

Southern Coastal Systems Juvenile Spotted Seatrout Performance Measure Comment Response Matrix for the public review period from January 13-27, 2017.

Public Review Comments	Southern Coastal Systems Juvenile Spotted Seatrout Habitat Quality PM Comments From The Public Review Period	Southern Coastal Systems Regional Coordinator Responses
<p>Florida Fish and Wildlife Conservation Commission (FWC)</p> <p>Comment 1</p>	<p>As the primary manager of Florida’s fish and wildlife resources, FWC has extensive expertise in spotted seatrout research and management. With respect to this Draft PM, the FWC Fish and Wildlife Research Institute (FWRI) conducts a long-term fisheries-independent monitoring (FIM) program designed to measure fish and invertebrate recruitment in various estuaries of the state. While the gear used for data collection in the Draft PM are not exactly the same as the gear used by the FIM program, the FIM program does employ similar but larger otter trawls. It is reasonable to expect that the data produced by FIM could be incorporated into current or future PM models by adjusting the area swept and tow time. The FIM program has sampled Florida Bay sporadically over the past few decades, with some overlap in the sampling area used to develop the juvenile spotted seatrout Habitat Suitability Index (HSI). In addition, FWC is currently sampling the Crocodile Sanctuary (Long Sound, Joe Bay, and Little Madeira) twice annually (April and October) using 21.3m and 183m seines. <i>Given that both USACE and FWC have similar and complimentary ongoing data collection efforts, FWC would like to discuss future collaborations that would support both USACE CERP and FWC fishery research objectives.</i></p>	<p>RECOVER is a multi-agency team of scientists, modelers, planners and resource specialists who provide essential support to the CERP effort. Given FWC’s ongoing monitoring projects and research, FWC would be welcome to join the RECOVER team as an active participant helping to develop fish and wildlife performance measures. Joining participants from multiple agencies, including USACE, USFWS, NPS, EPA, NOAA, SFWMD, FDEP, multiple counties, multiple tribes, and some FWC sections, FWRI can provide important information and guidance in regards to species and habitats related to their monitoring and research projects. For more information regarding everglades restoration and RECOVER, please refer to www.evergladesrestoration.gov.</p>
<p>FWC</p> <p>Comment 2</p>	<p>As identified in the Draft PM, spotted seatrout are considered an indicator species for healthy estuaries. Currently, the Draft PM only reflects monitoring the juvenile recruitment strength. In order to determine longer-term health of both Florida Bay estuaries and the spotted seatrout populations, FWC recommends the PM include other studies to assess the adult population such as size, age structure, or reproductive health. FIM program data would be useful for assessing the adult seatrout population.</p>	<p>USACE is monitoring juvenile spotted seatrout as indicator of habitat quality specifically relating to salinity. The metrics described in this Draft PM, will be utilized to assess salinity as it relates to habitat suitability. Data collected as described in this Draft PM, will be inputs into the HSI model. Outputs from the HSI model will be compared to observed habitat suitability to assess restoration progress. Ultimately, in order to determine restoration success, salinity is the environmental stressor to</p>

		<p>be addressed via utilizing juvenile seatrout as an attribute to be measured. These metrics will provide detail on restoration salinity which is the overall focus of restoration which this draft PM will be used as a tool. We would be happy in the future to extend this analysis to include the adult spotted seatrout population in Florida Bay, if FWC is willing to provide the data and some expertise.</p>
<p>FWC Comment 3</p>	<p>A large volume of research has been conducted by FWRI on spotted seatrout biology and their relationship with estuarine habitats. Based on this work, FWC concurs that developing a seagrass model as an additional input into the HIS may improve the predictive capacity. Flaherty-Walia et al. (2015) studied juvenile spotted seatrout in Tampa Bay and found that while juvenile abundance was indeed positively correlated with seagrass cover, the value of that seagrass depended on many different factors such as location within the bay, seagrass species, and freshwater influence. In addition, studies in Florida Bay have shown that estuarine fish communities, including those containing juvenile spotted seatrout, have been shown to be influenced by freshwater delivery (Flaherty et al. 2013). To improve the predictive capacity, these complex relationships should be considered and incorporated to the fullest extent possible when developing future seagrass models.</p>	<p>We agree and will keep this in mind as a predictive seagrass model is pursued.</p>
<p>FWC Comment 4</p>	<p>How is a “juvenile spotted seatrout” defined? By size range? In line 203, there was mention of juveniles defined as 20-100 mm SL, 35-100 days old from Thayer and Chester 1989. Is this definition applied throughout the PM?</p>	<p>We have added the following clause in parentheses after the first mention of using juvenile spotted seatrout as our metric: “(defined as spotted seatrout from 30-200 mm total length, because this is the size range effectively sampled in the RECOVER MAP monitoring protocols).”</p>
<p>FWC Comment 5</p>	<p>Many areas in Florida Bay are quite shallow and the sediment is very fine. What are the depth minimums for completing a trawl tow? How is the sediment disturbed by the boat motor avoided when collecting the trawl sample?</p>	<p>We added the following sentence in the methods section to improve clarity on these points: “The sampling location must have a minimum depth of 2 feet below the boat bottom and the boat motor is trimmed up to minimize disturbance of the benthos. “</p>

FWC Comment 6	How are samples worked up? Are all fish counted and measured? How are identifications verified? Are samples brought back to the lab or just worked up in the field?	We answered these questions by adding this sentence to the methods section: "Juvenile spotted seatrout are identified on site, measured, and preserved in ethanol for verification, and more precise measurement back in the laboratory."
FWC Comment 7	Is there more recent data on recreational sportfish catches from the creel survey, Tilmant 1989 is the only reference cited.	There is nothing published from the more recent data which is why Tilmant 1989 is cited.
FWC Comment 8	Figure 8 is labeled as Figure 5.	Thank you. The last two figures are labeled correctly in the word document but did not translate correctly into PDF. The last two figures are now properly labeled as Figures 8 and 9 in both the word document and for PDF conversion.
FWC Comment 9	To further evaluate for improvements in available habitat for spotted seatrout or other estuarine-dependent species as a result of CERP projects, FWC encourages the development of similar PMs to be applied to other estuaries within the Everglades system such as the St. Lucie Estuary (SLE). While the SLE historically contained dense seagrass beds, it currently lacks high cover and is periodically impacted by freshwater discharge events. In addition the SLE contains documented spawning sites for estuarine fish such as spotted seatrout (Gilmore 2009). FIM has sampled the SLE with 183m seines since 1997 and has more recently sampled using 21.3m seines along shoreline habitats for smaller fish. These FIM data may provide an excellent existing data source for the development of a spotted seatrout PM in the SLE. FWC recommends that RECOVER explores options to utilize the FIM data to develop a seatrout PM for the SLE.	RECOVER is a multi-agency team of scientists, modelers, planners and resource specialists who provide essential support to the CERP effort. Given FWC's ongoing monitoring projects and research, FWC would be welcome to join the RECOVER team as an active participant. RECOVER breaks the Everglades into four (4) geographic regions: Lake Okeechobee, Northern Estuaries, Greater Everglades, and Southern Coastal Systems. In reference to SLE, it is recommended FWC contact one of the regional coordinators for Northern Estuaries. FWC's participation is welcome in all of the regional RECOVER groups. USACE recommends reviewing the 2014 System Status Report (SSR) which can be found at www.evergladesrestoration.gov for more information. As an active member in RECOVER, FWC can provide important information and provide leadership towards meeting CERP goals as well as FWC's fishery management goals by moving forward in the restoration process of these geographic regions.