Summary table for pink shrimp (*Penaeus duorarum*) life history information for the Gulf of Mexico and Southeastern United States. Associations and interactions with environmental and habitat variables are listed with citations. EFL = east coast of Florida, WFL = west coast of Florida.

							Trophic Relationships		Habitat Associations and Interactions			
Life Stage	Season	Location	Temperature	Salinity	Diss. Oxygen	Depth	Food	Predators	Selection	Growth	Mortality	Production
Non-spawning adults (> 75 mm TL)	Range: All year Most abundant: Spring (NC-EFL) Fall-Spring (WFL) Fall + Spring (TX)	Range: Offshore shelf, NC-TX Most abundant: WFL and TX	Range: 16-31 C Most abundant: above 25	Range: 25-45 ppt		Range: 1-110 m Most abundant: 16-50 m (WFL, TX)	Carnivores (see sub-adults)	Few; presume larger fishes or sharks	Usually found over coarser sand + shell; < 1% organics; nocturnal		Low predation offshore	WFL production correlated with freshwater; no apparent effect of seagrass mortality inshore; NC production inhibited by cold winter; overfishing not indicated
Citations:	50, 61, 70	39, 64, 70	11, 14, 41	67		11, 32, 38, 50, 54		15	19, 22, 34, 71		15, 66	5, 26, 27, 61
Spawning adults (capable at 65-75 mm TL)	Range: All year (WFL) Spring-Fall (TX) Most abundant: Spring-Summer (WFL) Summer (NC)	Range: Offshore over shelf	Range: 16-31 C Most abundant: above 25 C			Range: 9-48 m Most abundant: 10-30 m (WFL, TX)	As above	As above	Coarse sand + shell or sandy silt; < 1% organics (EFL, WFL)		As above	As above
Citations:	8, 11, 14, 34, 37, 43, 50, 72	11, 14, 34, 50	11, 14, 41			14, 32, 33, 41		15	22, 34			
Fertilized eggs (0.31-0.33 mm diameter)	Range: All year (WFL) Most abundant: presumed Spring + Summer with spawning adults	Range: Offshore over shelf; demersal eggs	Optimum: All hatch when > 27 C			Range: Presumed same as spawning adults (demersal eggs)						
Citations:	16	18	16			16						
Larvae and pre-settlement postlarvae (< 15 mm) Developmental stages: 5 nauplius 3 protozoea 3-4 mysis 1-2 postlarvae	Range: All year (WFL) Most abundant: Summer-Fall (SC) Spring-Summer (WFL) Summer-Fall (TX)	Range: Inshore and up to 40 km offshore of WFL Most abundant: Southwest FL shelf (WFL)	Range: 15-35 C Optimum: 30-35 C @ 28-32 ppt 21-26 C @ 35 ppt Mortality higher at 35 C	Range: 0-43 ppt Optimum: 10-22 ppt		Range: 1-50 m (WFL) Most abundant: < 28 m	Phytoplankton, zooplankton	Presume fishes and invertebrates (planktivores + epibenthos)	Recruitment through passes or open shore-lines, Spring - Fall (WFL, TX); primarily on flood tides and at night			
Citations:	1, 9, 11, 13, 18, 33, 67	13, 33	18, 28, 33, 67, 68	28, 67, 69		13, 16	18		1, 5, 9			

Life Stage	Season	Location	Temperature	Salinity	Diss. Oxygen	Depth	Trophic Relationships: Food	Trophic Relationships: Predators	Habitat Associations and Interactions: Selection	Habitat Associations and Interactions: Growth	Habitat Associations and Interactions: Mortality	Habitat Associations and Interactions: Production
Late postlarvae (5-14 mm TL) and juveniles (> 15 mm TL) after settlement	Range: Summer-Fall (NC, SC) All year (WFL) Fall-Spring (TX) Most abundant: Summer (NC) Summer-Fall (WFL) Fall + Spring (TX)	Range: coastlines and estuaries from NC to TX Most abundant: southern TX + EFL +WFL Rare elsewhere	Range: 6-38 C Optimum: > 24 C (SC) > 28 C (WFL) 18-25 C (TX) Burrow at low temperatures; no recorded kills from cold fronts (migrate)	Range: 0-65 ppt Optimum: > 30 ppt (SC); 80% survival @ 17-50 ppt + 22-24 C	Range: 2.5-6.0 ml/l Tolerates diurnal lows of 0.2 ppm for several hr (WFL)	Range: < 1-3 m Most abundant: < 2 m (SC, WFL)	Seagrass, annelids, small crustaceans, shrimp, bivalves	Fishes such as spotted seatrout, red drum, toadfish, inshore lizardfish, gray snapper, silver perch, snook, Atlantic croaker, pigfish, black drum, hardhead catfish, gafftopsail catfish	Densities highest in or near sea-grasses, low in mangroves, near zero or absent from marshes or low salinity SAV; may prefer Halodule over Thalassia when small, but densities similar among seagrass, algae, + mud in patchy habitats; may prefer coarse sand/shell/mud; nocturnal;			Production (WFL) linked positively with freshwater input; areas with high production associated with inshore seagrass beds (NC, EFL, WFL, TX)
Citations:	1, 6, 9, 12, 21, 29, 42, 53, 55, 62, 65, 67, 69, 72, 75	2, 4, 42, 51, 67, 69, 75	6, 12, 51, 55, 65, 67, 69, 72	1, 6, 7, 12, 21, 55, 65, 67, 69, 74	6, 63, 65, 69	63, 69	35, 45, 58	11, 23, 25, 47, 59, 60, 67	12, 24, 28, 30, 36, 40, 42, 48, 49, 56, 62, 63, 65, 69, 73, 76			5, 26, 27, 34, 61, 64
Sub-adults	Range: Fall-Spring (NC) All year (WFL) Fall-Spring (TX) Most abundant: Fall (NC) Summer-Fall (WFL) Fall + Spring (TX) May overwinter in estuaries (NC, TX)	Range: NC to TX, in open water or seagrass beds in estuaries or along coastlines, and nearshore shelf Most abundant: WFL, south TX	Range: 6-38 C Optimum: 14-30 C Most burrow < 15 C, all burrow < 10 C, do not burrow but remain inactive on surface > 32 C	Range: 10-45 ppt Most abundant: 25-45 ppt	Range: 2.5-5.0 ml/l Tolerates diurnal lows of 0.2 ppm for several hr (WFL)	Range: 1-65 m Most abundant: 16-50 m (WFL, TX)	Annelids, small crustaceans, shrimp, bivalves	Fishes such as spotted seatrout, sand seatrout, gray snapper, mackerels, red drum and groupers; possibly Atlantic croaker and inshore lizardfish off TX	Densities highest in or near sea-grasses, low in mangroves, near zero or absent from marshes or low salinity SAV; densities similar among seagrass, algae, + mud in patchy habitats; may prefer coarse sand/shell/mud; nocturnal;		Avoid cold stunning by migration to deeper water; low predation offshore	Catch and effort offshore late in fishing season correlated with subsequent landings
Citations:	6, 29, 31, 42, 50, 62, 72, 75	17, 39, 64	6, 20, 67, 72	6, 67, 74	6, 63	38, 50, 54	35, 45, 46, 58	10, 15, 23, 25, 47, 58, 59	6, 19, 20, 22, 34, 36, 42, 57, 62, 63,		15, 66, 67	5, 63

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