

FWS/OBS-81/24
January 1982
Reprinted September 1985

THE ECOLOGY OF THE MANGROVES OF SOUTH FLORIDA:
A COMMUNITY PROFILE

by

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Performed for
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APPENDIX A. Summary of the site characteristics and sampling methodology for fishes in: A-1 - mangrove-fringed tidal streams and rivers, A-2 - mangrove-lined estuarine bays and lagoons, and A-3 - mangrove-lined oceanic bays and lagoons.

Table A-1. Site characteristics and sampling methodology for fishes in mangrove-fringed tidal streams and rivers.

Location	Salinity range	Temperature range	Mean depth; tidal range	Substrate	Benthic vegetation	Sampling methods	Frequency	Number species recorded
North River; Tabb 1966, Odum 1970	0-27 o/oo	15.4 ⁰ -33.2 ⁰ C	1 m; 0.5 m	Largely exposed limestone, and sand banks; undercut mangrove peat	Scattered <u>Ruppia maritima</u> near mouth	Bag seine, throw nets, dip nets, traps, pound net, fish poison, rod & reel, trammel net, set lines	Monthly, Sept. 1965 through Sept. 1966 (Tabb)	55
107 Cross Bayou Canal (Boca Ciega Bay to Old Tampa Bay); Springer & Woodburn 1960	3.2-29.8 o/oo	13.0 ⁰ -31.5 ⁰ C	Max. depth 1.5 m; 0.9 m	Hard muddy sand	Sparse <u>Enteromorpha</u>	Bag seine; minnow seine	Monthly, Sept. 1957 through Dec. 1958	60
Fahkahatchee stream, stream entering Fahka Union Canal; Carter et al. 1973	2-36 o/oo	22 ⁰ -29 ⁰ C	Less than 1 m; range not given	Not given	Not given	Seines routinely; black net & rotenone for single standing crop estimate	Monthly, Jan. 1972 through Dec. 1972	47
Unnamed streams near Turkey Point, Biscayne Bay; Nugent 1970	16-32 o/oo	13.2 ⁰ -37.1 ⁰ C	1.1 m; 0.5 m	Thick organic mud-gill net & trap sites; culvert at hoop net sites	Dense <u>Thalassia testudinum</u> at mouth	Gill nets; hoop nets; traps	Weekly, gill nets; bimonthly, others; August 1968 through Dec. 1969	52
							Total	111
							Only taken in SE Fla.	<u>-23</u> 88

Table A-2. Site characteristics and sampling methodology for fishes in mangrove-lined estuarine bays and lagoons.

Location	Salinity range	Temperature range	Mean depth; tidal range	Substrate	Benthic vegetation	Sampling methods	Frequency	Number species recorded
Fahkahatchee Bay, 740 ha; Yokel 1975b, Carter et al. 1973	Average - 15-37 o/oo, low of 1 o/ooo recorded by Yokel, Sept. 1971	21 ⁰ -31 ⁰ C (Yokel); 23.5 ⁰ -32 ⁰ C (Carter et al.)	1.2 m; ---	Generally muddy, some sand & shell	Extensive areas of <u>Halodule wrightii</u> , <u>Thalassia testudinum</u> in northern portion	Vegetated, mud, sand/shell bottoms sampled by otter trawl (Yokel); 2 bag seines, otter trawl, surface trawl (Carter et al.)	Monthly, July 1971 through July 1972 (Yokel); Monthly, Jan. 1972 through Dec. 1972 (Carter et al.)	47 (Yokel) 89 ^a
Fahka Union Bay, 186 ha; Carter et al. 1973	5-35 o/oo subject to sporadic massive freshwater inputs from GAC ^b drainage canals	24 ⁰ -32.5 ⁰ C	1.0 m; ---	Muddy, occasional sandy area or oyster bar	Little seagrass, high standing crop of green algae	2 bag seines, otter trawl, surface trawl	Monthly, Jan. 1972 through Dec. 1972	89 ^a
Rookery Bay, 419 ha; Yokel 1975a	8.9-38.5 o/oo	14.3 ⁰ -31.8 ⁰ C	0.9 m; .55 m	Mud, sand, shell	<u>Halodule wrightii</u> , <u>Thalassia testudinum</u> , <u>Halophila engelmannii</u>	Vegetated, mud, sand/shell bottoms sampled by otter trawl	Monthly, June 1970 through July 1972	64
Marco Island Estuary; Yokel 1975b; Weinstein et al. 1977	19 o/oo Sept. 1971; otherwise over a 4-yr period 29-39 o/oo	13 ⁰ -32 ⁰ C	Not given	Mud, muddy sand, shelly sand	<u>Halodule wrightii</u> beds in shallow back-bays of mangrove complex; <u>Thalassia</u> not well developed	Vegetated, mud, sand/shell bottoms sampled by otter trawl (Yokel); otter trawl (Weinstein et al.)	Monthly, July 1971 through July, 1972 (Yokel); Monthly, July 1971 through Jan. 1975 (Weinstein et al.)	59 (Yokel) 82; (Weinstein)
Whitewater Bay, Clark 1970	2.9-29.3 o/oo	15.9 ⁰ -32.1 ⁰ C	Shallow stations- 1 m, deep stations- 0.8-1.0 m; 0.6 m	Peat, silt, marl & shell, sand & shell	<u>Halodule wrightii</u> , <u>Udotea conglutinata</u> , <u>Chara hornemannii</u> , <u>Dasya pedicellata</u> , <u>Gracilaria</u> sp., <u>Halophila baillonis</u>	Roller frame trawl	Monthly - 8 stations Sept. 1968 through Nov. 1969	67
Total								117

^a89 species in Fahkahatchee and Fahka Union Bays combined.

^bGulf American Corporation.

Table A-3. Site characteristics and sampling methodology for fishes in mangrove-lined oceanic bays and lagoons.

Location	Salinity range	Temperature range	Mean depth; tidal range	Substrate	Benthic vegetation	Sampling methods	Frequency	Number species recorded
Old Rhodes Key Lagoon, Holm 1977	Average April-June 1973 - 37 o/oo	Average for Apr.-June 1973 - 28°C	0.61 m; 0.5 m range		Seagrasses: <u>Thalassia testudinum</u>	Visual counts, traps, hook and line	Monthly, 1973	31
Porpoise Lake, Florida Bay, Hudson et al. 1970	27.8-49.6 o/oo	16.6 ⁰ -32.2 ⁰ C	Max. depth - 2.1 m; ---	Carbonate mud & shell fragments	Seagrasses: extensive <u>Thalassia testudinum</u> , sparse <u>Halodule wrightii</u>	Suction sampler, slednet, pushnet, beach seine, cast net, roller-frame trawls, hook & line	Monthly, April 1965 through Jan. 1968	64
109 Southern Biscayne Bay, Bader and Roessler 1971	5.0-43.8 o/oo	13.5 ⁰ -38.7 ⁰ C ^a	Range 1.0-2.5 m	Mud, sand, coarse sand & shell fragments	Seagrasses: <u>Thalassia testudinum</u> , <u>Halodule wrightii</u> , red algae- <u>Laurencia</u> , <u>Digenia</u>	Otter trawl	Monthly, July 1968 through June 1970	75
Western Florida Bay 316 km ² , Schmidt 1979	Not given	Not given	Not given	Not given	Not given though author states each representative benthic habitat was sampled	Bag seine, semi-balloon otter trawl	Monthly, May 1973 through June 1974 at 12 stations	109
Total								156

^aSome sampling stations were within the area of the thermal plume from the Turkey Point power plant, temperature elevation up to 5.2°C above ambient.