

Effects of reduced hydrological connectivity on the nursery use of shallow estuarine habitats within a river delta

Lawrence P. Rozas^{1,*}, Charles W. Martin^{2,3}, John F. Valentine²

¹NOAA/National Marine Fisheries Service/SEFSC, Estuarine Habitats and Coastal Fisheries Center, Lafayette, Louisiana 70506, USA

²Dauphin Island Sea Lab and Department of Marine Sciences, University of South Alabama, Dauphin Island, Alabama 36528, USA

³Department of Oceanography and Coastal Sciences, Louisiana State University, Baton Rouge, Louisiana 70803, USA

*Email: lawrence.rozas@noaa.gov

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Table S1. List of species collected in fall (October 2009) and spring (May 2010) within the Mobile–Tensaw River delta. Species are grouped by major taxonomic categories (decapod crustaceans, fishes) and listed in descending order of abundance. Life-history strategy, total number, and relative abundance are given for each species. Life-history strategies are — T (transient): use estuary primarily as young; R (resident): use estuary in all life stages; C (catadromous): use estuary primarily as corridor between marine spawning area and riverine nursery area; F (freshwater): distribution primarily in freshwater environments

Species	Common name	Life-history Strategy	Total number	Relative abundance (%)
Crustaceans			2431	
<i>Palaemonetes pugio</i>	daggerblade grass shrimp	R	835	34.4%
<i>Callinectes sapidus</i>	blue crab	T	476	19.6%
<i>Palaemonetes paludosus</i>	riverine grass shrimp	R	273	11.2%
<i>Palaemonetes vulgaris</i>	marsh grass shrimp	R	237	9.8%
<i>Palaemonetes intermedius</i>	brackish grass shrimp	R	198	8.1%
<i>Rhithropanopeus harrisi</i>	estuarine mud crab	R	185	7.6%
<i>Litopenaeus setiferus</i> @	white shrimp	T	174	7.2%
<i>Macrobrachium ohione</i>	Ohio shrimp	F	3	
<i>Armases cinereum</i> @	squareback marsh crab	R	1	
<i>Callinectes sapidus</i> *	beach ghost shrimp	T	1	
<i>Micropanope pusilla</i> @	puffy mud crab	T	1	
Fishes			10032	
<i>Brevoortia patronus</i> *	gulf menhaden	T	8963	89.3%
<i>Lucania parva</i>	rainwater killifish	R	244	2.4%
<i>Ctenogobius boleosoma</i>	darter goby	R	136	1.4%
<i>Gobiosoma bosc</i> @	naked goby	R	130	1.3%
<i>Anchoa mitchilli</i>	bay anchovy	T	92	0.9%
<i>Syngnathus scovelli</i>	gulf pipefish	R	88	0.9%
<i>Ctenogobius shufeldti</i>	freshwater goby	R	65	0.6%
<i>Microgobius gulosus</i>	clown goby	R	56	0.6%
<i>Myrophis punctatus</i>	speckled worm eel	T	30	
<i>Leiostomus xanthurus</i> *	spot	T	25	
<i>Menidia beryllina</i>	inland silverside	R	24	
<i>Citharichthys spilopterus</i>	bay whiff	T	20	
<i>Lepomis microlophus</i> @	redecor sunfish	F	19	
<i>Lepomis miniatus/L. punctatus</i>	Redspotted/spotted sunfish	F	17	
<i>Lagodon rhomboides</i> *	pinfish	T	15	
<i>Strongylura marina</i> *	Atlantic needlefish	T	9	
<i>Trinectes maculatus</i>	hogchoker	R	9	

<i>Micropterus salmoides</i>	largemouth bass	F	9
<i>Notropis wickliffi</i> @	channel shiner	F	9
<i>Paralichthys lethostigma</i> *	southern flounder	T	8
<i>Eleotris amblyopsis</i>	largescaled spinycheek sleeper	R	7
<i>Fundulus jenkinsi</i> @	saltmarsh topminnow	R	6
<i>Micropterus punctulatus</i> *	spotted bass	F	6
<i>Cynoscion arenarius</i> *	sand seatrout	T	6
<i>Evorthodus lyricus</i> *	lyre goby	R	2
<i>Archosargus probatocephalus</i> @	sheepshead	T	2
<i>Bathygobius soporator</i> @	frillfin goby	T	2
<i>Gobionellus oceanicus</i>	highfin goby	R	2
<i>Microdesmus longipinnis</i> @	pink wormfish	T	2
<i>Syngnathus louisianae</i> *	chain pipefish	T	2
<i>Dormitator maculatus</i> @	fat sleeper	R	1
<i>Elassoma zonatum</i> @	banded pygmy sunfish	F	1
<i>Eucinostomus argenteus</i> @	spotfin mojarra	T	1
<i>Fundulus grandis</i> *	gulf killifish	R	1
<i>Gambusia affinis</i> @	western mosquitofish	F	1
<i>Lepomis macrochirus</i> *	bluegill	F	1
<i>Anguilla rostrata</i> *	American eel	C	1
<i>Bairdiella chrysoura</i> *	silver perch	T	1
<i>Cynoscion nothus</i> @	silver seatrout	T	1
<i>Gobiesox strumosus</i> @	skilletfish	T	1

* collected only in spring

@ collected only in fall

Table S2. Comparison of environmental characteristics among locations and habitat types. Means and (SE) are given for variables measured in each habitat type (Marsh, submerged aquatic vegetation [SAV], shallow non-vegetated bottom [SNB]) and location (Below Causeway, Choccolatta Bay, Tensaw River) in October 2009 and May 2010. Each mean is estimated from 8 samples in each habitat type (except for October 2009: 7 SNB samples at Tensaw River; and May 2010: 7 SNB samples Below Causeway and 7 SAV samples at Tensaw River)

Environmental variable	BELOW CAUSEWAY						TENSAW RIVER						CHOCOLATTA BAY					
	Marsh		SAV		SNB		Marsh		SAV		SNB		Marsh		SAV		SNB	
	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE
October 2009																		
Water Temperature (°C)	25.6	(0.10)	24.8	(0.19)	25.4	(0.59)	24.2	(0.13)	25.0	(0.17)	25.5	(0.25)	25.2	(0.12)	25.5	(0.24)	25.3	(0.12)
Salinity	0.0	(0.00)	0.0	(0.00)	0.0	(0.00)	0.0	(0.00)	0.0	(0.00)	0.0	(0.00)	0.0	(0.00)	0.0	(0.00)	0.0	(0.00)
Water Depth (cm)	49.9	(2.29)	84.9	(5.63)	84.0	(3.74)	49.6	(9.44)	69.6	(5.02)	77.2	(9.53)	67.2	(4.00)	86.9	(2.12)	111.4	(3.80)
Dissolved Oxygen (mg l ⁻¹)	6.0	(0.50)	5.3	(0.22)	5.7	(0.42)	6.5	(0.28)	6.0	(0.37)	6.4	(0.31)	4.6	(0.35)	5.4	(0.53)	4.7	(0.32)
Turbidity (FTU)	27.3	(4.28)	27.0	(4.88)	26.1	(2.68)	18.8	(3.52)	26.0	(4.55)	29.0	(3.25)	28.2	(8.86)	19.6	(5.90)	10.7	(1.03)
Distance to Marsh Edge (m)	1.0	(0.07)	21.0	(3.45)	37.5	(10.06)	1.2	(0.11)	8.7	(4.61)	15.7	(6.43)	0.9	(0.06)	55.4	(11.51)	173.7	(64.18)
May 2010																		
Water Temperature (°C)	26.3	(0.43)	26.0	(0.43)	26.3	(0.41)	24.1	(0.24)	24.4	(0.21)	24.6	(0.25)	26.1	(0.24)	27.7	(1.23)	25.9	(0.11)
Salinity	0.1	(0.13)	0.5	(0.19)	0.6	(0.20)	0.0	(0.00)	0.0	(0.00)	0.0	(0.00)	0.1	(0.13)	0.0	(0.00)	0.0	(0.00)
Water Depth (cm)	61.4	(5.26)	94.1	(4.72)	87.1	(5.66)	69.8	(4.56)	84.1	(3.35)	69.8	(8.54)	75.6	(3.38)	89.9	(3.66)	116.1	(6.50)
Dissolved Oxygen (mg l ⁻¹)	7.7	(0.46)	9.0	(0.31)	9.0	(0.38)	7.2	(0.24)	7.0	(0.20)	7.1	(0.23)	6.9	(0.16)	7.4	(0.28)	7.6	(0.09)
Turbidity (FTU)	6.2	(0.95)	23.1	(4.76)	24.3	(4.28)	16.3	(3.48)	23.6	(3.27)	21.3	(1.87)	6.6	(1.64)	9.9	(1.68)	7.6	(1.08)
Distance to Marsh Edge (m)	0.8	(0.05)	19.9	(1.84)	22.8	(6.99)	1.2	(0.15)	15.8	(12.71)	1.4	(0.27)	0.9	(0.06)	58.6	(26.73)	102.8	(16.01)