

Summary Table of Red Drum, ( <i>Sciaenops ocellatus</i> ) life history for the Gulf of Mexico. Associations and interactions with environmental and habitat variables are listed with citations.												
							Trophic relationships		Habitat Associations and Interactions			
Life Stage	Season	Location	Temp(°C)	Salinity(ppt)	Oxygen	Depth(m)	Food	Predators	Habitat Selection	Growth	Mortality	Production
Eggs	Late summer thru early fall peak between late August and mid-October	Outside estuaries (carried into estuary on tides & currents)	20-30°C 25°C optimal	25-34ppt hatchery spawned eggs developed at salinities of 10-40ppt 25°C							Mortality may be high early in spawning season	
Citation	7,14,17,18,19,20	7,10,14,18,19,20	5,7,16,17,18	5,7,16,17,18,20							6,19	
Larvae	Mid-August thru late November	Open bays vegetated or unvegetated bottoms in estuaries, tidal flats, open bays	25°C optimal 18.3°C-31.0°C	16-36ppt 30ppt optimal less important after two weeks collected at 8-36.4 ppt in wild			Copepods (86% by vol.) nauplii	Spot and Atlantic Croaker (possible) Any larger piscivorous fish	Prefer vegetated muddy bottom when avail or soft or hard bottom unvegetated with little or no current protected waters	0.5mm per day. Grow faster at 25-30°C than 20-24°C 3-6mm in 2 weeks	Higher mortality at 20-24°C than 25-30°C	
Citation	18,19	5,7,18,19	5,7,17,18,20	5,7,17,18,19,20			5,18,19	6,18	5	5,10,18,19	10	
Post Larvae	August-October	Shallow water, tidal flats and seagrass beds	25°C optimal up to 30°C 18.3°C-31.0°C	Collected in wild at 8-36.4ppt			Copepods	Any larger piscivorous fish	Seagrasses, wetlands, hard sand, mud bottoms with no current	Increase with increase in salinity (up to 30ppt) up to 25°C		
Citation	17	18,20	18,20	18			18	18	18,20	18,20		
Early Juveniles	Most abundant during early winter	Backwater, protected waters, tidal flats, primary and secondary bays, open water mud bottom	12.5-32.2°C, 2-33°C if change in temperature is gradual 2.0-34.9 °C prefer 10-30	Collected from 0-45ppt prefer 20-40ppt	Fry cannot survive in ponds with less than 0.6-1.8ppm dissolved oxygen	Depths up to 3.05m	Copepods Mysids Amphipods shrimp polychaetes insects fish Isopods bivalves decapod crabs	Any larger piscivorous fish	Grassy clumps or muddy bottoms avoid currents or shallow unvegetated, bays.	Growth rates higher in backwater than in seagrass beds 15-20mm/month 18.8mm/month (average)	Rapid decline in water temp can cause mortality	
Citation	18,19	5,7,9,18,19,20	7,18,19	7,18,19	17	18	3,5,16,18,19	18	5	3,18,19	5	

Red Drum (*Sciaenops ocellatus*) cont.

Life Stage	Season	Location	Temp(°C)	Salinity(ppt)	Oxygen	Depth(m)	Trophic relationships		Habitat Associations and Interactions			Production
							Food	Predators	Habitat Selection	Growth	Mortality	
Late Juveniles	Numerous in offshore waters in early to mid September and/or early October, least numerous in late August and late October to early November	Continental shelf and inshore waters	Temperatures within the upper 10-13m range from 27-29°C in August and September. October, 24-26°C early November 22-23°C prefer 10-30	Salinity within upper 10-13m range from 25-34ppt in August and September 28-34ppt in October. 32-35ppt in early November Collected 0-45ppt Prefer 20-40ppt	Reported from O <sub>2</sub> concentrations of 5.2-8.4ppm	Slightly deeper waters than early juveniles	Mysids Amphipods shrimp polychaetes insects, crabs, fish	Amberjacks, Sharks and any larger piscivorous fish	Vegetated areas, shallow non-current inshore bays and bayous. Move into Gulf waters during cold winters	15mm-20mm/month	Any change in environment, disease, parasites	
Citation	3,5,7,11,12,16	9,12,16	7,18,19	7,18,19	18	18	3,4,16	17	15,16,17	1,3	12,17	
Adults		Continental shelf and inshore waters	Observed in 2 to 33°C. Moves into deep water when extreme temperatures occur	Abundant in 30 to 35ppt. Can tolerate up to 50ppt collected 0-45ppt prefer 20-40ppt		Commonly reported in depth from 40-70m. Typically in littoral and shallow nearshore waters	Crab, shrimp and fishes	Sharks	Bayous, bays near barrier islands, inshore marsh habitats. In habitats also occupied by Black Drum, Blue Runner and Little Tuna			
Citation		9,12	7,17	7,17		18	4,16,17	17,20	15,16,17			
Spawning Adults	Spawning from about September through November peaks in Sept-Oct	Nearshore areas, close to channels, and passes. Spawning may occur over the nearshore continental shelf and nearshore gulf.	20-30°C. May continue spawning for 90 days or more	25-34ppt. Prefers 30ppt Spawning occurred in 1 study at 14.7-18.5ppt			Crab, shrimp and fishes	Sharks	Seagrass muddy or hard bottom areas. No current, protected areas	Growth occurs continuously		
Citation	2,15,20	2,9,10,16	7,10,16,17	7,16,17			17,20	17,20	15,17	1,3		

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