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DISCUSSION

SPAWNING PERIODS OF COMMON INSHORE FISHES ON THE FLORIDA EAST COAST

Environmental monitoring has been conducted continuously since 1976 at the Florida Power & Light Company St. Lucie Plant on Hutchinson Island, St. Lucie County, Florida. This note lists 96 fish species and 1 hybrid collected during this monitoring and the month(s) each was found in spawning condition.

METHODS

Fish were collected from the plant intake screens, by gill netting and trawling within 3.5 km of shore and by beach seining. All commercial and sport species were examined for spawning condition; other species were examined sporadically. Spawning condition was shown by extruded eggs or milt when pressure was applied ventrally or by enlarged gonads when the fish were examined internally.

RESULTS

Over 100,000 fishes representing 288 species were collected during the 8.5 years of monitoring through mid-1984. Fishes found in spawning condition are listed in Table 1. Those marked with an asterisk were collected as adults year around and the spawning periods for these species are reasonably well defined. The remaining fishes were collected or examined on only one or a few occasions or did not occur year around. For these species, spawning months are accurate where given but spawning periods may not be well defined.

The Indian River region of east Florida, of which Hutchinson Island is a portion, is a transitional zone characterized by the overlap of warm-temperate Carolinian and tropical Caribbean fish faunas (Gilmore, 1977). The fish assemblage found in the area thus varies seasonally and, depending on climatic conditions, from year to year. Spawning periods also vary considerably in this transitional area, based on the months when fishes were found in spawning condition (Table 1).

Fish spawning off Hutchinson Island can be separated into three broad periods: fall-winter-spring (October through May), spring-summer-fall (March through October) and year around). For those species whose spawning periods are reasonably well defined, the yellowfin menhaden, pigfish, sparids and many of the sciaenids are fall-winter-spring spawners. The blue runner, lane snapper, banded drum and gulf kingfish are spring-summer-fall spawners. Although individual bluefish, Atlantic bumper, Florida pompano, black margate and Spanish mackerel were found in spawning condition during the winter months (January, February and/or December), this was unusual and these species also are most likely spring-summer-fall spawners. The bank cusk-eel, southern kingfish, white mullet and leopard searobin are year-around spawners. Each of these three broad spawning groups are predominantly composed of Carolinian species, although tropical species, such as the silver porgy, lane snapper, black margate and white mullet, also are found.

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Table 1. Months of occurrence of fishes found in spawning condition, Hutchinson Island, Florida, January 1976-June 1984. (Asterisks denote fishes caught as adults year around.)

Species	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
lesser electric ray (<i>Narcine brasiliensis</i>)						<u>1</u>						
ladyfish (<i>Elops saurus</i>)				<u>==</u>					<u>=====</u>			
purplemouth moray (<i>Gymnothorax vicinus</i>)										<u>==</u>		
sooty eel (<i>Bascanichthys bascanium</i>)	<u>==</u>											<u>==</u>
shrimp eel (<i>Ophichthus gomesi</i>)		<u>==</u>		<u>==</u>								<u>==</u>
palespotted eel (<i>O. ocellatus</i>)	<u>==</u>											
yellowfin menhaden (<i>Brevoortia smithi</i>)*	<u>=====</u>										<u>=====</u>	
Atlantic menhaden (<i>B. tyrannus</i>)	<u>=====</u>										<u>=====</u>	
menhaden (<i>B. smithi</i> x <i>tyrannus</i>)	<u>=====</u>											<u>==</u>
scaled sardine (<i>Harengula jaguana</i>)				<u>==</u>								
Atlantic thread herring (<i>Opisthonema oglinum</i>)		<u>=====</u>						<u>==</u>				
Spanish sardine (<i>Sardinella aurita</i>)						<u>==</u>		<u>==</u>				
Cuban anchovy (<i>Anchoa cubana</i>)		<u>==</u>		<u>==</u>								
striped anchovy (<i>A. hepsetus</i>)		<u>==</u>										
longnose anchovy (<i>A. nasuta</i>)				<u>==</u>								
inshore lizardfish (<i>Synodus foetens</i>)	<u>==</u>											
hardhead catfish (<i>Arius felis</i>)						<u>=====</u>						<u>==</u>
gafftopsail catfish (<i>Bagre marinus</i>)			<u>==</u>									
Atlantic midshipman (<i>Porichthys plectrodon</i>)		<u>==</u>										
blotched cusk-eel (<i>Ophidion grayi</i>)	<u>=====</u>											
bank cusk-eel (<i>O. holbrookii</i>)*	<u>=====</u>					<u>=====</u>			<u>==</u>		<u>==</u>	
mooneye cusk-eel (<i>O. selenops</i>)				<u>==</u>								
lined seahorse (<i>Hippocampus erectus</i>)		<u>2</u>			<u>2</u>					<u>2</u>		
bull pipefish (<i>Syngnathus springeri</i>)	<u>2</u>											
tarpon snook (<i>Centropomus pectinatus</i>)												<u>==</u>
snook (<i>C. undecimalis</i>)												<u>==</u>
rock sea bass (<i>Centropristis philadelphica</i>)	<u>=====</u>											
sand perch (<i>Diplectrum formosum</i>)			<u>==</u>									
bluefish (<i>Pomatomus saltatrix</i>)*	<u>=====</u>								<u>=====</u>			
blue runner (<i>Caranx crysos</i>)*						<u>=====</u>		<u>=====</u>				
Atlantic bumper (<i>Chloroscombrus chrysurus</i>)*	<u>==</u>		<u>=====</u>					<u>=====</u>				
round scad (<i>Decapturus punctatus</i>)						<u>==</u>						
leatherjacket (<i>Oligoplites saurus</i>)						<u>=====</u>						
bigeye scad (<i>Selar crumenophthalmus</i>)							<u>==</u>				<u>=====</u>	
Atlantic moonfish (<i>Selene setapinnis</i>)						<u>==</u>			<u>=====</u>			
Florida pompano (<i>Trachinotus carolinus</i>)*		<u>==</u>		<u>==</u>								
gray snapper (<i>Lutjanus griseus</i>)			<u>==</u>									<u>==</u>
lane snapper (<i>L. synagris</i>)*						<u>=====</u>						
Irish pompano (<i>Diapterus auratus</i>)						<u>=====</u>			<u>==</u>			
striped mojarra (<i>D. plumieri</i>)						<u>=====</u>						
silver jenny (<i>Eucinostomus gula</i>)						<u>==</u>						
yellowfin mojarra (<i>Gerres cinereus</i>)										<u>==</u>		
black margate (<i>Anisotremus surinamensis</i>)*	<u>==</u>		<u>=====</u>									
porkfish (<i>A. virginicus</i>)		<u>==</u>				<u>==</u>				<u>==</u>		
tomtate (<i>Haemulon aurolineatum</i>)						<u>==</u>						
sailors choice (<i>H. parraii</i>)						<u>==</u>						
white grunt (<i>H. plumieri</i>)						<u>=====</u>						
pigfish (<i>Orthopristis chrysoptera</i>)*	<u>=====</u>											<u>==</u>
sheepshead (<i>Archosargus probatocephalus</i>)*	<u>=====</u>										<u>==</u>	
sea bream (<i>A. rhomboidalis</i>)						<u>=====</u>			<u>==</u>			
silver porgy (<i>Diplodus argenteus</i>)*	<u>=====</u>											<u>==</u>
pinfish (<i>Lagodon rhomboides</i>)*	<u>=====</u>											<u>=====</u>
silver perch (<i>Bairdiella chrysoura</i>)		<u>=====</u>										
striped croaker (<i>B. sanctaeluciae</i>)	<u>=====</u>					<u>==</u>						
silver seatrout (<i>Cynoscion nothus</i>)*	<u>=====</u>								<u>=====</u>			
weakfish (<i>C. regalis</i>)*	<u>=====</u>								<u>==</u>			<u>==</u>
banded drum (<i>Larimus fasciatus</i>)*						<u>=====</u>			<u>=====</u>			

spot (<i>Leiostomus xanthurus</i>)*	=====	=====
southern kingfish (<i>Menticirrhus americanus</i>)*	=====	=====
gulf kingfish (<i>M. littoralis</i>)*	=====	=====
northern kingfish (<i>M. saxatilis</i>)	==	==
high-hat (<i>Equetus acuminatus</i>)	=====	
Atlantic croaker (<i>Micropogonius undulatus</i>)*	=====	=====
black drum (<i>Pogonias cromis</i>)	=====	
sand drum (<i>Umbrina coroides</i>)*	=====	=====
Atlantic spadefish (<i>Chaetodipterus faber</i>)	=====	
striped mullet (<i>Mugil cephalus</i>)	=====	=====
white mullet (<i>M. curema</i>)*	=====	=====
great barracuda (<i>Sphyrnaea barracuda</i>)		=====
guaguanche (<i>S. guachancho</i>)		=====
dusky jawfish (<i>Opistognathus whitehursti</i>)		=====
bigeye stargazer (<i>Dactyloscopus crossotus</i>)	=====	
southern stargazer (<i>Astroscopus y-graecum</i>)	=====	
hairy blenny (<i>Labrisomus nuchipinnis</i>)	=====	
checkered blenny (<i>Starksia ocellata</i>)	=====	
oyster blenny (<i>Hyppleurochilus aequipinnis</i>)	=====	=====
orangespotted blenny (<i>H. springeri</i>)	=====	
seaweed blenny (<i>Parablennius marmoratus</i>)	=====	=====
Seminole goby (<i>Microgobius carri</i>)	=====	
Atlantic cutlassfish (<i>Trichiurus lepturus</i>)		=====
frigate mackerel (<i>Auxis thazard</i>)		=====
little tunny (<i>Euthynnus alletteratus</i>)		=====
Spanish mackerel (<i>Scomberomorus maculatus</i>)*	=====	=====
harvestfish (<i>Peprilus alepidotus</i>)		=====
butterfish (<i>P. triacanthus</i>)	=====	=====
smoothhead scorpionfish (<i>Scorpaena calcarata</i>)		=====
striped searobin (<i>Prionotus evolans</i>)	=====	=====
blackwing searobin (<i>P. salmonicolor</i>)	=====	=====
leopard searobin (<i>P. scitulus</i>)*	=====	=====
bighead searobin (<i>P. tribulus</i>)	=====	=====
spotted whiff (<i>Citharichthys macrops</i>)	=====	
southern flounder (<i>Paralichthys lethostigma</i>)	=====	=====
broad flounder (<i>P. squamilentus</i>)	=====	
shoal flounder (<i>Syacium gunteri</i>)	=====	
lined sole (<i>Achirus lineatus</i>)		=====
naked sole (<i>Gymnachirus melas</i>)	=====	
southern puffer (<i>Spherooides nephelus</i>)	=====	

¹ One individual with 11 embryos near term.
² Males with young in brood pouch.

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