	262	263	3690	.2	159	151	310	.1
Mero americano (=Garoupa)	Red grouper	31	2929	2356	2098	1652	2070	1815	1914	2076	2189	2580	21679	1.1	1164	915	2079	.6
Meros nep	Groupers nei	31,47	-	347	519	529	276	549	576	426	317	445	3984	.2	195	183	378	.1
Cabrilla loca	Peruvian rock seabass	87					-	-	6	-	-	-	6	.0	-	-	0	.0
Pargo colorado	Southern red snapper	31	1067	976	1049	1239	1092	1443	1226	1698	1405	1380	12575	.6	1232	149	1381	.4
Pargo biajaiba	Lane snapper	31	1336	1366	1719	1872	2109	1705	1839	1798	2007	2029	17860	.9	1751	1597	3348	.9
Rabirrubia	Yellowtail snapper	31	590	748	959	923	898	947	904	1070	851	948	8838	.4	740	704	1444	.4
Lutjánidos nep	Snappers, jobfish, nei	31,34,41,47	1240	1300	987	689	526	454	439	476	412	459	6982	.3	359	1111	1470	.4
Mojarras	Ponyfish (Slipmouths) nei	31	556	1108	1159	1092	1265	1201	1095	1170	1333	1247	11226	.5	1487	1815	3302	.9
Burros, roncos, etc. nep	Grunts, sweetlips, etc. nei	31,34,47	2052	1999	1878	1790	1934	1895	1827	1940	1805	2196	19316	.9	1969	1704	3673	1.0
Verrugato común	Shi drum (Corb)	34	-	-	-	-	1	0	0	-	-	-	1	.0	-	-	0	.0
Corvina africana	Southern meagre (Kob)	47	-	-	-	-	2	-	-	-	-	-	2	.0	-	-	0	.0
Corvina casava	Cassava croaker	34	-	-	-	-	5	-	-	-	-	-	5	.0	-	-	0	.0
Esciénidos nep	Croakers, drums nei	87					-	-	-	-	35	-	35	.0	-	-	0	.0
Sargos nep	Sargo breams nei	34	-	-	-	-	1	-	-	-	-	-	1	.0	-	-	0	.0
Plumas	Porgies	31	198	327	454	453	518	508	456	520	494	527	4447	.2	474	436	910	.3
Cachucho	Largeeye dentex	34,47	18	-	8	-	121	146	221	117	13	847	1491	.1	235	-	235	.1
Dentón angolés	Angolan dentex	47	602	-	-	-	-	-	-	-	-	-	602	.0	-	-	0	.0
Dentones, samas, etc. nep	Dentex nei	34	-	-	-	-	32	-	-	-	-	-	32	.0	-	-	0	.0
Pargos nep	Pargo breams nei	34	-	-	-	-	34	-	-	-	-	-	34	.0	-	-	0	.0
Dentones, sargos, etc nep	Porgies, seabr., etc. nep	47,87	-	-	-	-	-	-	-	-	71	1774	1845	.1	27	-	27	.0
Perritos del norte nep	Wolffish (Catfish) nei	21	-	-	-	-	-	3	-	-	-	-	3	.0	-	2	2	.0
Congribadejo del Cabo	Kingklip	47	-	-	-	-	-	-	-	-	-	-	0	.0	-	-	0	.0
Brotulas, congribad. nep	Cusk-eels, brotulas nei	31	...	...	...	...	...	...	...	...	...	...			...	402	402	.1
Cojinobas	South Pacific breams	87					-	-	115	-	-	-	115	.0	-	-	0	.0
Gallinetas del Atlántico	Atlantic redfish	21	4689	4049	6142	6174	5209	4785	7454	7624	7009	6818	59945	2.9	9434	6019	15453	4.4
Rascacios, gallinetas nep	Scorpionfish, etc nei	61					-	-	-	-	7	-	7	.0	-	-	0	.0
	Monk (Anglerfish)		-	-	6	30							36	.0			0	.0
Rape americano	American angler (Goosefish)	21	-	-	-	-	-	15	34	13	4	2	68	.0	6	17	23	.0
Rape del Cabo	Cape Monk	47					-	25	-	-	-	-	25	.0	-	-	0	.0
JURELES,LISAS,PAPARDAS	JACKS,MULLETS,SAURIES		88709	75027	85241	71762	54010	50536	70190	72364	70986	52504	699329	34.2	49604	31631	81235	23.8
Pez linterna (Olivar)	Lanternfish	47	-	-	-	-	10	-	-	-	-	-	10	.0	-	-	0	.0
Capelán	Capelin	21	-	-	-	-	-	3	-	-	-	-	3	.0	85	123	208	.1
Voladores nep	Flyingfish nei	87					-	-	3692	-	-	-	3692	.2	-	-	0	.0
Mugil (Pardete)	Flathead grey mullet	34	-	-	-	-	12	-	-	-	-	-	12	.0	-	-	0	.0
Lizas nep	Mullets nei	31	614	520	619	583	713	318	379	391	196	223	4564	.2	134	259	393	.1
Percomorfos pelágicos nep	Pelagic percomorphs nei	34,47,87	16	-	25	469	55	36	-	-	2463	122	3186	.2	3	-	3	.0
Jurel chileno	Chilean jack mackerel	87	83971	74227	83881	54875	34008	32258	46833	35980	44289	24486	514728	25.1	41197	30828	72025	20.4
Jurel del Cabo	Cape horse mackerel	47	3732	-	336	15440	10508	21647	18689	35470	23637	27146	156605	7.6	7720	-	7720	2.2
Jurel cunene	Cunene horse mackerel	47	-	-	-	-	-	-	-	-	-	-	0	.0	-	-	0	.0
Jureles nep	Jack and horse mackerel	34,41	-	-	-	-	8248	3803	47	-	0	0	12098	.6	-	-	0	.0
Jurel común	Crevelle jack	34	0	0	0	0	0	17	-	-	-	-	17	.0	-	-	0	.0
Jureles, pámpanos nep	Jack, crevelles nei	31,34	366	272	380	395	450	452	550	523	481	527	4396	.2	465	421	886	.3
Palometa fiatola	Blue butterfish	34,47	-	-	-	-	6	2	-	-	-	-	8	.0	-	-	0	.0
Palometa pintada	Atlantic butterfish	21	10	-	-	-	-	-	-	-	-	-	10	.0	-	-	0	.0
	Butterf., silver pomfrets		-	-	-	-							0	.0			0	.0

Annex 8. (CONTINUED)

GROUP OF SPECIES/Specie		Fishing zone	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1980-89	Estr.(%)	1990	1991	1990-91	Estr.(%)
ARENQUES, SARDINAS, ANCHOAS	HERRINGS, SARDINES, ANCHOVIES		2378	3021	3003	2860	3448	15315	26353	4062	14975	8436	83851	4.1	16442	22633	39075	11.1
Arenque del Atlántico	Atlantic herring	21	7	-	1	0	-	6	53	38	81	447	633	.0	368	338	706	.2
Sardinela atlántica	Round sardinella	34	-	-	-	-	1070	499	-	-	-	-	1569	.1	-	-	0	.0
Sardinelas nep	Sardinellas nei	34,47	-	-	-	95	-	69	32	4	80	106	386	.0	-	-	0	.0
Sardina chilena	South American pilchard	87	-	696	622	-	49	102	8515	1474	178	669	12305	.6	98	64	162	.0
Sardina de Africa Austral	Southern African pilchard	47	-	-	-	12	-	-	3	-	-	3	18	.0	-	-	0	.0
Sardinetas	Scaled sardines	31	626	588	450	397	346	399	617	402	594	689	5108	.3	522	739	1261	.4
Machuelo hebra atlántico	Atlantic thread herring	31	1745	1737	1930	2356	1938	2400	2406	1790	2268	2151	20721	1.0	2511	2550	5061	1.4
Sardina europea	European pilchard	34	-	-	-	-	5	575	-	-	-	-	580	.0	-	-	0	.0
Araucanian herring	Araucanian herring	87	-	-	-	-	29	11265	14727	274	11774	4371	42440	2.1	12943	18942	31885	9.0
Anchoa europea (Boquerón)	European anchovy	34	-	-	-	-	10	-	-	-	-	-	10	.0	-	-	0	.0
Anchoas nep	Anchovies nei	47	-	-	-	-	1	-	0	-	-	-	1	.0	-	-	0	.0
ATUNES, BONITOS, AGUJAS	TUNAS, BONITOS, BILLFISH		11882	9647	8595	8984	9610	8846	8015	7675	6619	5207	85080	4.2	4656	3933	8589	2.4
Bonito Atlántico	Atlantic bonito	47					-	-	-	23	173	26	222	.0	28	-	28	.0
Carite Atlántico	Atlantic Spanish mackerel	31	570	657	476	689	544	443	621	1606	802	746	7162	.3	665	538	1203	.3
	Little tunny		131	53	77	6							267	.0			0	.0
Barrilete negro del Atl.	Atlantic black skipjack	31,34					15	16	24	55	53	113	276	.0	88	63	151	.0
Listado	Skipjack tuna	31,34,87	2451	1204	1323	1835	1550	1878	1860	1182	1897	1821	17089	.8	1566	1649	3215	.9
Atún común (Cimarrón)	Northern bluefin tuna	31	-	-	-	-	-	-	-	-	-	-	0	.0	-	-	0	.0
Atún aleta negra	Blackfin tuna	31	-	721	622	550	487	157	486	634	332	318	4315	.2	687	318	805	.2
Atún blanco (Bonito d N)	Albacore	31,34,87	58	101	111	74	136	47	54	27	6	1	615	.0	4	17	21	.0
Rabil	Yellowfin tuna	31,34	5817	4942	3754	2709	4005	3491	3343	2357	1792	794	33004	1.6	851	676	1527	.4
Patudo	Bigeye tuna	31,34,87	1385	711	521	421	447	239	170	190	151	87	4322	.2	62	34	96	.0
Pez vela del Atl.	Atlantic sailfish	31,34	198	213	339	228	204	149	105	221	100	108	1945	.1	286	267	553	.2
Aguja azul del Atl.	Atlantic blue marlin	31,34	349	286	436	396	373	451	204	205	285	233	3218	.2	124	139	263	.1
Aguja blanca del Atl.	Atlantic white marlin	31,34	282	305	250	840	394	512	417	92	37	43	3172	.2	...	...	0	.0
Pez espada	Swordfish	31,34	594	374	686	1228	1367	1463	731	1083	991	917	9434	.5	695	232	727	.2
Peces parec. a atunes nep	Tuna-like fish nei	31,34	39	-	-	-	-	-	-	-	-	-	39	.0	-	-	0	.0
CABALLAS, SIERRAS, P-SABLE	MACKERELS, SNOEKS, CUTLASSF.		3110	3242	2123	1000	736	3715	9946	1338	7402	2886	35498	1.7	5489	3491	8980	2.5
Sierra	Snoek	47	-	-	-	171	0	-	10	14	-	135	330	.0	-	-	0	.0
Pez sable	Largehead hairtail	34,47	4	-	-	224	122	9	35	-	-	23	417	.0	-	-	0	.0
Estornino	Chub mackerel	31,34,47,87	2852	3239	2123	604	36	244	172	175	64	6	9515	.5	2	-	2	.0
Caballa del Atl.	Atlantic mackerel	21	254	3	-	1	32	131	80	30	144	114	789	.0	388	59	639	.1
Peces parec. caballas nep	Mackerel-like fish nei	34,87	-	-	-	-	546	3331	9649	1111	7194	2608	24439	1.2	5107	3432	8539	2.4
TIBURONES, RAYAS, QUIMERAS	SHARKS, RAYS, CHIMAERAS		3077	5357	4571	5317	4315	4784	3427	3621	3301	3759	41529	2.0	3129	2017	5146	1.5
Galludos, tollos nep	Dogfish sharks nei	21	-	-	-	8	-	0	0	134	0	0	142	.0	0	0	0	.0
Rayas	Skates	21	-	-	-	24	-	31	-	-	0	0	55	.0	0	3	3	.0
Tiburones, rayas nep	Sharks, rays, skates, etc	31,34,41,87	3077	5357	4571	5285	4315	4753	3427	3487	3301	3759	41332	2.0	3129	2014	5143	1.5
PECES MARINOS DIVERSOS	MISC. MARINE FISH		30233	19768	24694	31272	31978	33395	34831	33662	33927	34144	307904	15.0	26511	24222	50733	14.4
Peces de fondo nep	Groundfish nei	21	53	40	22	73	50	14	11	0	1	22	286	.0	7	30	37	.0
Peces pelágicos nep	Pelagic fish nei	21	24	-	20	0	-	-	-	0	0	0	44	.0	-	-	0	.0
Peces marinos nep	Marine fish nei	31,34,41,47,87	30156	19728	24652	31199	31928	33381	34820	33662	33926	34122	307574	15.0	26504	24192	50696	14.3

ANNEX 8. (CONTINUED)

GROUP OF SPECIES/Specie		Fishing zone	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1980-89	Estr.(%)	1990	1991	1990-91	Estr.(%)
CRUSTACEOS	CRUSTACEANS		17233	16088	19203	17402	19213	20683	19170	20066	19523	17566	186947	9.1	13017	15448	28465	8.1
CRUSTACEOS AGUA DULCE	FRESHWATER CRUSTACEANS		158	938	1369	874	1138	1032	1416	0	503	0	7428	.4	1206	1374	2580	.7
Crustáceos agua dulce nep	Freshwater crustaceans nei	02	158	938	1369	874	1138	1032	1416	-	503	-	7428	.4	1206	1374	2580	.7
CENTOLLAS,CANGREJOS	SEA-SPIDERS,CRABS		817	634	910	1085	1187	1213	1319	1009	2709	2303	13184	.6	1339	1278	2617	.7
Cangrejo de piedra negro	Black stone crab	31	817	83	195	180	177	159	122	104	86	35	1958	.1	3	3	6	.0
Jaiba azul	Blue crab	31	-	551	715	905	1010	1052	1197	905	1481	1555	9371	.5	919	958	1877	.5
Cangrejos de mar nep	Marine crabs nei	31					...	...	...	...	1142	713	1855	.1	417	317	734	.2
BOGAVANTES, LANGOSTAS	LOBSTERS,SPINY-ROCK LOBST.		10567	10663	11674	10929	12644	13578	11795	12795	11710	11170	117525	5.7	7957	9887	17844	5.0
Langosta comun	Caribbean spiny lobster	31	10567	10663	11674	10929	12644	13578	11795	12795	11710	11170	117525	5.7	7957	9887	17844	5.0
GAMBAS,CAMARONES	SHRIMP,PRAWNS		5633	4526	5249	4506	4226	4842	4594	4954	4445	4029	47004	2.3	2381	2861	5242	1.5
Langostino de Guinea	Northern pink shrimp	31	3943	3168	3674	3154	2958	3373	4135	4883	4445	4029	37762	1.8	2381	2858	5239	1.5
Langostinos nep	Peaneus shrimps nei	02,31	1690	1358	1575	1352	1268	1469	459	71	-	-	9242	.5	-	0	0	.0
Decápodos natantia nep	Natantian decapods nei	47	-	-	-	-	-	-	-	-	-	-	0	.0	-	3	3	.0
CRUSTAC. MARINOS DIVERSOS	MISC. MARINE CRUSTAC.		58	127	1	0	18	20	46	1308	156	66	1806	.1	134	48	182	.1
Crustáceos marinos nep	Marine crustaceans nei	31,47	58	127	1	0	18	20	46	1308	156	66	1806	.1	134	48	182	.1
MOLUSCOS	MOLLUSCS		4015	5117	4053	4544	5098	9534	8360	11376	9596	8017	69708	3.8	8676	6337	15013	4.2
OREJAS MAR,ESTROMBOS,BIG.	ABALONES,CONCHES,WINKLES		0	0	77	766	714	680	252	212	219	272	3190	.2	83	82	165	.0
Gasterópodos nep	Gastropods nei	31	-	-	-	-	30	63	221	20	4	32	370	.0	22	19	41	.0
Cobos	Stromboid conches	31	-	-	77	766	684	617	31	192	215	240	2820	.1	61	63	124	.0
OSTRAS	OYSTERS		2012	2525	2577	2370	2705	2533	2535	2195	2432	2316	24200	1.2	2152	2052	4204	1.2
Ostión de mangle	Mangrove cupped oyster	31	2012	2525	2577	2370	2705	2533	2535	2195	2432	2316	24200	1.2	2152	2052	4204	1.2
ALMEJAS,BERBER.,ARCAS	CLAMS,COCKLES,ARKSHELLS		0	712	1267	1407	1581	1772	1852	1789	1760	1893	14033	.7	1740	1288	3036	.9
Arcas	Ark clams	31	-	712	1267	1345	1517	1694	1827	1789	1760	1893	13804	.7	1740	1288	3036	.9
Almejas nep	Clams nei	31	-	-	-	62	64	78	25	-	-	-	229	.0	-	-	0	.0
CALAMARES,JIBIAS,PULPOS	SQUIDS,CUTTLEFI.,OCTOPUSES		2003	1880	132	3	98	4549	3321	7178	5185	3536	28285	1.4	4693	2915	7608	2.2
Calamar pálido	Longfin squid	21	3	-	-	-	-	-	-	-	-	-	3	.0	-	-	0	.0
Pota norteña	Shortfin (Northern) squid	21	1587	1875	93	3	34	0	4	5	156	1257	5022	.2	2748	159	2907	.8
Pota argentina	Argentine shortfin squid	41	-	-	-	-	52	4523	3689	7151	5010	2185	22610	1.1	1612	-	1612	.5
Calam., jibias, potas nep	Squids nei	31,47,87	413	5	39	-	12	18	28	22	19	94	650	.0	333	2756	3089	.9

ANNEX B. (CONTINUED)

GROUP OF SPECIES/Specie		Fishing zone	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1980-89	Estr.(%)	1990	1991	1990-91	Estr.(%)
ANIM. ACUATICOS DIVERSOS	MISCELL. AQUATIC ANIMALS		1242	1415	1302	1395	1262	1476	1307	1061	939	897	12376	.6	901	580	1481	.4
RANAS Y OTR. ANFIBIOS	FROGS A. OTH. AMPHIBIANS		315	454	417	446	435	283	319	224	235	283	3331	.2	137	96	233	.1
Ranas	Frogs	02	315	454	417	446	435	283	319	224	235	283	3331	.2	137	96	233	.1
TORTUGAS Y OTR. REPTILES	TURTLES A. OTH. REPTILES		927	961	965	949	827	1193	988	837	704	694	9065	.4	764	484	1248	.4
Tortuga verde	Green turtle	31	269	235	376	354	211	513	346	291	262	289	3166	.2	389	212	601	.2
Tortuga carey	Hawksbill turtle	31	263	253	285	263	291	322	302	277	248	265	2749	.1	229	175	404	.1
Tortuga boba	Loggerhead turtle	31	320	249	260	273	277	322	309	239	185	142	2576	.1	123	84	207	.1
Tortugas de mar nep	Marine turtles nei	31	28	177	1	14	39	30	25	28	8	15	385	.0	20	11	31	.0
Galápagos nep	River and lake turtles nei	02	16	47	43	25	9	6	6	2	1	3	158	.0	3	2	5	.0
Cocodrilos y aligatores	Crocodiles a. alligators(1,2)	02	31	-	-	-	...	...	...	...	...	1000			750	500	1250	.4
DIVERS. PROD. ANIM. ACUAT.	MISC. AQU. ANIM. PRODUCTS		45	48	631	63	51	53	53	59	57	63	1123	.1	50	41	91	.0
PERLAS,MADREPER.,CONCHAS	PEARLS,MOTHER-OF-PEARLS,SHELLS		0	1	582	10	0	0	0	0	0	0	601	.0	0	0	0	.0
Conchas marinas nep	Marine shells nei (1)	31	-	1	582	10	-	-	-	-	-	-	601	.0	-	-	0	.0
ESPONJAS	SPONGES		45	47	49	45	51	53	53	59	57	63	522	.0	50	41	91	.0
Esponjas nep	Sponges nei (1)	31	45	47	49	45	51	53	53	59	57	63	522	.0	50	41	91	.0
TOTAL	TOTAL		186481	164814	195246	198390	199623	219884	244726	215058	231304	192155	2047685	100.0	188263	165277	353540	100.0

NOTES:

... There is no data; data could not have been obtained; data not available by itself.
- None; amount known is zero; insignificant amount.
0 Starting 1974: greater than zero and less than half a metric ton.
nep Not specified with other items.
nei Not elsewhere included.
(1) Starting in 1984 the information was extracted from Table B-73 (crocodile), B-81 (shells), B-83 (sponges).
(2) The measuring unit starting in 1989 is number.

Source: FAO, *Fishery Statistics, Catches and Landings*, vol. 68 (1989); vol. 68 (1989); vol. 72 (1991).
Table E-2: Nominal catch by country or area and species.

References

Alayeto, Tatiana. 1991. "Fishing in Cuba." INIE.

Business TIPS on Cuba, Vol.1, No. 4. 1994. (June).

Cuban Registry of Ships.

Domínguez, Miguel and Pedro P. Acosta. 1987. "The Cuban Fishing Industry, Antecedents and Development." MIP.

Economic and Planning Ministry, Alimentary Department.

Espinosa, Estela and Oscar U-Echevarría. 1992. "Emerging Economy: The Financing Programs." INIE (June).

FAO. 1985, 1989 and 1991. *Fishery Statistics, Catches and Landings.*

FAO. 1991. *Fishing statistics, Products.*

Gálvez, Isis Mañalich. 1992. "Exporting Profile and Competitiveness." INIE (December).

García, Anicia and Tatiana Alayeto. 1988. "Considerations for the Prognostication of the Fishing Industry." INIE (January).

Puentes, Jorge J. 1992. "Aquaculture as Important Contribution to the National Consumption of Fish." *JUCEPLAN* (September).

"Report to the National Assembly of the Popular Power." 1985. MIP.

Statistical Yearbook of Cuba. Various issues. CEE.

AN OVERVIEW OF THE FLORIDA SEAFOOD INDUSTRY

by Chuck Adams[a]

Introduction

The seafood industry represents an important natural resource-based industry in Florida. This industry contributes a variety of products to local, regional, national and international markets. The products are derived from finfish and shellfish produced by the domestic commercial fishing fleet, aquacultural producers and foreign import sources. The seafood industry contributes significantly to the local economies of a number of coastal communities in Florida. Conservative estimates suggest that the seafood industry contributes more than $1 billion to the state's economy. From a social perspective, the seafood industry serves as the cultural foundation for many coastal communities with which Florida's identity is intrinsically linked.

This report briefly describes the wild harvest and aquacultured seafood industry in Florida, and the state's international trade in seafood is also briefly discussed. When possible, the importance of the Florida seafood industry to the total U.S. commercial fishing industry is stressed. Trends in commercial landings, effort and/or participation are discussed in addition to seafood processing and wholesaling, import/export and retail activities. The current management structure that applies to the Florida seafood industry is described. Finally, an overview of the current problematic issues and opportunities concerning the seafood industry in Florida is presented.

The Commercial Fishing Industry in Florida

The Florida commercial fishing industry is comprised of several key sectors—harvesting, processing, wholesaling and retail/distribution. Each of these sectors is discussed in greater detail in the following sections.

•Harvesting Sector

Craft and Gear

The harvesting sector is characterized by crafts in a wide range of sizes and specializations. The Florida fleet contains large open-water trawlers and purse seiners that employ numerous crew members as well as nearshore hook and line boats and outboard gillnetters that employ crews of as few as one or two people. A wide range of gear types and electronic sophistication also exist.

As opposed to regions where large distant-water fleets exist, the Florida fleet does not contain offshore factory vessels. It is characterized by vessels that typically make trips of one week or less. Some exceptions may be the larger vessels that are engaged in shrimp trawling in the Gulf of Mexico

[a]Chuck Adams is Professor, Food and Resource Economics Department, and Marine Economics Specialist, Florida Sea Grant College Program, University of Florida, Gainesville, FL.

or long lining in the Gulf of Mexico or the Caribbean. As a result, Florida's seafood industry is noted for high-quality, fresh seafood that is subjected to minimal further processing. This is particularly true for finfish, in stark contrast to the highly processed finfish products that emerge from the U.S. groundfish fisheries in the northeast Pacific and northwest Atlantic.

It is difficult to document the number of craft employed in Florida's commercial fishing industry. The larger *vessels* (greater than 5 net tons) are registered and documented by the U.S. Coast Guard. The smaller craft, or *boats* (under 5 net tons), are not registered with the U.S. Coast Guard. The latter category of craft are particularly problematic when attempting to maintain an accurate accounting. Designations of intended use, provided when a commercial boat is licensed in Florida, do not provide an accurate listing of the number of commercial fishing boats since an undetermined number of these licensed boats are either inactive or are used in an entirely different fishery than was originally denoted. In 1993 there were approximately 2,200 registered commercial fishing vessels and 9,400 commercial fishing boats fishing from Florida ports (table 1). The size of Florida's commercial fishing fleet (number of crafts) is exceeded only by the fleets of Alaska and Louisiana.

Table 1. Commercial fishing craft in Florida.

Year	Vessels[1]	Boats[2]
1990	2,500	4,800
1991	2,394	6,609
1992	2,264	9,409
1993	2,128	9,444

[1] Vessels are documented crafts with greater than 5 net registered tons displacement.
[2] Boats are crafts with less than 5 net registered tons displacement.

Source: U.S. Department of Commerce (various years).

The larger vessels are typically employed in offshore waters to target pelagic or deepwater species, such as mackerel, tuna, shrimp, shark, grouper, snapper, sponges, menhaden, scallops, crab, spiney lobster, bait fish and other deepwater finfish species. The smaller boats are utilized to target nearshore species such as mullet, seatrout, pompano, oysters and hard clams. The delineation between these categories is blurred somewhat for some species, particularly for certain species harvested with both traps and hook/line.

Table 2 provides a listing of the major types of gear typically utilized in Florida to harvest some of the more important commercial species. The various forms of nets are the most important, and diverse, gear type in the commercial fisheries of Florida. Hook/line also represents an important gear type for the harvest of important finfish species. Traps are utilized to harvest a variety of finfish and shellfish, particularly crab, lobster and reef fish, but are the least important gear type relative to the overall harvest of the entire complement of commercial species targeted in Florida. The use of all entangling nets and other nets larger than 500 square feet has recently been declared illegal for the fishing industry of Florida via a Constitutional amendment.

Table 2. Gear utilized to harvest certain species in the commercial fisheries of Florida.

Gear Type	Species Sought
Nets:	
Purse Seines	Mackerel, Jacks, Baitfish
Trawls	Shrimp, Groundfish
Gill/Trammel Nets	Mullet, Seatrout, Mackerel,
Haul Seines	Pompano
	Jacks, Mullet
Hook/Line:	
Bottom Longline	
Midwater Longline	Shark, Grouper, Snapper, Tilefish
Bandit Rig	Swordfish, Tuna, Shark
Rod and Reel	Snapper, Grouper, Tilefish
	Seatrout, Mackerel, Dolphin
Traps:	
	Grouper, Blue Crab, Stone Crab,
	Spiney Lobster, Golden Crab

Participants

As with the numbers of craft, an accounting of the number of fishers involved in the commercial fisheries of Florida is difficult to obtain. A rough approximation of the annual number of commercial fishers is given by the number of Saltwater Products Licenses (SPLs) issued each year. A fisher must have an SPL to sell finfish and shellfish to the commercial market; however, some of these SPL holders are either inactive or operate on a part-time basis. In addition, some crew members may not possess an SPL though they are involved in fisheries production full-time. There were 19,384 fishers with SPLs in Florida in 1992 (table 3). Note that the number of SPL holders varies by county. The counties with the highest number of SPLs are counties with more intense fishing activities. Note the species-specific permits that exist for blue crab, stone crab and spiny lobster. Special permits may exist in certain counties for specific forms of gear, such as gill nets and purse seines. Certain counties surrounding Tampa Bay and in the Panhandle require such permits. Residents of other counties may also be required to possess special permits in order to use specific types of gear in those counties.

Certain species, such as mullet, spotted seatrout, Spanish mackerel, spiny lobster and others, can only be harvested and sold if the fisher possesses a *restricted species* license. These fishers can only qualify for these licenses if 25 percent of their annual income is derived from the sale of saltwater products or the income from such sales exceeds $5,000. The issue of these restricted species licenses is an attempt to reduce fishing pressure on the respective species by limiting access to full-time fishers.

Landings

Florida is an important contributor to the total annual U.S. seafood supply. Florida's commercial fishers land approximately 170 million pounds of finfish and shellfish annually. These landings are valued at approximately $200 million dockside. Thus, Florida ranks fourth among all states in terms of annual dockside value (Florida Department of Environmental Protection, unpublished Trip Ticket Program data).

Table 3. Commercial fishing permits and licenses in Florida by county, 1992.

County	Type of Permit or License							
	Blue Crab	Stone Crab	Spiny Lobster	Gill Net	Marine Life[1]	Purse Seine	Restricted Species	SPL
Bay	53	26	6	2	1	21	210	570
Brevard	357	256	100	1	5	2	281	1108
Broward	82	119	193	0	26	1	146	639
Charlotte	97	96	19	9	0	1	162	280
Citrus	182	195	7	23	3	2	242	398
Clay	33	18	8	0	0	0	12	66
Collier	124	175	49	2	3	4	251	385
Dade	341	549	669	0	38	14	457	1577
Dixie	133	126	3	0	0	0	119	263
Duval	134	55	30	5	3	0	274	609
Escambia	34	7	4	1	1	1	151	401
Flagler	7	5	1	0	0	0	11	26
Franklin	127	58	6	0	1	0	196	1065
Gulf	28	18	3	3	0	11	60	151
Hernando	41	52	7	8	6	1	61	110
Hillsborough	128	110	78	86	18	8	218	463
Indian River	71	54	26	1	0	3	119	264
Jefferson	3	2	1	0	0	0	9	22
Lee	162	189	120	3	2	0	505	828
Levy	148	140	4	1	2	1	118	256
Manatee	81	103	19	103	2	18	212	334
Martin	42	25	49	0	5	3	122	293
Monroe	486	1529	1479	0	191	35	1720	3079
Nassau	27	5	3	1	0	0	20	134
Okaloosa	16	6	3	2	4	3	130	283
Palm Beach	62	78	256	0	29	10	273	728
Pasco	84	115	29	16	6	0	163	333
Pinellas	284	385	102	123	19	6	531	1009
Putnam	86	27	1	0	0	0	17	108
St. Johns	116	88	10	0	0	0	84	261
St. Lucie	57	42	44	0	0	4	177	328
Santa Rosa	40	11	2	1	0	6	81	282
Sarasota	79	114	35	61	5	6	132	239
Taylor	82	78	2	1	0	1	165	235
Volusia	212	157	38	1	0	2	225	662
Wakulla	120	98	1	1	3	3	201	332
Walton	11	3	1	0	3	1	15	69
Out-of-state	207	187	164	15	8	10	299	1194
Florida total	4377	5301	3572	470	384	178	8169	19384

[1] *Marine Life* refers to rock or rubble substrate with attached fouling organisms, which are sold into the marine aquarium market.

Source: Florida Department of Environmental Protection, unpublished Trip Ticket Program data.

Florida's industry accounts for about 2 percent of total annual U.S. landings and about 9 percent of landings in the Gulf and South Atlantic (GSA) region (Texas to North Carolina) (table 4). In terms of dockside value, Florida accounts for about 6 percent and 26 percent of total U.S. and GSA dockside value, respectively.

Table 4. Florida commercial fisheries landings as compared to total U.S. and Gulf and South Atlantic Region, 1993.

Region	Landings (million lbs)	Dockside Value (million $)
Total U.S.	10,467	$ 3,471
Gulf and South Atlantic	1,965	792
Florida	179	209

Source: U.S. Department of Commerce (1993).

Florida landings have been relatively stable during the 1984-93 period (table 5). Landings were reported to be 207 million pounds in 1984. Reported landings then decreased to 182 million pounds in 1985, and with the exception of landings in 1989 and 1992, landings remained between 160 and 180 million pounds. The ten-year average during this period was 171 million pounds. Dockside value (nominal dollars) was somewhat more erratic for the same period. The average nominal dockside value was $171 million for the ten-year period. Real dockside value (adjusted for trends in inflation) steadily trended downward during this period.

Table 5. Florida commercial fisheries landings and dockside value, 1984-93[1].

	Pounds (lbs)	Nominal Dockside Value ($)	Real Dockside Value ($)[2]
	millions		
1984	207	178	171
1985	182	171	157
1986	167	155	141
1987	172	157	138
1988	182	170	144
1989	197	186	150
1990	180	170	130
1991	163	162	119
1992	152	155	110
1993	178	209	145
10-Year Average	178	171	141

[1] 1993 data are preliminary.
[2] Adjusted for inflation by using the historical Consumer Price Index for all urban consumers (1982-84=100).

Source: U.S. Department of Commerce (1993).

The average monthly distribution of commercial landings in Florida during the 1988-92 period is given in table 6. Note that total landings are relatively consistent during the year, with lower landings occurring during the late winter/early spring period and highest landings occurring during the fall. Finfish landings fluctuate the most during the various seasons while shrimp landings are relatively constant. Although the monthly distribution of landings will vary considerably by species, the general observation that landings are highest during the fall applies to each of the three categories—finfish, shrimp and other invertebrates. See annex 1 for more detailed monthly data.

Table 6. Average monthly distribution of commercial landings in Florida, 1988-92.

	Landings (1,000-pound units)			
Month	Finfish[1]	Invertebrates[2]	Shrimp[3]	Total
January	9143	2745	2076	13965
February	6388	2344	1741	10473
March	7250	2530	1741	11521
April	9799	2312	1595	13706
May	11824	2651	1725	16199
June	11212	2417	1981	15610
July	9805	1991	1307	13103
August	10115	3547	1767	15429
September	10329	2878	1928	15135
October	11772	3691	1899	17361
November	9559	3133	2016	14708
December	10668	2402	1732	14801

[1] Includes all species of finfish.

[2] Includes all species of shellfish and sponges, excluding shrimp.

[3] Includes all species of shrimp, including shrimp harvested for commercial sale as bait.

Source: Florida Department of Environmental Protection, unpublished landings data (1988-92).

In table 7, Florida's reported commercial landings for 1992 are distributed by county in instances where the product is offloaded. (A map of Florida and the various counties is given in annex 2). Data are presented for finfish, shrimp and other invertebrates for each coastal county (as well as Clay and Putnam counties) in the state. The top ten counties in terms of total landings are denoted. Note that Monroe County generates more total landings than any other county. Gulf County is the leading producer of finfish while Monroe County is the leading producer of shrimp and other invertebrates, such as spiny lobster and stone crab. A much more detailed listing of landings by county is given in annex 3. The top ten counties account for almost 60 percent of total landings.

Table 7. Distribution of commercial landings in Florida by county, 1992.

County	Landings (1,000-pound units)				
	Finfish[1]	Invertebrates[2]	Shrimp[3]	Total[4]	Rank[5]
Bay	9832	738	509	11078	5
Brevard	4762	4329	2292	11383	4
Broward	1948	188	18	2155	
Charlotte	2393	668	80	3141	
Citrus	2040	2336	382	4759	
Clay	0	44	4	48	
Collier	2193	1986	83	4188	
Dade	569	568	282	1419	
Dixie	2210	863	6	3079	
Duval	2713	788	2006	5508	8
Escambia	2032	81	428	2541	
Flagler	4	12	0	15	
Franklin	1164	2040	1903	5108	10
Gulf	16605	100	525	17229	2
Hernando	35	33	372	440	
Hillsborough	3124	301	1972	5397	9
Indian River	2784	123	3	2910	
Jefferson	2	0	0	2	
Lee	6559	1496	1955	10010	6
Levy	10011	959	472	2432	
Manatee	8246	129	155	8531	7
Martin	2252	14	0	2266	
Monroe	8005	8104	3328	19437	1
Nassau	172	114	817	1103	
Okaloosa	4409	18	276	4704	
Palm Beach	2016	66	4	2085	
Pasco	987	82	416	1485	
Pinellas	9839	989	2389	13216	3
Putnam	6	121	0	128	
St. Johns	319	147	405	2196	
St. Lucie	4454	109	43	4606	
Santa Rosa	2039	174	33	2246	
Sarasota	453	57	7	517	
Taylor	1189	108	43	1340	
Volusia	3589	930	282	4802	
Wakulla	1627	1581	33	3241	
Walton	13	19	24	56	
Total State	111902	31923	21582	183690	

[1] Includes all species of finfish.
[2] Includes all species of shellfish and sponges, excluding shrimp.
[3] Includes all species of shrimp, including shrimp harvested for commercial sale as bait.
[4] May not add up to the total of other columns as a result of rounding errors and landings by out-of-state license holders.
[5] Ranking of top ten counties only in by-landings volumes.

Source: Florida Department of Environmental Protection, unpublished landings data (1992).

Species of Importance

There are more than 100 species that are targeted or harvested as bycatch and sold commercially by the Florida commercial fishing industry. Finfish comprise approximately 70 percent of total pounds landed but only 40 percent of the total dockside value. About 30 individual species were valued at more than $1 million dockside in 1992 (table 8). The most important single species was spiny lobster (*Panulirus argus*), valued at $20.5 million dockside. The next four species in descending order of importance were pink shrimp (*Penaeus duorarum*) ($17.2 million), stone crab (*Menippe mercenaria*) ($16.3 million), brown shrimp (*Penaeus aztecus*) ($12.8 million) and black mullet (*Mugil cephalus*) ($12.4 million). These top five species account for more than 40 percent of the total dockside value for all species combined. More than 70 other species had a combined dockside value exceeding $100 million. Of these, 12 species had a dockside value of between $1 million and $500,000. These species included mahi mahi (*Coryphaena hippurus*), scamp (*Mycteroperca phenax*), mangrove snapper (*Lutjanus griseus*), snowy grouper (*Ephinephelus niveatus*), flounders (*Paralichthys spp.*), golden tilefish (*Lopholatilus chamaeleonticeps*) and calico scallops (*Argopecten gibbus*). In addition, 30 species had a dockside value of between $100,000 and $500,000. These species included bluefish (*Pomatomus saltatrix*), cobia (*Rachycentron canadum*), Spanish sardines (*Sardinella anchovia*), sea bass (*Centropristis striata*), bigeye tuna (*Thunnus obesus*) and triggerfish (*Balistes capriscus*). The landings and respective dockside values associated with these other commercially important species can be found in annex 4.

Species Profiles

Profiles are provided for a select number of species landed commercially in Florida (annex 5). These profiles provide an overview of the trends (1988-92) in landings volume, dockside value and *nominal* exvessel price per pound. Also, the average monthly distribution (1988-92) of landings in Florida are provided for each species. Finally, the landings are provided for the top five counties (by volume) where commercial harvest occurs. These profiles provide insight into the seasonal availability, geographic distribution of landings and exvessel market value comparisons among some of the species of commercial importance in Florida.

•Aquaculture

The farm-gate value of aquaculture products has increased steadily in Florida during the past few years. Farm-gate sales increased from $35 million in 1987 to $73 million in 1993. About 7,950 acres of water surface were in production by approximately 520 producers during 1993, as compared to 5,400 water-surface acres by 340 producers in 1987. Florida cultures a greater variety of species than any other state in the nation. Although most species cultured in Florida are freshwater, a growing number of marine species are also being grown.

Table 8. Species harvested commercially in Florida with a dockside value exceeding $1 million, 1992.

Common Name	Genus/Species	Spanish Name(s)	Dockside Value ($1000)
Spiny Lobster	*Panulirus argus*	*Langosta*	$ 20,545
Pink Shrimp	*Peneaus duorarum*	*Camaron rosado norteno*	17,170
Stone Crab	*Menippe mercenaria*	*Cangrejo de piedra negro*	16,321
Brown Shrimp	*P. aztecus*	*Camaron cafe norteno*	12,777
Black Mullet	*Mugil cephalus*	*Lisa*	12,431
White Shrimp	*P. setiferus*	*Camaron blanco norteno*	10,828
Red Grouper	*Epinephelus morio*	*Cherna le arribazon*	8,513
Blue Crab	*Callinectes sapidus*	*Jaiba azul*	6,763
Swordfish	*Xiphius gladius*	*Emperador*	6,457
Shark (spp.)	various genus/species	*Tiburon*	6,427
Hard Clam	*Mercenaria mercenaria*	*almeja*	4,020
Oyster	*Crassostera virginica*	*Ostiones americano*	3,807
Yellowtail Snapper	*Ocyurus chrysurus*	*Rabirrubia*	3,677
Gag Grouper	*Mycteroperia microlepis*	*Aquaji*	3,629
Rock Shrimp	*Sicyonnia brevirostris*	*Camaron de piedra*	3,571
King Mackerel	*Scomberomorus cavella*	*Sierra, Serrucho*	2,983
Yellowfin Tuna	*Thunnus albacares*	*Atun e aleta amarilla*	2,583
Vermillion Snapper	*Rhomboplites aurorubens*	*Cotorro*	2,368
Amberjack	*Seriola dumerili*		2,143
Pompano	*Trachinotus carolinus*	*Palometa*	1,877
Spanish Mackerel	*Scomberomorus maculatus*	*Sierra, Carite pintado*	1,785
Red Snapper	*Lutjanus campechanus*	*Pargo colorado*	1,522
Yellowedge Grouper	*Epinephelus flavolimbatus*	*Mero aleta amarrilla*	1,465
Black Grouper	*Mycteroperca bonaci*	*Aquaji, Bonaci*	1,426
Sponge	various genus/species	*Esponga*	1,182
Spotted Seatrout	*Cynoscion nebulosus*	*Corvinata pintada, Trucha de mar*	1,096
Menhaden	*Brevoortia patronus*		1,079
Ladyfish	*Elops saurus*		1,036

Source: Florida Department of Environmental Protection, unpublished landings data (1992); Otwell et al. (1993); C.S. Manooch (1984).

The majority of aquacultural sales in Florida are represented by tropical fish, and this has historically been the case. In 1993, tropical fish accounted for $47 million, or 64 percent, of the total aquacultural sales. In addition, sales of aquatic plants accounted for an additional 18 percent of total sales. The technology utilized for the culture of tropical fish and aquatic plants ranges from outdoor dug ponds and concrete vats to highly intensive, indoor, recirculation systems. A little more than 1,000 acres of water surface area are currently dedicated to tropical fish production while an additional 400 acres are dedicated to aquatic plants (table 9). Approximately 60 percent of the water surface acreage and total sales value are associated with egg-laying species while the remaining acreage and value are associated with live bearers.

Table 9. Aquacultural sales and acreage in Florida by species, 1987 and 1993.

Species	Number of Growers		Water Surface Acres		Farm Gate Sales Value	
	1987	1993	1987	1993	1987	1993
	-----individuals------		---------acres---------		-------$ thousands-------	
Tropical fish						
egg layers	120	151	537	665	15112	28738
live bearers	105	116	621	545	6541	17960
Aquatic plants	33	67	258	436	6715	13153
Catfish	55	37	737	1287	1575	552
Alligators						
hides	n/a	n/a	n/a	n/a	1258	3252
meats	n/a	n/a	n/a	n/a	476	1180
Total	13	38	102	320	1734	4432
Oysters	15	18	1364	421	672	974
Clams	13	173	294	937	431	3662
Sport/game fish	n/a	13	n/a	133	n/a	1227
Tilapia	n/a	19	n/a	3127	n/a	1037
Others	20	13	1485	80	2159	1235
TOTAL	342	523	5398	7951	34939	72970

NOTE: Estimates for sport/game fish and tilapia are contained within the Others estimate for 1987.

A number of state and federal agencies are involved in the regulation and management of the aquaculture industry in Florida. These include the Marine Fisheries Commission (harvest and possession), Game and Freshwater Commission (harvest and possession), Department of Environmental Regulation (permits, licenses and land rental fees), Water Management Districts (water use permits), U.S. Corps of Engineers (dredging and filling) and others. The lack of a simplified system for prospective culturists to obtain the necessary permits and licenses necessary to engage in commercial aquaculture production in Florida has been recognized as a major barrier to industry growth.

•Processing/Wholesaling/Retailing Sector

The seafood processing and wholesaling sector in Florida is comprised of a mix of businesses ranging from small-scale establishments, entirely dependent on local harvest of fresh seafood, to fully integrated processing and wholesaling operations that produce a wide spectrum of product forms derived from domestic and imported sources. Florida has more than 500 seafood processing (187) and wholesaling (322) establishments (table 10). Among Gulf and South Atlantic states, only Louisiana exceeds Florida in terms of the number of processing and wholesaling facilities. The processing and wholesaling sector cumulatively employs approximately 5,000 individuals, with approximately 3,000 of these employed in the processing sector.

Table 10. Number of plants and facilities and employment associated with seafood processing and wholesaling in the Gulf Region of the United States, 1993.

State	Processors	Wholesalers	Employment[1]
	-Number of Plants and Facilities-		
Texas	30	117	1,907
Louisiana	199	375	4,740
Mississippi	34	27	1,466
Alabama	85	27	1,712
Florida	187	322	4,848

[1] Represents average annual employment in both processing and wholesaling activities.

Source: U.S. Department of Commerce (1993).

The wholesale value of seafood products processed in Florida plants has reportedly declined during the last five years (table 11). The value of Florida processed seafood was reported to be $491 million in 1989; however, this value declined to $277 million by 1993. This decline may be attributed to the closings of several plants in Florida; however, the decline may partly be an artifact of the data resulting from incomplete reporting and data collection. Data are not available to accurately disaggregate the total value of Florida processed seafood into the appropriate species and product forms; however, a wide variety of product forms are processed in Florida, ranging from products requiring minimal further processing, such as fish fillets and raw shrimp, to breaded shrimp and smoked fish products. Virtually no canning of seafood products occurs in Florida, with the exception of pasteurized crab meat.

Table 11. Reported wholesale value of Florida processed seafood products, 1989-93.

Year	Processed Value (nominal dollars)
1989	$ 491,212,000
1990	417,617,000
1991	316,162,000
1992	272,042,000
1993	276,732,000

Source: U.S. Department of Commerce, unpublished processed seafood data.

Seafood consumed in Florida is eventually directed to consumers via a complex network of marketing channels, ultimately leading to restaurants, mobile vendors, retail grocers and speciality seafood retailers, the latter three of which are represented by approximately 6,300 establishments (Florida Department of Environmental Protection, unpublished TripTicket Program data). In 1992 there were at least 4,900 seafood retail dealers in Florida.

International Trade in Seafood

A growing domestic demand for seafood, coupled with strict regulations on domestic harvest, has increased the importance of imported sources of seafood to meet U.S. demand. As a result, Florida has developed into an important node in the distribution of imported seafood products. This is particularly true for imported product originating from Latin America. At the same time, export markets for Florida seafood have been carefully cultivated, resulting in a strong export market for Florida produced and processed seafood products. Data exist for the following five major categories of seafood products that pass through U.S. Customs as imports or exports:

SITC Code 340 - Fish (fresh or frozen)
SITC Code 350 - Fish (dried or pickled)
SITC Code 360 - Shellfish (fresh or frozen)
SITC Code 371 - Fish (canned)
SITC Code 372 - Shellfish (canned)

Categories 340, 350 and 360 are further subdivided into more detailed categories that are discussed below in the context of imports and exports on an annual basis. Data also exist on the Florida port or port district of origin or destination, as well as country of origin for imports. Although available, these latter data are not discussed in detail within this report.

•Imports

In terms of value, seafood ranks as the most important food item imported into Florida (Florida Department of Commerce, 1994). The total value of all seafood imported into Florida in 1993 was $772 million (table 12). This represents a 40 percent increase from 1989. The value of seafood imports into Florida is dominated by shellfish imports. Of the total 1993 seafood import value for Florida, almost two-thirds was represented by shellfish. Imports of shellfish (crustaceans and molluscs) products were valued at $487 million, and imports of finfish products were valued at $285 million.

Table 12. Florida seafood imports by commodity category, 1989-93.
(units in thousands of nominal U.S. dollars)

Year	Fish (fresh or frozen)	Fish (dried or pickled)	Shellfish (fresh or frozen)	Fish (canned)	Shellfish (canned)	Total
1989	$148,344	$1,583	$360,222	$29,751	$ 5,991	$545,891
1990	$186,453	$4,228	$368,100	$25,620	$ 7,060	$591,461
1991	$198,700	$5,061	$456,331	$34,957	$10,163	$705,212
1992	$221,153	$4,663	$463,136	$30,146	$10,816	$729,914
1993	$258,016	$3,409	$469,584	$23,838	$17,238	$772,085

Source: Florida Department of Commerce (1993).

Crustacean shellfish account for the largest share of Florida's import value (table 13). In 1993, imports of crustaceans (that is, shrimp and lobsters) were valued at approximately $450 million; imports of fresh and frozen finfish were valued at $258 million; and imports of prepared and canned finfish and shellfish products were valued at $44 million. Finally, imports of various molluscan shellfish in fresh form were valued at $16 million.

Table 13. Florida seafood imports by detailed subcategory and shipment mode, 1993.
(units in thousands of U.S. dollars)

SITC Subcategory	Waterborne Freight	Air Freight	Total All Modes
Fish, fresh or chilled	$ 1,077	$164,710	$165,789
Fish, frozen	$ 14,546	$ 1,815	$ 16,391
Fish, fillets, frozen	$ 54,743	$ 289	$ 55,037
Fish, fillets, frozen or chilled	$ 1,344	$ 19,454	$ 20,799
Fish, dried, salted	$ 733	$ 912	$ 1,645
Fish, salted but not dried	$ 16	$ 22	$ 38
Fish (including fillets)	$ 358	$ 1,361	$ 1,727
Fish, liver and roes, dried	$ 0	$ 0	$ 0
Fish, meal fit for human consumption	$ 0	$ 0	$ 0
Crustaceans, frozen	$394,538	$ 40,733	$435,717
Crustaceans, other than frozen	$ 16,240	$ 1,413	$ 17,653
Molluscs and other aquatic invertebrates, fresh	$ 12,863	$ 3,352	$ 16,215
Fish, prepared, preserved	$ 21,493	$ 2,287	$ 23,838
Crustaceans, prepared, preserved	$ 7,252	$ 9,969	$ 17,238
TOTAL	$525,203	$246,317	$772,086

Source: Florida Department of Commerce (1993).

The primary mode of shipment for finfish imports was air freight (table 13). Alternatively, the primary mode of shipment for shellfish imports was waterborne freight. Of the total seafood imported into Florida in 1993, 68 percent arrived by waterborne freight and 32 percent by air. Waterborne finfish imports were primarily shipped as fillets, whereas air freight finfish imports were dominated by whole fish. The Florida ports handling the largest quantities of seafood imports include, in order of importance, Miami, Port Everglades, Tampa, Jacksonville and West Palm Beach (Florida Department of Commerce, 1988). Other Florida ports handle smaller quantities of seafood imports.

•Exports

Florida exports much less seafood than it imports. Since 1989, exports have represented on average only about 5 percent of the total value of imports; however, the value of seafood exports has been increasing (table 14). For example, the value of seafood exports increased from $26 million in 1989 to $39.8 million in 1993. This is an increase of 54 percent for the five-year period. The majority of the total increase is accounted for by increases in the exports of fresh and frozen finfish and shellfish. Exports of fresh and frozen finfish in 1993 were valued at $15.6 million, whereas exports of fresh and frozen shellfish were valued at $18.1 million. Exports of prepared finfish products, canned finfish and canned shellfish products in 1993 were valued at $1.5 million, $3.3 million and $1.4 million, respectively.

Table 14. Florida seafood exports by commodity category, 1989-93.
(units in thousands of nominal U.S. dollars)

Year	Fish (fresh or frozen)	Fish (dried or pickled)	Shellfish (fresh or frozen)	Fish (canned)	Shellfish (canned)	Total
1989	$ 8,533	$ 641	$11,492	$2,605	$2,539	$25,809
1990	$ 9,294	$ 326	$13,131	$1,653	$1,511	$25,915
1991	$13,340	$1,008	$19,763	$1,451	$2,379	$37,942
1992	$10,402	$2,274	$14,611	$3,456	$1,420	$32,162
1993	$15,564	$1,463	$18,104	$3,299	$1,368	$39,801

Source: Florida Department of Commerce (1993).

As with imported seafood, most seafood exported in fresh form is shipped via air freight, whereas most seafood that is exported frozen is shipped by waterborne freight (table 15). This is true for both finfish and shellfish exports. A total of $25 million of seafood was exported from Florida in 1993 via waterborne freight. About one-half that value was shipped via air freight.

The export data contained in tables 14 and 15 do not accurately reflect an historically important component of the seafood export industry in Florida. The export of mullet roe has represented an important industry for many years. Although accurate records do not exist, the industry is reliably reported to be a multi-million dollar operation. With the advent of Amendment 3 in July 1995, which forbids the use of entangling nets in Florida waters, this important source of export revenue to the Florida seafood industry will cease to exist. Most other exported seafood is caught with hook and line or trawls.

Table 15. Florida seafood exports by detailed subcategory and shipment mode, 1993.
(units in thousands of U.S. dollars).

SITC Subcategory	Waterborne Freight	Air Freight	Total All Modes
Fish, fresh or chilled	$ 2,597	$ 5,015	$ 7,613
Fish, frozen	$ 3,936	$ 218	$ 4,154
Fish, fillets, frozen	$ 2,423	$ 26	$ 2,450
Fish, fillets, frozen or chilled	$ 980	$ 368	$ 1,348
Fish, dried, salted	$ 297	$ 354	$ 650
Fish, salted but not dried	$ 65	$ 4	$ 69
Fish, (including fillets)	$ 183	$ 236	$ 419
Fish, liver and roes, dried	$ 39	$ 241	$ 280
Fish, meal fit for human consumption	$ 44	$ 0	$ 43
Crustaceans, frozen	$ 7,494	$ 764	$ 8,258
Crustaceans, other than frozen	$ 399	$ 6,024	$ 6,423
Molluscs and other aquatic invertebrates, fresh	$ 3,229	$ 194	$ 3,422
Fish, prepared, preserved	$ 3,194	$ 105	$ 3,300
Crustaceans, prepared, preserved	$ 1,342	$ 26	$ 1,368
TOTAL	$26,224	$13,577	$39,801

Source: Florida Department of Commerce (1993).

Fisheries Management Structure in Florida

The management of marine fisheries resources of the Gulf of Mexico and South Atlantic is undertaken by both federal and state agencies. This intrajurisdictional task is complicated by the fact that most species migrate between state and federal waters and across state boundaries. In addition, some species such as king mackerel migrate throughout the Gulf of Mexico, with Mexico and Cuba exerting additional fishing pressure on the resource. Some species migrate between the South Atlantic and Gulf of Mexico. Further complexities are introduced via the existence of both commercial and recreational fishing industries, each of which may have different sets of goals and objectives regarding the utilization of the resource. Effective management requires that all sources of fishing pressure be incorporated into the policy and regulatory decision-making process. The following discussion will provide an overview of the fisheries management structure that exists within the Gulf of Mexico and the South Atlantic.

•Federal Waters

The Magnuson Fishery Conservation and Management Act (MFCMA), Public Law 94-265, provides for the conservation and management of all fishery resources and habitats found within the Exclusive Economic Zone (EEZ) of the United States. The MFCMA was initially passed in 1976 but has since been amended and reauthorized. Although designed for the management of domestic fishery resources, the MFCMA provides further management authority to fishery resources found on the continental shelf extending beyond the EEZ, unless these resources are found within the territorial sea or conservation zone of another nation recognized by the United States (U.S. Department of Commerce, 1994). The EEZ extends seaward from the boundary of each state to a distance of 200 nautical miles from shore. The Gulf of Mexico state boundaries of Texas and Florida extend 9 nautical miles from shore, whereas the state boundaries for Mississippi, Louisiana and Alabama extend 3 nautical miles from shore. Florida's state boundary extends 3 miles into the Atlantic.

Under the auspices of the Magnuson Act, a system—which consists of eight regional fishery management councils—was implemented throughout the nation as well as Puerto Rico (Caribbean region). Each council was charged with the management of the fishery resources in its designated area. The councils operate under the oversight of the Secretary of Commerce and are comprised of fishery scientists, managers and citizens with an interest in fisheries management. Councils draft Fisheries Management Plans (FMPs) for candidate species. The plans address issues relative to stock assessment, overfishing definitions, optimal yield and environmental/regulatory impacts. The plans suggest management recommendations that comply with a set of national standards. The Gulf of Mexico Regional Fishery Management Council is responsible for developing FMPs for the species found in the EEZ of the Gulf (Texas to the west coast of Florida). Similarly, the South Atlantic Regional Fishery Management Council is responsible for fisheries management in the EEZ of the South Atlantic region (North Carolina to the east coast of Florida). Once an FMP is drafted, it is examined for scientific validity and submitted for public review. Final plans are then reviewed by the Secretary of Commerce and, if approved, implemented by the National Marine Fisheries Service (NMFS). Plans are amended as needed. Enforcement of FMPs is the responsibility of the U.S. Coast

Guard, the NMFS and the individual states. FMPs currently exist for a number of different species, including spiny lobster, corals, reef fish complex (that is, snappers, groupers, cobia and amberjacks), shrimp, stone crab, migratory pelagics (that is, king and Spanish mackerel) and red drum. An FMP also exists for swordfish; however, this species, as well as the various species of tuna found in the Gulf of Mexico and South Atlantic, is jointly managed by the Secretary of Commerce and the International Commission for the Conservation of Atlantic Tunas (ICCAT).

•State Waters

The Gulf and South Atlantic coastal states are responsible for managing the fishery resources found within their respective state waters. Development of stock assessments, management policy and strategy and enforcement are charged to the individual states. If an FMP exists for a species which is also of importance to commercial and/or recreational fishermen in state waters, the federal councils will encourage that the state plans be as compatible as possible with the FMP regulations; however, there is no provision which mandates that individual states must impose any less stringent regulations. Regulations, and even policy, imposed for a given species may differ considerably between states. This is particularly true for non-migratory species. The agencies charged with marine resource management within each state are listed in table 16. Some states' agencies are responsible for research, developing policy and regulations and enforcement while in other states a division of labor exists concerning these tasks.

Table 16. Marine resource management agencies within each of the Gulf coastal states.

State	Regulatory Agency	Enforcement Agency
Florida	Department of Environmental Protection, Marine Fisheries Commission	Department of Environmental Protection, Marine Patrol
Alabama	Department of Conservation and Natural Resources, Marine Resources Division	Same
Mississippi	Department of Marine Resources	Department of Wildlife, Fisheries and Parks
Louisiana	Louisiana Wildlife and Fisheries Department	Same
Texas	Texas Parks and Wildlife Department	Same

•Other Sources of Management Guidance and Influence

Although the Gulf of Mexico Regional Fishery Management Council and the agencies for each Gulf coastal state are responsible for fishery management in the region, other sources of guidance and influence exist. The Gulf States Marine Fisheries Commission was established by an act of Congress in 1949 as a compact of the five Gulf states to assist in the wise utilization of the marine resources of the Gulf of Mexico. The Interjurisdictional Fisheries Act of 1986 further empowered the Commission to take an active role in developing interstate fishery management plans and encouraged

management of fishery resources within the Gulf. The Commission provided a forum for the development of recommendations—regarding fisheries management—to the resource management agencies within each Gulf state . Recommendations by the Commission do not, however, preempt the rights and responsibilities of each state.

Another interesting source of fishery management regulatory authority has recently arisen through the public referendum process. A petition drive, aimed at eliminating the use of entangling nets (that is, gill and trammel nets) in state waters, was recently initiated by various special interest groups in Florida. The petition drive was a success in that it placed the issue on the 1994 election ballot in Florida as a constitutional amendment. The effort demonstrates yet another source of rule-making authority concerning potential politically charged marine fisheries resource utilization issues in the Gulf region.

Issues Confronting the Florida Seafood Industry

The seafood industry in Florida is currently faced with an unprecedented array of issues. Most are linked with concerns regarding marine resource utilization at federal and state levels; however, concerns regarding the safety and quality of seafood products have forced the entire market spectrum—from vessel to consumer—into the management spotlight. In addition, questions about the allocation of Florida's fishery resources between competing user groups may give rise to regional precedents regarding the role of politics in marine resource policy development.

•Rights-Based Resource Management

Fishery resources found within the waters of the state of Florida (9 nautical miles from shore in the Gulf of Mexico and 3 nautical miles from shore in the Atlantic) are managed by the Florida Marine Fisheries Commission. The fishery resources accessed by the Florida seafood industry within federal waters (from the state's seaward boundary out to 200 nautical miles) are managed by Regional Fishery Management Councils and the National Marine Fisheries Service. Fishery resources in the Southeast, including those in Florida waters, have historically been managed in an open access fashion. The common property management paradigm has prevailed, with traditional management techniques being the norm. Measures, such as seasonal and geographic closures, bag limits, gear restrictions, size limits and landings quotas, have been employed with only limited success and a high enforcement cost. Indeed, many of the fishery stocks found in state and federal waters in the Southeast continue to be overfished by an industry characterized in many cases as overcapitalized.

As a result, fishery managers are examining alternatives to the time-honored but problem-plagued traditional management approach. The use of limited access management systems, which impose a notion of property rights onto harvesters, has recently gained favor in the mid- and south Atlantic region. One such alternative involves the use of individual transferable quotas (ITQs). Under this program a limited number of harvesters are granted the right to harvest a given share of the annual total allowable catch. This share is determined by the harvester's past catch record while the annual quota is determined by the share and current resource abundance. Harvesters may utilize their quotas

how and when they wish. They may also lease or sell their shares. Thus, harvesters are better able to react to market signals. Benefits to such a program include a reduction in market gluts (as harvesters no longer rush to fill an open access quota in a derby fashion), more stable prices (as landings are distributed more evenly over time), reduction in overcapitalization (as fewer, more efficient harvesters are engaged in the fishery), reduced enforcement costs and a higher-quality product reaching consumers. Perceived disadvantages may include increased concentration in the harvest sector as fewer harvesters buy up available quota shares.

ITQs have recently been imposed in the commercial wreckfish fishery on the Blake Plateau, involving a small number of vessels from northeast Florida. ITQs are being considered for king mackerel in the Gulf and South Atlantic and red snapper and shrimp in the Gulf, all of which are important fisheries to the Florida seafood industry. Other fisheries will possibly be considered as candidates in the near future.

Limited access management may have a significant impact on the future number of harvesters involved in these traditional fisheries. Benefits to the resource and the market may outweigh the costs associated with potential infrastructure changes.

•Bycatch

Shrimp trawling bycatch mortality in the Gulf and the South Atlantic is estimated to be approximately 10 billion individual finfish annually. Concern has arisen about the potential impact of the bycatch of juveniles by shrimp trawling activities on the stocks of certain economically important species of finfish. In particular, the recovery of red snapper stocks in the Gulf may not be achieved by the target date without at least a **50 percent reduction** in the bycatch of red snapper juveniles, regardless of the restrictions placed on the directed commercial and recreational fisheries (Gulf of Mexico Regional Fishery Management Council, 1994).

Recent amendments to the Magnuson Act provide testimony to a growing Congressional interest in the shrimp trawling bycatch issue in the Gulf and Southeast region. The Magnuson Act, as amended by Congress in 1990, exists as a policy (in Section 2(b)(3)) to "assure that the national fishery conservation and management program ... considers the effects of fishing on immature fish and encourages the development of practical measures that avoid the unnecessary waste of fish." As a result, the development of bycatch reduction devices (BRDs) is a top research priority in the Southeast region.

Currently, finfish bycatch reduction is achieved at the cost of reduced shrimp landings—technology has yet to find a way to allow small finfish to escape from trawls while at the same time preventing similarly sized, yet much higher-valued, shrimp from escaping. When developed, BRDs will be required to be incorporated into shrimp trawls, much as Turtle Excluder Devices (TEDs) are now. Shrimp harvesters may view these devices as a form of *forced* inefficiency, unless shrimp loss can be minimized or eliminated. Red snapper harvesters will likely view successful BRD designs from a slightly different perspective.

•Safety and Quality Assurance

Seafood Inspection

During the 1980s many forms of seafood were being marketed as a healthful alternative to other meat products. Concurrently, per capita consumption of seafood reached record levels. Consumers' newly formed perceptions of seafood as a healthful alternative, however, were soon challenged by reports of food-borne illnesses associated with the consumption of seafood and economic fraud linked to mislabeling. As a possible result, per capita consumption of seafood fell steadily from 1988 to 1993. Particularly problematic were illnesses associated with the consumption of raw molluscan shellfish. Yet, much of the *bad* reputation associated with seafood may have been misplaced. Only one in 5 million servings of cooked finfish results in illness, compared to one in 250 servings of raw molluscan shellfish and one in 25,000 servings of cooked chicken (U.S. Food and Drug Administration, 1989).

Even so, much attention has been directed at developing some form of a quality and safety assurance program for seafood, similar to the current USDA mandatory inspection programs for red meat and poultry. The FDA has recently proposed a Hazard Awareness at Critical Control Points (HACCP) program for seafood, similar to that existing for low acid canned food products. Such an inspection program is based on monitoring potential critical control points where safety and quality can most likely be compromised in the processing operation.

Under the FDA's proposal, all firms engaged in the handling, storing, processing, packing or holding of seafood will be required to develop an approved HACCP program. Each firm will be required to develop an effective record keeping system and a plan that describes the processing operation, identifies critical control points and establishes critical limits, monitoring procedures and corrective actions. The implementation of a HACCP program will be a costly process for many operations. The FDA estimates that the average annual costs of implementation for even a *small* business will be $15,000 (Federal Register). The HACCP program will be implemented by the FDA, beginning in 1996, with full industry compliance to be established in two years.

Oysters

The FDA has also focused on more stringent regulatory action concerning food safety in the Gulf of Mexico oyster industry. An average of three people has died each year from consuming raw oysters in Florida during the 1982-92 period (Florida Department of Health and Rehabilitative Services). These individuals were typically found to have had some form of compromised immune system, which could have resulted from liver disease, diabetes, low stomach acid, AIDS, cancer or any of several other disorders. As a group, these individuals represent an extremely small percentage of all those who consume oysters. The bacteria, *Vibrio vulnificus*, which is naturally occurring in the marine environment, was found to be the culprit. This bacteria is found within the gut and body tissues of the live oyster. The risk is associated with raw consumption since cooking kills the bacteria.

Bacteria are more prevalent in the marine environment during the warmer months. Illnesses and death associated with raw oyster consumption are thus concentrated during the months of April to October in the Gulf region. The FDA has proposed that no harvest of oysters destined for raw consumption be allowed during these months. Such a closure would effect approximately 60 percent

of the harvest from Florida. Although the production of shucked product would still be allowed, even moderate increases in product volumes directed to the relatively thin-shucked market could exert strong downward pressure on prices.

The FDA has provided the oyster industry in the Gulf region an opportunity to suggest alternatives to the proposed closure. Recently formed industry councils are working with the Interstate Shellfish Sanitation Program to design workable alternatives, such as increased educational/advisory efforts and the implementation of HACCP for oyster dealers; however, the certainty of the costs associated with HACCP that loom on the horizon and the spectre of the proposed closure by the FDA have together created a heightened level of concern regarding the future of the oyster industry in Florida.

•Amendment 3

The November 1994 Florida election ballot contained several proposed amendments to the state Constitution. Amendment 3 proposed the elimination of the use of all types of entangling nets and other types of fishing nets (that is, trawls and seines)—with a mesh area in excess of 500 square feet—in State waters. The amendment passed by a wide majority of the vote.

Entangling nets have historically been utilized to catch species such as mullet, spotted seatrout, pompano, Spanish mackerel and others. Proponents of the *net ban* suggested that the commercial use of such nets had resulted in the overfishing of many species important to both commercial harvesters and recreational anglers. Opponents of the ban countered that eliminating the use of nets was unnecessary and that financial hardship would likely result for not only those commercial harvesters who primarily utilize nets but also for the small seafood wholesalers who depend on local production of these nearshore species. Proponents of the ban suggested these negative effects would be temporary and outweighed by the positive economic benefits derived from rejuvenated stocks and the resulting enhanced commercial and recreational fisheries.

The use of a public referendum to establish a fisheries management policy is unprecedented in Florida. Sole use of the political process to influence policy by circumventing the state agencies appointed to manage marine fisheries in Florida creates important implications regarding the future management of Florida's marine resources. Should marine resources be managed based on scientific research or on popular opinion? This question becomes an important issue as Florida's population and the resulting demands placed upon the state's marine resources continue to increase. Effective management is crucial to the sustainable utilization of Florida's vast array of marine and coastal resources.

ANNEXES

Annex 1: Monthly landings in Florida by species and whole weight conversion factors.

Annex 2: County map of Florida.

Annex 3: Annual county landings and trips by species.

Annex 4: Annual landings, trips, dockside price and dockside value by species.

Annex 5: Species Profiles.
- Spiny Lobster
- Pink Shrimp
- King Mackerel
- Gag Grouper
- Red Grouper
- Blue Crab
- Swordfish
- Oysters
- Yellowtail Snapper
- Yellowfin Tuna

ANNEX 1

REPORT DATE : 07/01/1994
TIME : 18:10

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
MARINE FISHERIES INFORMATION SYSTEM
1992 ANNUAL LANDINGS SUMMARY
EDITED LANDINGS DATA THROUGH BATCH 262 (Closed 02/18/1993)

BY MONTHS

SPECIES	JANUARY		FEBRUARY		MARCH		APRIL		MAY		JUNE	
	POUNDS	TRIPS	POUNDS	TRIPS	POUNDS	TRIPS	POUNDS	TRIPS	POUNDS	TRIPS	POUNDS	TRIPS
AMBERJACKS	110614	508	197161	619	465141	856	275309	685	837983	1218	162434	681
BAIT FISH	17325	232	104601	238	66882	351	50937	286	146637	353	158692	281
BALLYHOO	186988	173	141722	146	77130	129	53961	90	67518	141	63698	114
BLUE RUNNER	2281	85	2083	77	2388	109	3922	181	302790	357	532737	340
BLUEFISH	296347	1567	214845	1567	170700	1984	235928	1816	88343	1302	18289	879
BONITO (LITTLE TUNNY)	993	32	8741	107	15599	113	94674	116	23828	75	226750	107
BUMPER, ATLANTIC	23438	1	41512	6	101	18	285	8	5985	8	1992	9
CATFISH	27276	163	18034	194	24930	321	17788	312	15778	318	8771	220
COBIA	25371	432	30713	511	40298	719	36806	669	22372	484	11039	348
CROAKER	2949	256	3284	267	7673	354	3406	276	3906	336	7547	369
DOLPHIN	18412	242	18421	240	18427	196	29142	406	150430	1406	132802	1151
DRUM, BLACK	9770	236	6219	165	2592	169	3519	220	6418	161	4453	164
EELS	396	7	316	15	361	11	237	11	369	19	201	8
FLOUNDERS	18177	1280	27923	1333	21936	1573	25043	1660	30110	1894	31519	1997
GOATFISHES	1	1	0	0	581	4	2925	2	1625	2	11150	6
GROUPER, BLACK	64400	651	78682	710	78122	881	65129	692	88300	859	73208	696
GROUPER, GAG	154473	705	168991	650	183115	696	177500	731	184853	868	151339	734
GROUPER, NASSAU	1758	7	0	0	101	3	251	10	23	4	336	9
GROUPER, RED	341184	947	430684	922	426998	990	351715	918	476189	1242	509491	1071
GROUPER, SCAMP	21797	290	19243	272	23708	346	30980	333	29724	395	33413	377
GROUPER, SNOWY	10420	97	19331	86	22183	126	19582	126	50521	248	46657	224
GROUPER, WARSAW	5866	43	3809	39	10994	61	5833	50	8992	90	6383	53
GROUPER, YELLOWEDGE	42821	34	34153	35	83656	69	56079	77	96316	124	67996	104
GROUPER, YELLOWFIN	124	3	411	10	299	7	371	6	925	16	293	3
GROUPER, MIXED	3346	49	3469	43	6144	62	2574	42	2738	44	3158	56
GROUPER, OTHER	23089	116	10471	132	15973	168	11294	103	20817	154	23924	158
GRUNTS	29383	625	26348	623	38289	634	78723	661	70627	841	60660	645
HERRING, THREAD	256843	13	185672	11	651038	37	687093	47	763994	82	615853	79
HOGFISH	5667	393	4223	325	5398	339	6040	206	13943	318	15627	281
JACK, CREVALLE	149569	1098	89221	1300	108535	1614	268789	1846	81050	1827	111645	1564
JACK, MIXED	29738	743	34057	785	50387	981	34828	833	34986	910	21650	874
JACK, OTHER	3363	106	4504	71	1968	85	5446	89	16022	100	7368	130
KINGFISH (WHITING)	62161	811	68662	904	267331	1508	56094	1358	41679	966	51203	776
LADYFISH	72752	235	103973	354	14993	289	16334	459	1151093	443	310028	321
MACKEREL, KING	716537	1405	26885	343	16888	206	241979	1264	177734	1336	114743	1389
MACKEREL, SPANISH	1012423	1406	609820	1831	466858	2212	548457	1944	138045	1269	29330	740
MENHADEN (POGIES)	794507	295	319429	399	1108430	456	1225102	443	1058531	388	996057	511
MOJARRA	37489	498	36158	591	48320	725	110252	1249	109087	1367	98795	1320
MULLET, BLACK	1452157	4463	600390	3074	632812	3022	652003	3395	740282	4140	885889	4293
MULLET, BLACK, ROE	158	12	3	1	0	0	0	0	0	0	0	0
MULLET, SILVER	65692	253	68691	249	68607	266	47910	259	51599	197	43548	162
PERMIT	16719	474	12944	493	10261	420	6395	393	12255	503	13689	517
PINFISH	1527	12	16254	13	9152	43	4764	32	1104	44	499	40
POMPANO	89778	1726	57553	1663	56800	1754	56355	1361	18250	958	25688	738
PORGIES	46371	592	43448	515	52562	574	55459	670	68014	798	80901	747
RAYS	3726	16	14484	57	26483	58	7798	61	89182	73	26761	47
SAND PERCH	3501	130	3976	132	3175	121	2640	108	1515	79	1047	48
SARDINES, SCALED	0	0	552	1	0	0	0	0	0	0	0	0
SARDINES, SPANISH	403	3	0	0	37121	11	29700	6	27665	14	286968	133
SCAD, BIGEYE (GOGGLE EYE)	2048	80	11118	79	55824	101	54573	77	108871	112	56196	68
SCAD, ROUND (CIGARFISH)	318	5	160	2	0	0	251860	22	590552	116	1196972	202

-- CONTINUED --

REPORT DATE : 07/01/1994
TIME : 18:10

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
MARINE FISHERIES INFORMATION SYSTEM
1992 ANNUAL LANDINGS SUMMARY
EDITED LANDINGS DATA THROUGH BATCH 262 (Closed 02/18/1993)

BY MONTHS

SPECIES	JANUARY		FEBRUARY		MARCH		APRIL		MAY		JUNE	
	POUNDS	TRIPS	POUNDS	TRIPS	POUNDS	TRIPS	POUNDS	TRIPS	POUNDS	TRIPS	POUNDS	TRIPS
SEA BASS, MIXED	55074	282	52829	210	43580	269	60434	293	45956	404	21538	294
SEATROUT, SAND	15310	42	3151	65	4836	195	8977	293	8325	196	4895	94
SEATROUT, SILVER	2956	50	4523	104	3299	155	1135	90	2114	97	699	38
SEATROUT, SPOTTED	172363	3728	81406	2743	37943	2268	53010	2479	61341	2929	43945	2386
SEATROUT, WEAKFISH	12568	469	13068	469	25004	669	22548	494	5263	286	4819	230
SHAD (COMMON)	30901	169	32057	164	4627	66	18927	91	7518	72	4680	52
SHARK	649243	523	629513	547	564321	720	536957	632	581838	750	594195	696
SHARK FINS	19707	124	27760	171	24133	154	27063	157	30152	214	23147	179
SHEEPSHEAD	155499	3241	120613	2750	81814	2460	66200	2426	49339	2536	53446	2255
SNAPPER, GRAY (MANGROVE)	28111	1401	34178	1412	31268	1275	28814	1152	38676	1640	45683	1807
SNAPPER, LANE	7100	397	7193	399	11207	411	9047	342	18038	473	12788	373
SNAPPER, MUTTON	22234	966	19924	777	25117	794	21602	552	44434	664	90173	655
SNAPPER, RED	298408	561	181994	428	6124	224	77793	479	81974	496	12959	284
SNAPPER, SILK	24944	34	4287	26	34999	51	4764	27	27355	55	22007	60
SNAPPER, VERMILION	63524	395	52150	315	81856	307	130724	412	136601	555	178146	462
SNAPPER, YELLOWTAIL	125181	1868	160819	2089	193457	2083	165585	1622	208374	1667	211119	1640
SNAPPER, MIXED	7636	122	5933	93	5142	129	5111	107	5391	117	5939	85
SNAPPER, OTHER	4591	93	3985	81	5577	97	4422	101	9952	175	18119	163
SPOT	6181	269	8181	487	30553	949	46530	1304	94802	1436	90753	1474
SWORDFISH	182319	125	267327	101	266651	117	213341	106	183447	118	116756	107
TILAPIA (NILE PERCH)	14320	84	28449	124	27386	108	25733	109	13484	88	15743	120
TILEFISH (GOLDEN)	66264	88	50420	68	48846	87	54170	75	75611	149	74508	133
TILEFISH, BLUELINE (GRAY)	9120	66	4910	46	14316	95	13943	96	29950	190	18822	151
TRIGGERFISH	37229	483	27421	378	16207	408	26747	571	31078	705	37624	643
TUNA, BIGEYE	26156	39	20044	49	14490	40	12823	18	2122	14	2375	14
TUNA, BLACKFIN	4363	58	6819	71	12476	68	14769	65	4810	118	4093	101
TUNA, BLUEFIN	1064	3	3201	5	2706	5	1307	3	42	2	377	6
TUNA, SKIPJACK	25	1	25	1	1	1	41	4	243	6	319	11
TUNA, YELLOWFIN	12839	43	29527	43	22211	41	34843	56	183461	53	228693	54
TUNA, MIXED	2039	5	887	6	2481	16	984	6	205	6	1089	8
WAHOO	5254	82	3132	68	5347	79	4030	79	6990	158	13940	211
MISC. FOOD FISH	152254	2681	72728	2602	109091	2784	116240	2746	155431	3075	210250	2880
MISC. INDUSTRIAL FISH	123829	99	127126	127	113711	191	190573	197	836271	296	526582	290
TOTAL FINFISH	8601052		6008924		7368041		8044971		11010158		10029610	
CLAMS, HARD, BUTTON	1	2	4	3	1	2	0	0	3	2	0	0
CLAMS, HARD, LITTLENECK	3492	426	8894	552	15692	866	13580	834	20648	1005	13687	718
CLAMS, HARD, MIDDLENECK	11303	909	10419	677	20602	1088	28830	1225	32993	1547	29794	1353
CLAMS, HARD, TOPNECK	11724	1103	8603	959	21009	1371	20744	1055	17623	1112	12547	813
CLAMS, HARD, CHERRY	10740	1146	8500	876	8927	1059	10432	955	9068	1161	11447	997
CLAMS, HARD, CHOWDER	1271	279	981	194	1524	283	1277	294	1394	356	920	280
CLAMS, HARD, UNGRADED	5950	410	6353	431	9449	410	9429	417	12269	482	8648	381
CLAMS, SUNRAY VENUS	0	0	441	2	6	1	0	0	0	0	0	0
CONCH (HELMET AND WHELKS)	0	0	0	0	19	1	235	8	417	14	634	14
CRABS, BLUE (HARD)	722296	2657	890522	3062	1061196	3718	1431179	4435	1947915	5262	1676395	4673
CRABS, BLUE (SOFT)	577	47	1374	80	5794	216	9839	400	10946	314	11826	336
CRABS, STONE, JUMBO	62650	1809	41904	1540	42788	1457	18196	814	10746	568	1622	2
CRABS, STONE, LARGE	415016	3333	281968	2998	313134	3251	142724	2149	69058	1133	3696	6
CRABS, STONE, MEDIUM	324466	2868	276588	2595	303886	2780	159164	2011	81840	1102	468	4
CRABS, STONE, SMALL	43668	297	53038	314	59248	271	16402	117	1798	25	0	0

-- CONTINUED --

REPORT DATE : 07/01/1994
TIME : 18:10

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
MARINE FISHERIES INFORMATION SYSTEM
1992 ANNUAL LANDINGS SUMMARY
EDITED LANDINGS DATA THROUGH BATCH 262 (Closed 02/18/1993)

BY MONTHS

SPECIES	JANUARY		FEBRUARY		MARCH		APRIL		MAY		JUNE	
	POUNDS	TRIPS	POUNDS	TRIPS	POUNDS	TRIPS	POUNDS	TRIPS	POUNDS	TRIPS	POUNDS	TRIPS
CRABS, STONE, UNGRADED	133226	956	94956	964	172678	1154	101858	687	67500	358	288	1
LOBSTER, SPANISH	2109	59	3964	90	17123	84	3313	50	6966	67	1837	47
LOBSTER, SPINY	293783	3697	199832	3063	220724	2700	2325	31	1460	5	142	2
OCTOPUS	7386	149	4346	102	1849	57	1472	70	621	58	1436	25
OYSTERS	195644	3563	175455	2988	233570	3474	220626	3323	185809	2809	186069	3101
SCALLOPS, BAY	0	0	0	0	0	0	0	0	0	0	0	0
SCALLOPS, CALICO	0	0	10	1	0	0	0	0	0	0	0	0
SPONGE (PIECES)	55782	113	58000	152	42939	105	54754	146	85804	195	163125	348
SQUID	1105	35	1574	46	3768	70	6650	96	6940	175	13072	204
MISC. INVERTEBRATES	1524	5	1927	22	552	11	3809	24	5320	23	361	11
TOTAL INVERTEBRATES	2303713		2129653		2556478		2256838		2577138		2138014	
SHRIMP, BROWN	52243	148	91140	246	162082	483	123275	588	227410	1013	483956	1577
SHRIMP, PINK	1038726	451	1077628	602	944363	733	831252	536	736851	419	603684	338
SHRIMP, ROCK	98331	64	56598	71	39535	81	56936	51	338244	86	834669	144
SHRIMP, ROYAL RED	5708	3	26967	10	31545	14	32981	8	29802	8	45581	10
SHRIMP, WHITE	139020	446	46844	225	46360	189	37068	182	246504	380	348042	528
SHRIMP, OTHER	41286	58	14233	56	18093	94	14443	81	26457	93	31409	88
TOTAL SHRIMP	1375314		1313410		1241978		1095955		1605268		2347341	
SHRIMP, BAIT	86088	1151	103374	1345	123725	1573	127779	1584	142713	1654	115601	1292
TOTAL BAIT SHRIMP	86088		103374		123725		127779		142713		115601	
GRAND TOTALS	12366167		9555361		11290222		11525543		15335277		14630566	
ACTUAL TRIPS		33199		30089		33244		30768		33333		29566

-- CONTINUED --

REPORT DATE : 07/01/1994
TIME : 18:10

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
MARINE FISHERIES INFORMATION SYSTEM
1992 ANNUAL LANDINGS SUMMARY
EDITED LANDINGS DATA THROUGH BATCH 262 (Closed 02/18/1993)

BY MONTHS

SPECIES	JULY		AUGUST		SEPTEMBER		OCTOBER		NOVEMBER		DECEMBER	
	POUNDS	TRIPS	POUNDS	TRIPS	POUNDS	TRIPS	POUNDS	TRIPS	POUNDS	TRIPS	POUNDS	TRIPS
AMBERJACKS	117804	582	107461	463	139966	463	170866	563	103651	354	197030	624
BAIT FISH	117988	335	85062	332	107149	261	52861	247	17425	161	11946	162
BALLYHOO	47840	105	8235	25	81025	61	63424	69	39903	47	134764	118
BLUE RUNNER	52604	171	98913	174	20552	220	6062	159	2157	84	3682	108
BLUEFISH	19015	871	19692	810	96521	1030	95999	1516	57424	938	87871	1413
BONITO (LITTLE TUNNY)	71661	92	205034	114	334222	83	60616	109	9383	35	9682	53
BUMPER, ATLANTIC	7157	16	7499	9	2176	6	713	6	179	1	0	0
CATFISH	7789	211	12969	255	6931	221	8256	319	4580	181	5752	153
COBIA	11229	344	16407	334	11360	332	16102	324	15830	271	32611	570
CROAKER	10736	509	12992	484	24399	695	14696	723	2869	321	3662	401
DOLPHIN	94206	671	47668	514	38110	395	21097	303	13768	215	15830	244
DRUM, BLACK	2738	204	5205	221	9844	348	13292	536	10172	493	11230	443
EELS	759	13	384	11	90	5	101	6	80	3	213	10
FLOUNDERS	35495	2372	35996	2368	42569	2778	78463	3193	64529	2537	39678	1932
GOATFISHES	1325	3	2525	4	2325	4	5200	3	0	0	0	0
GROUPER, BLACK	58252	595	47421	535	49964	504	57648	592	35804	386	64084	764
GROUPER, GAG	129495	710	105144	655	123423	615	127030	606	80482	404	178638	790
GROUPER, NASSAU	1733	8	1008	10	1997	9	2246	9	1905	5	59	4
GROUPER, RED	632596	1140	545572	1100	439064	1118	335986	947	311122	625	513932	1189
GROUPER, SCAMP	30320	341	28109	297	31695	286	27067	263	24016	200	33809	327
GROUPER, SNOWY	31244	174	15405	111	18554	108	34330	148	39036	73	15430	89
GROUPER, WARSAW	5356	51	5945	42	4460	41	2910	39	5257	31	5178	38
GROUPER, YELLOWEDGE	59498	76	82570	83	81009	82	68779	71	45695	58	75443	53
GROUPER, YELLOWFIN	160	3	579	8	326	6	20	1	78	2	368	8
GROUPER, MIXED	2211	50	2306	56	1834	40	1558	30	600	15	1618	31
GROUPER, OTHER	12623	132	10140	114	9030	80	20116	112	7462	80	14504	116
GRUNTS	72490	723	60778	625	69802	695	76527	743	29245	414	42674	651
HERRING, THREAD	586325	59	269202	32	439360	36	349282	24	103191	16	223636	22
HOGFISH	14896	280	15649	397	12348	439	9914	397	4674	240	10330	387
JACK, CREVALLE	138628	1712	207784	1980	403504	2284	474634	2287	149487	1620	108073	1726
JACK, MIXED	74425	873	50520	723	41219	792	86077	887	28048	713	36698	783
JACK, OTHER	15941	195	16275	191	34565	221	24714	161	12466	108	23182	138
KINGFISH (WHITING)	32951	617	25443	565	14922	563	36916	803	50102	561	94798	665
LADYFISH	122626	276	91310	320	1266572	506	1421794	428	24652	168	7933	199
MACKEREL, KING	93853	1215	159122	1457	136542	1160	64791	711	65379	645	704816	2156
MACKEREL, SPANISH	20434	820	68393	985	148601	1306	288598	1864	304465	838	1744486	1205
MENHADEN (POGIES)	1820627	594	1563466	438	776959	375	735658	392	679189	274	377764	193
MOJARRA	80950	1565	56583	1349	48075	1540	40447	1374	36613	1213	39399	1156
MULLET, BLACK	1550424	5332	1719676	5434	2190603	6002	2471295	6199	3092764	7025	4188105	8395
MULLET, BLACK, ROE	0	0	0	0	0	0	1198	14	6214	108	5282	90
MULLET, SILVER	34003	168	47664	175	76556	247	75280	236	59236	362	81036	395
PERMIT	26671	709	19351	546	17550	434	5969	420	3519	252	18196	431
PINFISH	1011	80	903	94	846	65	943	66	425	39	400	37
POMPANO	48323	880	51144	840	61336	907	65254	1269	33361	730	58535	1386
PORGIES	68885	682	50789	549	53299	546	50211	524	34438	336	60573	584
RAYS	52887	48	20731	60	25557	81	6643	53	1765	8	1951	13
SAND PERCH	681	21	3191	152	950	64	432	13	462	11	202	7
SARDINES, SCALED	0	0	0	0	0	0	0	0	0	0	0	0
SARDINES, SPANISH	375739	119	225283	72	401905	91	581145	39	105858	24	4	1
SCAD, BIGEYE (GOGGLE EYE)	61351	44	9473	27	15994	21	16719	28	1290	59	3223	100
SCAD, ROUND (CIGARFISH)	414481	109	166790	61	87880	117	16583	25	0	0	0	0

-- CONTINUED --

REPORT DATE : 07/01/1994
TIME : 18:10

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
MARINE FISHERIES INFORMATION SYSTEM
1992 ANNUAL LANDINGS SUMMARY
EDITED LANDINGS DATA THROUGH BATCH 262 (Closed 02/18/1993)

BY MONTHS

S P E C I E S	JULY		AUGUST		SEPTEMBER		OCTOBER		NOVEMBER		DECEMBER	
	POUNDS	TRIPS	POUNDS	TRIPS	POUNDS	TRIPS	POUNDS	TRIPS	POUNDS	TRIPS	POUNDS	TRIPS
SEA BASS, MIXED	11559	266	7673	212	7342	205	29627	364	35568	250	68512	324
SEATROUT, SAND	8935	194	8542	249	5701	213	12195	251	9642	172	3366	83
SEATROUT, SILVER	922	64	897	49	541	35	1174	78	1204	42	2478	56
SEATROUT, SPOTTED	67426	2787	60172	2388	40829	1947	19993	1275	107055	2918	167633	3534
SEATROUT, WEAKFISH	19549	359	23164	330	18396	443	10172	355	7143	185	7254	226
SHAD (COMMON)	9714	87	98273	73	7053	96	4772	74	3691	25	4211	40
SHARK	531518	785	385652	729	313203	677	306327	753	299950	387	364884	447
SHARK FINS	24297	179	14502	172	14180	154	11862	135	11624	137	16166	141
SHEEPSHEAD	54299	2690	54416	2692	77482	2954	96307	3219	95796	3389	120285	4348
SNAPPER, GRAY (MANGROVE)	103650	2492	52440	1812	28767	1675	29761	1324	20410	869	31777	1367
SNAPPER, LANE	11102	343	9079	277	12008	234	9118	250	7579	198	8530	361
SNAPPER, MUTTON	45593	769	21813	655	28645	624	28455	742	21466	643	27162	989
SNAPPER, RED	9128	240	12000	197	6905	264	8306	343	4217	157	8378	239
SNAPPER, SILK	9310	48	4311	44	4557	44	27889	57	10662	45	23906	72
SNAPPER, VERMILION	150664	415	134942	393	161750	382	172407	411	90138	224	188460	389
SNAPPER, YELLOWTAIL	110755	1527	98144	1055	135333	994	158442	1344	129881	1023	149516	1679
SNAPPER, MIXED	7480	85	3662	87	4312	85	4500	85	4704	65	4314	73
SNAPPER, OTHER	14131	209	8354	181	7343	132	10865	184	8746	100	5119	115
SPOT	130293	1635	83167	1507	106436	1565	237452	1581	156869	949	10572	329
SWORDFISH	101572	111	108922	101	92426	105	116567	96	114846	84	224036	119
TILAPIA (NILE PERCH)	9527	83	15015	83	18503	115	14533	85	9780	92	5480	66
TILEFISH (GOLDEN)	46682	113	48288	97	45906	115	94237	136	37412	55	54620	81
TILEFISH, BLUELINE (GRAY)	19440	101	14194	103	26319	91	24412	101	15397	59	12727	59
TRIGGERFISH	28959	583	33842	542	35581	545	61840	643	37551	398	55801	550
TUNA, BIGEYE	3559	6	2057	10	13883	21	13781	21	9049	19	12625	21
TUNA, BLACKFIN	4967	68	3539	68	4751	55	5813	38	4605	48	2697	46
TUNA, BLUEFIN	401	2	166	4	94	1	17	2	741	2	278	2
TUNA, SKIPJACK	616	5	603	3	396	4	371	8	10	1	0	0
TUNA, YELLOWFIN	140579	77	193024	72	235242	73	184899	66	94193	45	104523	71
TUNA, MIXED	1564	9	70	2	281	2	526	2	499	6	815	13
WAHOO	14040	191	11909	156	6258	102	3507	73	3037	59	3965	63
MISC. FOOD FISH	210847	3032	181229	3172	198343	3309	144386	3099	127255	2553	150236	3084
MISC. INDUSTRIAL FISH	252890	251	127477	212	1552531	253	1191425	220	1301731	161	1113461	171
TOTAL FINFISH	9426404		8231299		11214837		11222400		8502701		12242097	
CLAMS, HARD, BUTTON	6	1	15	2	8	2	0	0	0	0	0	1
CLAMS, HARD, LITTLENECK	18668	991	15090	880	15951	969	12362	1221	13976	1201	24046	1529
CLAMS, HARD, MIDDLENECK	43664	1783	40393	1643	17448	1072	9110	682	11868	961	25781	1543
CLAMS, HARD, TOPNECK	15541	1275	13758	1116	16910	1066	22191	1122	19206	1492	24988	1786
CLAMS, HARD, CHERRY	11118	1470	9358	1229	45618	1454	45364	1587	36236	1559	31947	1892
CLAMS, HARD, CHOWDER	1391	296	1171	309	1022	216	1739	310	6764	596	2347	683
CLAMS, HARD, UNGRADED	12991	476	11661	477	13734	510	11212	454	12164	473	15061	543
CLAMS, SUNRAY VENUS	0	0	0	0	150	1	0	0	0	0	0	0
CONCH (HELMET AND WHELKS)	60	2	208	5	274	6	0	0	10	1	0	0
CRABS, BLUE (HARD)	1759665	4751	1522321	4482	1214457	4135	1089471	3953	911689	3069	731287	2651
CRABS, BLUE (SOFT)	9202	395	4167	332	15559	598	4534	269	787	88	347	16
CRABS, STONE, JUMBO	0	0	0	0	54	1	103988	1924	66894	1709	57660	1686
CRABS, STONE, LARGE	122	2	4246	8	6942	19	577438	3437	535804	4008	451400	3752
CRABS, STONE, MEDIUM	136	2	0	0	176	1	303936	2760	366460	3508	346328	3223
CRABS, STONE, SMALL	0	0	0	0	0	0	115624	627	59654	482	55698	441

-- CONTINUED --

REPORT DATE : 07/01/1994
TIME : 18:10

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
MARINE FISHERIES INFORMATION SYSTEM
1992 ANNUAL LANDINGS SUMMARY
EDITED LANDINGS DATA THROUGH BATCH 262 (Closed 02/18/1993)

BY MONTHS

SPECIES	JULY		AUGUST		SEPTEMBER		OCTOBER		NOVEMBER		DECEMBER	
	POUNDS	TRIPS	POUNDS	TRIPS	POUNDS	TRIPS	POUNDS	TRIPS	POUNDS	TRIPS	POUNDS	TRIPS
CRABS, STONE, UNGRADED	154	7	0	0	210	1	133316	1064	137242	1115	129006	966
LOBSTER, SPANISH	312	17	1355	53	7283	46	2376	51	1538	52	1938	58
LOBSTER, SPINY	306	11	1423661	7403	1113812	6813	1105657	6200	543915	3615	401074	3563
OCTOPUS	2797	37	2116	36	1619	20	708	42	1013	57	6689	178
OYSTERS	197702	2653	140724	2116	141722	2241	347665	4536	294803	3737	233232	3084
SCALLOPS, BAY	20	5	145	2	2498	52	129	3	0	0	0	0
SCALLOPS, CALICO	43	1	0	0	0	0	28056	30	64064	59	103120	83
SPONGE (PIECES)	69454	198	91845	164	80265	163	68938	137	63033	139	56044	133
SQUID	20845	217	15529	195	10968	140	5886	89	1682	40	2152	46
MISC. INVERTEBRATES	678	9	2645	6	99	8	88	8	123	3	101	3
TOTAL INVERTEBRATES	2164875		3300408		2706779		3989788		3148925		2700246	
SHRIMP, BROWN	289600	1057	207457	687	193608	563	259037	511	259233	450	206308	331
SHRIMP, PINK	322984	154	371192	168	300098	203	276457	224	654708	352	896982	464
SHRIMP, ROCK	835705	196	1269056	249	1210635	157	300678	66	258271	58	157651	73
SHRIMP, ROYAL RED	21037	7	23545	4	32251	3	40588	8	0	0	15374	5
SHRIMP, WHITE	160798	430	193753	648	461014	1037	901676	1133	459875	695	502527	642
SHRIMP, OTHER	15163	45	27374	60	61710	46	19595	49	20362	66	30038	50
TOTAL SHRIMP	1645287		2092377		2259316		1798031		1652449		1808880	
SHRIMP, BAIT	95005	1527	102975	1552	111825	1400	116323	1421	109970	1345	110760	1335
TOTAL BAIT SHRIMP	95005		102975		111825		116323		109970		110760	
GRAND TOTALS	13331571		13727059		16292757		17126542		13414045		16861983	
ACTUAL TRIPS		30401		35183		35207		39381		33521		37826

REPORT DATE : 07/01/1994
TIME : 18:09

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
MARINE FISHERIES INFORMATION SYSTEM
1992 ANNUAL LANDINGS SUMMARY
EDITED LANDINGS DATA THROUGH BATCH 262 (Closed 02/18/1993)

FACTORS USED TO CONVERT LANDED QUANTITY TO POUNDS WHOLE WEIGHT

CODE	SPECIES	MULTIPLY BY
103	AMBERJACKS	1.04000
106	BALLYHOO	0.14290
113	COBIA	1.04000
121	DOLPHIN	1.20000
130	SCAD, BIGEYE (GOGGLE EYE)	0.25000
131	GROUPER, BLACK	1.18000
133	GROUPER, GAG	1.18000
135	GROUPER, NASSAU	1.18000
137	GROUPER, RED	1.18000
139	GROUPER, SCAMP	1.18000
141	GROUPER, SNOWY	1.18000
143	GROUPER, WARSAW	1.18000
145	GROUPER, YELLOWEDGE	1.18000
147	GROUPER, YELLOWFIN	1.18000
149	GROUPER, OTHER	1.18000
150	GROUPER, MIXED	1.18000
155	HOGFISH	1.11000
163	JEWFISH	1.18000
165	MACKEREL, KING	1.04000
169	MARLIN, BLUE	1.25000
171	MARLIN, WHITE	1.25000
174	MULLET, BLACK	0.20000
182	BAIT FISH	0.10000
185	DRUM, RED	1.14000
189	SEA BASS, MIXED	1.18000
199	SHARK	1.39000
203	SNAPPER, LANE	1.11000
205	SNAPPER, GRAY (MANGROVE)	1.11000
207	SNAPPER, MUTTON	1.11000
209	SNAPPER, RED	1.11000
211	SNAPPER, SILK	1.11000
213	SNAPPER, VERMILION	1.11000
215	SNAPPER, YELLOWTAIL	1.11000
217	SNAPPER, OTHER	1.11000
218	SNAPPER, MIXED	1.11000
229	SWORDFISH	1.33000
231	TILEFISH (GOLDEN)	1.12000
233	TILEFISH, BLUELINE (GRAY)	1.12000
234	TRIGGERFISH	1.04000
235	TUNA, BIGEYE	1.25000
237	TUNA, BLACKFIN	1.25000
239	TUNA, BLUEFIN	1.25000
241	TUNA, SKIPJACK	1.25000
243	TUNA, YELLOWFIN	1.25000
244	TUNA, MIXED	1.25000
245	WAHOO	1.04000
247	PORGIES	1.11000
255	CLAMS, HARD, BUTTON	0.00729
256	CLAMS, HARD, LITTLENECK	0.01094

-- CONTINUED --

REPORT DATE : 07/01/1994
TIME : 18:09

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
MARINE FISHERIES INFORMATION SYSTEM
1992 ANNUAL LANDINGS SUMMARY
EDITED LANDINGS DATA THROUGH BATCH 262 (Closed 02/18/1993)

FACTORS USED TO CONVERT LANDED QUANTITY TO POUNDS WHOLE WEIGHT

CODE	SPECIES	MULTIPLY BY
257	CLAMS, HARD, MIDDLENECK	0.01458
258	CLAMS, HARD, TOPNECK	0.01944
259	CLAMS, HARD, CHERRY	0.03500
261	CLAMS, HARD, CHOWDER	0.05000
263	SCALLOPS, BAY	0.11667
269	SCALLOPS, CALICO	7.00000
271	SCALLOPS, CALICO	0.11667
281	SEA BASS, MIXED	1.18000
283	SEA BASS, MIXED	1.18000
285	SEA BASS, MIXED	1.18000
302	OYSTERS	0.13125
303	OYSTERS	6.56250
305	OYSTERS	8.75000
307	OYSTERS	26.25000
308	CLAMS, HARD, UNGRADED	0.01488
309	CLAMS, HARD, UNGRADED	8.75000
310	SCALLOPS, BAY	7.00000
311	SCALLOPS, BAY	8.00000
313	SCALLOPS, CALICO	8.00000
316	CONCH (HELMET AND WHELKS)	0.50000
318	LOBSTER, SPINY	3.00000
320	LOBSTER, SPANISH	4.00000
322	CRABS, BLUE (HARD)	0.50000
323	CRABS, BLUE (SOFT)	0.25000
325	CRABS, STONE, JUMBO	2.00000
327	CRABS, STONE, LARGE	2.00000
329	CRABS, STONE, MEDIUM	2.00000
331	CRABS, STONE, SMALL	2.00000
332	CRABS, STONE, UNGRADED	2.00000
333	SHRIMP, PINK	1.60000
335	SHRIMP, WHITE	1.54000
337	SHRIMP, BROWN	1.61000
339	SHRIMP, ROCK	1.67000
341	SHRIMP, ROYAL RED	1.53000
343	SHRIMP, OTHER	1.53000
345	SHRIMP, BAIT	0.01000
405	MISC. FOOD FISH	1.11000
411	PINFISH	0.06250
414	AMBERJACKS	1.04000
415	AMBERJACKS	1.04000
416	AMBERJACKS	1.04000
417	SCAD, ROUND (CIGARFISH)	0.12500
418	SNAPPER, OTHER	1.11000
419	SNAPPER, OTHER	1.11000
420	SNAPPER, OTHER	1.11000
421	SNAPPER, OTHER	1.11000
423	SNAPPER, OTHER	1.11000
425	SNAPPER, OTHER	1.11000
427	SNAPPER, OTHER	1.11000
429	SNAPPER, OTHER	1.11000

-- CONTINUED --

REPORT DATE : 07/01/1994
TIME : 18:09

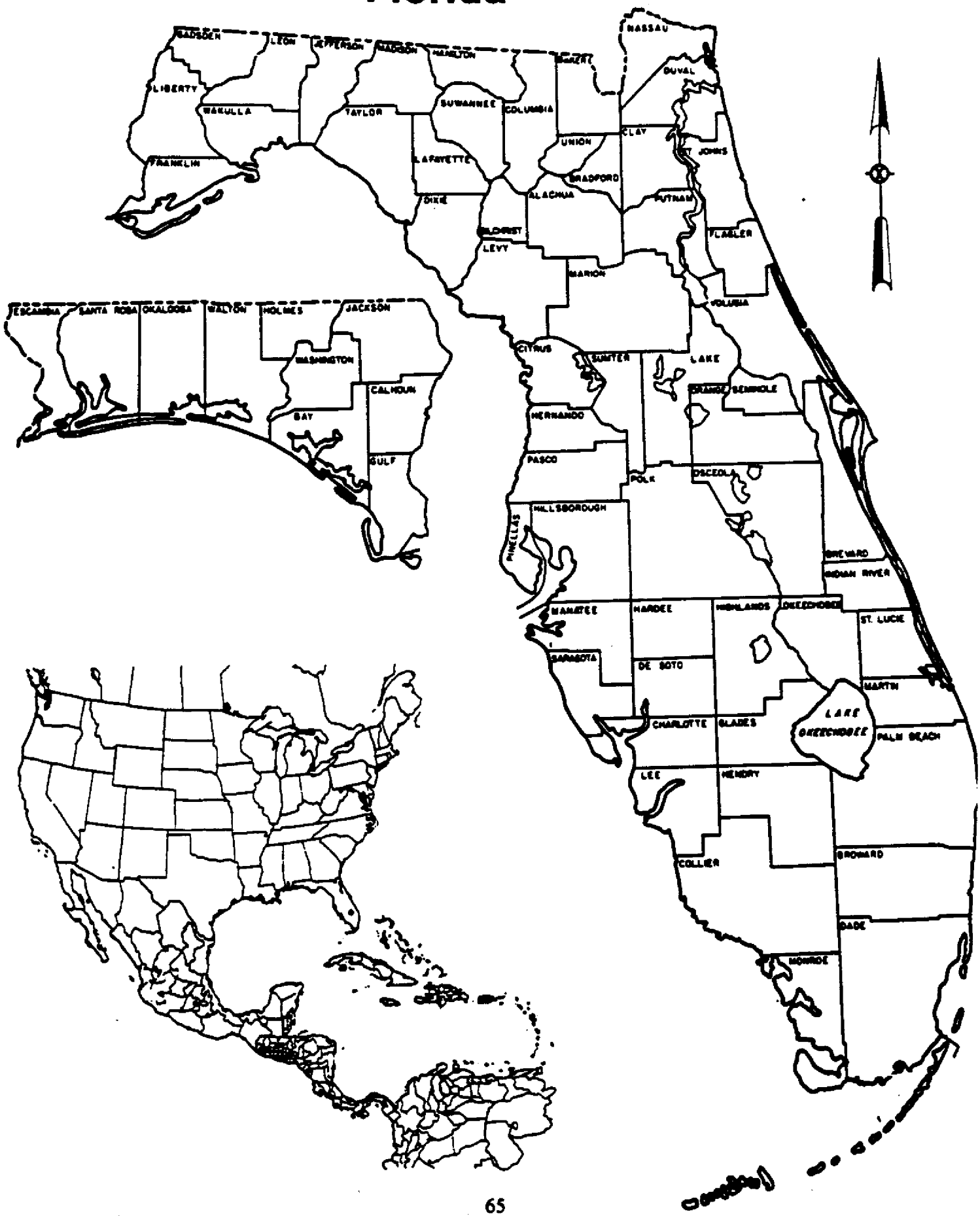
FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
MARINE FISHERIES INFORMATION SYSTEM
1992 ANNUAL LANDINGS SUMMARY
EDITED LANDINGS DATA THROUGH BATCH 262 (Closed 02/18/1993)

FACTORS USED TO CONVERT LANDED QUANTITY TO POUNDS WHOLE WEIGHT

CODE	SPECIES	MULTIPLY BY
431	GROUPER, OTHER	1.18000
433	GROUPER, OTHER	1.18000
435	GROUPER, OTHER	1.18000
437	GROUPER, OTHER	1.18000
439	GROUPER, OTHER	1.18000
441	GROUPER, OTHER	1.18000
443	GROUPER, OTHER	1.18000
445	GROUPER, OTHER	1.18000
447	GROUPER, OTHER	1.18000
463	MISC. FOOD FISH	1.12000
465	MISC. FOOD FISH	1.12000
467	MISC. FOOD FISH	1.12000
469	MISC. FOOD FISH	1.12000
471	AMBERJACKS	1.41000
472	AMBERJACKS	1.41000
473	AMBERJACKS	1.41000
474	AMBERJACKS	1.41000
477	SHARK	1.39000
479	SHARK	1.39000
481	SHARK	1.39000
483	SHARK	1.39000
485	SHARK	1.39000
487	SHARK	1.39000
489	SHARK	1.39000
491	SHARK	1.39000
493	SHARK	1.39000
495	SHARK	1.39000
497	SHARK	1.39000
905	BAIT FISH	0.01000

ANNEX 2

Florida


NASSAU
DUVAL
CLAY
ST JOHNS
PUTNAM
FLAGLER
VOLUSIA
MADISON
TAYLOR
LAFAYETTE
SUWANNEE
COLUMBIA
UNION
BRADFORD
ALACHUA
DIXIE
GILCHRIST
LEVY
MARION
CITRUS
SUMTER
LAKE
ORANGE
SEMINOLE
HERNANDO
PASCO
POLK
OSCEOLA
HILLSBOROUGH
PINELLAS
BREVARD
INDIAN RIVER
MANATEE
HARDEE
HIGHLANDS
OKEECHOBEE
ST. LUCIE
SARASOTA
DE SOTO
MARTIN
CHARLOTTE
GLADES
LAKE OKEECHOBEE
PALM BEACH
LEE
HENDRY
COLLIER
BROWARD
DADE
MONROE
ESCAMBIA
SANTA ROSA
OKALOOSA
WALTON
HOLMES
JACKSON
WASHINGTON
CALHOUN
BAY
GULF

ANNEX 3

REPORT DATE : 07/01/1994
TIME : 18.10

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
MARINE FISHERIES INFORMATION SYSTEM
1992 ANNUAL LANDINGS SUMMARY
EDITED LANDINGS DATA THROUGH BATCH 262 (Closed 02/18/1993)

BY COUNTIES

S P E C I E S	BAY		BREVARD		BROWARD		CHARLOTTE		CITRUS		CLAY	
	POUNDS	TRIPS	POUNDS	TRIPS	POUNDS	TRIPS	POUNDS	TRIPS	POUNDS	TRIPS	POUNDS	TRIPS
AMBERJACKS	125366	412	48727	320	4469	46	9531	45	5869	42	0	0
BAIT FISH	37625	47	7351	35	2893	92	17902	797	4255	80	0	0
BALLYHOO	0	0	4366	7	57869	142	0	0	0	0	0	0
BLUE RUNNER	580499	272	1429	122	755	26	20	6	11	5	0	0
BLUEFISH	35592	212	116181	1957	747	25	14416	504	8267	165	0	0
BONITO (LITTLE TUNNY)	208802	155	20316	29	89	2	1742	16	4	1	0	0
BUMPER, ATLANTIC	0	0	0	0	0	0	0	0	0	0	0	0
CATFISH	1055	2	13541	274	105	1	2853	70	3220	148	0	0
COBIA	4422	86	24495	479	1950	42	10614	198	2050	50	0	0
CROAKER	2373	15	2052	204	137	10	775	168	0	0	0	0
DOLPHIN	76927	183	15089	247	39808	362	149	7	161	13	0	0
DRUM, BLACK	6049	112	4234	285	6	1	6816	467	135	25	0	0
EELS	0	0	5	1	136	2	0	0	0	0	0	0
FLOUNDERS	15278	449	13792	568	4	1	8925	1401	3999	883	0	0
GOATFISHES	0	0	0	0	0	0	0	0	0	0	0	0
GROUPER, BLACK	0	0	36267	273	15723	185	19422	141	68757	382	0	0
GROUPER, GAG	231594	585	21386	333	381	11	534	18	3356	27	0	0
GROUPER, NASSAU	1895	2	165	5	0	0	0	0	0	0	0	0
GROUPER, RED	39773	142	3189	85	5328	156	206189	250	336106	468	0	0
GROUPER, SCAMP	55214	360	1391	43	0	0	3527	64	1472	28	0	0
GROUPER, SNOWY	11408	39	26245	104	4809	55	330	8	0	0	0	0
GROUPER, WARSAW	8731	49	6106	20	849	11	0	0	17	1	0	0
GROUPER, YELLOWEDGE	181892	65	14161	37	138	5	11173	15	0	0	0	0
GROUPER, YELLOWFIN	266	3	7	1	149	2	0	0	0	0	0	0
GROUPER, MIXED	130	2	9404	205	483	9	91	2	7	2	0	0
GROUPER, OTHER	21334	26	2189	43	1351	41	3408	37	36	3	0	0
GRUNTS	0	0	1606	76	865	34	1984	111	41517	394	0	0
HERRING, THREAD	244428	40	44	2	2334	40	0	0	11	2	0	0
HOGFISH	0	0	504	39	7254	142	0	0	1105	25	0	0
JACK, CREVALLE	207198	94	51162	919	200	1	286265	2360	231067	1257	0	0
JACK, MIXED	1250	1	15652	665	1379	16	3905	212	646	7	0	0
JACK, OTHER	5422	8	993	55	95	3	4766	11	265	8	0	0
KINGFISH (WHITING)	811	11	46267	1587	49	4	3361	352	67	39	0	0
LADYFISH	1941922	379	3468	167	0	0	9839	488	1726	52	0	0
MACKEREL, KING	23752	185	239510	1131	55692	717	51	6	1	1	0	0
MACKEREL, SPANISH	174441	367	327859	1354	8542	155	28195	385	3140	258	0	0
MENHADEN (POGIES)	1119834	30	1388346	1008	640	2	3092	105	1114	4	0	0
MOJARRA	0	0	5732	345	1397	107	71934	2563	1971	67	0	0
MULLET, BLACK	322805	1129	477872	1943	2359	16	1394953	4895	1143395	3980	0	0
MULLET, BLACK, ROE	0	0	0	0	0	0	0	0	0	0	0	0
MULLET, SILVER	1168	12	79985	222	4740	55	96531	458	7745	19	0	0
PERMIT	5	1	1007	118	5	1	9600	556	6108	132	0	0
PINFISH	0	0	249	70	9	3	0	0	648	28	0	0
POMPANO	9293	264	60124	1619	2780	84	15403	741	1399	152	0	0
PORGIES	71135	368	25092	245	2432	52	389	31	21280	219	0	0
RAYS	0	0	87	3	0	0	0	0	432	3	0	0
SAND PERCH	0	0	187	14	0	0	287	32	10	5	0	0
SARDINES, SCALED	0	0	0	0	0	0	0	0	0	0	0	0
SARDINES, SPANISH	812107	297	2024	2	0	0	225	3	4	1	0	0
SCAD, BIGEYE (GOGGLE EYE)	0	0	604	2	5000	174	0	0	0	0	0	0
SCAD, ROUND (CIGARFISH)	1232737	447	0	0	0	0	0	0	0	0	0	0

-- CONTINUED --

REPORT DATE : 07/01/1994
TIME : 18:10

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
MARINE FISHERIES INFORMATION SYSTEM
1992 ANNUAL LANDINGS SUMMARY
EDITED LANDINGS DATA THROUGH BATCH 262 (Closed 02/18/1993)

BY COUNTIES

S P E C I E S	BAY		BREVARD		BROWARD		CHARLOTTE		CITRUS		CLAY	
	POUNDS	TRIPS	POUNDS	TRIPS	POUNDS	TRIPS	POUNDS	TRIPS	POUNDS	TRIPS	POUNDS	TRIPS
SEA BASS, MIXED	79	6	4839	174	363	10	24	3	17464	388	0	0
SEATROUT, SAND	546	12	0	0	0	0	124	18	294	12	0	0
SEATROUT, SILVER	678	14	361	30	0	0	127	29	108	5	0	0
SEATROUT, SPOTTED	38952	419	57261	1682	5	1	18240	1842	37401	928	0	0
SEATROUT, WEAKFISH	0	0	4885	294	1	1	416	50	0	0	0	0
SHAD (COMMON)	0	0	0	0	0	0	93	9	10343	41	0	0
SHARK	109524	126	976260	704	288602	557	11609	160	12295	245	0	0
SHARK FINS	20410	163	15666	213	4866	25	100	3	16	6	0	0
SHEEPSHEAD	4167	88	49288	1734	4	1	70583	3823	22859	2261	0	0
SNAPPER, GRAY (MANGROVE)	10787	259	9181	488	3016	178	3493	749	6213	181	0	0
SNAPPER, LANE	1347	44	777	90	165	12	485	105	52	10	0	0
SNAPPER, MUTTON	621	9	820	48	40795	602	2547	31	216	3	0	0
SNAPPER, RED	152624	323	11049	348	116	3	316	11	81	8	0	0
SNAPPER, SILK	242	7	157	8	214	6	938	8	8	2	0	0
SNAPPER, VERMILION	56312	345	1083	80	958	28	40	7	1871	126	0	0
SNAPPER, YELLOWTAIL	259	1	825	74	33876	712	111	16	200	4	0	0
SNAPPER, MIXED	43	2	306	16	11255	370	15	5	29	1	0	0
SNAPPER, OTHER	998	16	4797	144	281	14	130	10	2701	53	0	0
SPOT	226	14	225888	1620	0	0	1425	425	1418	99	0	0
SWORDFISH	42771	127	19096	27	1124693	599	0	0	0	0	0	0
TILAPIA (NILE PERCH)	0	0	9560	185	0	0	765	15	632	5	0	0
TILEFISH (GOLDEN)	21569	49	158747	118	4126	51	180	5	0	0	0	0
TILEFISH, BLUELINE (GRAY)	851	29	12596	66	1066	23	2118	13	0	0	0	0
TRIGGERFISH	32659	464	3861	266	1128	15	198	36	12141	275	0	0
TUNA, BIGEYE	6801	27	1188	4	35852	79	0	0	0	0	0	0
TUNA, BLACKFIN	9028	35	9647	44	3311	50	4029	8	0	0	0	0
TUNA, BLUEFIN	5035	10	153	3	2214	3	0	0	0	0	0	0
TUNA, SKIPJACK	264	2	163	1	353	8	0	0	3	1	0	0
TUNA, YELLOWFIN	1189596	192	1201	13	44867	132	0	0	0	0	0	0
TUNA, MIXED	58	1	106	2	3497	21	0	0	24	1	0	0
WAHOO	28881	175	1568	48	5128	92	50	2	0	0	0	0
MISC. FOOD FISH	70482	272	52717	1184	101433	1341	24170	1408	12023	1075	0	0
MISC. INDUSTRIAL FISH	211304	170	7311	28	2176	5	1192	7	57	4	0	0
TOTAL FINFISH	9831647		4761879		1948312		2392715		2039822		0	
CLAMS, HARD, BUTTON	0	0	31	12	0	0	0	0	0	0	0	0
CLAMS, HARD, LITTLENECK	0	0	156409	9457	0	0	0	0	0	0	0	0
CLAMS, HARD, MIDDLENECK	0	0	266809	12801	0	0	0	0	0	0	0	0
CLAMS, HARD, TOPNECK	0	0	184090	12543	0	0	0	0	0	0	0	0
CLAMS, HARD, CHERRY	0	0	163350	13560	0	0	0	0	0	0	0	0
CLAMS, HARD, CHOWDER	6	1	20376	3900	0	0	0	0	0	0	0	0
CLAMS, HARD, UNGRADED	0	0	115504	4696	0	0	0	0	0	0	0	0
CLAMS, SUNRAY VENUS	0	0	97	2	0	0	0	0	0	0	0	0
CONCH (HELMET AND WHELKS)	0	0	0	0	0	0	0	0	0	0	0	0
CRABS, BLUE (HARD)	302379	749	3164331	5992	79138	475	653713	2308	1229338	5271	44153	133
CRABS, BLUE (SOFT)	1415	163	4628	358	0	0	1941	136	50	3	0	0
CRABS, STONE, JUMBO	178	1	34	4	3510	25	10	1	270	4	0	0
CRABS, STONE, LARGE	2	1	5906	20	5920	24	5148	101	517142	3183	0	0
CRABS, STONE, MEDIUM	20	1	3020	74	5060	22	3478	80	582660	3194	0	0
CRABS, STONE, SMALL	2	1	0	0	0	0	0	0	892	30	0	0

-- CONTINUED --

REPORT DATE : 07/01/1994
TIME : 18:10

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
MARINE FISHERIES INFORMATION SYSTEM
1992 ANNUAL LANDINGS SUMMARY
EDITED LANDINGS DATA THROUGH BATCH 262 (Closed 02/18/1993)

BY COUNTIES

S P E C I E S	BAY		BREVARD		BROWARD		CHARLOTTE		CITRUS		CLAY	
	POUNDS	TRIPS	POUNDS	TRIPS	POUNDS	TRIPS	POUNDS	TRIPS	POUNDS	TRIPS	POUNDS	TRIPS
CRABS, STONE, UNGRADED	0	0	10592	439	1508	26	2322	77	3088	185	0	0
LOBSTER, SPANISH	388	23	1076	58	111	6	0	0	0	0	0	0
LOBSTER, SPINY	137	2	30037	281	90800	591	0	0	0	0	0	0
OCTOPUS	85	5	929	4	0	0	42	3	1583	68	0	0
OYSTERS	427812	5663	178	8	0	0	0	0	1235	28	0	0
SCALLOPS, BAY	427	14	0	0	0	0	0	0	8	4	0	0
SCALLOPS, CALICO	43	1	195240	172	0	0	0	0	0	0	0	0
SPONGE (PIECES)	0	0	0	0	0	0	0	0	0	0	0	0
SQUID	4878	105	6300	46	0	0	1018	27	110	52	0	0
MISC. INVERTEBRATES	0	0	375	2	2436	9	0	0	0	0	0	0
TOTAL INVERTEBRATES	737772		4329312		188483		667672		2336376		44153	
SHRIMP, BROWN	148803	980	143557	146	0	0	20114	43	151041	685	0	0
SHRIMP, PINK	19884	225	113508	34	18085	135	55593	219	88989	280	0	0
SHRIMP, ROCK	221874	272	1751114	220	0	0	0	0	0	0	0	0
SHRIMP, ROYAL RED	1504	2	49928	8	0	0	0	0	0	0	0	0
SHRIMP, WHITE	31139	114	218075	286	0	0	0	0	69	4	3941	12
SHRIMP, OTHER	83937	249	15541	39	0	0	4735	39	3084	20	0	0
TOTAL SHRIMP	507141		2291723		18085		80442		243183		3941	
SHRIMP, BAIT	1529	46	0	0	0	0	0	0	139378	1535	0	0
TOTAL BAIT SHRIMP	1529		0		0		0		139378		0	
GRAND TOTALS	11078089		11382914		2154880		3140829		4758759		48094	
ACTUAL TRIPS		12135		43052		4567		10028		16097		145

LICENSE SUMMARY BY COUNTY

LICENSE/PERMIT TYPE	BAY	BREVARD	BROWARD	CHARLOTTE	CITRUS	CLAY
	NUMBER	NUMBER	NUMBER	NUMBER	NUMBER	NUMBER
CRAB, BLUE	53	357	82	97	182	33
CRAB, STONE	26	256	119	96	195	18
CRAWFISH/LOBSTERS	6	100	193	19	7	8
GILL NET	2	1	0	9	23	0
MARINE LIFE	1	5	26	0	3	0
NON-COMMERCIAL NET	76	47	9	7	16	14
PURSE SEINE	21	2	1	1	2	0
RESTRICTED SPECIES	210	281	146	162	242	12
RETAIL DEALERS	326	151	410	51	82	19
SALTWATER PRODUCTS	570	1108	639	280	398	66
WHOLESALE DEALERS	51	49	75	9	14	2
OTHER PERMITS	30	3	12	3	0	3
Totals	1372	2360	1712	734	1164	175

-- CONTINUED --

REPORT DATE : 07/01/1994
TIME : 13:10

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
MARINE FISHERIES INFORMATION SYSTEM
1992 ANNUAL LANDINGS SUMMARY
EDITED LANDINGS DATA THROUGH BATCH 262 (Closed 02/18/1993)

BY COUNTIES

SPECIES	COLLIER		DADE		DIXIE		DUVAL		ESCAMBIA		FLAGLER	
	POUNDS	TRIPS	POUNDS	TRIPS	POUNDS	TRIPS	POUNDS	TRIPS	POUNDS	TRIPS	POUNDS	TRIPS
AMBERJACKS	17916	66	127334	153	101	3	143684	540	53373	388	0	0
BAIT FISH	82499	241	1322	32	75401	275	14479	80	538	14	0	0
BALLYHOO	0	0	105560	176	0	0	0	0	0	0	0	0
BLUE RUNNER	228	6	4948	88	1399	30	197	20	5180	34	0	0
BLUEFISH	8433	552	491	14	15619	644	92122	918	12288	121	0	0
BONITO (LITTLE TUNNY)	0	0	3640	81	0	0	11504	26	0	0	0	0
BUMPER, ATLANTIC	0	0	0	0	0	0	0	0	0	0	0	0
CATFISH	1239	11	270	6	7301	96	1734	47	2303	76	0	0
COBIA	1891	40	3765	64	456	22	15564	245	3492	59	0	0
CROAKER	15	3	0	0	75	10	29519	978	3361	118	14	1
DOLPHIN	2430	28	37828	336	21	2	12865	208	1147	24	0	0
DRUM, BLACK	3712	117	50	2	2181	79	12804	355	4132	78	11	1
EELS	0	0	2	1	18	1	703	12	18	2	0	0
FLOUNDERS	830	314	2	1	5732	852	113243	3298	15945	624	30	2
GOATFISHES	0	0	0	0	0	0	0	0	0	0	0	0
GROUPER, BLACK	7715	105	9085	136	6107	61	1730	22	0	0	0	0
GROUPER, GAG	8910	35	2270	24	3446	23	71608	451	20016	204	0	0
GROUPER, NASSAU	0	0	323	6	0	0	692	2	0	0	0	0
GROUPER, RED	405606	371	3096	75	37786	119	1183	43	122	1	3654	1
GROUPER, SCAMP	1896	18	0	0	384	2	30157	298	13302	193	0	0
GROUPER, SNOWY	5136	5	491	8	0	0	11403	91	7077	27	0	0
GROUPER, WARSAW	817	4	114	1	0	0	878	23	7474	69	0	0
GROUPER, YELLOWEDGE	13396	8	61	1	0	0	0	0	19143	57	0	0
GROUPER, YELLOWFIN	0	0	59	2	0	0	0	0	844	16	0	0
GROUPER, MIXED	1397	1	3769	49	77	1	148	7	0	0	0	0
GROUPER, OTHER	831	1	155	6	0	0	8340	220	966	10	0	0
GRUNTS	6213	91	20704	328	52718	213	1296	62	329	2	0	0
HERRING, THREAD	9	2	810	2	1525	1	164	3	0	0	0	0
HOGFISH	38	7	5997	144	82	1	577	9	0	0	0	0
JACK, CREVALLE	85110	1622	567	20	23302	331	11871	211	0	0	3	1
JACK, MIXED	15	2	3982	73	92384	440	34744	149	0	0	0	0
JACK, OTHER	29	3	933	36	0	0	480	20	631	2	0	0
KINGFISH (WHITING)	260	114	12	2	10815	290	439199	3010	1687	19	0	0
LADYFISH	7942	373	15	1	3597	283	694	5	262	4	0	0
MACKEREL, KING	72372	97	37992	242	21	1	53828	514	3531	56	0	0
MACKEREL, SPANISH	51676	516	4642	80	105396	916	44118	842	123946	347	0	0
MENHADEN (POGIES)	77	2	0	0	577979	213	88713	214	116	3	0	0
MOJARRA	5396	256	8	1	76	3	38	5	0	0	0	0
MULLET, BLACK	980481	2609	3869	39	686041	2297	380598	957	826822	1336	27	1
MULLET, BLACK, ROE	0	0	0	0	0	0	0	0	1107	6	0	0
MULLET, SILVER	33819	156	9992	68	790	6	7473	40	55687	94	0	0
PERMIT	8465	303	0	0	221	15	36	4	36	1	0	0
PINFISH	5	5	13	3	113	29	1	1	0	0	0	0
POMPANO	64280	1140	99	6	15487	225	39037	258	6481	123	0	0
PORGIES	9804	153	12088	111	3572	72	49296	425	42176	477	0	0
RAYS	28598	31	0	0	46232	34	1005	13	0	0	0	0
SAND PERCH	52	3	0	0	0	0	0	0	0	0	0	0
SARDINES, SCALED	0	0	0	0	0	0	0	0	0	0	0	0
SARDINES, SPANISH	0	0	1252	20	0	0	0	0	30	2	0	0
SCAD, BIGEYE (GOGGLE EYE)	0	0	0	0	0	0	0	0	0	0	0	0
SCAD, ROUND (CIGARFISH)	0	0	0	0	0	0	0	0	27	2	0	0

-- CONTINUED --

REPORT DATE : 07/01/1994
TIME : 18:10

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
MARINE FISHERIES INFORMATION SYSTEM
1992 ANNUAL LANDINGS SUMMARY
EDITED LANDINGS DATA THROUGH BATCH 262 (Closed 02/18/1993)

BY COUNTIES

SPECIES	COLLIER		DADE		DIXIE		DUVAL		ESCAMBIA		FLAGLER	
	POUNDS	TRIPS	POUNDS	TRIPS	POUNDS	TRIPS	POUNDS	TRIPS	POUNDS	TRIPS	POUNDS	TRIPS
SEA BASS, MIXED	36	6	0	0	142839	287	5994	237	27	1	0	0
SEATROUT, SAND	559	33	0	0	9424	475	0	0	48736	733	0	0
SEATROUT, SILVER	12	3	0	0	210	1	1696	26	4151	69	0	0
SEATROUT, SPOTTED	13384	1079	258	8	87213	969	42239	1668	15044	206	0	0
SEATROUT, WEAKFISH	661	92	109	1	0	0	144922	2886	0	0	0	0
SHAD (COMMON)	0	0	0	0	17696	24	48997	265	74	2	0	0
SHARK	32814	358	9695	48	8916	198	266420	319	3449	55	0	0
SHARK FINS	186	3	1129	6	32	1	1263	5	130	3	0	0
SHEEPSHEAD	21354	1152	55	3	15168	933	43154	1126	19876	187	9	1
SNAPPER, GRAY (MANGROVE)	3454	341	9480	113	43	2	10612	232	385	14	3	1
SNAPPER, LANE	33965	272	735	15	0	0	0	0	1245	34	0	0
SNAPPER, MUTTON	1880	49	7553	161	41	1	4399	104	599	12	0	0
SNAPPER, RED	102	4	1471	17	6	1	13978	334	177978	478	0	0
SNAPPER, SILK	289	5	367	9	0	0	653	33	390	10	0	0
SNAPPER, VERMILION	923	67	171	7	572	36	136184	413	406857	752	0	0
SNAPPER, YELLOWTAIL	10225	106	78038	551	0	0	173	7	18	1	0	0
SNAPPER, MIXED	287	4	28958	310	13	1	222	5	29	3	0	0
SNAPPER, OTHER	2629	14	1931	19	54	4	3661	81	11807	137	0	0
SPOT	216	29	597	11	137743	1048	58579	1568	10469	236	0	0
SWORDFISH	74970	70	127	2	0	0	13565	4	0	0	0	0
TILAPIA (NILE PERCH)	108	5	0	0	33	2	80	2	0	0	0	0
TILEFISH (GOLDEN)	54	2	2186	41	0	0	55	1	4578	25	0	0
TILEFISH, BLUELINE (GRAY)	6146	8	1022	34	0	0	368	19	995	17	0	0
TRIGGERFISH	3218	89	1827	21	3739	155	60113	377	72012	623	0	0
TUNA, BIGEYE	8283	21	0	0	0	0	241	1	0	0	0	0
TUNA, BLACKFIN	144	4	1798	30	0	0	5275	45	2946	12	0	0
TUNA, BLUEFIN	0	0	0	0	0	0	60	1	31	1	0	0
TUNA, SKIPJACK	11	1	154	12	0	0	0	0	15	1	0	0
TUNA, YELLOWFIN	30709	37	0	0	9	1	153	3	4681	26	0	0
TUNA, MIXED	55	1	9	1	0	0	28	1	231	1	0	0
WAHOO	345	9	1142	37	0	0	3739	57	939	10	0	0
MISC. FOOD FISH	21693	1111	7304	183	2359	100	101363	908	8901	224	0	0
MISC. INDUSTRIAL FISH	5158	19	4949	11	7268	6	17328	91	1566	2	0	0
TOTAL FINFISH	2193408		568675		2209833		2713239		2031748		3751	
CLAMS, HARD, BUTTON	0	0	0	0	0	0	0	0	0	0	0	0
CLAMS, HARD, LITTLENECK	0	0	0	0	230	18	0	0	0	0	0	0
CLAMS, HARD, MIDDLENECK	0	0	0	0	791	28	0	0	0	0	0	0
CLAMS, HARD, TOPNECK	0	0	0	0	0	0	0	0	0	0	0	0
CLAMS, HARD, CHERRY	0	0	0	0	0	0	0	0	0	0	0	0
CLAMS, HARD, CHOWDER	0	0	0	0	0	0	0	0	0	0	0	0
CLAMS, HARD, UNGRADED	0	0	1750	1	0	0	0	0	0	0	0	0
CLAMS, SUNRAY VENUS	0	0	0	0	0	0	0	0	0	0	0	0
CONCH (HELMET AND WHELKS)	0	0	0	0	0	0	0	0	0	0	0	0
CRABS, BLUE (HARD)	388209	748	51270	688	729284	1818	763975	2987	42068	777	11561	55
CRABS, BLUE (SOFT)	29	5	0	1	3571	55	2088	42	0	0	0	0
CRABS, STONE, JUMBO	37498	870	4890	53	44	2	0	0	0	0	0	0
CRABS, STONE, LARGE	711356	4526	24206	133	58752	639	0	0	0	0	0	0
CRABS, STONE, MEDIUM	649714	4498	12344	110	30104	627	0	0	0	0	0	0
CRABS, STONE, SMALL	450	9	62	2	978	47	0	0	0	0	0	0

-- CONTINUED --

REPORT DATE : 07/01/1994
TIME : 18:10

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
MARINE FISHERIES INFORMATION SYSTEM
1992 ANNUAL LANDINGS SUMMARY
EDITED LANDINGS DATA THROUGH BATCH 262 (Closed 02/18/1993)

BY COUNTIES

SPECIES	COLLIER		DADE		DIXIE		DUVAL		ESCAMBIA		FLAGLER	
	POUNDS	TRIPS	POUNDS	TRIPS	POUNDS	TRIPS	POUNDS	TRIPS	POUNDS	TRIPS	POUNDS	TRIPS
CRABS, STONE, UNGRADED	138618	628	18526	98	204	9	676	1	0	0	0	0
LOBSTER, SPANISH	1747	10	244	2	0	0	44	1	0	0	0	0
LOBSTER, SPINY	58584	112	360144	2715	0	0	7263	37	0	0	0	0
OCTOPUS	2	1	383	1	2432	72	1354	12	658	3	0	0
OYSTERS	0	0	0	0	26917	599	2357	54	6228	55	0	0
SCALLOPS, BAY	0	0	0	0	0	0	0	0	0	0	0	0
SCALLOPS, CALICO	0	0	0	0	0	0	0	0	0	0	0	0
SPONGE (PIECES)	0	0	94476	108	0	0	0	0	0	0	0	0
SQUID	0	0	0	0	0	0	10546	84	32313	570	0	0
MISC. INVERTEBRATES	5	1	100	1	6	1	158	3	14	1	0	0
TOTAL INVERTEBRATES	1986212		568395		863313		788461		81281		11561	
SHRIMP, BROWN	219	2	18	1	5090	9	29984	152	424815	1260	0	0
SHRIMP, PINK	84	1	25429	127	0	0	0	0	0	0	0	0
SHRIMP, ROCK	0	0	0	0	0	0	133287	28	407	11	0	0
SHRIMP, ROYAL RED	0	0	7000	1	0	0	147233	29	226	2	0	0
SHRIMP, WHITE	0	0	0	0	1218	2	1657628	3441	2453	26	0	0
SHRIMP, OTHER	0	0	0	0	0	0	18834	12	111	1	0	0
TOTAL SHRIMP	303		32447		6308		1986966		428012		0	
SHRIMP, BAIT	7995	79	249879	3081	0	0	19706	364	26	1	0	0
TOTAL BAIT SHRIMP	7995		249879		0		19706		26		0	
GRAND TOTALS	4187918		1419396		3079454		5508372		2541067		15312	
ACTUAL TRIPS		10615		10593		7464		13165		4740		57

LICENSE SUMMARY BY COUNTY

LICENSE/PERMIT TYPE	COLLIER	DADE	DIXIE	DUVAL	ESCAMBIA	FLAGLER
	NUMBER	NUMBER	NUMBER	NUMBER	NUMBER	NUMBER
CRAB, BLUE	124	341	133	134	34	7
CRAB, STONE	175	549	126	55	7	5
CRAWFISH/LOBSTERS	49	669	3	30	4	1
GILL NET	2	0	0	5	1	0
MARINE LIFE	3	38	0	3	1	0
NON-COMMERCIAL NET	13	14	0	151	486	0
PURSE SEINE	4	14	0	0	1	0
RESTRICTED SPECIES	251	457	119	274	151	11
RETAIL DEALERS	43	367	24	226	58	21
SALTWATER PRODUCTS	385	1577	263	609	401	26
WHOLESALE DEALERS	25	245	10	55	17	3
OTHER PERMITS	0	25	3	88	60	0
Totals	1074	4296	681	1630	1221	74

-- CONTINUED --

REPORT DATE : 07/01/1994
TIME : 18:10

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
MARINE FISHERIES INFORMATION SYSTEM
1992 ANNUAL LANDINGS SUMMARY
EDITED LANDINGS DATA THROUGH BATCH 262 (Closed 02/18/1993)

BY COUNTIES

SPECIES	FRANKLIN		GULF		HERNANDO		HILLSBOROUGH		INDIAN RIVER		JEFFERSON	
	POUNDS	TRIPS	POUNDS	TRIPS	POUNDS	TRIPS	POUNDS	TRIPS	POUNDS	TRIPS	POUNDS	TRIPS
AMBERJACKS	51023	156	168	1	1835	6	18770	82	132079	174	1645	8
BAIT FISH	509	2	4770	19	5	1	79484	62	47	1	0	0
BALLYHOO	0	0	0	0	0	0	0	0	0	0	0	0
BLUE RUNNER	5283	17	174200	48	0	0	370	5	3781	168	0	0
BLUEFISH	6109	131	3604	16	0	0	1875	55	182414	2632	0	0
BONITO (LITTLE TUNNY)	0	0	490703	26	0	0	2832	32	3559	101	0	0
BUMPER, ATLANTIC	0	0	0	0	0	0	0	0	892	7	0	0
CATFISH	36	2	0	0	0	0	9696	33	7414	195	0	0
COBIA	2334	49	0	0	0	0	3385	71	8068	241	26	1
CROAKER	300	14	0	0	0	0	385	16	150	40	0	0
DOLPHIN	1039	22	12	1	0	0	735	17	2856	155	0	0
DRUM, BLACK	1223	41	0	0	0	0	679	22	2613	17	0	0
EELS	0	0	37	1	0	0	0	0	0	0	0	0
FLOUNDERS	22840	639	6323	139	103	20	2795	217	2084	161	0	0
GOATFISHES	0	0	27650	27	0	0	0	0	0	0	0	0
GROUPER, BLACK	0	0	0	0	4428	37	69263	222	142	3	0	0
GROUPER, GAG	157652	441	141	3	177	1	9846	87	2269	32	18	1
GROUPER, NASSAU	118	2	0	0	0	0	0	0	39	1	0	0
GROUPER, RED	139145	312	47	1	2258	33	110129	289	469	27	0	0
GROUPER, SCAMP	14330	212	0	0	0	0	5630	40	862	34	0	0
GROUPER, SNOWY	8551	11	0	0	0	0	7078	14	5446	12	0	0
GROUPER, WARSAW	7224	44	0	0	0	0	0	0	871	17	0	0
GROUPER, YELLOWEDGE	97988	36	0	0	0	0	48329	15	346	4	0	0
GROUPER, YELLOWFIN	146	2	0	0	0	0	159	2	119	2	0	0
GROUPER, MIXED	0	0	0	0	89	1	0	0	228	10	0	0
GROUPER, OTHER	6252	30	0	0	0	0	1287	21	9848	129	0	0
GRUNTS	3128	40	0	0	2130	31	5490	153	552	32	30	1
HERRING, THREAD	0	0	103800	5	0	0	710402	57	0	0	0	0
HOGFISH	507	16	0	0	137	3	1124	39	0	0	0	0
JACK, CREVALLE	1791	14	121769	13	0	0	91671	332	55228	1536	0	0
JACK, MIXED	0	0	27100	5	0	0	916	13	0	0	0	0
JACK, OTHER	2947	9	9325	1	434	1	4065	27	0	0	5	1
KINGFISH (WHITING)	6184	193	0	0	0	0	2307	37	5191	804	0	0
LADYFISH	254	6	1266936	87	0	0	1767	25	12382	215	0	0
MACKEREL, KING	10257	62	5824	1	0	0	103	5	42390	2121	0	0
MACKEREL, SPANISH	57708	213	252495	61	0	0	30320	114	209506	1747	0	0
MENHADEN (POGIES)	0	0	5137415	112	0	0	432531	48	1128821	2139	0	0
MOJARRA	8	1	0	0	0	0	56142	439	5980	150	0	0
MULLET, BLACK	223984	533	500288	427	22468	66	719641	1796	151038	579	0	0
MULLET, BLACK, ROE	0	0	0	0	0	0	0	0	0	0	0	0
MULLET, SILVER	25233	55	419	1	144	2	46132	138	87	5	0	0
PERMIT	0	0	0	0	0	0	3552	85	2789	192	0	0
PINFISH	171	4	127	7	0	0	3	3	0	0	0	0
POMPANO	20661	178	996	26	0	0	1824	90	17883	490	0	0
PORGIES	23063	192	1519	20	0	0	4445	72	803	45	0	0
RAYS	328	2	0	0	0	0	10068	25	53	1	0	0
SAND PERCH	0	0	0	0	0	0	3315	73	91	8	0	0
SARDINES, SCALED	0	0	0	0	0	0	0	0	0	0	0	0
SARDINES, SPANISH	183	1	910132	87	0	0	13499	5	0	0	0	0
SCAD, BIGEYE (GOGGLE EYE)	0	0	77586	15	0	0	0	0	0	0	0	0
SCAD, ROUND (CIGARFISH)	86	1	736339	80	0	0	144	1	0	0	0	0

-- CONTINUED --

REPORT DATE : 07/01/1994
TIME : 19:10

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
MARINE FISHERIES INFORMATION SYSTEM
1992 ANNUAL LANDINGS SUMMARY
EDITED LANDINGS DATA THROUGH BATCH 262 (Closed 02/18/1993)

BY COUNTIES

S P E C I E S	FRANKLIN		GULF		HERNANDO		HILLSBOROUGH		INDIAN RIVER		JEFFERSON	
	POUNDS	TRIPS	POUNDS	TRIPS	POUNDS	TRIPS	POUNDS	TRIPS	POUNDS	TRIPS	POUNDS	TRIPS
SEA BASS, MIXED	2053	39	0	0	28	1	380	28	1439	69	24	1
SEATROUT, SAND	1243	42	317	10	0	0	706	38	0	0	0	0
SEATROUT, SILVER	43	5	0	0	0	0	3611	93	192	17	0	0
SEATROUT, SPOTTED	14287	218	2471	25	316	3	10129	549	55078	1367	0	0
SEATROUT, WEAKFISH	0	0	0	0	0	0	0	0	1839	187	0	0
SHAD (COMMON)	275	1	8866	2	0	0	534	8	0	0	0	0
SHARK	108671	167	0	0	0	0	419479	148	33517	205	0	0
SHARK FINS	152	5	0	0	0	0	45	1	254	3	0	0
SHEEPSHEAD	1565	79	986	3	643	10	41787	835	25295	497	0	0
SNAPPER, GRAY (MANGROVE)	8233	211	0	0	17	4	7259	139	4077	163	336	6
SNAPPER, LANE	533	28	0	0	0	0	1126	6	126	42	0	0
SNAPPER, MUTTON	79	2	0	0	0	0	802	7	498	62	0	0
SNAPPER, RED	56191	88	23	2	0	0	693	13	2368	70	0	0
SNAPPER, SILK	877	13	167	1	0	0	114	2	0	0	0	0
SNAPPER, VERMILION	10142	176	305	1	0	0	146	14	71	13	24	1
SNAPPER, YELLOWTAIL	0	0	0	0	0	0	1832	11	428	16	0	0
SNAPPER, MIXED	111	5	31	1	26	1	53	12	12	2	0	0
SNAPPER, OTHER	93	9	116	3	0	0	488	26	3141	251	0	0
SPOT	2791	48	189	15	0	0	6304	160	231176	1746	0	0
SWORDFISH	0	0	0	0	0	0	11220	14	96	2	0	0
TILAPIA (NILE PERCH)	0	0	0	0	0	0	15618	97	104	8	0	0
TILEFISH (GOLDEN)	23453	31	0	0	0	0	996	13	16854	23	0	0
TILEFISH, BLUELINE (GRAY)	5247	18	0	0	0	0	25568	16	1486	7	0	0
TRIGGERFISH	14424	240	672	11	0	0	926	47	2542	94	0	0
TUNA, BIGEYE	0	0	0	0	0	0	0	0	0	0	0	0
TUNA, BLACKFIN	223	7	0	0	0	0	345	8	708	27	0	0
TUNA, BLUEFIN	0	0	0	0	0	0	0	0	0	0	0	0
TUNA, SKIPJACK	0	0	0	0	0	0	0	0	0	0	0	0
TUNA, YELLOWFIN	234	1	845	5	0	0	2007	7	0	0	0	0
TUNA, MIXED	0	0	0	0	0	0	0	0	0	0	0	0
WAHOO	407	8	0	0	0	0	223	5	951	34	0	0
MISC. FOOD FISH	14449	156	259942	35	61	3	15571	477	20882	777	18	1
MISC. INDUSTRIAL FISH	91	2	6390434	245	0	0	44102	22	0	0	0	0
TOTAL FINFISH	1164462		16604883		35299		3124252		2783924		2126	
CLAMS, HARD, BUTTON	0	0	0	0	0	0	0	0	7	2	0	0
CLAMS, HARD, LITTLENECK	0	0	3	2	0	0	0	0	17169	1488	0	0
CLAMS, HARD, MIDDLENECK	0	0	126	14	0	0	0	0	13527	1576	0	0
CLAMS, HARD, TOPNECK	0	0	15362	272	0	0	0	0	5300	1437	0	0
CLAMS, HARD, CHERRY	0	0	68750	339	0	0	0	0	6123	1371	0	0
CLAMS, HARD, CHOWDER	0	0	608	11	0	0	0	0	331	93	0	0
CLAMS, HARD, UNGRADED	5	2	0	0	0	0	0	0	228	12	0	0
CLAMS, SUNRAY VENUS	0	0	0	0	0	0	0	0	0	0	0	0
CONCH (HELMET AND WHELKS)	0	0	0	0	0	0	0	0	0	0	0	0
CRABS, BLUE (HARD)	221783	381	177	6	821	17	197881	1168	75753	374	0	0
CRABS, BLUE (SOFT)	9920	171	0	0	0	0	0	0	0	0	0	0
CRABS, STONE, JUMBO	134	1	0	0	0	0	1236	8	0	0	0	0
CRABS, STONE, LARGE	0	0	0	0	15998	197	66022	231	72	3	0	0
CRABS, STONE, MEDIUM	0	0	0	0	16078	216	29556	224	102	4	0	0
CRABS, STONE, SMALL	0	0	0	0	0	0	162	1	8	1	0	0

-- CONTINUED --

REPORT DATE : 07/01/1994
TIME : 18:10

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
MARINE FISHERIES INFORMATION SYSTEM
1992 ANNUAL LANDINGS SUMMARY
EDITED LANDINGS DATA THROUGH BATCH 262 (Closed 02/18/1993)

BY COUNTIES

SPECIES	FRANKLIN		GULF		HERNANDO		HILLSBOROUGH		INDIAN RIVER		JEFFERSON	
	POUNDS	TRIPS	POUNDS	TRIPS	POUNDS	TRIPS	POUNDS	TRIPS	POUNDS	TRIPS	POUNDS	TRIPS
CRABS, STONE, UNGRADED	0	0	0	0	0	0	288	1	104	7	0	0
LOBSTER, SPANISH	12607	24	541	9	0	0	552	32	152	2	0	0
LOBSTER, SPINY	91	1	0	0	0	0	1181	15	4408	75	0	0
OCTOPUS	44	2	0	0	0	0	589	11	0	0	0	0
OYSTERS	1793421	26240	5388	141	0	0	0	0	33	1	0	0
SCALLOPS, BAY	2135	41	155	2	0	0	0	0	0	0	0	0
SCALLOPS, CALICO	0	0	0	0	0	0	0	0	0	0	0	0
SPONGE (PIECES)	0	0	0	0	0	0	0	0	0	0	0	0
SQUID	236	11	8483	32	0	0	3260	42	0	0	0	0
MISC. INVERTEBRATES	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL INVERTEBRATES	2040376		99593		32897		300727		123317		0	
SHRIMP, BROWN	408295	1509	12459	80	4253	33	18646	6	0	0	0	0
SHRIMP, PINK	154895	230	52913	148	278	2	1230936	474	2910	20	0	0
SHRIMP, ROCK	802738	173	386337	59	0	0	720650	178	0	0	0	0
SHRIMP, ROYAL RED	1637	2	0	0	0	0	935	2	0	0	0	0
SHRIMP, WHITE	525289	1013	25379	38	0	0	365	1	0	0	0	0
SHRIMP, OTHER	8439	14	45223	2	0	0	748	6	0	0	0	0
TOTAL SHRIMP	1901293		522311		4481		1972280		2910		0	
SHRIMP, BAIT	2136	8	2296	86	367517	3370	0	0	0	0	0	0
TOTAL BAIT SHRIMP	2136		2296		367517		0		0		0	
GRAND TOTALS	5108267		17229083		440194		5397259		2910151		2126	
ACTUAL TRIPS		31556		1963		4023		5560		9113		10

LICENSE SUMMARY BY COUNTY

LICENSE/PERMIT TYPE	FRANKLIN	GULF	HERNANDO	HILLSBOROUGH	INDIAN RIVER	JEFFERSON
	NUMBER	NUMBER	NUMBER	NUMBER	NUMBER	NUMBER
CRAB, BLUE	127	28	41	128	71	3
CRAB, STONE	58	18	52	110	54	2
CRAWFISH/LOBSTERS	6	3	7	78	26	1
GILL NET	0	3	8	86	1	0
MARINE LIFE	1	0	6	18	0	0
NON-COMMERCIAL NET	51	22	4	55	9	6
PURSE SEINE	0	11	1	8	3	0
RESTRICTED SPECIES	196	60	61	218	119	9
RETAIL DEALERS	84	68	21	457	37	5
SALTWATER PRODUCTS	1065	151	110	463	264	22
WHOLESALE DEALERS	59	13	6	58	16	0
OTHER PERMITS	799	19	0	9	1	0
Totals	2446	396	317	1688	601	48

CONTINUED ..

REPORT DATE : 07/01/1994
TIME : 18.10

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
MARINE FISHERIES INFORMATION SYSTEM
1992 ANNUAL LANDINGS SUMMARY
EDITED LANDINGS DATA THROUGH BATCH 262 (Closed 02/18/1993)

BY COUNTIES

SPECIES	LEE		LEVY		MANATEE		MARTIN		MONROE		NASSAU	
	POUNDS	TRIPS	POUNDS	TRIPS	POUNDS	TRIPS	POUNDS	TRIPS	POUNDS	TRIPS	POUNDS	TRIPS
AMBERJACKS	34012	257	1482	31	3847	39	10931	63	1103900	1943	0	0
BAIT FISH	9675	43	27201	91	115312	203	285	2	98636	479	9468	112
BALLYHOO	114	1	0	0	0	0	23	1	609671	710	0	0
BLUE RUNNER	531	23	131	4	7322	62	7609	213	3364	104	0	0
BLUEFISH	19817	1441	3445	77	45349	659	449112	1331	67306	590	0	0
BONITO (LITTLE TUNNY)	16313	3	17	1	84368	113	279	2	4122	147	0	0
BUMPER, ATLANTIC	0	0	0	0	25202	79	0	0	0	0	0	0
CATFISH	11051	107	3358	85	9731	64	35595	846	534	10	65	2
COBIA	8701	249	1057	37	4394	148	9356	65	74948	1429	803	19
CROAKER	68	10	9	3	1152	199	30727	1936	487	13	30	3
DOLPHIN	982	41	0	0	508	11	6345	67	270885	2895	272	4
DRUM, BLACK	2591	221	75	6	3033	391	3883	73	253	3	274	3
EELS	126	4	0	0	0	0	16	1	650	13	118	2
FLOUNDERS	28299	5458	3773	461	7396	1571	3437	567	799	192	8263	253
GOATFISHES	0	0	0	0	0	0	0	0	7	2	0	0
GROUPER, BLACK	21311	279	1005	24	67675	190	632	14	185040	4138	561	7
GROUPER, GAG	91907	464	35046	331	5282	13	5755	66	1966	35	2407	22
GROUPER, NASSAU	159	2	213	2	142	1	15	2	265	15	0	0
GROUPER, RED	447120	1382	92110	372	483506	287	475	20	137463	3129	21	4
GROUPER, SCAMP	14103	240	37	2	16611	123	0	0	3144	34	160	4
GROUPER, SNOWY	6718	14	0	0	5348	16	1458	39	31428	409	0	0
GROUPER, WARSAW	1630	10	0	0	1381	7	152	1	3327	27	0	0
GROUPER, YELLOWEDGE	14799	37	0	0	18447	26	0	0	7992	55	155	1
GROUPER, YELLOWFIN	0	0	0	0	91	3	0	0	469	7	0	0
GROUPER, MIXED	551	5	1	1	5	1	489	9	1871	35	4	1
GROUPER, OTHER	8999	49	7858	10	15535	29	623	11	10970	402	128	2
GRUNTS	4893	407	25781	360	2098	244	118	13	52036	2064	0	0
HERRING, THREAD	1083	13	0	0	3056660	246	0	0	0	0	0	0
HOGFISH	3476	46	56	7	1	1	58	2	73641	2815	0	0
JACK, CREVALLE	167702	4591	6074	39	275636	2538	158693	1133	23921	636	9	1
JACK, MIXED	111842	3282	11	1	49	5	71573	1089	58152	2063	0	0
JACK, OTHER	22	3	37529	394	33	4	11188	15	12431	308	0	0
KINGFISH (WHITING)	7552	669	225	23	10299	311	32778	194	974	8	101321	410
LADYFISH	37934	407	8511	29	141391	715	3783	24	6415	159	0	0
MACKEREL, KING	335	16	408	15	11840	38	38350	311	918847	2690	1018	28
MACKEREL, SPANISH	169142	1932	3402	253	544601	1329	592786	1017	1220714	919	57	8
MENHADEN (POGIES)	215026	77	63	3	68227	178	0	0	124	1	0	0
MOJARRA	144096	2754	36	3	25645	758	222009	2898	199	3	0	0
MULLET, BLACK	3989184	13921	606850	2115	2260116	5762	214243	1937	12074	10	166	5
MULLET, BLACK, ROE	0	0	0	0	9759	121	0	0	0	0	0	0
MULLET, SILVER	14695	74	0	0	3011	21	2900	12	99956	269	3	1
PERMIT	34648	1269	813	16	35570	938	1697	210	1372	94	0	0
PINFISH	2080	104	0	0	32649	106	0	0	2	1	0	0
POMPANO	95851	2592	8104	173	24482	869	31234	1124	46308	554	0	0
PORGIES	17876	612	16280	99	3972	46	1647	66	15977	411	1537	20
RAYS	11640	2	1909	62	134387	176	0	0	584	12	0	0
SAND PERCH	5700	337	0	0	1157	109	76	7	33	2	0	0
SARDINES, SCALED	0	0	0	0	0	0	0	0	0	0	0	0
SARDINES, SPANISH	12	3	0	0	7358	4	6	1	0	0	0	0
SCAD, BIGEYE (GOGGLE EYE)	0	0	0	0	2	1	16256	7	698	18	0	0
SCAD, ROUND (CIGARFISH)	42	1	0	0	8	1	4	1	581	7	0	0

-- CONTINUED --

REPORT DATE : 07/01/1994
TIME : 18:10

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
MARINE FISHERIES INFORMATION SYSTEM
1992 ANNUAL LANDINGS SUMMARY
EDITED LANDINGS DATA THROUGH BATCH 262 (Closed 02/18/1993)

BY COUNTIES

S P E C I E S	LEE		LEVY		MANATEE		MARTIN		MONROE		NASSAU	
	POUNDS	TRIPS	POUNDS	TRIPS	POUNDS	TRIPS	POUNDS	TRIPS	POUNDS	TRIPS	POUNDS	TRIPS
SEA BASS, MIXED	4098	53	10431	241	163	10	975	58	584	6	1497	30
SEATROUT, SAND	1321	90	118	15	14934	92	0	0	40	2	0	0
SEATROUT, SILVER	762	209	16	1	300	45	19	8	48	3	3	1
SEATROUT, SPOTTED	198694	9212	19215	472	30620	2555	3475	345	10442	680	1474	38
SEATROUT, WEAKFISH	1394	274	0	0	0	0	879	118	381	6	37	3
SHAD (COMMON)	6516	78	1494	12	24208	380	0	0	0	0	0	0
SHARK	23363	631	25503	224	74637	214	35968	140	337032	525	26017	10
SHARK FINS	209	12	12454	61	839	6	0	0	6380	66	20	1
SHEEPSHEAD	190738	7488	18316	897	76765	2885	126784	2874	2586	86	2684	58
SNAPPER, GRAY (MANGROVE)	17768	1795	788	51	6465	644	3503	501	267749	8208	0	0
SNAPPER, LANE	25347	982	5	3	242	52	1509	24	44308	1799	0	0
SNAPPER, MUTTON	21869	303	8	1	2920	21	906	29	260902	6350	31	3
SNAPPER, RED	3963	69	369	1	1146	38	189	12	3243	60	878	21
SNAPPER, SILK	10048	31	0	0	15621	27	0	0	33249	114	0	0
SNAPPER, VERMILION	5577	98	725	33	2013	12	609	29	4813	70	445	11
SNAPPER, YELLOWTAIL	50776	269	68	2	179	3	674	20	1591641	15536	2	1
SNAPPER, MIXED	1022	20	59	3	115	2	1375	33	2938	30	76	3
SNAPPER, OTHER	6768	171	764	16	11376	58	542	18	15711	225	246	7
SPOT	4607	557	9828	399	10771	1069	10412	479	236	9	1009	49
SWORDFISH	516	1	0	0	0	0	32540	16	17132	25	0	0
TILAPIA (NILE PERCH)	42	3	0	0	460	38	8	5	0	0	0	0
TILEFISH (GOLDEN)	9707	19	0	0	458	4	2143	37	5628	71	0	0
TILEFISH, BLUELINE (GRAY)	7177	39	0	0	4173	16	286	16	37298	362	0	0
TRIGGERFISH	1710	167	7201	140	1302	21	123	12	4847	158	393	13
TUNA, BIGEYE	239	5	0	0	0	0	5596	8	1186	23	0	0
TUNA, BLACKFIN	1307	15	0	0	202	5	0	0	15968	266	0	0
TUNA, BLUEFIN	5	1	0	0	0	0	42	2	234	2	0	0
TUNA, SKIPJACK	0	0	158	1	309	2	0	0	641	10	0	0
TUNA, YELLOWFIN	358	2	0	0	0	0	4358	10	7444	38	0	0
TUNA, MIXED	0	0	0	0	0	0	734	7	1194	17	0	0
WAHOO	132	2	31	1	175	4	260	5	12965	380	245	5
MISC. FOOD FISH	141187	7937	647	41	94265	3268	51124	1787	130718	5262	9883	40
MISC. INDUSTRIAL FISH	47234	845	0	0	301111	524	0	0	22598	146	3	1
TOTAL FINFISH	6558862		1001068		8246357		2251629		8004672		171783	
CLAMS, HARD, BUTTON	0	0	0	0	0	0	0	0	0	0	0	0
CLAMS, HARD, LITTLENECK	0	0	657	4	0	0	0	0	0	0	0	0
CLAMS, HARD, MIDDLENECK	0	0	0	0	0	0	0	0	0	0	0	0
CLAMS, HARD, TOPNECK	0	0	0	0	0	0	0	0	0	0	0	0
CLAMS, HARD, CHERRY	0	0	0	0	0	0	0	0	0	0	0	0
CLAMS, HARD, CHOWDER	0	0	0	0	0	0	0	0	0	0	0	0
CLAMS, HARD, UNGRADED	0	0	27	4	62	2	0	0	0	0	0	0
CLAMS, SUNRAY VENUS	0	0	0	0	350	1	0	0	0	0	0	0
CONCH (HELMET AND WHELKS)	0	0	0	0	332	2	0	0	0	0	10	1
CRABS, BLUE (HARD)	1301945	6063	718251	2297	98782	867	7844	161	12226	183	111016	651
CRABS, BLUE (SOFT)	6924	319	12422	687	1	1	0	0	0	0	108	31
CRABS, STONE, JUMBO	4190	170	0	0	2804	35	0	0	344040	10241	0	0
CRABS, STONE, LARGE	59906	574	34024	824	12038	112	0	0	1039378	11696	0	0
CRABS, STONE, MEDIUM	24868	349	31356	833	3834	89	0	0	643980	8731	192	5
CRABS, STONE, SMALL	16146	191	0	0	0	0	0	0	383728	2220	18	2

-- CONTINUED --

REPORT DATE : 07/01/1994
TIME : 18:10

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
MARINE FISHERIES INFORMATION SYSTEM
1992 ANNUAL LANDINGS SUMMARY
EDITED LANDINGS DATA THROUGH BATCH 262 (Closed 02/18/1993)

BY COUNTIES

SPECIES	LEE POUNDS	LEE TRIPS	LEVY POUNDS	LEVY TRIPS	MANATEE POUNDS	MANATEE TRIPS	MARTIN POUNDS	MARTIN TRIPS	MONROE POUNDS	MONROE TRIPS	NASSAU POUNDS	NASSAU TRIPS
CRABS, STONE, UNGRADED	48014	265	97494	134	10730	91	0	0	533522	4434	0	0
LOBSTER, SPANISH	16133	322	0	0	96	2	0	0	8101	61	0	0
LOBSTER, SPINY	7667	221	206	5	0	0	6676	70	4654323	31928	0	0
OCTOPUS	2206	74	1288	41	0	0	0	0	8410	189	0	0
OYSTERS	0	0	62856	1306	0	0	0	0	0	0	0	0
SCALLOPS, BAY	0	0	0	0	0	0	0	0	0	0	0	0
SCALLOPS, CALICO	0	0	0	0	10	1	0	0	0	0	0	0
SPONGE (PIECES)	0	0	0	0	0	0	0	0	475693	1440	0	0
SQUID	4377	52	12	3	7	2	0	0	381	13	576	49
MISC. INVERTEBRATES	4048	2	0	0	90	2	0	0	3	1	2241	90
TOTAL INVERTEBRATES	1496424		958593		129136		14520		8103785		114161	
SHRIMP, BROWN	38361	142	407816	621	0	0	0	0	274	4	78897	277
SHRIMP, PINK	1774379	1005	30	1	52766	91	0	0	3264527	1146	0	0
SHRIMP, ROCK	30655	143	0	0	1492	8	0	0	18701	27	39418	15
SHRIMP, ROYAL RED	337	1	0	0	0	0	0	0	81	1	26142	11
SHRIMP, WHITE	0	0	0	0	0	0	0	0	6	1	639561	986
SHRIMP, OTHER	2122	8	54100	212	0	0	0	0	8134	2	17396	20
TOTAL SHRIMP	1845854		461946		54258		0		3291723		801414	
SHRIMP, BAIT	108868	2272	10134	111	101173	1186	0	0	36855	437	15514	369
TOTAL BAIT SHRIMP	108868		10134		101173		0		36855		15514	
GRAND TOTALS	10010008		2431741		8530924		2266149		19437035		1102872	
ACTUAL TRIPS		32741		9071		10768		5307		76033		2487

LICENSE SUMMARY BY COUNTY

LICENSE/PERMIT TYPE	LEE NUMBER	LEVY NUMBER	MANATEE NUMBER	MARTIN NUMBER	MONROE NUMBER	NASSAU NUMBER
CRAB, BLUE	162	148	81	42	486	27
CRAB, STONE	189	140	103	25	1529	5
CRAWFISH/LOBSTERS	120	4	19	49	1479	3
GILL NET	3	1	103	0	0	1
MARINE LIFE	2	2	2	5	191	0
NON-COMMERCIAL NET	32	33	12	0	2	30
PURSE SEINE	0	1	18	3	35	0
RESTRICTED SPECIES	505	118	212	122	1720	20
RETAIL DEALERS	83	46	48	31	146	29
SALTWATER PRODUCTS	828	256	334	293	3079	134
WHOLESALE DEALERS	53	25	16	10	99	13
OTHER PERMITS	6	2	5	0	2	41
Totals	1983	776	953	580	8768	303

-- CONTINUED --

REPORT DATE : 07/01/1994
TIME : 18:10

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
MARINE FISHERIES INFORMATION SYSTEM
1992 ANNUAL LANDINGS SUMMARY
EDITED LANDINGS DATA THROUGH BATCH 262 (Closed 02/18/1993)

BY COUNTIES

SPECIES	OKALOOSA		PALM BEACH		PASCO		PINELLAS		PUTNAM		ST JOHNS	
	POUNDS	TRIPS	POUNDS	TRIPS	POUNDS	TRIPS	POUNDS	TRIPS	POUNDS	TRIPS	POUNDS	TRIPS
AMBERJACKS	96776	496	253706	249	7981	49	360063	994	0	0	10747	49
BAIT FISH	1898	90	45017	6	1018	28	6838	40	0	0	456	3
BALLYHOO	0	0	187683	178	0	0	75	2	0	0	0	0
BLUE RUNNER	172513	40	11355	323	98	2	220	17	0	0	0	0
BLUEFISH	29519	51	61354	313	1844	131	21180	402	0	0	17571	34
BONITO (LITTLE TUNNY)	177560	28	909	6	546	10	11322	149	0	0	57	1
BUMPER, ATLANTIC	0	0	0	0	0	0	0	0	0	0	0	0
CATFISH	0	0	154	7	4131	26	1320	13	774	2	183	1
COBIA	19399	361	9794	224	1336	44	18504	416	0	0	3876	41
CROAKER	500	16	6973	205	143	5	1722	96	95	2	96	2
DOLPHIN	19174	91	14549	267	995	31	16179	211	0	0	4989	64
DRUM, BLACK	2213	44	1146	26	1155	44	3637	301	12	1	542	14
EELS	1160	46	45	6	0	0	82	14	0	0	0	0
FLOUNDERS	12892	281	162	31	7479	208	12827	1071	244	6	27372	356
GOATFISHES	0	0	0	0	0	0	0	0	0	0	0	0
GROUPER, BLACK	0	0	10074	107	26937	313	197954	1052	0	0	58	2
GROUPER, GAG	33488	367	78383	651	17573	116	752221	2180	0	0	7789	57
GROUPER, NASSAU	21	1	1047	8	0	0	5157	16	0	0	987	7
GROUPER, RED	3893	49	2828	108	99645	406	2544417	3032	0	0	817	30
GROUPER, SCAMP	18507	383	86	4	1977	30	131416	1266	0	0	1839	46
GROUPER, SNOWY	13590	159	3658	70	40	1	74376	162	0	0	2450	26
GROUPER, WARSAW	5107	57	1577	25	79	2	14878	113	0	0	151	4
GROUPER, YELLOWEDGE	51665	118	59	3	60	1	218024	251	0	0	0	0
GROUPER, YELLOWFIN	197	2	298	6	161	2	958	21	0	0	0	0
GROUPER, MIXED	1095	15	2350	37	444	3	392	6	0	0	241	8
GROUPER, OTHER	755	14	6575	90	1608	10	57123	179	0	0	1602	20
GRUNTS	0	0	7268	293	40920	407	62639	1412	0	0	38	2
HERRING, THREAD	1281	2	37924	4	0	0	189579	9	0	0	0	0
HOGFISH	0	0	3112	164	2042	58	13541	357	0	0	52	6
JACK, CREVALLE	55463	11	48309	332	66472	323	215244	1250	0	0	29631	14
JACK, MIXED	193	3	4141	59	377	8	19745	68	0	0	535	4
JACK, OTHER	671	21	6587	181	940	6	48193	306	0	0	0	0
KINGFISH (WHITING)	2913	12	624	28	448	8	2245	135	0	0	86825	301
LADYFISH	1100111	66	472	9	7567	40	12128	133	0	0	0	0
MACKEREL, KING	21961	344	223327	1613	3304	38	4215	97	0	0	16251	119
MACKEREL, SPANISH	26644	76	36640	270	15408	87	526121	920	0	0	12784	23
MENHADEN (POGIES)	60850	4	1502	19	789	9	14548	40	0	0	0	0
MOJARRA	0	0	109555	1103	8025	65	20502	428	0	0	0	0
MULLET, BLACK	101743	459	60768	373	365582	613	1531824	4351	2061	20	7399	47
MULLET, BLACK, ROE	0	0	0	0	0	0	1427	81	0	0	0	0
MULLET, SILVER	4043	30	33103	325	16684	23	9271	91	0	0	26481	26
PERMIT	27	2	1092	56	10384	252	27846	658	0	0	0	0
PINFISH	0	0	1	2	1257	98	394	83	0	0	4	3
POMPANO	6043	110	18817	413	1521	174	17328	521	0	0	652	15
PORGIES	87515	791	2402	114	71100	173	90179	993	0	0	21718	138
RAYS	0	0	0	0	9120	14	27818	164	0	0	58	1
SAND PERCH	0	0	4781	108	138	4	4588	120	0	0	0	0
SARDINES, SCALED	0	0	0	0	0	0	0	0	0	0	0	0
SARDINES, SPANISH	142670	36	160606	31	0	0	6	1	0	0	0	0
SCAD, BIGEYE (GOGGLE EYE)	0	0	296374	577	0	0	0	0	0	0	0	0
SCAD, ROUND (CIGARFISH)	467695	69	0	0	0	0	68	2	0	0	0	0

-- CONTINUED --

REPORT DATE : 07/01/1994
TIME : 18:10

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
MARINE FISHERIES INFORMATION SYSTEM
1992 ANNUAL LANDINGS SUMMARY
EDITED LANDINGS DATA THROUGH BATCH 262 (Closed 02/18/1993)

BY COUNTIES

S P E C I E S	OKALOOSA		PALM BEACH		PASCO		PINELLAS		PUTNAM		ST JOHNS	
	POUNDS	TRIPS	POUNDS	TRIPS	POUNDS	TRIPS	POUNDS	TRIPS	POUNDS	TRIPS	POUNDS	TRIPS
SEA BASS, MIXED	22	1	217	11	4006	70	8491	383	0	0	703	41
SEATROUT, SAND	1431	11	0	0	91	9	2748	58	25	1	0	0
SEATROUT, SILVER	1489	17	46	3	74	5	4119	167	0	0	22	1
SEATROUT, SPOTTED	4535	125	358	25	15359	496	51393	2012	0	0	348	16
SEATROUT, WEAKFISH	10	1	64	13	0	0	0	0	0	0	11	1
SHAD (COMMON)	0	0	0	0	400	1	26969	183	165	3	0	0
SHARK	181763	126	44815	125	41846	116	1619195	1079	0	0	2880	34
SHARK FINS	2208	19	3029	33	145	5	102501	756	0	0	0	0
SHEEPSHEAD	5850	75	12391	341	12807	414	86760	2520	2858	22	4767	89
SNAPPER, GRAY (MANGROVE)	1751	88	3476	175	8541	164	40494	1524	7	1	1738	45
SNAPPER, LANE	3085	109	647	29	323	6	3953	148	0	0	101	3
SNAPPER, MUTTON	48	5	16569	637	13	2	28986	218	0	0	647	11
SNAPPER, RED	207028	961	1019	33	78	7	10727	261	0	0	5075	79
SNAPPER, SILK	1102	42	201	7	0	0	133035	222	0	0	143	1
SNAPPER, VERMILION	770610	965	3606	50	46692	134	18098	400	0	0	7122	110
SNAPPER, YELLOWTAIL	64	1	57413	1082	188	3	15650	85	0	0	113	5
SNAPPER, MIXED	1965	15	10013	236	0	0	876	10	0	0	42	2
SNAPPER, OTHER	2328	56	1771	56	443	3	25155	168	0	0	133	8
SPOT	300	41	1232	48	639	44	9324	567	65	2	374	11
SWORDFISH	2084	11	10908	39	0	0	12615	31	0	0	0	0
TILAPIA (NILE PERCH)	0	0	75	4	22182	76	146861	701	0	0	0	0
TILEFISH (GOLDEN)	13091	44	6573	67	10	2	17291	73	0	0	72	1
TILEFISH, BLUELINE (GRAY)	3770	77	54	6	32	2	65671	208	0	0	197	16
TRIGGERFISH	98993	741	2319	67	16234	196	23677	925	0	0	4400	107
TUNA, BIGEYE	84	1	0	0	23	1	4142	12	0	0	0	0
TUNA, BLACKFIN	4359	44	811	32	325	1	6713	81	0	0	291	13
TUNA, BLUEFIN	66	1	26	1	0	0	308	5	0	0	0	0
TUNA, SKIPJACK	0	0	5	1	0	0	76	2	0	0	0	0
TUNA, YELLOWFIN	62949	46	452	3	3426	5	14824	17	0	0	284	4
TUNA, MIXED	0	0	33	1	727	12	459	2	0	0	56	1
WAHOO	4696	85	1762	47	0	0	6343	95	0	0	1211	24
MISC. FOOD FISH	11003	219	55883	1300	15029	419	36240	1446	0	0	3103	36
MISC. INDUSTRIAL FISH	280925	53	22567	74	43	2	24546	54	0	0	1252	3
TOTAL FINFISH	4409354		2015522		987004		9838574		6306		319336	
CLAMS, HARD, BUTTON	0	0	0	0	0	0	0	1	0	0	0	0
CLAMS, HARD, LITTLENECK	0	0	0	0	0	0	0	0	0	0	25	8
CLAMS, HARD, MIDDLENECK	0	0	0	0	0	0	0	0	0	0	0	0
CLAMS, HARD, TOPNECK	0	0	0	0	0	0	0	0	0	0	0	0
CLAMS, HARD, CHERRY	0	0	0	0	0	0	0	0	0	0	0	0
CLAMS, HARD, CHOWDER	0	0	0	0	0	0	0	0	0	0	0	0
CLAMS, HARD, UNGRADED	0	0	0	0	0	0	0	0	0	0	1244	84
CLAMS, SUNRAY VENUS	0	0	0	0	0	0	0	0	0	0	150	1
CONCH (HELMET AND WHELKS)	0	0	0	0	0	0	1324	46	0	0	191	2
CRABS, BLUE (HARD)	12992	223	3	1	9209	64	319837	1993	121352	650	1360839	3209
CRABS, BLUE (SOFT)	0	0	0	0	0	0	15	2	0	0	31394	1104
CRABS, STONE, JUMBO	0	0	0	0	208	1	5802	65	0	0	0	0
CRABS, STONE, LARGE	0	0	438	1	43458	357	173896	1206	0	0	40	1
CRABS, STONE, MEDIUM	0	0	14	2	23152	357	90008	1144	0	0	54	3
CRABS, STONE, SMALL	0	0	36	2	312	11	652	23	0	0	0	0

-- CONTINUED --

REPORT DATE : 07/01/1994
TIME : 18:10

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
MARINE FISHERIES INFORMATION SYSTEM
1992 ANNUAL LANDINGS SUMMARY
EDITED LANDINGS DATA THROUGH BATCH 262 (Closed 02/18/1993)

BY COUNTIES

SPECIES	OKALOOSA		PALM BEACH		PASCO		PINELLAS		PUTNAM		ST JOHNS	
	POUNDS	TRIPS	POUNDS	TRIPS	POUNDS	TRIPS	POUNDS	TRIPS	POUNDS	TRIPS	POUNDS	TRIPS
CRABS, STONE, UNGRADED	0	0	60	6	2370	29	62392	395	0	0	0	0
LOBSTER, SPANISH	759	41	622	28	0	0	493	26	0	0	1	1
LOBSTER, SPINY	0	0	64528	812	3235	3	2574	39	0	0	76	5
OCTOPUS	488	12	91	16	0	0	4961	51	0	0	14	1
OYSTERS	0	0	0	0	0	0	0	0	0	0	76322	1531
SCALLOPS, BAY	0	0	0	0	67	1	0	0	0	0	0	0
SCALLOPS, CALICO	0	0	0	0	0	0	0	0	0	0	0	0
SPONGE (PIECES)	0	0	0	0	0	0	319814	445	0	0	0	0
SQUID	4155	58	0	0	32	1	7030	31	0	0	1667	43
MISC. INVERTEBRATES	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL INVERTEBRATES	18394		65792		82043		988798		121352		1472017	
SHRIMP, BROWN	215814	451	1090	18	216152	400	201	1	282	12	2154	12
SHRIMP, PINK	0	0	2472	2	78722	85	1039541	382	0	0	0	0
SHRIMP, ROCK	10636	15	0	0	0	0	1211386	114	0	0	101488	12
SHRIMP, ROYAL RED	0	0	0	0	0	0	0	0	0	0	0	0
SHRIMP, WHITE	39194	22	0	0	0	0	758	2	0	0	297261	306
SHRIMP, OTHER	10797	70	0	0	27199	22	11037	28	0	0	4158	5
TOTAL SHRIMP	276441		3562		322073		2262923		282		405061	
SHRIMP, BAIT	41	2	0	0	94328	1201	126072	1683	0	0	49	1
TOTAL BAIT SHRIMP	41		0		94328		126072		0		49	
GRAND TOTALS	4704230		2084876		1485448		13216367		127940		2196463	
ACTUAL TRIPS		3928		7904		4564		18279		711		6722

LICENSE SUMMARY BY COUNTY

LICENSE/PERMIT TYPE	OKALOOSA	PALM BEACH	PASCO	PINELLAS	PUTNAM	ST JOHNS
	NUMBER	NUMBER	NUMBER	NUMBER	NUMBER	NUMBER
CRAB, BLUE	16	62	84	284	86	116
CRAB, STONE	6	78	115	385	27	88
CRAWFISH/LOBSTERS	3	256	29	102	1	10
GILL NET	2	0	16	123	0	0
MARINE LIFE	4	29	6	19	0	0
NON-COMMERCIAL NET	61	3	8	25	0	15
PURSE SEINE	3	10	0	6	0	0
RESTRICTED SPECIES	130	273	163	531	17	84
RETAIL DEALERS	67	157	51	172	41	45
SALTWATER PRODUCTS	283	728	333	1009	108	261
WHOLESALE DEALERS	27	55	24	79	8	26
OTHER PERMITS	16	0	1	5	0	7
Totals	618	1651	830	2740	288	652

-- CONTINUED --

REPORT DATE : 07/01/1994
TIME : 18:10

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
MARINE FISHERIES INFORMATION SYSTEM
1992 ANNUAL LANDINGS SUMMARY
EDITED LANDINGS DATA THROUGH BATCH 262 (Closed 02/18/1993)

BY COUNTIES

S P E C I E S	ST LUCIE		SANTA ROSA		SARASOTA		TAYLOR		VOLUSIA		WAKULLA	
	POUNDS	TRIPS	POUNDS	TRIPS	POUNDS	TRIPS	POUNDS	TRIPS	POUNDS	TRIPS	POUNDS	TRIPS
AMBERJACKS	15503	109	12632	179	17821	67	1787	10	207480	686	4342	32
BAIT FISH	234993	30	262	5	1536	30	3866	62	7090	185	44794	51
BALLYHOO	0	0	0	0	0	0	0	0	847	1	0	0
BLUE RUNNER	8839	205	29084	32	0	0	2117	134	110	5	8578	54
BLUEFISH	155309	1869	3213	29	2566	61	6383	280	10921	385	7921	88
BONITO (LITTLE TUNNY)	5530	17	10781	24	11	1	121	7	6050	57	0	0
BUMPER, ATLANTIC	64943	2	0	0	0	0	0	0	0	0	0	0
CATFISH	21928	417	187	5	0	0	17	6	19034	315	25	1
COBIA	6008	178	2894	42	1515	29	497	27	24012	368	450	11
CROAKER	7983	569	2067	194	217	6	260	37	802	54	4951	48
DOLPHIN	42975	409	1586	20	661	10	0	0	14002	236	130	2
DRUM, BLACK	3809	175	1606	51	90	10	7657	125	7870	245	900	22
EELS	67	3	0	0	0	0	0	0	324	10	0	0
FLOUNDERS	11038	1093	6033	212	358	61	8894	869	86137	2096	12885	503
GOATFISHES	0	0	0	0	0	0	0	0	0	0	0	0
GROUPER, BLACK	7021	122	0	0	1959	20	208	4	1915	25	0	0
GROUPER, GAG	9683	178	1526	36	4486	82	8348	185	108663	697	64218	387
GROUPER, NASSAU	174	5	0	0	0	0	0	0	5	1	0	0
GROUPER, RED	2491	69	0	0	63075	215	47968	280	16119	124	77676	318
GROUPER, SCAMP	5202	90	1006	43	1212	6	11	1	10043	147	362	16
GROUPER, SNOWY	27791	190	1743	17	10044	15	0	0	56075	118	0	0
GROUPER, WARSAW	1491	21	539	5	1180	5	0	0	6410	54	0	0
GROUPER, YELLOWEDGE	9592	45	33315	55	52400	20	0	0	880	11	0	0
GROUPER, YELLOWFIN	31	2	0	0	0	0	0	0	0	0	0	0
GROUPER, MIXED	3570	43	149	2	0	0	0	0	4088	57	483	6
GROUPER, OTHER	819	11	0	0	3419	14	8	1	7419	55	5	1
GRUNTS	4303	244	32	2	240	17	182786	578	321	8	133006	249
HERRING, THREAD	776960	29	4475	1	0	0	0	0	0	0	0	0
HOGFISH	191	12	1238	4	0	0	2204	68	369	2	1403	35
JACK, CREVALLE	37519	1028	18031	2	2144	51	10030	48	4339	124	4498	26
JACK, MIXED	57919	1356	0	0	532	6	7580	118	5803	244	2208	8
JACK, OTHER	1171	82	487	21	15728	63	0	0	107	2	325	3
KINGFISH (WHITING)	7570	517	83	10	5	1	2435	125	53349	787	18349	95
LADYFISH	1526	71	31242	10	139	7	1453	194	584	49	0	0
MACKEREL, KING	266047	2276	6433	44	4166	46	0	0	75992	470	25	2
MACKEREL, SPANISH	667412	1395	23013	112	2313	56	60869	367	11516	162	44432	136
MENHADEN (POGIES)	55031	111	1052782	120	448	3	163	2	105201	306	2287	5
MOJARRA	58297	1881	0	0	3291	35	1762	81	0	0	69	1
MULLET, BLACK	226174	1799	268362	825	171830	266	478182	1389	829449	1996	1005781	2010
MULLET, BLACK, ROE	15	3	547	14	0	0	0	0	0	0	0	0
MULLET, SILVER	70382	555	8949	28	31389	90	9520	44	14099	36	5261	12
PERMIT	10649	516	0	0	6589	105	103	14	865	53	40	1
PINFISH	0	0	99	12	0	0	0	0	3	3	0	0
POMPANO	47483	1016	2805	133	12202	229	30735	271	20689	568	2373	53
PORGIES	19892	133	4617	221	766	18	6127	355	18712	339	17539	106
RAYS	0	0	0	0	62	1	0	0	5587	31	0	0
SAND PERCH	350	15	0	0	5	2	983	42	9	4	10	1
SARDINES, SCALED	0	0	0	0	552	1	0	0	0	0	0	0
SARDINES, SPANISH	18085	4	3592	15	0	0	0	0	0	0	0	0
SCAD, BIGEYE (GOGGLE EYE)	100	2	0	0	0	0	0	0	0	0	0	0
SCAD, ROUND (CIGARFISH)	1665	2	286200	45	0	0	0	0	0	0	0	0

-- CONTINUED --

REPORT DATE : 07/01/1994
TIME : 18:10

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
MARINE FISHERIES INFORMATION SYSTEM
1992 ANNUAL LANDINGS SUMMARY
EDITED LANDINGS DATA THROUGH BATCH 262 (Closed 02/18/1993)

BY COUNTIES

S P E C I E S	ST LUCIE		SANTA ROSA		SARASOTA		TAYLOR		VOLUSIA		WAKULLA	
	POUNDS	TRIPS	POUNDS	TRIPS	POUNDS	TRIPS	POUNDS	TRIPS	POUNDS	TRIPS	POUNDS	TRIPS
SEA BASS, MIXED	1191	82	0	0	0	0	186786	720	5509	171	39430	246
SEATROUT, SAND	0	0	1361	62	0	0	6650	265	0	0	3204	68
SEATROUT, SILVER	1800	44	791	30	7	1	5	2	716	16	193	5
SEATROUT, SPOTTED	38418	1564	7918	137	4699	143	61086	804	57284	1365	14996	407
SEATROUT, WEAKFISH	12468	542	0	0	0	0	0	0	871	46	0	0
SHAD (COMMON)	0	0	0	0	0	0	0	0	0	0	0	0
SHARK	150362	300	16637	62	2768	44	4073	77	878448	617	395	17
SHARK FINS	3198	41	112	1	0	0	0	0	69249	479	0	0
SHEEPSHEAD	82839	2345	2837	121	9942	246	19618	474	39077	1134	10443	151
SNAPPER, GRAY (MANGROVE)	13021	1064	564	58	4641	129	150	9	23208	638	3075	50
SNAPPER, LANE	310	28	570	99	442	55	62	8	1050	32	279	23
SNAPPER, MUTTON	1338	126	47	2	484	4	0	0	998	26	2	1
SNAPPER, RED	1348	28	33604	271	104	3	0	0	21799	360	620	8
SNAPPER, SILK	67	1	627	3	435	4	18	1	29	6	0	0
SNAPPER, VERMILION	635	41	36673	335	17	2	571	11	7082	241	20397	51
SNAPPER, YELLOWTAIL	2137	37	97	2	128	12	0	0	1491	34	0	0
SNAPPER, MIXED	974	23	0	0	262	4	403	2	2439	6	175	6
SNAPPER, OTHER	88	9	82	7	1295	4	671	12	635	27	369	5
SPOT	133989	1432	5281	256	5	2	6708	333	72894	732	56145	416
SWORDFISH	513558	268	45	1	0	0	0	0	52311	30	0	0
TILAPIA (NILE PERCH)	195	4	0	0	61	5	459	1	710	1	0	0
TILEFISH (GOLDEN)	289650	400	16421	39	1900	6	0	0	101222	75	0	0
TILEFISH, BLUELINE (GRAY)	6353	75	73	8	7043	17	0	0	13960	66	0	0
TRIGGERFISH	1290	62	30419	333	220	40	6153	358	11996	298	9140	97
TUNA, BIGEYE	67924	85	0	0	0	0	0	0	427	4	0	0
TUNA, BLACKFIN	464	14	2159	13	622	6	0	0	2944	42	33	1
TUNA, BLUEFIN	1102	3	0	0	0	0	0	0	633	3	0	0
TUNA, SKIPJACK	494	2	0	0	4	1	0	0	0	0	0	0
TUNA, YELLOWFIN	61999	86	5570	24	35	1	0	0	2333	18	0	0
TUNA, MIXED	4101	11	0	0	0	0	0	0	0	0	0	0
WAHOO	4068	86	1377	30	156	3	0	0	3026	61	20	1
MISC. FOOD FISH	72003	2437	4122	116	164	22	11893	656	473308	670	2169	83
MISC. INDUSTRIAL FISH	11132	44	49595	18	2665	60	285	14	470	17	245	1
TOTAL FINFISH	4454047		2038592		453050		1188665		3589409		1626656	
CLAMS, HARD, BUTTON	0	0	0	0	0	0	0	0	0	0	0	0
CLAMS, HARD, LITTLENECK	0	0	0	0	0	0	0	0	1593	215	0	0
CLAMS, HARD, MIDDLENECK	0	0	0	0	0	0	0	0	952	64	0	0
CLAMS, HARD, TOPNECK	0	0	0	0	0	0	0	0	92	18	0	0
CLAMS, HARD, CHERRY	0	0	0	0	0	0	0	0	532	115	0	0
CLAMS, HARD, CHOWDER	0	0	0	0	0	0	0	0	480	91	0	0
CLAMS, HARD, UNGRADED	0	0	0	0	0	0	0	0	10101	663	0	0
CLAMS, SUNRAY VENUS	0	0	0	0	0	0	0	0	0	0	0	0
CONCH (HELMET AND WHELKS)	0	0	0	0	0	0	0	0	0	0	0	0
CRABS, BLUE (HARD)	102250	316	95358	407	41189	140	84067	246	863478	3034	1506782	1686
CRABS, BLUE (SOFT)	99	1	137	4	0	0	0	0	183	6	24	1
CRABS, STONE, JUMBO	98	1	0	0	1186	25	0	0	362	2	8	1
CRABS, STONE, LARGE	48	2	0	0	1146	32	11298	183	660	19	4694	31
CRABS, STONE, MEDIUM	0	0	0	0	3448	67	6948	180	414	14	3044	30
CRABS, STONE, SMALL	0	0	0	0	0	0	1134	31	28	1	522	2

-- CONTINUED --

REPORT DATE : 07/01/1994
TIME : 18:10

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
MARINE FISHERIES INFORMATION SYSTEM
1992 ANNUAL LANDINGS SUMMARY
EDITED LANDINGS DATA THROUGH BATCH 262 (Closed 02/18/1993)

BY COUNTIES

SPECIES	ST LUCIE		SANTA ROSA		SARASOTA		TAYLOR		VOLUSIA		WAKULLA	
	POUNDS	TRIPS	POUNDS	TRIPS	POUNDS	TRIPS	POUNDS	TRIPS	POUNDS	TRIPS	POUNDS	TRIPS
CRABS, STONE, UNGRADED	530	21	0	0	9386	78	4	1	3262	140	26744	208
LOBSTER, SPANISH	16	2	0	0	0	0	0	0	165	16	0	0
LOBSTER, SPINY	6016	110	0	0	150	1	0	0	8595	80	0	0
OCTOPUS	0	0	0	0	0	0	4433	236	0	0	2060	29
OYSTERS	0	0	77320	850	0	0	85	1	29775	599	36798	428
SCALLOPS, BAY	0	0	0	0	0	0	0	0	0	0	0	0
SCALLOPS, CALICO	0	0	0	0	0	0	0	0	0	0	0	0
SPONGE (PIECES)	0	0	0	0	0	0	0	0	0	0	0	0
SQUID	0	0	1595	87	0	0	0	0	2913	38	282	7
MISC. INVERTEBRATES	16	2	0	0	0	0	0	0	6840	14	0	0
TOTAL INVERTEBRATES	109073		174410		56505		107969		930425		1580958	
SHRIMP, BROWN	287	2	27291	253	0	0	959	2	138716	293	20656	132
SHRIMP, PINK	0	0	0	0	0	0	683	1	1275	2	988	8
SHRIMP, ROCK	5734	1	748	2	0	0	0	0	7914	11	713	5
SHRIMP, ROYAL RED	36545	7	0	0	0	0	0	0	33811	14	0	0
SHRIMP, WHITE	0	0	2231	23	0	0	0	0	87059	212	9290	36
SHRIMP, OTHER	0	0	2413	13	0	0	31	2	0	0	1854	19
TOTAL SHRIMP	42566		32683		0		1673		268775		33501	
SHRIMP, BAIT	0	0	0	0	7019	222	41601	629	13527	490	160	2
TOTAL BAIT SHRIMP	0		0		7019		41601		13527		160	
GRAND TOTALS	4605686		2245685		516574		1339908		4802136		3241275	
ACTUAL TRIPS		9073		3267		1457		4399		13406		5395

LICENSE SUMMARY BY COUNTY

LICENSE/PERMIT TYPE	ST LUCIE	SANTA ROSA	SARASOTA	TAYLOR	VOLUSIA	WAKULLA
	NUMBER	NUMBER	NUMBER	NUMBER	NUMBER	NUMBER
CRAB, BLUE	57	40	79	82	212	120
CRAB, STONE	42	11	114	78	157	98
CRAWFISH/LOBSTERS	44	2	35	2	38	1
GILL NET	0	1	61	1	1	1
MARINE LIFE	0	0	5	0	0	3
NON-COMMERCIAL NET	3	271	10	13	27	47
PURSE SEINE	4	6	6	1	2	3
RESTRICTED SPECIES	177	81	132	165	225	201
RETAIL DEALERS	37	42	31	36	105	40
SALTWATER PRODUCTS	328	282	239	235	662	332
WHOLESALE DEALERS	14	11	13	15	48	34
OTHER PERMITS	1	26	4	0	4	19
Totals	707	773	729	628	1481	899

-- CONTINUED --

REPORT DATE : 07/01/1994
TIME : 18:10

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
MARINE FISHERIES INFORMATION SYSTEM
1992 ANNUAL LANDINGS SUMMARY
EDITED LANDINGS DATA THROUGH BATCH 262 (Closed 02/18/1993)

BY COUNTIES

S P E C I E S	WALTON POUNDS	WALTON TRIPS	OUT OF STATE POUNDS	OUT OF STATE TRIPS
AMBERJACKS	0	0	520	1
BAIT FISH	0	0	80	1
BALLYHOO	0	0	0	0
BLUE RUNNER	0	0	0	0
BLUEFISH	0	0	6	1
BONITO (LITTLE TUNNY)	0	0	6	1
BUMPER, ATLANTIC	0	0	0	0
CATFISH	0	0	0	0
COBIA	0	0	82	3
CROAKER	0	0	681	17
DOLPHIN	0	0	13014	19
DRUM, BLACK	0	0	61	3
EELS	0	0	0	0
FLOUNDERS	272	23	953	36
GOATFISHES	0	0	0	0
GROUPER, BLACK	0	0	25	1
GROUPER, GAG	0	0	2138	21
GROUPER, NASSAU	0	0	0	0
GROUPER, RED	0	0	829	11
GROUPER, SCAMP	0	0	0	0
GROUPER, SNOWY	0	0	0	0
GROUPER, WARSAW	0	0	0	0
GROUPER, YELLOWEDGE	0	0	0	0
GROUPER, YELLOWFIN	0	0	0	0
GROUPER, MIXED	0	0	0	0
GROUPER, OTHER	0	0	0	0
GRUNTS	0	0	505	12
HERRING, THREAD	0	0	0	0
HOGFISH	0	0	0	0
JACK, CREVALLE	0	0	0	0
JACK, MIXED	0	0	0	0
JACK, OTHER	0	0	12	1
KINGFISH (WHITING)	0	0	57	1
LADYFISH	0	0	0	0
MACKEREL, KING	0	0	26	1
MACKEREL, SPANISH	0	0	72	3
MENHADEN (POGIES)	0	0	0	0
MOJARRA	0	0	0	0
MULLET, BLACK	12388	117	195583	156
MULLET, BLACK, ROE	0	0	0	0
MULLET, SILVER	130	1	0	0
PERMIT	0	0	0	0
PINFISH	0	0	0	0
POMPANO	0	0	3	1
PORGIES	0	0	0	0
RAYS	0	0	0	0
SAND PERCH	0	0	0	0
SARDINES, SCALED	0	0	0	0
SARDINES, SPANISH	0	0	0	0
SCAD, BIGEYE (GOGGLE EYE)	0	0	0	0
SCAD, ROUND (CIGARFISH)	0	0	0	0

-- CONTINUED --

REPORT DATE : 07/01/1994
TIME : 18:10

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
MARINE FISHERIES INFORMATION SYSTEM
1992 ANNUAL LANDINGS SUMMARY
EDITED LANDINGS DATA THROUGH BATCH 262 (Closed 02/18/1993)

BY COUNTIES

S P E C I E S	WALTON POUNDS	WALTON TRIPS	OUT OF STATE POUNDS	OUT OF STATE TRIPS
SEA BASS, MIXED	0	0	0	0
SEATROUT, SAND	3	1	0	0
SEATROUT, SILVER	0	0	343	8
SEATROUT, SPOTTED	272	17	252	5
SEATROUT, WEAKFISH	0	0	0	0
SHAD (COMMON)	0	0	0	0
SHARK	0	0	10648	15
SHARK FINS	0	0	0	0
SHEEPSHEAD	0	0	641	7
SNAPPER, GRAY (MANGROVE)	0	0	7	1
SNAPPER, LANE	0	0	0	0
SNAPPER, MUTTON	0	0	0	0
SNAPPER, RED	0	0	0	0
SNAPPER, SILK	0	0	0	0
SNAPPER, VERMILION	0	0	18	1
SNAPPER, YELLOWTAIL	0	0	0	0
SNAPPER, MIXED	0	0	0	0
SNAPPER, OTHER	0	0	0	0
SPOT	0	0	949	20
SWORDFISH	0	0	59963	23
TILAPIA (NILE PERCH)	0	0	0	0
TILEFISH (GOLDEN)	0	0	0	0
TILEFISH, BLUELINE (GRAY)	0	0	0	0
TRIGGERFISH	0	0	3	1
TUNA, BIGEYE	0	0	978	1
TUNA, BLACKFIN	0	0	50	1
TUNA, BLUEFIN	0	0	485	1
TUNA, SKIPJACK	0	0	0	0
TUNA, YELLOWFIN	0	0	25700	23
TUNA, MIXED	0	0	128	1
WAHOO	0	0	1569	15
MISC. FOOD FISH	7	1	2174	22
MISC. INDUSTRIAL FISH	0	0	0	0
TOTAL FINFISH	13072		318561	
CLAMS, HARD, BUTTON	0	0	0	0
CLAMS, HARD, LITTLENECK	0	0	0	0
CLAMS, HARD, MIDDLENECK	0	0	0	0
CLAMS, HARD, TOPNECK	0	0	0	0
CLAMS, HARD, CHERRY	0	0	0	0
CLAMS, HARD, CHOWDER	0	0	0	0
CLAMS, HARD, UNGRADED	0	0	0	0
CLAMS, SUNRAY VENUS	0	0	0	0
CONCH (HELMET AND WHELKS)	0	0	0	0
CRABS, BLUE (HARD)	12565	161	222574	549
CRABS, BLUE (SOFT)	3	1	0	0
CRABS, STONE, JUMBO	0	0	0	0
CRABS, STONE, LARGE	0	0	0	0
CRABS, STONE, MEDIUM	0	0	0	0
CRABS, STONE, SMALL	0	0	0	0

-- CONTINUED --

REPORT DATE : 07/01/1994
TIME : 18:10

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
MARINE FISHERIES INFORMATION SYSTEM
1992 ANNUAL LANDINGS SUMMARY
EDITED LANDINGS DATA THROUGH BATCH 262 (Closed 02/18/1993)

BY COUNTIES

S P E C I E S	WALTON POUNDS	WALTON TRIPS	OUT OF STATE POUNDS	OUT OF STATE TRIPS
CRABS, STONE, UNGRADED	0	0	0	0
LOBSTER, SPANISH	0	0	6266	8
LOBSTER, SPINY	0	0	0	0
OCTOPUS	0	0	0	0
OYSTERS	6263	120	33	1
SCALLOPS, BAY	0	0	0	0
SCALLOPS, CALICO	0	0	0	0
SPONGE (PIECES)	0	0	0	0
SQUID	0	0	0	0
MISC. INVERTEBRATES	0	0	895	4
TOTAL INVERTEBRATES	18831		229768	
SHRIMP, BROWN	20845	114	18260	14
SHRIMP, PINK	0	0	76088	26
SHRIMP, ROCK	0	0	11017	2
SHRIMP, ROYAL RED	0	0	0	0
SHRIMP, WHITE	2565	10	0	0
SHRIMP, OTHER	270	3	0	0
TOTAL SHRIMP	23680		105365	
SHRIMP, BAIT	0	0	335	4
TOTAL BAIT SHRIMP	0		335	
GRAND TOTALS	55583		654029	
ACTUAL TRIPS		555		778

LICENSE SUMMARY BY COUNTY

LICENSE/PERMIT TYPE	WALTON NUMBER	OUT OF STATE NUMBER
CRAB, BLUE	11	207
CRAB, STONE	3	187
CRAWFISH/LOBSTERS	1	164
GILL NET	0	15
MARINE LIFE	3	8
NON-COMMERCIAL NET	61	382
PURSE SEINE	1	10
RESTRICTED SPECIES	15	299
RETAIL DEALERS	28	1252
SALTWATER PRODUCTS	69	1194
WHOLESALE DEALERS	8	88
OTHER PERMITS	13	68
Totals	213	3874

REPORT DATE : 07/01/1994
TIME : 18:09

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
MARINE FISHERIES INFORMATION SYSTEM
1992 ANNUAL LANDINGS SUMMARY
EDITED LANDINGS DATA THROUGH BATCH 262 (Closed 02/18/1993)

BY COASTS

SPECIES	EAST COAST		WEST COAST		Inland/Out of State		STATE TOTALS	
	POUNDS	TRIPS	POUNDS	TRIPS	POUNDS	TRIPS	POUNDS	TRIPS
AMBERJACKS	954660	2309	1930240	5306	520	1	2885420	7616
BAIT FISH	323401	578	614024	2660	80	1	937505	3239
BALLYHOO	356348	505	609860	713	0	0	966208	1218
BLUE RUNNER	39023	1170	991148	895	0	0	1030171	2065
BLUEFISH	1086222	9478	314746	6209	6	1	1400974	15688
BONITO (LITTLE TUNNY)	51933	322	1009244	713	6	1	1061183	1036
BUMPER, ATLANTIC	65835	9	25202	79	0	0	91037	88
CATFISH	100797	2113	58057	755	0	0	158854	2868
COBIA	107691	1966	162365	3369	82	3	270138	5338
CROAKER	78578	4004	18860	970	681	17	98119	4991
DOLPHIN	191578	2355	393721	3609	13014	19	598313	5983
DRUM, BLACK	37254	1198	48137	2159	61	3	85452	3360
EELS	1416	38	2091	81	0	0	3507	119
FLOUNDERS	265808	8433	184677	16448	953	36	451438	24917
GOATFISHES	0	0	27657	29	0	0	27657	29
GROUPER, BLACK	83208	896	677781	6968	25	1	761014	7865
GROUPER, GAG	310594	2522	1451751	5621	2138	21	1764483	8164
GROUPER, NASSAU	3447	37	7970	41	0	0	11417	78
GROUPER, RED	39670	742	5274034	11456	829	11	5314533	12209
GROUPER, SCAMP	49740	666	284141	3061	0	0	333881	3727
GROUPER, SNOWY	139826	713	182867	897	0	0	322693	1610
GROUPER, WARSAW	18599	185	52384	393	0	0	70983	578
GROUPER, YELLOWEDGE	25392	107	768623	759	0	0	794015	866
GROUPER, YELLOWFIN	663	15	3291	58	0	0	3954	73
GROUPER, MIXED	24774	435	6782	83	0	0	31556	518
GROUPER, OTHER	39049	628	140394	837	0	0	179443	1465
GRUNTS	37071	1092	617970	6776	505	12	655546	7880
HERRING, THREAD	818236	80	4313253	378	0	0	5131489	458
HOGFISH	18114	520	100595	3482	0	0	118709	4002
JACK, CREVALLE	397531	5320	1893388	15538	0	0	2290919	20858
JACK, MIXED	195728	3655	326905	6242	0	0	522633	9897
JACK, OTHER	21554	394	144248	1200	12	1	165814	1595
KINGFISH (WHITING)	773185	7644	71020	2452	57	1	844262	10097
LADYFISH	22924	541	4581136	3457	0	0	4604060	3998
MACKEREL, KING	1431797	9542	1087446	3744	26	1	2519269	13287
MACKEREL, SPANISH	1915862	7053	3463976	9364	72	3	5379910	16420
MENHADEN (POGIES)	2768254	3799	8687465	959	0	0	11455719	4758
MOJARRA	403016	6490	339152	7457	0	0	742168	13947
MULLET, BLACK	2356023	9712	17624794	50906	195583	156	20176400	60774
MULLET, BLACK, ROE	15	3	12840	222	0	0	12855	225
MULLET, SILVER	249245	1345	470577	1624	0	0	719822	2969
PERMIT	18140	1150	145379	4442	0	0	163519	5592
PINFISH	280	85	37548	480	0	0	37828	565
POMPANO	238798	5593	383576	8618	3	1	622377	14212
PORGIES	155619	1688	509331	5429	0	0	664950	7117
RAYS	6790	49	271178	526	0	0	277968	575
SAND PERCH	5494	156	16278	730	0	0	21772	886
SARDINES, SCALED	0	0	552	1	0	0	552	1
SARDINES, SPANISH	181973	58	1889818	455	0	0	2071791	513
SCAD, BIGEYE (GOGGLE EYE)	318394	762	78286	34	0	0	396680	796
SCAD, ROUND (CIGARFISH)	1669	3	2723927	656	0	0	2725596	659

-- CONTINUED --

REPORT DATE : 07/01/1994
TIME : 18:09

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
MARINE FISHERIES INFORMATION SYSTEM
1992 ANNUAL LANDINGS SUMMARY
EDITED LANDINGS DATA THROUGH BATCH 262 (Closed 02/18/1993)

BY COASTS

SPECIES	EAST COAST		WEST COAST		Inland/Out of State		STATE TOTALS	
	POUNDS	TRIPS	POUNDS	TRIPS	POUNDS	TRIPS	POUNDS	TRIPS
SEA BASS, MIXED	22727	883	416965	2490	0	0	439692	3373
SEATROUT, SAND	25	1	93850	2046	0	0	93875	2047
SEATROUT, SILVER	4855	146	16744	704	343	8	21942	858
SEATROUT, SPOTTED	256198	8079	656666	23298	252	5	913116	31382
SEATROUT, WEAKFISH	166086	4092	2862	423	0	0	168948	4515
SHAD (COMMON)	49162	268	177262	741	0	0	226424	1009
SHARK	2712984	3059	3033969	4572	10648	15	5757601	7646
SHARK FINS	98674	806	145919	1111	0	0	244593	1917
SHEEPSHEAD	389205	10225	635650	24728	641	7	1025496	34960
SNAPPER, GRAY (MANGROVE)	81322	3599	392206	14626	7	1	473535	18226
SNAPPER, LANE	5420	275	117369	3783	0	0	122789	4058
SNAPPER, MUTTON	74554	1809	322064	7021	0	0	396618	8830
SNAPPER, RED	59290	1305	648896	2607	0	0	708186	3912
SNAPPER, SILK	1831	71	197160	492	0	0	198991	563
SNAPPER, VERMILION	157966	1023	1383378	3636	18	1	1541362	4660
SNAPPER, YELLOWTAIL	175170	2539	1671436	16052	0	0	1846606	18591
SNAPPER, MIXED	55672	1006	8452	127	0	0	64124	1133
SNAPPER, OTHER	17226	634	83978	997	0	0	101204	1631
SPOT	736215	7698	264625	5767	949	20	1001789	13485
SWORDFISH	1766894	987	161353	280	59963	23	1988210	1290
TILAPIA (NILE PERCH)	10732	209	187221	948	0	0	197953	1157
TILEFISH (GOLDEN)	581628	814	115336	383	0	0	696964	1197
TILEFISH, BLUELINE (GRAY)	37388	328	166162	830	0	0	203550	1158
TRIGGERFISH	89992	1332	339885	5116	3	1	429880	6449
TUNA, BIGEYE	111228	181	20758	90	978	1	132964	272
TUNA, BLACKFIN	25249	297	48403	506	50	1	73702	804
TUNA, BLUEFIN	4230	16	5679	20	485	1	10394	37
TUNA, SKIPJACK	1169	24	1481	21	0	0	2650	45
TUNA, YELLOWFIN	115647	269	1322687	402	25700	23	1464034	694
TUNA, MIXED	8564	45	2748	35	128	1	11440	81
WAHOO	23100	496	56740	810	1569	15	81409	1321
MISC. FOOD FISH	949003	10663	877113	24332	2174	22	1828290	35017
MISC. INDUSTRIAL FISH	67188	274	7390419	2194	0	0	7457607	2468
TOTAL FINFISH	25587812		85996121		318561		111902494	
CLAMS, HARD, BUTTON	38	14	0	1	0	0	38	15
CLAMS, HARD, LITTLENECK	175196	11168	890	24	0	0	176086	11192
CLAMS, HARD, MIDDLENECK	281288	14441	917	42	0	0	282205	14483
CLAMS, HARD, TOPNECK	189482	13998	15362	272	0	0	204844	14270
CLAMS, HARD, CHERRY	170005	15046	68750	339	0	0	238755	15385
CLAMS, HARD, CHOWDER	21187	4084	614	12	0	0	21801	4096
CLAMS, HARD, UNGRADED	128827	5456	94	8	0	0	128921	5464
CLAMS, SUNRAY VENUS	247	3	350	1	0	0	597	4
CONCH (HELMET AND WHELKS)	201	3	1656	48	0	0	1857	51
CRABS, BLUE (HARD)	6756963	18726	7978856	27573	222574	549	14958393	46848
CRABS, BLUE (SOFT)	38500	1543	36452	1548	0	0	74952	3091
CRABS, STONE, JUMBO	8894	85	397608	11425	0	0	406502	11510
CRABS, STONE, LARGE	37290	203	2764258	23893	0	0	2801548	24096
CRABS, STONE, MEDIUM	21200	234	2142248	20620	0	0	2163448	20854
CRABS, STONE, SMALL	152	8	404978	2566	0	0	405130	2574

-- CONTINUED --

EPORT DATE : 07/01/1994
TIME : 18:09

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
MARINE FISHERIES INFORMATION SYSTEM
1992 ANNUAL LANDINGS SUMMARY
EDITED LANDINGS DATA THROUGH BATCH 262 (Closed 02/18/1993)

BY COASTS

PECIES	EAST COAST POUNDS	EAST COAST TRIPS	WEST COAST POUNDS	WEST COAST TRIPS	Inland/Out of State POUNDS	Inland/Out of State TRIPS	STATE TOTALS POUNDS	STATE TOTALS TRIPS
RABS, STONE, UNGRADED	35258	738	935176	6535	0	0	970434	7273
OBSTER, SPANISH	2411	116	41417	550	6266	8	50114	674
OBSTER, SPINY	578543	4776	4728148	32327	0	0	5306691	37103
CTOPUS	2771	34	29281	797	0	0	32052	831
YSTERS	108665	2193	2444323	35431	33	1	2553021	37625
CALLOPS, BAY	0	0	2792	62	0	0	2792	62
CALLOPS, CALICO	195240	172	53	2	0	0	195293	174
PONGE (PIECES)	94476	108	795507	1885	0	0	889983	1993
QUID	22002	260	68169	1093	0	0	90171	1353
ISC. INVERTEBRATES	12166	121	4166	8	895	4	17227	133
OTAL INVERTEBRATES	8881022		22862065		229768		31972855	
HRIMP, BROWN	394985	913	2142104	6727	18260	14	2555349	7654
HRIMP, PINK	163679	320	7815158	4298	76088	26	8054925	4644
HRIMP, ROCK	2038955	287	3406337	1007	11017	2	5456309	1296
HRIMP, ROYAL RED	300659	70	4720	10	0	0	305379	80
HRIMP, WHITE	2903525	5243	639956	1292	0	0	3543481	6535
HRIMP, OTHER	55929	76	264234	710	0	0	320163	786
OTAL SHRIMP	5857732		14272509		105365		20235606	
HRIMP, BAIT	298675	4305	1047128	12870	335	4	1346138	17179
OTAL BAIT SHRIMP	298675		1047128		335		1346138	
RAND TOTALS	40625241		124177823		654029		165457093	
ACTUAL TRIPS		126302		274648		778		401728

ICENSE SUMMARY BY COAST

ICENSE/PERMIT TYPE	EAST COAST NUMBER	WEST COAST NUMBER	Inland/Out of State NUMBER	STATE TOTALS NUMBER
RAB, BLUE	1627	2543	207	4377
RAB, STONE	1478	3636	187	5301
RAWFISH/LOBSTERS	1428	1980	164	3572
ILL NET	9	446	15	470
ARINE LIFE	106	270	8	384
ON-COMMERCIAL NET	322	1311	382	2015
URSE SEINE	39	129	10	178
ESTRICTED SPECIES	2218	5652	299	8169
ETAIL DEALERS	1676	2009	1252	4937
ALTWATER PRODUCTS	6803	11387	1194	19384
HOLESALE DEALERS	619	666	88	1373
THER PERMITS	185	1022	68	1275
Totals	16510	31051	3874	51435

ANNEX 4

REPORT DATE : 07/01/1994
TIME : 18:09

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
MARINE FISHERIES INFORMATION SYSTEM
1992 ANNUAL LANDINGS SUMMARY
EDITED LANDINGS DATA THROUGH BATCH 262 (Closed 02/18/1993)

STATEWIDE

SPECIES	TOTAL POUNDS	TOTAL TRIPS	AVERAGE PRICE	ESTIMATED VALUE
AMBERJACKS	2885420	7616	0.74	2142751
BAIT FISH	937505	3239	0.12	113438
BALLYHOO	966208	1218	0.32	307254
BLUE RUNNER	1030171	2065	0.31	323777
BLUEFISH	1400974	15688	0.25	355039
BONITO (LITTLE TUNNY)	1061183	1036	0.14	153622
BUMPER, ATLANTIC	91037	88	0.20	18207
CATFISH	158854	2868	0.17	27005
COBIA	270138	5338	1.63	439203
CROAKER	98119	4991	0.61	60108
DOLPHIN	598313	5983	1.20	719994
DRUM, BLACK	85452	3360	0.50	42372
EELS	3507	119	0.28	992
FLOUNDERS	451438	24917	1.28	577509
GOATFISHES	27657	29	1.25	34461
GROUPER, BLACK	761014	7865	1.87	1425509
GROUPER, GAG	1764483	8164	2.06	3629459
GROUPER, NASSAU	11417	78	1.77	20220
GROUPER, RED	5314533	12209	1.60	8512525
GROUPER, SCAMP	333881	3727	2.02	675629
GROUPER, SNOWY	322693	1610	1.62	521440
GROUPER, WARSAW	70983	578	1.13	79882
GROUPER, YELLOWEDGE	794015	866	1.85	1464983
GROUPER, YELLOWFIN	3954	73	1.89	7467
GROUPER, MIXED	31556	518	1.71	53994
GROUPER, OTHER	179443	1465	1.47	263154
GRUNTS	655546	7880	0.45	293780
HERRING, THREAD	5131489	458	0.07	351485
HOGFISH	118709	4002	1.47	174993
JACK, CREVALLE	2290919	20858	0.29	663159
JACK, MIXED	522633	9897	0.30	156169
JACK, OTHER	165814	1595	0.33	54265
KINGFISH (WHITING)	844262	10097	0.60	506973
LADYFISH	4604060	3998	0.22	1035818
MACKEREL, KING	2519269	13287	1.18	2982684
MACKEREL, SPANISH	5379910	16420	0.33	1785414
MENHADEN (POGIES)	11455719	4758	0.09	1079354
MOJARRA	742168	13947	0.55	408845
MULLET, BLACK	20176400	60774	0.62	12431225
MULLET, BLACK, ROE	12855	225	11.10	142732
MULLET, SILVER	719822	2969	0.34	244253
PERMIT	163519	5592	1.06	173725
PINFISH	37828	565	0.49	18536
POMPANO	622377	14212	3.02	1876778
PORGIES	664950	7117	0.98	653654
RAYS	277968	575	0.08	22098
SAND PERCH	21772	886	0.36	7820
SARDINES, SCALED	552	1	0.20	110
SARDINES, SPANISH	2071791	513	0.17	352204
SCAD, BIGEYE (GOGGLE EYE)	396680	796	0.49	194373
SCAD, ROUND (CIGARFISH)	2725596	559	0.25	695027

-- CONTINUED --

REPORT DATE : 07/01/1994
TIME : 18:09

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
MARINE FISHERIES INFORMATION SYSTEM
1992 ANNUAL LANDINGS SUMMARY
EDITED LANDINGS DATA THROUGH BATCH 262 (Closed 02/18/1993)

STATEWIDE

S P E C I E S	TOTAL POUNDS	TOTAL TRIPS	AVERAGE PRICE	ESTIMATED VALUE
SEA BASS, MIXED	439692	3373	0.39	171760
SEATROUT, SAND	93875	2047	0.66	62241
SEATROUT, SILVER	21942	858	0.82	18058
SEATROUT, SPOTTED	913116	31382	1.20	1096327
SEATROUT, WEAKFISH	168948	4515	0.65	110606
SHAD (COMMON)	226424	1009	0.12	28077
SHARK	5757601	7646	0.34	1964038
SHARK FINS	244593	1917	18.25	4462768
SHEEPSHEAD	1025496	34960	0.45	460694
SNAPPER, GRAY (MANGROVE)	473535	18226	1.62	765925
SNAPPER, LANE	122789	4058	1.19	146250
SNAPPER, MUTTON	396618	8830	1.59	630034
SNAPPER, RED	708186	3912	2.15	1522129
SNAPPER, SILK	198991	563	1.97	391914
SNAPPER, VERMILION	1541362	4660	1.54	2367585
SNAPPER, YELLOWTAIL	1846606	18591	1.99	3677433
SNAPPER, MIXED	64124	1133	0.78	50292
SNAPPER, OTHER	101204	1631	1.34	135804
SPOT	1001789	13485	0.38	377904
SWORDFISH	1988210	1290	3.25	6457470
TILAPIA (NILE PERCH)	197953	1157	0.37	73463
TILEFISH (GOLDEN)	696964	1197	1.43	994583
TILEFISH, BLUELINE (GRAY)	203550	1158	0.76	154688
TRIGGERFISH	429880	6449	0.76	327139
TUNA, BIGEYE	132964	272	1.86	246999
TUNA, BLACKFIN	73702	804	0.67	49665
TUNA, BLUEFIN	10394	37	16.25	168902
TUNA, SKIPJACK	2650	45	0.64	1700
TUNA, YELLOWFIN	1464034	694	1.76	2582778
TUNA, MIXED	11440	81	0.90	10320
WAHOO	81409	1321	1.52	124001
MISC. FOOD FISH	1828290	35017	0.46	839928
MISC. INDUSTRIAL FISH	7457607	2468	0.16	1176708
TOTAL FINFISH	111902494		0.71	79923652
CLAMS, HARD, BUTTON	38	15	0.00	0
CLAMS, HARD, LITTLENECK	176086	11192	4.05	712620
CLAMS, HARD, MIDDLENECK	282205	14483	4.69	1323259
CLAMS, HARD, TOPNECK	204844	14270	4.30	881155
CLAMS, HARD, CHERRY	238755	15385	2.03	485800
CLAMS, HARD, CHOWDER	21801	4096	2.33	50709
CLAMS, HARD, UNGRADED	128921	5464	4.38	564545
CLAMS, SUNRAY VENUS	597	4	0.00	0
CONCH (HELMET AND WHELKS)	1857	51	3.00	5571
CRABS, BLUE (HARD)	14958393	46848	0.43	6428818
CRABS, BLUE (SOFT)	74952	3091	4.46	334523
CRABS, STONE, JUMBO	406502	11510	7.00	1423745
CRABS, STONE, LARGE	2801548	24096	5.71	8003851
CRABS, STONE, MEDIUM	2163448	20854	4.06	4393662
CRABS, STONE, SMALL	405130	2574	2.13	432476

-- CONTINUED --

REPORT DATE : 07/01/1994
TIME : 18:09

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
MARINE FISHERIES INFORMATION SYSTEM
1992 ANNUAL LANDINGS SUMMARY
EDITED LANDINGS DATA THROUGH BATCH 262 (Closed 02/18/1993)

STATEWIDE

S P E C I E S	TOTAL POUNDS	TOTAL TRIPS	AVERAGE PRICE	ESTIMATED VALUE
CRABS, STONE, UNGRADED	970434	7273	4.26	2067644
LOBSTER, SPANISH	50114	674	2.38	119144
LOBSTER, SPINY	5306691	37103	3.87	20545413
OCTOPUS	32052	831	0.71	22738
OYSTERS	2553021	37625	1.49	3806769
SCALLOPS, BAY	2792	62	4.16	11604
SCALLOPS, CALICO	195293	174	3.75	732349
SPONGE (PIECES)	889983	1993	1.33	1181762
SQUID	90171	1353	0.27	24557
MISC. INVERTEBRATES	17227	133	0.05	881
TOTAL INVERTEBRATES	31972855		1.67	53553594
SHRIMP, BROWN	2555349	7654	5.00	12776745
SHRIMP, PINK	8054925	4644	2.13	17169600
SHRIMP, ROCK	5456309	1296	0.65	3571178
SHRIMP, ROYAL RED	305379	80	0.88	269751
SHRIMP, WHITE	3543481	6535	3.06	10828146
SHRIMP, OTHER	320163	786	3.13	1003272
TOTAL SHRIMP	20235606		2.25	45618692
SHRIMP, BAIT	1346138	17179	3.41	4593947
TOTAL BAIT SHRIMP	1346138		3.41	4593947
GRAND TOTALS	165457093		1.11	183689885
ACTUAL TRIPS		401728		

LICENSE SUMMARY STATEWIDE

LICENSE/PERMIT TYPE	STATE TOTALS NUMBER
CRAB, BLUE	4377
CRAB, STONE	5301
CRAWFISH/LOBSTERS	3572
GILL NET	470
MARINE LIFE	384
NON-COMMERCIAL NET	2015
PURSE SEINE	178
RESTRICTED SPECIES	8169
RETAIL DEALERS	4937
SALTWATER PRODUCTS	19384
WHOLESALE DEALERS	1373
OTHER PERMITS	1275
	51435

ANNEX 5

Species Profile: Spiny Lobster

Commercial landings volume, dockside value and exvessel price

Year	Pounds Landed	Dockside Value	Exvessel Price[1]
1988	6,288,187	$ 17,328,141	$ 2.76 /lb.
1989	6,017,178	18,282,736	3.04
1990	5,785,854	23,183,200	4.01
1991	7,022,831	30,645,213	4.36
1992	5,306,691	20,545,413	3.87

Average monthly distribution of landings (1988-92)

Winter (X 1000 lbs)			Spring (X 1000 lbs)			Summer (X 1000 lbs)			Fall (X 1000 lbs)		
Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
370	280	213	249	2	1	1	1	1774	1383	1144	672

Top five counties where commercial landings occur (1992)

Counties	Pounds Landed
Monroe	4,654,323 lbs
Dade	360,144
Broward	90,800
Palm Beach	64,528
Collier	58,584
% of State total	99 %

[1] Nominal price.

Source: Florida Department of Environmental Protection, unpublished landings data (1988-92).

Species Profile: Pink Shrimp

Commercial landings volume, dockside value and exvessel price

Year	Pounds Landed	Dockside Value	Exvessel Price[1]
1988	9,293,625 lbs	$ 27,881,932	$ 3.00 /lb.
1989	8,408,111	21,710,672	2.58
1990	8,400,470	22,063,578	2.63
1991	8,558,836	25,947,168	3.03
1992	8,054,925	17,169,600	2.13

Average monthly distribution of landings (1988-92)

Winter (X 1000 lbs)			Spring (X 1000 lbs)			Summer (X 1000 lbs)			Fall (X 1000 lbs)		
Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
831	1212	1025	1076	924	789	695	308	335	261	382	705

Top five counties where commercial landings occur (1992)

Counties	Pounds Landed
Monroe	3,264,527 lbs
Lee	1,774,379
Hillsborough	1,230,936
Brevard	1,039,541
Pinellas	154,895
% of State Total	93 %

[1] Nominal price.

Source: Florida Department of Environmental Protection, unpublished landings data (1988-92).

Species Profile: King Mackerel

Commercial landings volume, dockside value and exvessel price

Year	Pounds Landed	Dockside Value	Exvessel Price[1]
1988	5,261,143 lbs	$ 3,098,887	$ 1.03 /lb.
1989	1,947,921	2,344,895	1.20
1990	2,667,427	2,727,634	1.02
1991	2,034,898	2,157,232	1.06
1992	2,519,269	2,982,684	1.18

Average monthly distribution of landings (1988-92)

Winter (X 1000 lbs)			Spring (X 1000 lbs)			Summer (X 1000 lbs)			Fall (X 1000 lbs)		
Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
543	283	19	14	363	490	110	115	220	97	53	130

Top five counties where commercial landings occur (1992)

Counties	Pounds Landed
Monroe	918,847 lbs
Indian River	423,790
St. Lucie	266,047
Brevard	239,510
Palm Beach	223,327
% of State total	82 %

[1] Nominal price.

Source: Florida Department of Environmental Protection, unpublished landings data (1988-92).

Species Profile: Gag Grouper

Commercial landings volume, dockside value and exvessel price

Year	Pounds Landed	Dockside Value	Exvessel Price[1]
1988	739,355 lbs	$ 1,488,271	$ 2.01 /lb.
1989	970,476	1,730,311	1.78
1990	1,230,259	2,346,158	1.91
1991	1,259,049	2,412,451	1.92
1992	1,764,483	3,629,459	2.06

Average monthly distribution of landings (1988-92)

Winter (X 1000 lbs)			Spring (X 1000 lbs)			Summer (X 1000 lbs)			Fall (X 1000 lbs)		
Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
84	119	113	142	131	131	113	83	68	67	72	69

Top five counties where commercial landings occur (1992)

Counties	Pounds Landed
Pinellas	752,221 lbs
Bay	231,594
Franklin	157,652
Volusia	108,663
Bay	91,907
% of State total	76 %

[1] Nominal price.

Source: Florida Department of Environmental Protection, unpublished landings data (1988-92).

Species Profile: Red Grouper

Commercial landings volume, dockside value and exvessel price

Year	Pounds Landed	Dockside Value	Exvessel Price[1]
1988	5,479,732	$ 7,601,794	$ 1.39 /lb.
1989	8,311,610	10,843,075	1.30
1990	5,696,279	8,656,827	1.52
1991	6,087,503	8,767,843	1.44
1992	5,314,533	8,512,525	1.60

Average monthly distribution of landings (1988-92)

Winter (X 1000 lbs)			Spring (X 1000 lbs)			Summer (X 1000 lbs)			Fall (X 1000 lbs)		
Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
299	505	521	512	491	521	629	666	671	549	457	380

Top five counties where commercial landings occur (1992)

Counties	Pounds Landed
Pinellas	2,544,417 lbs
Manatee	483,506
Lee	447,120
Collier	405,606
Citrus	336,106
% of State total	79 %

[1] Nominal price.

Source: Florida Department of Environmental Protection, unpublished landings data (1988-92).

Species Profile: Blue Crab

Commercial landings volume, dockside value and exvessel price

Year	Pounds Landed	Dockside Value	Exvessel Price[1]
1988	15,257,280	$ 5,566,129	$ 0.36 /lb.
1989	12,332,455	4,835,377	0.39
1990	14,005,404	7,039,966	0.50
1991	9,960,870	4,775,778	0.48
1992	14,958,393	6,428,818	0.43

Average monthly distribution of landings (1988-92)

Winter (X 1000 lbs)			Spring (X 1000 lbs)			Summer (X 1000 lbs)			Fall (X 1000 lbs)		
Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
682	665	585	739	1183	1683	1836	1593	1391	1063	1039	843

Top five counties where commercial landings occur (1992)

Counties	Pounds Landed
Brevard	3,164,331 lbs
Wakulla	1,506,782
St. Johns	1,360,839
Lee	1,301,945
Citrus	1,229,338
% of State total	57 %

[1] Nominal price.

Source: Florida Department of Environmental Protection, unpublished landings data (1988-92).

Species Profile: Swordfish

Commercial landings volume, dockside value and exvessel price

Year	Pounds Landed	Dockside Value	Exvessel Price[1]
1988	3,375,932	$ 11,803,061	$ 3.50 /lb.
1989	3,436,118	9,985,668	2.91
1990	3,551,048	10,868,008	3.06
1991	2,572,054	7,403,344	2.88
1992	1,988,210	6,457,470	3.25

Average monthly distribution of landings (1988-92)

Winter (X 1000 lbs)			Spring (X 1000 lbs)			Summer (X 1000 lbs)			Fall (X 1000 lbs)		
Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
246	284	313	349	376	320	255	185	175	145	143	192

Top five counties where commercial landings occur (1992)

Counties	Pounds Landed
Brevard	1,124,693 lbs
St. Lucie	513,558
Collier	74,570
Volusia	52,311
Bay	42,771
% of State total	91 %

[1] Nominal price.

Source: Florida Department of Environmental Protection, unpublished landings data (1988-92).

Species Profile: Oysters

Commercial landings volume, dockside value and exvessel price

Year	Pounds Landed	Dockside Value	Exvessel Price[1]
1988	2,217,200	$ 4,380,601	$ 1.98 /lb.
1989	1,612,760	3,598,598	2.23
1990	2,247,960	6,266,301	2.79
1991	1,918,714	6,151,397	3.21
1992	2,553,021	3,806,769	1.49

Average monthly distribution of landings (1988-92)

Winter (X 1000 lbs)			Spring (X 1000 lbs)			Summer (X 1000 lbs)			Fall (X 1000 lbs)		
Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
172	232	194	206	204	177	123	162	103	129	217	192

Top five counties where commercial landings occur (1992)

Counties	Pounds Landed
Franklin	1,793,412 lbs
Bay	427,812
Santa Rosa	77,320
St. Johns	76,322
Levy	62,856
% of State total	95 %

[1] Nominal price.

Source: Florida Department of Environmental Protection, unpublished landings data (1988-92).

Species Profile: Yellowtail Snapper

Commercial landings volume, dockside value and exvessel price

Year	Pounds Landed	Dockside Value	Exvessel Price[1]
1988	1,408,802	$ 2,548,725	$ 1.81 /lb.
1989	1,684,336	2,877,479	1.71
1990	1,739,501	3,122,668	1.80
1991	1,860,350	3,420,681	1.84
1992	1,846,606	3,677,433	1.99

Average monthly distribution of landings (1988-92)

Winter (X 1000 lbs)			Spring (X 1000 lbs)			Summer (X 1000 lbs)			Fall (X 1000 lbs)		
Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
92	134	125	141	204	178	242	126	106	117	129	112

Top five counties where commercial landings occur (1992)

Counties	Pounds Landed
Monroe	1,591,641 lbs
Dade	78,038
Palm Beach	57,413
Lee	50,776
Brevard	33,876
% of State total	98 %

[1] Nominal price.

Source: Florida Department of Environmental Protection, unpublished landings data (1988-92).

Species Profile: Yellowfin Tuna

Commercial landings volume, dockside value and exvessel price

Year	Pounds Landed	Dockside Value	Exvessel Price[1]
1988	4,205,669	$ 4,610,665	$ 1.10 /lb.
1989	5,881,371	10,036,361	1.71
1990	4,501,833	9,325,783	2.07
1991	796,515	1,600,538	2.01
1992	1,464,034	2,582,778	1.76

Average monthly distribution of landings (1988-92)

Winter (X 1000 lbs)			Spring (X 1000 lbs)			Summer (X 1000 lbs)			Fall (X 1000 lbs)		
Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
140	290	154	58	143	360	401	417	430	374	341	261

Top five counties where commercial landings occur (1992)

Counties	Pounds Landed
Bay	1,189,596 lbs
Okaloosa	62,949
St. Lucie	61,999
Brevard	44,867
Collier	30,709
% of State total	95 %

[1] Nominal price.

Source: Florida Department of Environmental Protection, unpublished landings data (1988-92).

References

Federal Register. 1994. Volume 59, No. 19.

Florida Department of Commerce. Various years. Unpublished U.S. merchandise trade data, Bureau of Economic Analysis, Tallahassee, FL.

Florida Department of Environmental Protection. 1993. Unpublished Trip Ticket Program data (batch 262), Marine Fisheries Information System, St. Petersburg, FL.

Florida Department of Environmental Protection. Various years. Unpublished landings data.

Florida Department of Health and Rehabilitative Services. 1994. Unpublished data, Epidemiology Program, Tallahassee, FL.

Gulf of Mexico Regional Fisheries Management Council. 1994. "Report of the Reef Fish Stock Assessment Panel." Tampa, FL.

Manooch, C.S. 1984. "Fishes of the Southeastern United States." North Carolina State Museum of Natural History, Raleigh, NC.

Otwell, W.S., C.M. Adams and F. Lawlor. 1993. "A Buyer's Guide: Importing Seafood Product Quality and Safety from Central and South American Countries Bordering the Gulf of Mexico and Caribbean Sea." Southeastern Fisheries Association, Tallahassee, FL.

U.S. Food and Drug Administration. 1989. "Continuous Inspection of Meat and Poultry: Should It Be Applied to Seafood?" Center for Disease Control, Washington, DC.

U.S. Department of Commerce. Various years. *Fisheries of the United States.* National Marine Fisheries Service, Silver Spring, MD.

U.S. Department of Commerce. Various years. Unpublished processed seafood data.

National Sea Grant Depository
Pell Library Building - GSO
University of Rhode Island
Narragansett, RI 02882-1197USA