

White Shrimp (*Penaeus setiferus*) life history for the Gulf of Mexico. Associations and interactions with environmental and habitat variables are listed with citations as footnotes.

Life stage	Eco-region	Habitat Zone	Habitat Type	Season	Temp (°C)	Depth (m)	Prey	Predators	Mortality	Growth
fertilized eggs ^{12, 26, 52, 100, 101}	ER-2, ER-3, ER-4, ER-5	estuarine, nearshore, offshore		spring-fall		9-34			daily Z = 0.373	demersal eggs, hatch 10-12 hrs after spawning; egg/larval stage lasts 16 days
larvae/ pre-settlement postlarvae ^{1, 25, 26, 52, 84, 100, 101}	ER-2, ER-3, ER-4, ER-5	estuarine, nearshore, offshore		spring-fall	17.0-28.5	0-82	phytoplankton and zooplankton	fish, some zooplankton		egg/larval stage lasts 16 days
late postlarvae/ juveniles ^{1-3, 5, 7-11, 14, 18-24, 28-34, 37, 41, 42, 44-47, 50, 52-56, 58-61, 63, 64, 74, 75, 79, 80, 83, 92, 94, 95, 100, 102, 103, 104, 105, 106, 107, 111}	ER-2, ER-3, ER-4, ER-5	estuarine, nearshore	emergent marsh, SAV, oyster reefs, soft bottom, mangroves	late spring-fall	postlarvae 13-31; juveniles 9-33	< 1	omnivorous; detritus, annelid worms, pericardid crustaceans, caridean shrimp, diatoms	fish	predation; daily Z = 0.014-0.126	growth rates increase with temps 18-32.5°C, but decrease at 35°C; grow slowly at < 18°C; 0.3-1.2 mm/ day; stage duration = 79 days

sub-adults ₁ , 3, 5, 10, 13, 15, 16, 21, 22, 26, 37, 40, 47, 52, 53, 57, 63, 65-73, 76, 77, 82, 85, 89, 92, 93, 100, 108	ER-2, ER-3, ER-4, ER-5	estuarine, nearshore, offshore	soft bottom, sand/shell	summer- fall	* > 6 *	1-30	omnivorous, scavengers; annelids, insects, detritus, gastropods, copepods, bryozoans, sponges, corals, fish, filamentous algae, vascular plant stems and roots	fish	daily Z = 0.023- 0.048	stage duration = 33 days; 0.4-1.5 mm/day
adults ₁ , 3, 12, 26, 27, 35, 36, 38, 39, 40, 52, 57, 83, 87, 88, 100, 110	ER-2, ER-3, ER-4, ER-5	estuarine, nearshore, offshore	soft bottom	late summer and fall	7-38	< 27	omnivorous	larger fish	daily Z = 0.004- 0.034	adult/spawning adult stage duration is about 237 days; 0.4-1.0 mm/day
spawning adults ₁ , 3, 5, 12, 17, 38, 39, 40, 47, 52, 92, 100, 110	ER-2, ER-3, ER-4, ER-5	estuarine, nearshore, offshore		spring- late fall peak: Jun-Jul		9-34	omnivorous	larger fish		adult/spawning adult stage duration is about 237 days; 0.4-1.0 mm/day

Notes: larvae/ pre-settlement postlarve: migrate through passes at night in shallow water, during the day at mid-depths, mainly from May-Nov_{1, 26, 84, 90, 91}

Notes cont: late postlarvae/ juveniles: salinity = 0.4-37 ppt_{1, 2, 52, 83, 86, 96, 97, 98}

DO > 1.0 ppm_{1, 2, 52, 83, 86, 96, 97, 98}

research suggests greater abundances with increases in temperature, salinity, and turbidity₁₁₂

	kills have occurred in shallow water after cold fronts _{2, 10, 11, 37, 47, 52, 53, 63, 83}
	production estimated in emergent marsh habitat in Galveston Bay, TX at 109 kg/ha ₁₀₇
	greater densities in oyster reefs and emergent marsh than soft bottom ₁₁₄
late postlarvae/ juveniles:	larger shrimp collected on soft bottom than oyster reefs or emergent marsh ₁₁₄
	higher growth rates in oyster reefs than emergent marsh or soft bottom ₁₁₄
	higher survival in emergent marsh and soft bottom than oyster reef ₁₁₄
sub-adults:	salinity = 1-21ppt ₂
	migrate from estuaries in late August and September, related to shrimp size and environmental conditions in estuary (e.g. temperature drops)
adults:	salinity = 2-35 ppt ₂
	DO > 2 ppm ₂
	Trophic models developed for bycatch management indicate that reducing discards from the fishery can affect shrimp productivity _{39, 78, 80, 99}
spawning adults:	salinity ≥ 27 ppt ₆

One study found no relationship between hypoxic zone and white shrimp annual catch₁₁₃