ANNUAL REPORT
OF THE
BAY SCALLOP PROJECT

1991-1992

MAY 1993

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INTRODUCTION

The southern bay scallop, Argopecten irradians concentricus, is a well-known component of seagrass habitats along the Florida Gulf coast. Populations of bay scallops occur in embayments and lagoons from Palm Beach Inlet through Florida Bay and along the Gulf coast to Pensacola and Perdido Bays. However scallop populations are disjunct along this range, occurring only where combinations of suitable habitat and larval settlement occur, and our understanding of the processes involved in producing successful scallop populations is limited.

Bay scallops are highly prized by many Floridians and are taken recreationally during the summer. Historically, recreational bay scalloping occurred from Naples to Pensacola and bay scallops are still an important recreational species throughout most of that region. Additionally, commercial scalloping previously occurred from Pine Island Sound to Pensacola Bay but is now small-scale and limited to St. Joseph Bay and areas from St. Marks to Homosassa. Most bay scallops taken by commercial fishing are probably captured incidentally by bait shrimpers and are retained as allowable by-catch.

There is much concern among scallop researchers in Florida that populations of scallops are in decline. Historical landings data (Fig. 1) as well as anecdotal information from recreational scallopers indicate that populations appear to be declining in a progressive fashion from south to north. Examples include formerly large populations in Pine Island Sound, Sarasota Bay,

Tampa Bay and in the vicinity of the Anclote River north of Tarpon Springs: only the Pine Island Sound population currently supports a recreational fishery, and it once supported a large commercial fishery.

The bay scallop project at the Florida Marine Research Institute (FMRI) was created to acquire information to better understand the biology and natural history of the bay scallop in Florida, with an interest in effective management of this valuable resource. Because Florida is the only Gulf state with a substantial population of bay scallops, we feel that the future preservation of healthy populations of this species is essential. This research will therefore eventually address the potential for enhancing or restoring depleted bay scallop stocks. Within the overall objectives of increased understanding of the population dynamics and life history and effective management of both the fishery and the genetic pool, the bay scallop project has seven jobs: stock estimates; gametogenic monitoring; recruitment estimates; population genotypic relationships; population restoration; fishery impacts estimation; and generation of a predictive larval-dispersion model. During 1991-1992 work was initiated on the first three objectives for the scallop population in Homosassa Bay, and this report summarizes the progress of this research. In addition to these jobs we conducted, for the second consecutive year, a telephone survey of resorts, fish camps, fish houses, boat ramps, dive shops, and resource managers to determine the relative size and geographic

location of the recreational scallop harvest.

STOCK ESTIMATES

The bay scallop population in the Homosassa Bay study area was surveyed during June and October 1992. Estimating the density and distribution of adult scallops is essential to any attempt at relating spawner stock density to recruitment. Surveying the population in June allows an estimate of scallop abundance prior to the 1 July opening of the bay scallop season, and the October sample provides a post-season estimate.

Between 9 June and 30 June we surveyed 37 stations within the study area (Fig. 2), an area of approximately 35,650 hectares positioned between latitude 28° 40' N and 28° 50' N and the depth contours 4' to 12' (1.2 m to 3.7 m). Initially 20 stations were selected within the study area. Stations were allocated into areas lying between the depths 4-6', 6-8', 8-10', and 10-12' in a weighted fashion dependent upon the area encompassed by each pair of depth contours[1]; stations were randomly located within the subareas by gridding the study area and choosing random numbers.

This method of sample location underrepresented shallow areas within the study area and we discovered in the course of sampling that the 4' contour was not shallow enough to accurately characterize the scallop population. We therefore extended our study area to the 2' depth contour (0.6 m) and added 17 stations

[1]Depths are reported as feet or meters below mean lower low water or MLLW and were taken from the NOAA chart for the Crystal River and Homosassa area.

between the 4'and 2' contours (stations 21-37 in Fig. 2).

Stations were located in the field using Loran C. At each station a 300 m weighted transect line, marked by a buoy every 100 m, was deployed in a roughly triangular fashion. Two divers swam, one on each side of the line, along the transect carrying a 1 m rod and a slate (which had a ruler attached to it). Divers swam at a pace appropriate to the habitat and each diver counted and estimated the size (shell height) of scallops encountered that were within 1 meter of the transect line. Data were pooled across divers, yielding three 200 m^2 replicates, and were reported as numbers of scallops per 100 m^2. During the October survey we concentrated on twenty stations in the shallow region of the study area (stations 9,10,18 and 21-37) because the June survey demonstrated that virtually no scallops were present deeper than the 4' contour. Results of the survey are displayed in Table 1. Data on abundance for both the June (Fig. 3) and the October (Fig. 4) surveys were plotted using the Surfer® software package to provide a visual approximation of the areal distribution of the bay scallop population. Although scallops were not particularly abundant in Homosassa Bay during 1992, the population between St. Martin's Keys and Chassahowitzka Point was clearly concentrated at depths of 4' and shallower. Data also demonstrated clear reductions in density between June and October indicative of mortality, some of which is undoubtedly related to recreational and commercial fishing effort (Fig. 5). Population surveys in 1993 will be slightly modified to better characterize

the Homosassa Bay scallop population inshore of the 4' depth contour.

GAMETOGENIC MONITORING

Beginning on September 12, 1991, and subsequently at three-week intervals, scallops were collected (20 when possible) from Homosassa Bay and returned to FMRI for processing. Gonads were removed from the live scallops and bisected; one half of the gonad was fixed in Helly's fixative and the other half was fixed in buffered 10% formalin to allow for a comparison of fixative techniques by the FMRI histology lab. Shells were numbered and retained for morphometric analysis. Gonadal tissues were rinsed with water and preserved in 70% alcohol within 12 hours, then dehydrated, embedded, sectioned to a thickness of 6 μm, and stained with Harris' hematoxylin and eosin. Ova in prepared slides are currently being examined using Optimas image analysis software: both size (diameter and area) and density of ova are being measured.

The scallop population in Homosassa Bay was very sparse in 1991, and it became difficult to obtain scallops late in the year. Because of the difficulty in obtaining specimens, we suspended this phase of research following the December 9 sample. We resumed collections on June 30, 1992 and were able to collect 20 scallops tri-weekly through January 21, 1993. Data for 1991 have been collected and work is in progress on 1992 slides. We also measured meat yield by determining the dry weights of

adductor muscles from each scallop. Morphometric and adductor-weight data are being analyzed; raw data for height and weight are plotted in Figures 6 and 7.

In September 1992 we deployed salinity-temperature data loggers at two locations in Homosassa Bay to monitor trends in these variables and compare such trends with growth, gametogenic events, and recruitment. Data from loggers are being downloaded on a periodic basis.

RECRUITMENT MONITORING

Recruitment was monitored in the late summer to fall in Homosassa Bay using scallop spat collectors. Spat collectors consisted of rectangular pieces of polypropylene mesh (mesh size 2 mm, total area of mesh panel approximately 0.135 m^2) suspended within standard half-bushel citrus bags containing a small float. The spat collectors were attached to a 3/8" polypropylene line and suspended at a depth approximately 1/2 m above a cinder block which held the collector in place; a painted crab trap float was used to identify the collectors and maintain the verticality of the line. Three spat collectors with blue surface floats were placed at each station (stations 1-20) on August 11, 1992. Three weeks later three spat collectors with red surface floats were deployed at the same stations. Each group of spat collectors (blue or red) was sampled and replaced with new collectors six weeks after deployment and each six weeks thereafter until the final collection of the red group was made on December 16.

Serious losses of spat collectors occurred as a result of bait shrimping activity and this has hampered our ability to characterize recruitment in the Homosassa area. Scallop recruits on the collectors that we recovered were counted and measured in the laboratory. Recruitment data were reported as number of recruits per day. Preliminary data are displayed in Table 1.

Recruitment monitoring in 1993 will be modified to minimize contact with bait shrimp trawlers and to more accurately reflect the areal distribution of the bay scallop adult population.

STATEWIDE STOCK ASSESSMENT

During the late summer and early fall in 1992 we surveyed private and government entities regarding the relative size and distribution of the recreational scallop effort. Our experience has determined that the intense fishing effort placed on Florida's bay scallop populations is such that tracking the effort of the recreational community gives us a ballpark estimate on the abundance of the various traditionally fished scallop populations. Sixty-nine individuals from Pensacola to Naples were interviewed by telephone as to the level of recreational scalloping and their impression of the size and distribution of the 1992 bay scallop population(s) in their area. Survey results suggest that in excess of 2,500 boats were engaged in recreational scalloping over the 4 July weekend, but that the effort dropped substantially after 4 July (Appendix). West of St. Joseph Bay, populations were less dense than average and not

much scalloping occurred in 1992. In Crooked Island Sound and St. Joseph Bay the populations were fairly abundant but the St. Joe Bay population was localized and scallops were possibly smaller than usual; scallops were abundant in populations from St. Marks to Horseshoe Beach. Scallop abundance between Cedar Key and Tarpon Springs was very depressed in 1992. The only other site in Florida that had a harvestable scallop population was Charlotte Harbor, where scalloping in the Pineland area was average to good. One interesting note to the survey results is that people from different backgrounds suggest delaying the season opening date until August, a comment that we have also heard from other scientists and concerned citizens.

Table 1. Recruitment (mean number recruits/spat collector/day) for *Argopecten irradians concentricus* in Homosassa Bay, 1992.

DATE DEPLOYED	DATE SAMPLED	NO. DAYS DEPLOYED	STATION NO.	NUMBER OF COLLECTORS	FLOAT COLOR	MEAN RECRUITMENT
08/11/92	09/22/92	42	1	2	BLUE	0
08/11/92	09/24/92	44	2	1	BLUE	0
08/11/92	09/24/92	44	3	3	BLUE	0.015
08/11/92	09/24/92	44	4	3	BLUE	0.098
08/11/92	09/22/92	42	5	1	BLUE	0
08/11/92			6	0	BLUE	
08/11/92	09/22/92	42	7	3	BLUE	0.008
08/11/92			8	0	BLUE	
08/11/92			9	0	BLUE	
08/11/92			10	0	BLUE	
08/11/92	09/22/92	42	11	1	BLUE	0
08/11/92			12	0	BLUE	
08/11/92			13	0	BLUE	
08/11/92			14	0	BLUE	
08/11/92	09/22/92	42	15	2	BLUE	0.012
08/11/92	09/22/92	42	16	1	BLUE	0
08/11/92	09/22/92	42	17	3	BLUE	0
08/11/92	09/22/92	42	18	2	BLUE	0
08/11/92	09/22/92	42	19	2	BLUE	0
08/11/92	09/22/92	42	20	2	BLUE	0
09/01/92	10/15/92	44	1	1	RED	0
09/01/92	10/15/92	44	2	2	RED	0.091
09/01/92	10/15/92	44	3	2	RED	0.034
09/01/92	10/15/92	44	4	1	RED	0.023
09/01/92			5	0	RED	
09/01/92			6	0	RED	
09/01/92			7	0	RED	
09/01/92			8	0	RED	
09/01/92			9	0	RED	
09/01/92			10	0	RED	
09/01/92	10/15/92	44	11	1	RED	0.023
09/01/92			12	0	RED	
09/01/92	10/15/92	44	13	1	RED	0.023
09/01/92			14	0	RED	
09/01/92	10/15/92	44	15	1	RED	0.023
09/01/92	10/15/92	44	16	1	RED	0.023
09/01/92	10/15/92	44	17	1	RED	0.045
09/01/92	10/15/92	44	18	2	RED	0
09/01/92	10/15/92	44	19	2	RED	0
09/01/92	10/15/92	44	20	3	RED	0.038
09/22/92	11/02/92	41	1	3	BLUE	0
09/24/92	11/02/92	39	2	2	BLUE	0
09/24/92	11/02/92	39	3	2	BLUE	0
09/24/92	11/02/92	39	4	2	BLUE	0
09/22/92	11/02/92	41	5	2	BLUE	0
09/22/92			6	0	BLUE	
09/22/92			7	0	BLUE	
09/22/92			8	0	BLUE	

09/22/92			9	0	BLUE	
09/22/92			10	0	BLUE	
09/22/92			11	0	BLUE	
09/22/92			12	0	BLUE	
09/22/92			13	0	BLUE	
09/22/92			14	0	BLUE	
09/22/92			15	0	BLUE	
09/22/92			16	0	BLUE	
09/22/92			17	0	BLUE	
09/22/92	11/02/92	41	18	1	BLUE	0.049
09/22/92	11/02/92	41	19	1	BLUE	0
09/22/92	11/02/92	41	20	1	BLUE	0.024
10/15/92	11/24/92	40	1	3	RED	0
10/15/92	11/24/92	40	2	1	RED	0
10/15/92			3	0	RED	
10/15/92	11/24/92	40	4	3	RED	0
10/15/92			5	0	RED	
10/15/92			6	0	RED	
10/15/92			7	0	RED	
10/15/92	11/24/92	40	8	1	RED	0
10/15/92			9	0	RED	
10/15/92			10	0	RED	
10/15/92			11	0	RED	
10/15/92			12	0	RED	
10/15/92			13	0	RED	
10/15/92			14	0	RED	
10/15/92			15	0	RED	
10/15/92	11/24/92	40	16	1	RED	0.025
10/15/92			17	0	RED	
10/15/92			18	0	RED	
10/15/92	11/24/92	40	19	1	RED	0
10/15/92			20	0	RED	
11/02/92	12/16/92	44	1	3	BLUE	0
11/02/92			2	0	BLUE	
11/02/92			3	0	BLUE	
11/02/92	12/16/92	44	4	2	BLUE	0
11/02/92			5	0	BLUE	
11/02/92			6	0	BLUE	
11/02/92			7	0	BLUE	
11/02/92	12/16/92	44	8	1	BLUE	0
11/02/92			9	0	BLUE	
11/02/92			10	0	BLUE	
11/02/92			11	0	BLUE	
11/02/92			12	0	BLUE	
11/02/92			13	0	BLUE	
11/02/92			14	0	BLUE	
11/02/92			15	0	BLUE	
11/02/92			16	0	BLUE	
11/02/92			17	0	BLUE	
11/02/92			18	0	BLUE	
11/02/92	12/16/92	44	19	1	BLUE	0.023
11/02/92	12/16/92	44	20	1	BLUE	0

FIGURE LEGENDS

Figure 1. Gulf of Mexico commercial bay scallop landings in Florida, 1959-1991.

Figure 2. Chart of Homosassa Bay region showing locations of depth contours and FMRI bay scallop survey stations.

Figure 3. Contour plot of bay scallop distribution and abundance, Homosassa Bay, June 1992.

Figure 4. Contour plot of bay scallop distribution and abundance, Homosassa Bay, Ocotber 1992.

Figure 5. Mean densities (number per 100 m^2) of bay scallops by survey station, Homosassa Bay, 1992.

Figure 6. Mean valve height ± 1 standard error by sample date for bay scallops collected for gametogenic analysis, Homosassa Bay, 1992.

Figure 7. Mean dry weight of adductor muscle ± 1 standard error by sample date for bay scallops collected for gametogenic analysis, Homosassa Bay, 1992.

Figure 1

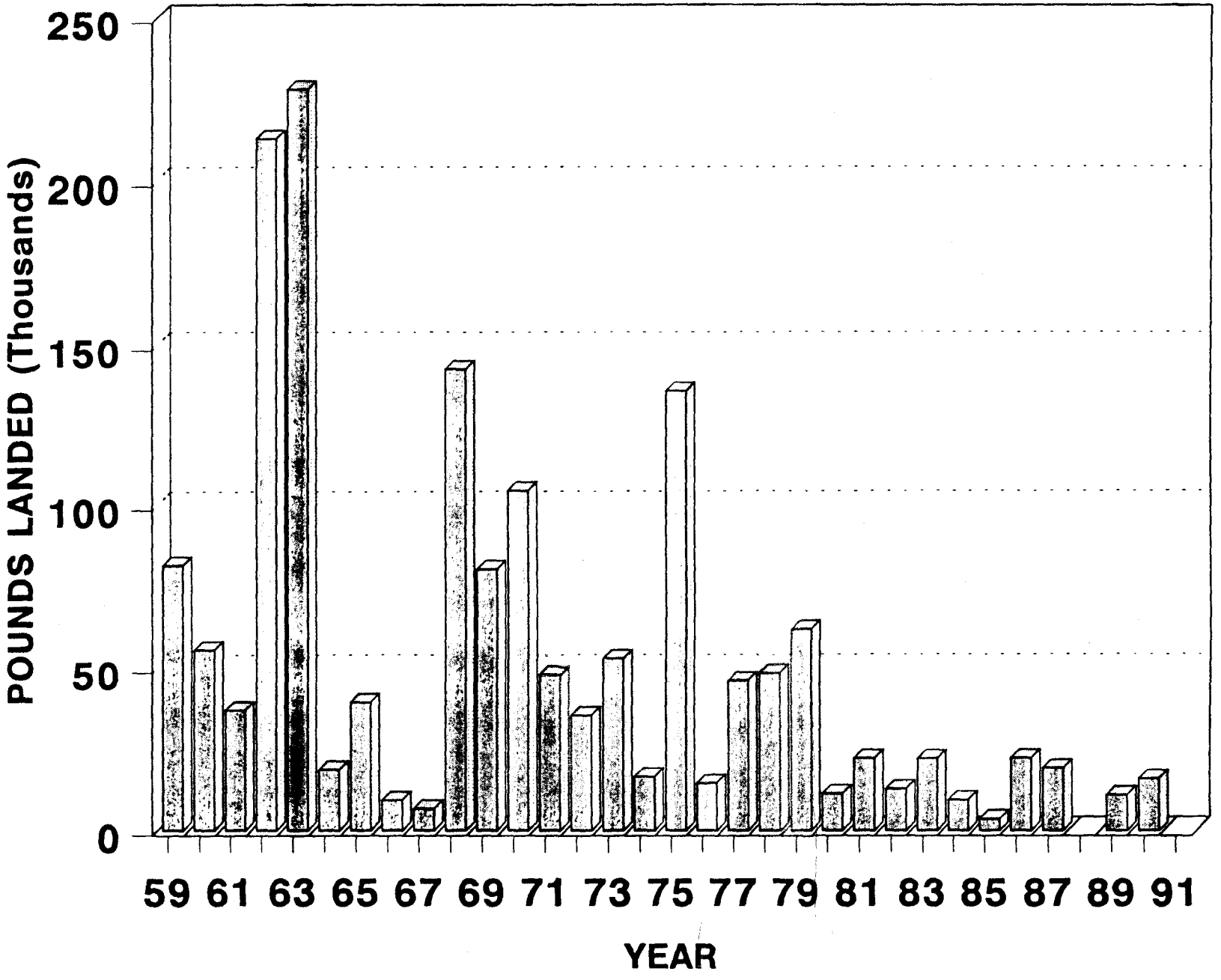

250
200
150
100
50
0
POUNDS LANDED (Thousands)
59 61 63 65 67 69 71 73 75 77 79 81 83 85 87 89 91
YEAR

Figure 2

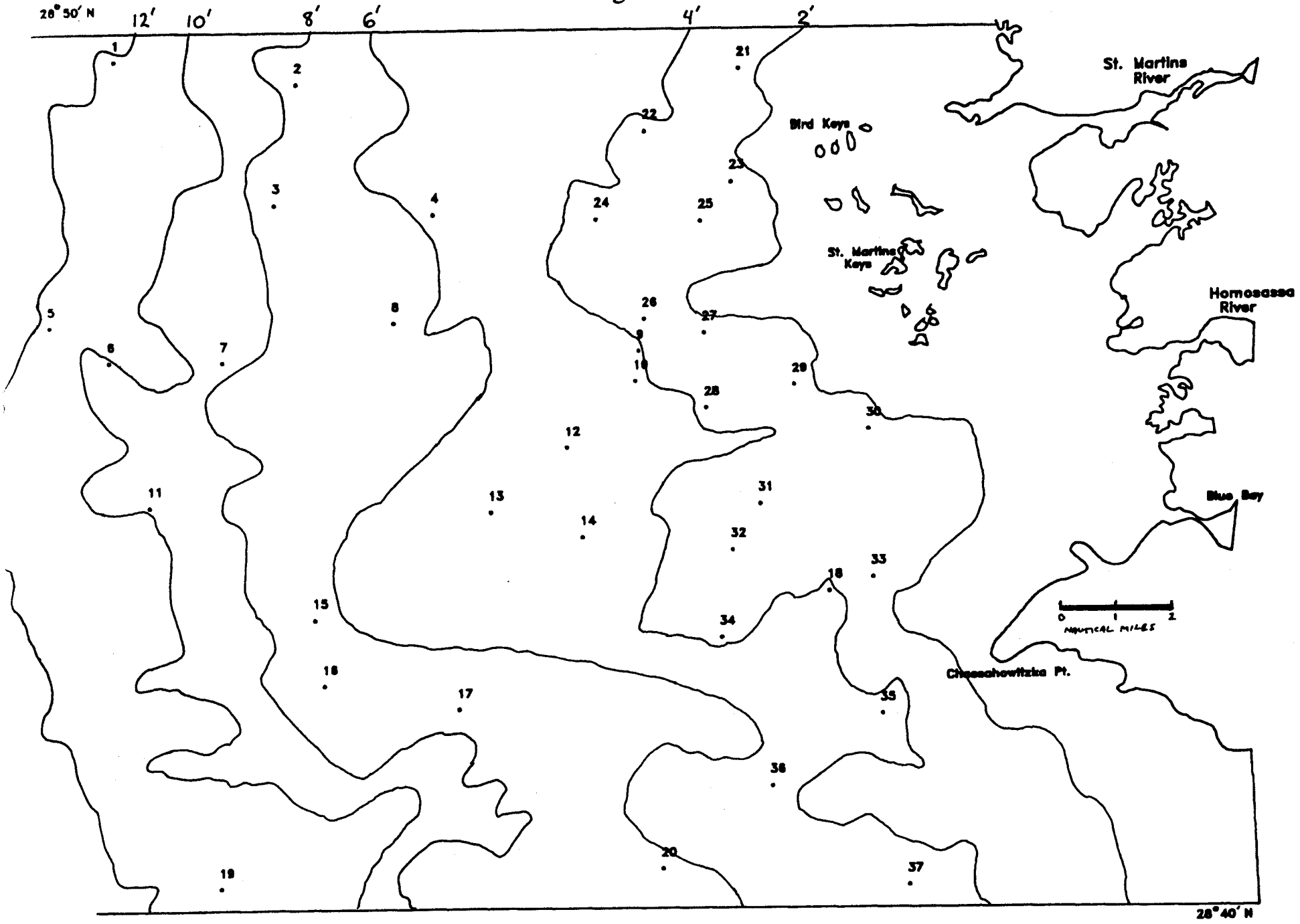

28° 50' N
12'
10'
8'
6'
4'
2'
St. Martins River
Bird Keys
St. Martins Keys
Homosassa River
Blue Bay
Chassahowitzka Pt.
0 1 2
NAUTICAL MILES
28° 40' N

Figure 3

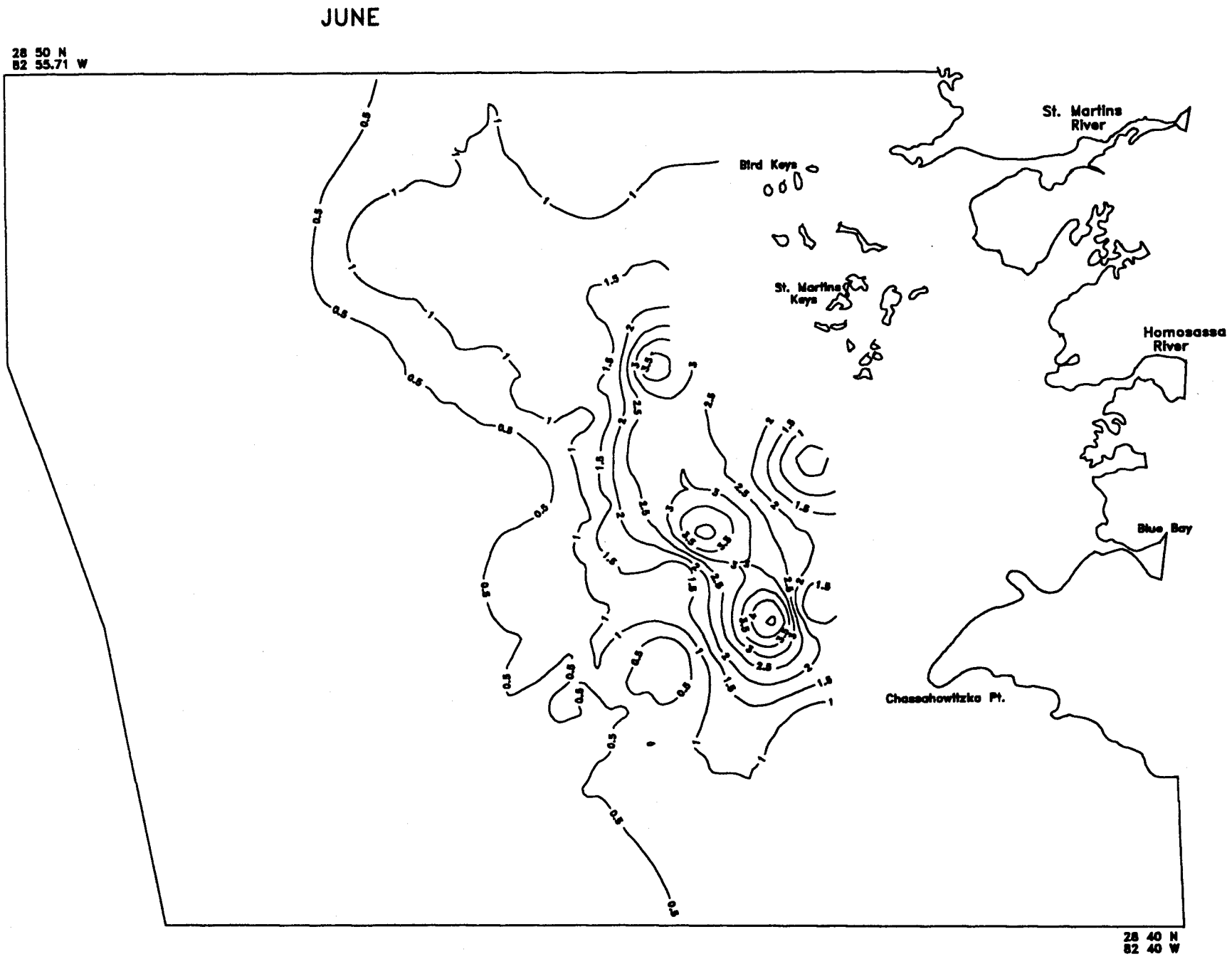

JUNE
28 50 N
82 55.71 W
St. Martins River
Bird Keys
St. Martins Keys
Homosassa River
Blue Bay
Chassahowitzka Pt.
28 40 N
82 40 W

Figure 4

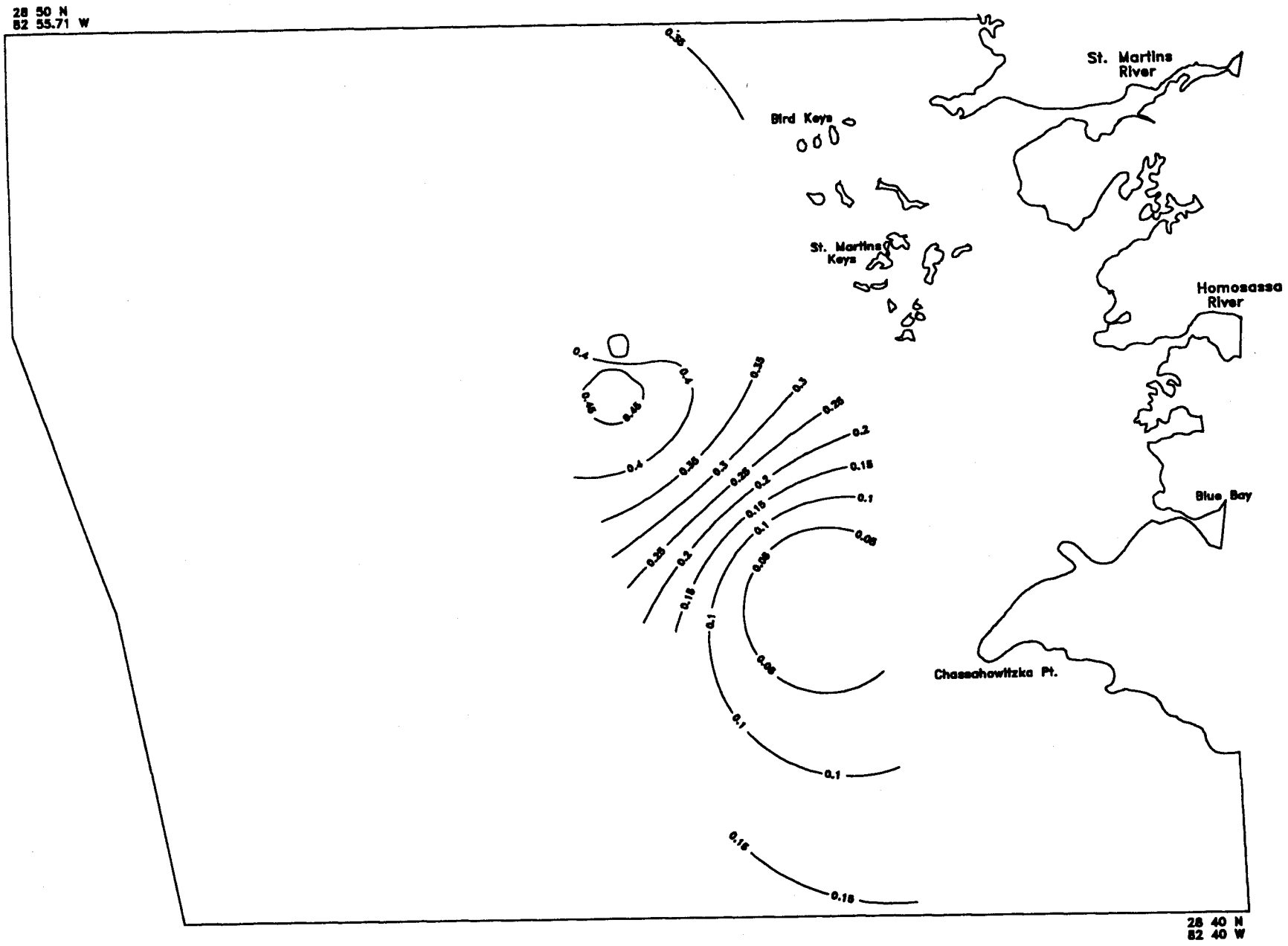

OCTOBER
28 50 N
82 55.71 W
St. Martins River
Bird Keys
St. Martins Keys
Homosassa River
Blue Bay
Chassahowitzka Pt.
28 40 N
82 40 W

Figure 5

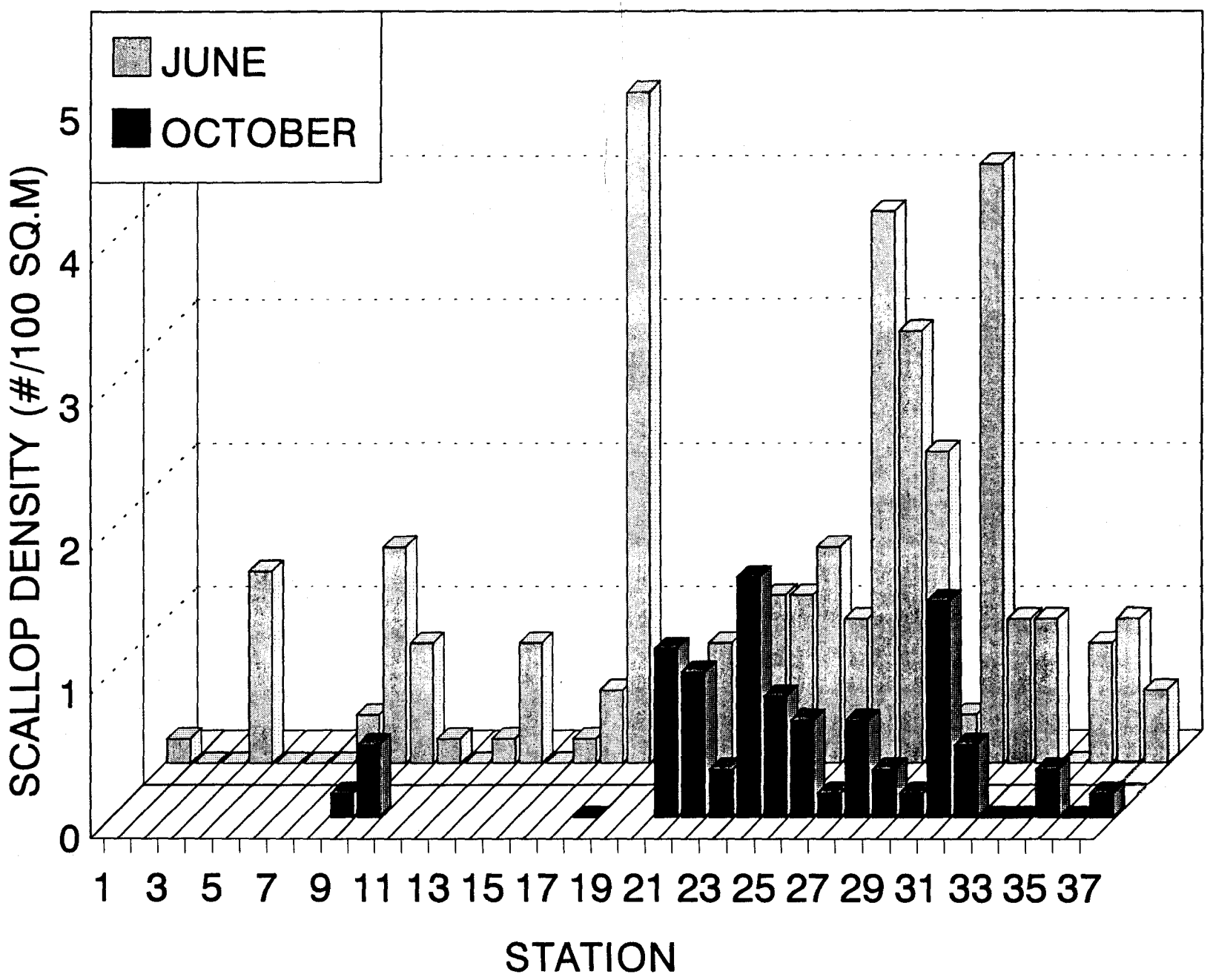

JUNE
OCTOBER
SCALLOP DENSITY (#/100 SQ.M)
0
1
2
3
4
5
1 3 5 7 9 11 13 15 17 19 21 23 25 27 29 31 33 35 37
STATION

Figure 6

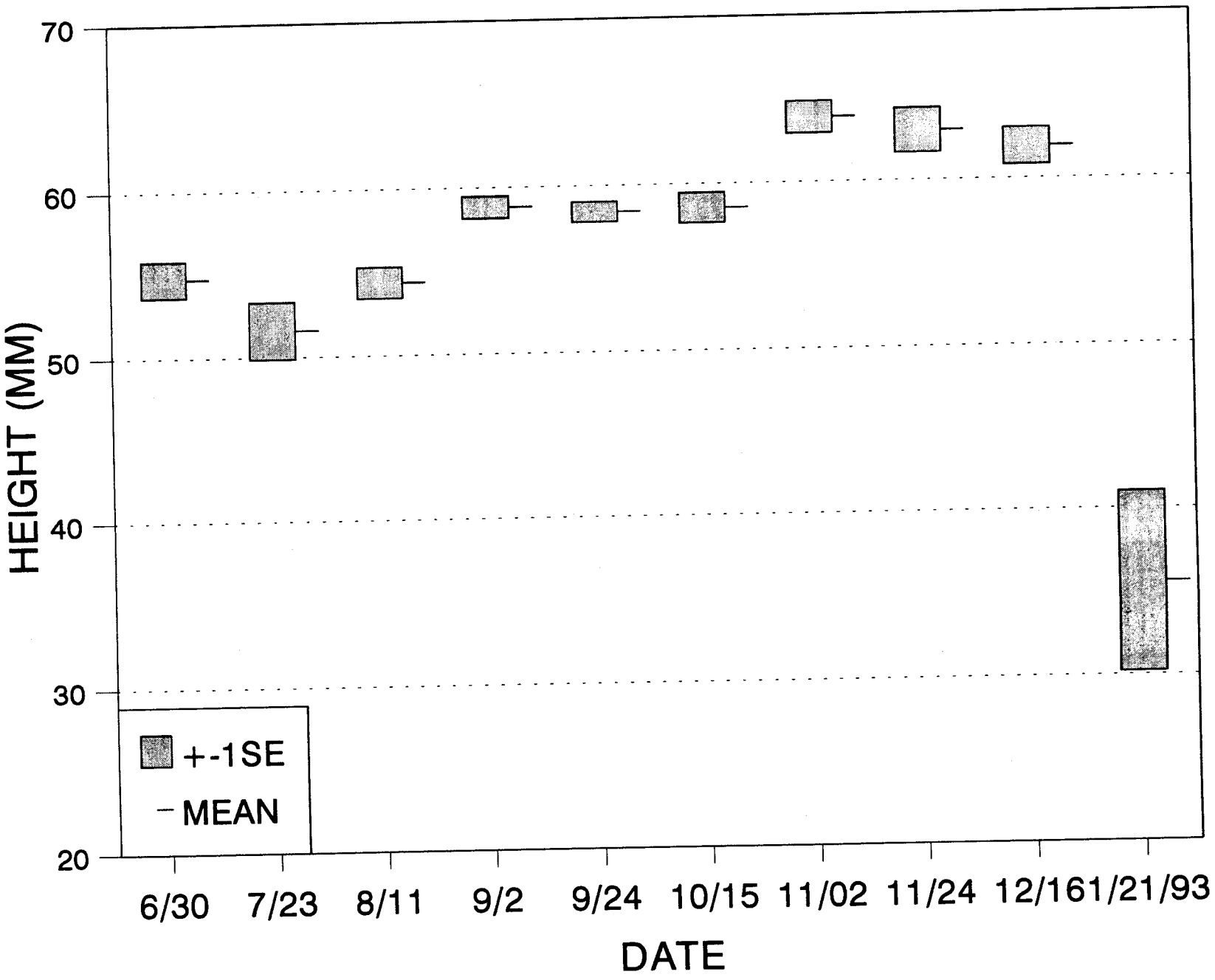
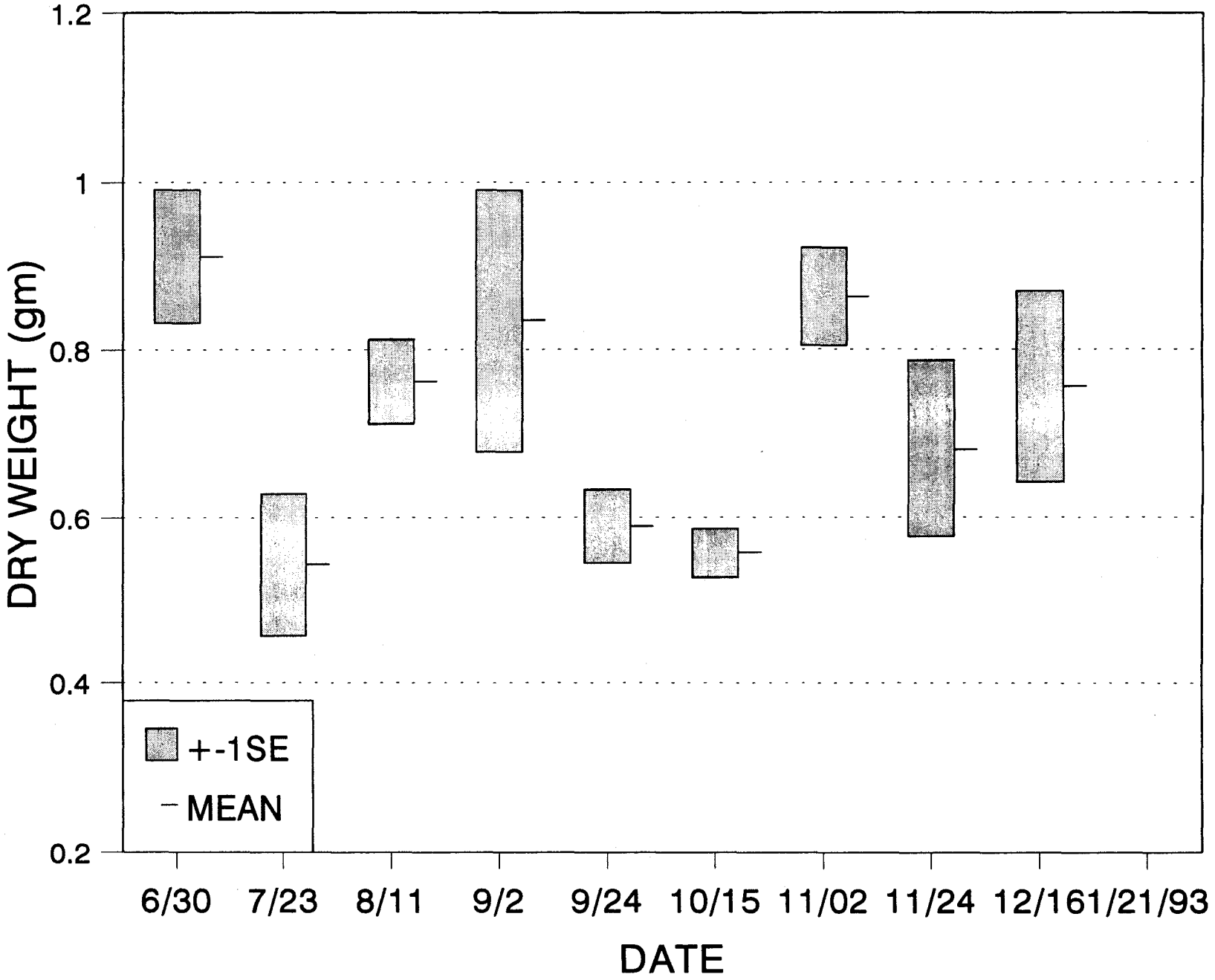

70
60
50
40
30
20
HEIGHT (MM)
+-1SE
MEAN
6/30
7/23
8/11
9/2
9/24
10/15
11/02
11/24
12/16
1/21/93
DATE

Figure 7


1.2
1
0.8
0.6
0.4
0.2
DRY WEIGHT (gm)
+-1SE
MEAN
6/30
7/23
8/11
9/2
9/24
10/15
11/02
11/24
12/16
1/21/93
DATE

APPENDIX

Results of 1992 Florida bay scallop population survey

A. Estimate of recreational scalloping effort (number of boats) by region and location for opening weekend and typical weekends and weekdays. Sources are further identified in part B.

B. List of interviewees by region and affiliation.

C. Notes from individual interviewees by region.

D. Blank form for 1992 bay scallop survey.

A. Estimate of recreational scalloping effort (number of boats) by region and location for opening weekend and typical weekends and weekdays. Sources are further identified in part B.

REGION	LOCATION	# OF BOATS	DATE	SOURCE
NW	Ft. McCrae	3-4	weekends	Gibbs
NW	Big Lagoon	50	7/4 weekend	Hamilton
NW	St. Joe Bay	600	7/4 weekend	Hughes
NW	St. Joe Bay	600	7/4 weekend	Lee
NW	St. Marks	30-45	weekends	Martinez
NW	Presnell's‡‡	60-70	7/4 weekend	Martinez
NW	Mexico	100-150	weekends	Morris
NW	St. Joe Bay	200	weekends	Muller
NW	St. Joe Bay	50 (Comm)	weekday	Muller
NW	St. Joe Bay	50-60 (Comm)	weekday	Sapp
NW	Old Pass	20-30	7/4 weekend	Young
CE	Homosassa	<=1000	7/4 weekend	FMP
CE	Ideal Fish Camp†	12-15	weekends	--
CE	Homosassa	>1000	7/4 weekend	Adams
CE	Twin Rivers Marina‡	10-12	7/4 weekend	Collins
CE	Twin Rivers Marina‡	6-8	weekends	Collins
CE	Cedar Key	200	7/4 weekend	Davis
CE	Pete's Pier‡	15-30	7/4 weekend	Doherty
CE	Pete's Pier‡	1-2	weekends	Doherty
CE	Homosassa	300-400	weekends	Grybek
CE	Homosassa	>=1000	7/4 weekend	Grybek
CE	Riverside Marina†	30	7/4 weekend	Lamb
CE	Riverside Marina†	10	weekends	Lamb
CE	Port Paradise Dive††	50	7/4 weekend	Lewis
CE	Plantation Dive††	200	7/4 weekend	Lewis
CE	Pace Marina†	20-25	7/4 weekend	Pace
CE	Pace Marina†	5-10	weekends	Pace
CE	Knoxes Baithouse	100	7/4 weekend	Parrill
CE	Westwind Fish Camp†	35-40	7/4 weekend	Payne
CE	Westwind Fish Camp†	10	weekends	Payne
CE	Pepperfish Keys	50	weekends	Teehan
SW	Pineland Marina†††	>100	7/4 weekend	--
SW	Pineland Marina†††	15	weekends	--
SW	Captiva Pass	40-60	7/4 weekend	Gregory
SW	Pineland	75	weekends	Reppa
SW	Port Charlotte	15	weekends	Wicks

† Steinhatchee
‡ Crystal River
†† Homosassa
‡‡ Port St. Joe
†††Pine Island

B. List of persons interviewed by region and affiliation.

NAME	REGION	AFFILIATION
Aileen Beard	NW	Scuba Shack
Mike Brim *	NW	Fish & Wildlife Commission
Lt. Bullard	NW	Florida Marine Patrol
Lee Edmuston	NW	No Affiliation
Joey Farell *	NW	DNR Research Reserve
Capt. Mike Gibbs	NW	Oyster Bar
Neil Goss	NW	Florida Marine Patrol
Dr. Hamilton	NW	University of West Florida
John Hughes	NW	DNR Aquatic Preserve
George Hunter	NW	Shell Shack
** *	NW	Hydrospace Dive Shop
Maj. Bob Lee *	NW	Florida Marine Patrol
John Lee	NW	No Affiliation
Ariel Martinez	NW	Scuba Discovery Dive Shop
Patrick McFarlin	NW	St. Patrick Seafood
Mark Moore	NW	St. Joe Shrimp Co.
Lt. Morris	NW	Florida Marine Patrol
Mark Muller	NW	Commercial Fisherman
Lt. Patrick	NW	Florida Marine Patrol
Owen Presnel	NW	Presnels Boat Camp
Lt. Redwine	NW	Florida Marine Patrol
Herman Sapp	NW	Oyster fisherman
James Skinner	NW	St. Joe State Park
Joe Watkins	NW	Commercial Fisherman
Les Westerman	NW	Rod & Reel Marina
Bob Williams *	NW	NMFS
Ed Young	NW	Florida Marine Patrol
Scott Andree	CE	Sea Grant Extension Agent
Lt. Adams	CE	Florida Marine Patrol
Tim Buffington	CE	McCrae's
Matt Clemons *	CE	DNR Aquatic Preserve
Newell Collins	CE	Twin Rivers Marina
Cathy Proveaux	CE	Twin Rivers Marina
Jim Cutway	CE	No Affiliation
Mike Davis	CE	Cedar Key Fish & Oyster
Joe Doherty	CE	Pete's Pier
Joe Espin	CE	Citrus Co. Chronicle
Jeff & Barbara Grybek	CE	Homosassa River Retreat
Archie Head	CE	Commercial Fisherman
John Lamb	CE	Riverside Marina
Jay Leverone	CE	Mote Marine Lab
Martin Lewis	CE	Port Paradise Dive Shop
Sam Lyons	CE	Plantation Dive Shop/Marina
Keith Miritello	CE	Florida Marine Patrol
Bob Moyer	CE	DNR State Recreation Park
Johnny Pace Sr.	CE	Pace Marina

Bill Parrill		CE	Knoxes Baithouse
Nancy Payne		CE	Westwind Fish Camp
Tommy Rooks		CE	No Affiliation
Sue Smyrnios		CE	Steinhatchee Fish Co.
Bill Teehan		CE	Marine Fisheries Comm.
**		CE	Florida Marine Patrol
**		CE	Ideal Fish Camp
**		CE	Baypoint Dive Shop
**		CE	DNR St. Martins Marsh
Jim Barkel		SW	Honeymoon Island
Toby Bruer		SW	Caladesi State Park/Anclote
Larry Gregory		SW	Florida Marine Patrol
Nan Hall	*	SW	No Affiliation
John Hill		SW	Aqua Sports
**		SW	Honeymoon Island
Rick Meyers		SW	Bradenton School Board
**		SW	Pineland Marina
Franki Reppa		SW	No Affiliation
James Segal		SW	DNR Shellfish Lab
Heather Stafford		SW	DNR Aquatic Preserve
Alan Taylor		SW	Combined Marine Service
Nick Toth		SW	DNR Aquatic Preserve
Carol Wicks		SW	No Affiliation

* Provided no information in 1992
** No contact person identified

C. Notes from individual interviewees by region

NORTHWEST REGION

Beard, Aileen. Scuba Shack. Did not hear of anyone finding scallops this year. People rape the seagrass beds if any scallops are present. Last year some were found in Bayou Grande. 904-433-4319. Santa Rosa Co.

Brim, Mike. U.S. Fish and Wildlife Service. No information. 904-769-5430.

Bullard, Lt. Florida Marine Patrol, Pensacola. Previous two years have been good in the following locations, but not this year: Near Navar bridge, Bob Saks bridge, Big Sabine, Pensacola Pass on the west side near Ft. McCrae and Spanish Cove. (SC) 693-8978. Santa Rosa Co.

Edmuston, Lee. No Affiliation. St. Joe Bay - some people were successful, while others were not. Good S.W. of Blacks Island. Scallops seemed to be in shallower water this year. 904-653-8063. Gulf Co.

Farell, Joey. Big Lagoon State Recreation Area. Did not know of any scalloping in the lagoon. 904-492-1595. Escambia Co.

Gibbs, Capt. Mike, Oyster Bar. Avg. weekend 3-4 boats. Not good in last few years. Lots of rain. Ft. McCrae (next to Big Lagoon) the only place mildly good. 904-492-0192. Escambia Co.

Goss, Neil. Florida Marine Patrol, Panama City. People usually go scalloping in August and September in Bay County. Good in St. Joe Bay, Panama City area not real successful. Bay County low numbers around Spanish Shanty, Davis Pt. and near Shell Island. (SC) 770-5150. Gulf Co. and Bay Co.

Hamilton, Paul, Ph.D. University of West Florida. Approximately 50 boats sighted 4th of July weekend in a small S.E. of the Big Lagoon area. No commercial efforts in the area. Recreational catch is negligible. Pensacola Bay usually good but this year it took 3-4 man hours to find one scallop. Used to fish west of Pensacola Pass but now it is developed. Heavy macro-algae drift, and tunicates, both in decomposing conditions. Found some scallops in Panama City during the winter about 1/4 size. Conditions for settlement survival bad - nutrients up, algae growth up. 904-474-3061. Escambia Co. and Santa Rosa Co.

Hughes, John. Manager, DNR Alligator Harbor Aquatic Preserve. Sighted 600 boats in St. Joe Bay 4th of July weekend. St. Joe Bay good early in the season, but small size, Keaton Beach real good now and for the last few seasons, and good in the grass beds around St. Marks due south of Tallahassee. Suggests the season should open one month later. (SC) 904-697-2218. Gulf Co., Wakulla Co. and Taylor Co.

Hunter, George. Shell Shack, Mexico Beach. In 1991 did not buy one pound from commercial fisherman in St. Joe area, (commercial season not opened when interviewed) but bought from Steinhatchee instead. A relative found

lots of dead scallops (still attached) and small. Season not appearing very good. Personal opinion is that the recreational people hurt the industry more because they will fish until the very end. But the commercial fishermen stop as soon is the money isn't any good, which is long before the end. 904-648-8795. **Gulf Co. and Bay Co.**

Hydrospace Dive Shop. No dive trips for scalloping anymore. St. Andrew Bay gone. 904-234-3063. **Bay Co.**

Lee, Bob, Maj., Florida Marine Patrol, Carrabelle. No scallops in this area. (SC) 771-3450. **Franklin Co.**

Lee, John. No affiliation, Wyatt City, Fl. Fourth of July weekend sighted 600 boats, and approximately 800-900 people. Declining in the past 3 years. Lucky to get the limit - normal is 1/2 gallon for a day's work. 904-827-8075. **Gulf Co.**

Martinez, Ariel. Scuba Discovery Dive Shop. St. Marks area averages 30-45 boats a weekend. Port St. Joe on 4th of July weekend, one ramp had 60-70 boats. Port St. Joe and St. Marks both had slightly above average scalloping success. 904-656-7665. **Gulf Co. and Wakulla Co.**

McFarlin, Patrick, and McFarlin, Reed. St. Patrick Seafood. Some luck in the deeper water around Blacks Island, especially in the potholes near the deeper water edge. August not very good. It took all day to find 14-15 scallops. Commercial fishing not very good either. In August 5 gal. bucket = 2 pints shucked. Later in the season the yield will double. They would prefer opening the season later. Does not support commercial fishing. Approximately a 2" increase in water level; some die-off of Thalassia. Interested in our research. 904-229-8070. **Gulf Co.**

Moore, Mark. St. Joe Shrimp Co. Busy fourth of July weekend. Most people got their limit, although the scallops seemed a little smaller. Commercial better in 1992 than 1991. Five years ago very good. Commercial guys around Blacks Island, approx. 10 boats/day, 60-80lbs/day. 904-229-6224. **Gulf Co.**

Morris, Lt. Florida Marine Patrol, Panama City. Average weekend approx. 100-150 boats each day. In 1986 there were about 300 boats. Good scalloping on the east end of Crooked Island (St. Andrew) Sound between St. Andrew Point and Davis Beach,. Some commercial boats. There is a soft bottom so it is hard for the recreational people. In 1988 St. Andrew Bay was good near Old Pass and Shell Island on the side across from Tendall Marina. No scallops there now except in 20' where divers go. Usually find them in deeper water in July, but this year they were shallower and the adductor muscle was not much bigger than a finger tip. September scallops were found in deep channel, none in shallow water. Commercial guys not doing well. Morris would prefer the season opening in the first or second week of August. Port St. Joe trying to outlaw outboard motors in head of bay. Mid 60s 5 boats in bay was busy. Last good year was 1986, moderate 1988, not good 1992. Oak Grove had scalloping for the first time in 1992. Good spots: head of bay-shallow, edge of channel, potholes, stumphole channel, west side of St. Joe-Pigs Bayou. Scallops stop at Eagle Harbor. (SC) 770-5150. **Bay Co. and Gulf Co.**

Muller, Mark. Commercial fisherman. Average weekend recreationally about 200 boats in St. Joe Bay, and 50/day. Recreational people picked the crop out before commercial guys could start fishing. Commercial catch down this year, lots of small scallops, discouraged outlook. 904-229-6224. Gulf Co.

Patrick, Lt. Florida Marine Patrol, Pensacola. Quiet year, a few found in deeper water. (SC) 693-8978. Santa Rosa Co. and Escambia Co.

Presnell, Owen. Presnells Boat Camp. Fair season in 1992, but not as good as previous 2 years. Most people are getting their limit, but with lots of work. Very large in October: 13 scallops=1 pound. 904-229-2710. Gulf Co.

Redwine, Lt. Florida Marine Patrol. Not much information. Season about normal or just less than normal (St. Mark's area). 904-781-6610. Wakulla Co.

Sapp, Herman. Oyster fisherman. Commercially 50-60 boats/day, each yielding 70 lbs/day in Port St. Joe, finishing in mid-October, and 4-5 boats/day, each yielding 40 lbs/day in Crooked Island (St. Andrew) Sound. In 1990, St. Andrew Bay was good, but this year, nothing. In East Bay the oysters have died two years in a row. 904-265-0947. Gulf Co. and Bay Co.

Skinner, James. St. Joe State Park. People getting their limit at the beginning, but the scallops were not much than the end of a finger. Lots of rain this season--scallops moved out deep. South end of Blacks Island is a good spot. 904-227-1327. Gulf Co.

Watkins, Joe. Commercial fisherman. Not as much rain--scallops stayed in. Season was decent this year, but bad last year (nothing commercially). Recreational people getting their limit, working the potholes in the flats. The commercial guys don't work in that area, but instead work the deeper water at the edges of the channels either by diving or dragging. Three years ago was the most successful. Season opens too soon, would like to see commercial and recreational seasons open at the same time. Watkins has noticed a four year cycle of bad seasons, and too much rain adversely affects the season. 904-229-6403. Gulf Co.

Westerman, Les. Rod and Reel Marina. For the past 3 years there has not been anything in Big Lagoon near the south shore. He heard there were some scallops in Santa Rosa Sound. He attributes heavy rainfall to unsuccessful years. 904-492-0100. Escambia Co. and Santa Rosa Co.

Williams, Bob. National Marine Fisheries Service. No information regarding the St. Joe area. 904-227-1879.

Young, Ed. Florida Marine Patrol, Panama City. Fourth of July weekend there were 20-30 vessels in Old Pass up to St. Andrew Bay. Terrible fishing in Bay county. Only place where scallops were found was in Old Pass near Tyndall Air Force Base. 904-233-5150. Bay Co.

CENTRAL REGION

Anon. Florida Marine Patrol, Homosassa. Fourth of July weekend boat traffic was less than normal for Citrus county (<=1000). Only 6-10 scallops/boat. No concentrated areas, saw some scallops before opening day, none by the first week in August. 904-382-5058. Citrus Co.

Anon. Ideal Fish Camp. Average weekend in Steinhatchee area was about 12-15 boats. Good 8-10 miles north and south of the river. Most people got their limit. 904-498-3877. Taylor Co. and Dixie Co.

Anon. Bay Point Dive Shop. Crystal River area not good. 904-563-1040. Citrus Co.

Anon. St. Martins Marsh. No information. There was no funding to monitor scallops in 1992. 904-563-1136. Citrus Co.

Adams, Lt. Florida Marine Patrol, Homosassa. Fourth of July weekend boat traffic was over 1000, but people were not successful. After the opening there wasn't a season. 4-5 hours produced 8-10 scallops. Taylor County around Steinhatchee had an excellent year. (SC) 621-7888. Citrus Co.

Andreé, Scott. Sea Grant Extension Agent. Good Franklin county to Levy county. Taylor county good between Steinhatchee and Keaton Beach, not much in Cedar Key. 904-487-3007. Taylor Co. and Franklin Co. to Levy Co.

Buffington, Tim. McCrae's. July 4th was lighter boat traffic than usual. People finding only 2-3 in 4-10 ft. In Steinhatchee he found the limit around Big Grass Island. 904-628-2602. Citrus Co. and Dixie Co.

Clemons, Matt. Crystal River Aquatic Preserve. No information due to lack of funding this year. 904-563-1136. Citrus Co.

Collins, Newell, and Cathy Proveaux. Twin Rivers Marina. Average weekend = 6-8 boats, 4th of July = 10-12 boats/day. By August there were not many at all going out. People were not successful, finding only 1 or 2 scallops. 904-795-3552. Citrus Co.

Cutway, Jim. No affiliation. People started late this season, but not many scallops found anyway. (Crystal River area). 813-745-2511. Citrus Co.

Davis, Mike. Cedar Key Fish and Oyster Co. According to the Gainesville sports section there were approx. 200 boats and 1000 people on opening weekend. No scallops left along the flats. No scallop runs commercially, restriction on boats needed, and recreational fishing should be banned. 904-543-5334. Levy Co.

Doherty, Joe. Pete's Pier. Average weekend = 1-2 boats and 15-30 on 4th of July. Extremely poor fishing, people finding 12-15 scallops in deeper water 10-14 ft (occasionally 48). 904-795-3302. Citrus Co.

Espin, Joe. Citrus County Chronicle. Heavy boat traffic but skimpy findings. Whole families were only finding a couple dozen on opening

weekend and other weekends. Speculates too much rain. Scallops found deeper, shrimpers bringing them up in 12-15 ft. 904-637-2150. Citrus Co.

Grybek, Jeff and Barbara. Homosassa River Retreat. Hundreds of boats the first few weekends, and close to 1000 over 4th of July weekend. Fishing was not good, 3 hours = 3 gallons. Shallow area inland from bird racks well populated, but hard to get to. 1990 was the best year recently. 904-628-7072. Citrus Co.

Head, Archie. Commercial shrimper/stone crabber. 1992 was the worst year yet: usually 45 lbs/day shucked, now 2 lbs/day. Good area is the reef before the foul area around the bird rack. Speculates that the rain in June and high tide keeps the scallops in the gulf stream. Friends in Apalachicola doing well. 3700 commercial fisherman in Citrus County. 904-628-9060. Citrus Co.

Lamb, John. Riverside Marina. July 4th weekend approx 30 boats, 10 boats on a normal weekend. Around Big Grass Island there were about 78 boats and the water was clear. Most people got their limit. Rocky Creek is not as clear, but the more experienced people go here. Pepperfish Keys was also a popular site. Lamb is interested in our research, he is a member of the Steinhatchee River Association. (David Curtis is the active president--904-498-7157). 904-498-5800. Taylor Co. and Dixie Co.

Leverone, Jay. Mote Marine Lab. Three people found 250 scallops in 2 hours. Fished just north of the Steinhatchee river. 1/m sq.
Mid August approx 55mm in height. 813-388-4441. Taylor Co.

Lewis, Martin. Port Paradise Dive Shop. Approximately 50 boats off their ramp on 4th of July weekend. One person found 40 scallops, and most everyone else did very poorly. On another weekend one person found 90 near the bird rack. 904-795-7234. Citrus Co.

Lyons, Sam. Plantation Dive Shop and Marina. 200 boats out of their area and he would guess about 500-600 total on 4th of July weekend. Most people finding 1,2, or 3, and one person found 40 around the racks in approx. 3-6 ft. of water. Lyons believes that the shrimper and trawlers should not be allowed in that area. 904-795-5797. Citrus Co.

Miritello, Keith. Florida Marine Patrol, Homosassa (Dispatcher). Crystal river to Homosassa not good at all, and the scallops were scattered. A few found offshore. He doesn't know of anyone getting their limit. He wonders if the extra rain before the season had any affect on the population. 904-382-5058. Citrus Co.

Moyer, Bob. Anclote River Park. Not a good season. 813-938-2598. Pasco Co.

Pace, Johnny. Sr. Pace Marina. An average weekend has 5-10 boats out of his ramp and 20-25 out of the public ramp. 4th of July there were 50-60 boats out of his ramp. Fishing was fair, but needed to work hard. The scallops were scattered in the area between Big Grass Island and Dallus Creek. Some were found around Hagens Cove and the beginning of Pepperfish Keys. 904-498-3008. Taylor Co. and Dixie Co.

Parrill, Bill. Knoxes Baithouse. 4th of July weekend about 300 boats were launched and approx. 100 of those were scallopers. Fishing success was slow. (Crystal River) 904-795-2771. **Citrus Co.**

Payne, Nancy. Westwind Fishcamp. About 10 boats a weekend on average out of their camp and 35-40 on 4th of July. The scallops were still small at the beginning of the season but most had good luck. After a month the fishing was not good--13 people found 20 gal. After the hurricane the water was very turbid. Areas fished were Rocky Creek and Big Grass Island. Last year not good. 904-498-5254. **Taylor Co.** and **Dixie Co.**

Rooks, Tommy. No affiliation. Cedar Key and Wacasassa Bay area. Usually a lot of scallops are found between Seahorse and Snake Keys, but not much this year (20/hr). Water from the Suwannee is turning a tannic acid color. A few people found their limit, but with lots of work. 904-543-5567. **Levy Co.**

Smyrnios, Sue. Steinhatchee Fish Co. Last two years have been bad. Three years ago the scalloping was good between Steinhatchee and Horseshoe Key and Steinhatchee and Keaton Beach. As of late August she had bought a total of 25 lbs of scallops. 904-498-3907. **Taylor Co.**

Teehan, Bill. Marine Fisheries Commission. The first of August there were approx. 50 boats around Pepperfish Keys on the north end. People were very successful, and found more than they needed. (SC) 277-0554. **Taylor Co.** and **Dixie Co.**

SOUTHWEST REGION

Anon. Honeymoon Island. Scallops gone-no replenishing. (SC) 558-5942. **Pinellas Co.**

Anon. Pineland Marina, Pine Island Sound. Average weekend 15 boats and 4th of July >100 out of their marina. Immediately offshore from Pineland people were very successful and got their limit. The scallops appeared to be larger than normal. 813-283-0080. **Lee Co.**

Barkel, Jim. Honeymoon Island (Ranger) One ranger noticed a plentiful spot in an area that fishing was not allowed. Near the Fred Howard bridge nothing is left. Barkel says that the population is very poor this year, but 1991 was a very good year, especially around the sand spit area.. He has noticed two year cycles. 813-469-5942. **Pinellas Co.**

Bruer, Toby. Caladesi Island State Park and Anclote Key (Ranger). Very few boats have been out scalloping and the success has been poor also. He noticed that last year was good, and overall the populations have dwindled over the past few years. 813-469-5918. **Pinellas Co.** and **Pasco Co.**

Gregory, Larry. Ft. Myers Marine Patrol. On 4th of July weekend there were approx. 40-60 boats in one area. The success of the fishing was comparable to last year. Areas fished are Captiva Pass west of Pine Island

and Boca Grande Pass with moderate luck, almost getting the limit. (SC)748-6966. **Lee Co.**

Hall, Nan. No affiliation. No information this year. Hemps Key good in 1991. 813-472-4354. **Lee Co.**

Hill, John. Aqua Sports. Isolated spots. Mostly not much luck. 813-627-3454. **Charlotte Co.**

Meyers, Rick. Manatee County School Board. He looked north and south of the Little Manatee River but did not see any as he usually does. 813-741-7331. **Hillsborough Co. and Manatee Co.**

Reppa, Franki. No affiliation. He noticed at the beginning of the season approx. 75 boats with 2-6 people/boat in the Pineland (Pine Island Sound) area. Everyone did well. They could have gathered more than the limit. Areas fished were Demere Key, Panther Key, and Josslyn Island in 3-5 ft (high tide) and 1.5 ft (low tide). 813-283-5427. **Lee Co.**

Segal, James. DNR Shellfish Lab (SEAS). He heard that people were not having the greatest results around the Pineland area in an embayment, from those collecting by treading. He has noticed that the water is real dark from extra runoff and there was a drop in salinity. (SC) 721-7282 or 255-0083. **Lee Co.**

Stafford, Heather. Bokeelia Aquatic Preserve. Scallops were plentiful and boat traffic was busy around Pine Island Sound. People getting their limits. (SC) 721-7750. **Lee Co.**

Taylor, Alan. Combined Marine Service/Marina. Heard that the population had gone down this year. 813-746-2545.

Toth, Nick. Terra Ceia Aquatic Preserve. Not aware of any recreational scalloping this year. He generally works in Cockroach Bay where occasional scalloping occurs. 813-744-6168. **Manatee Co.**

Wicks, Carol. No affiliation. Approximately 15 boats with 2-3 people/boat on an average weekend. Scallops seemed small and not too abundant. Five years ago it took 3 hours to fill a 5 gal. bucket. 813-743-FINS. **Charlotte Co.**