

Juvenile Pink Shrimp

Summary Findings

The six strategically located assessment areas of the MAP Fish and Invertebrate Assessment Network (FIAN) allow documentation of the status of pink shrimp populations during the critical period when they are on their nursery grounds. Abundance metrics vary in magnitude and are consistently highest in Johnson Key Basin and lowest in eastern Florida Bay (historical means of 12.98 vs. 0.13, and 2.55 vs. 0.05, shrimp/m² for Fall and Spring, respectively). The historical record used to create assessment thresholds for green, yellow, and red scores consists of only 2 years for all areas except Johnson Key Basin and South Biscayne (18 and 5 years, respectively), suggesting caution in interpreting scores. Five MAP years provide a good start toward a representative view of temporal and spatial variability.

Key Findings

1. Overall, there were no improvements in pink shrimp abundance through the 5-year period of MAP sampling by the FIAN, and only the South Biscayne assessment area was consistently green.
2. Fall 2008 conditions were apparently relatively favorable for pink shrimp (based on the historical record) in Whitewater Bay and South Biscayne assessment areas and nowhere else.
3. Low abundances based on very short historical records apparently did not set thresholds unrealistically low in eastern, north-central, and south-central Florida Bay, since pink shrimp abundance performed even more poorly in subsequent years.
4. Historical data series for areas other than Johnson Key Basin and South Biscayne are too short to provide reliable thresholds for evaluating CERP effects. MAP data currently being collected will be used to update the thresholds before significant CERP implementation.

Key Recommendations

1. Continue monitoring pink shrimp abundance in the six assessment areas to expand baseline datasets using the same sampling design.
2. Compare temporal patterns of change in pink shrimp abundance in the six areas to determine whether or not they change in synchrony suggesting a common forcing function.
3. Examine salinity patterns prior to the faunal collections to look for potential causality.

Note: A two-year prospectus was not developed for SAV at the time this report was prepared.



The six pink shrimp assessment areas (open yellow circles) in relation to the 19 FIAN sampling locations (green). Each assessment area is composed of either a single sampling location (Johnson Key Basin, South Biscayne) or aggregates of two (Whitewater, North-Central Florida Bay, South-Central Florida Bay, and Eastern Florida Bay).

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Zone/Performance Measure	2005	2006	2007	2008	2009	CURRENT STATUS
Spring						
South Biscayne						Overall this is the best performing of six areas in spring.
Eastern Florida Bay						This area achieved positive status for the first time in 2009.
North-Central Florida Bay						5-year MAP record suggests declining trend.
South-Central Florida Bay						This area has performed poorly versus its historical record.
Johnson Key Basin						2009 was the poorest year versus 18-year historical period of record.
Whitewater Bay						Spring status continues to be good in 2009.
Fall						
South Biscayne						5-year historic criteria have proven easy to exceed.
Eastern Florida Bay						Status was poor in 2009 versus the historical record.
North-Central Florida Bay						Poor performance exhibited in four of five MAP years.
South-Central Florida Bay						This is the worst performing of six areas in fall.
Johnson Key Basin						Poor performance exhibited in 2009 versus 18-year historical period of record.
Whitewater Bay						This area performed poorly in fall, unlike spring.