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Submitted via email to bgold@usgs.gov

Subject: CHNEP's Technical Comments to Proposed USGS Major Update to Region 03 – FL Hydrologic Units

To Whom it May Concern:

The Coastal & Heartland National Estuary Partnership (CHNEP) offers the following technical comments on the Proposed Major Update to Region 03 – FL Hydrologic Units. We very much appreciate U.S. Geological Survey's (USGS) solicitation of stakeholder input and offer these suggestions in support of your efforts to update Florida Region 03 Hydrologic Units.

CHNEP Interest in Proposed Major Update to Region 03 – FL Hydrologic Units

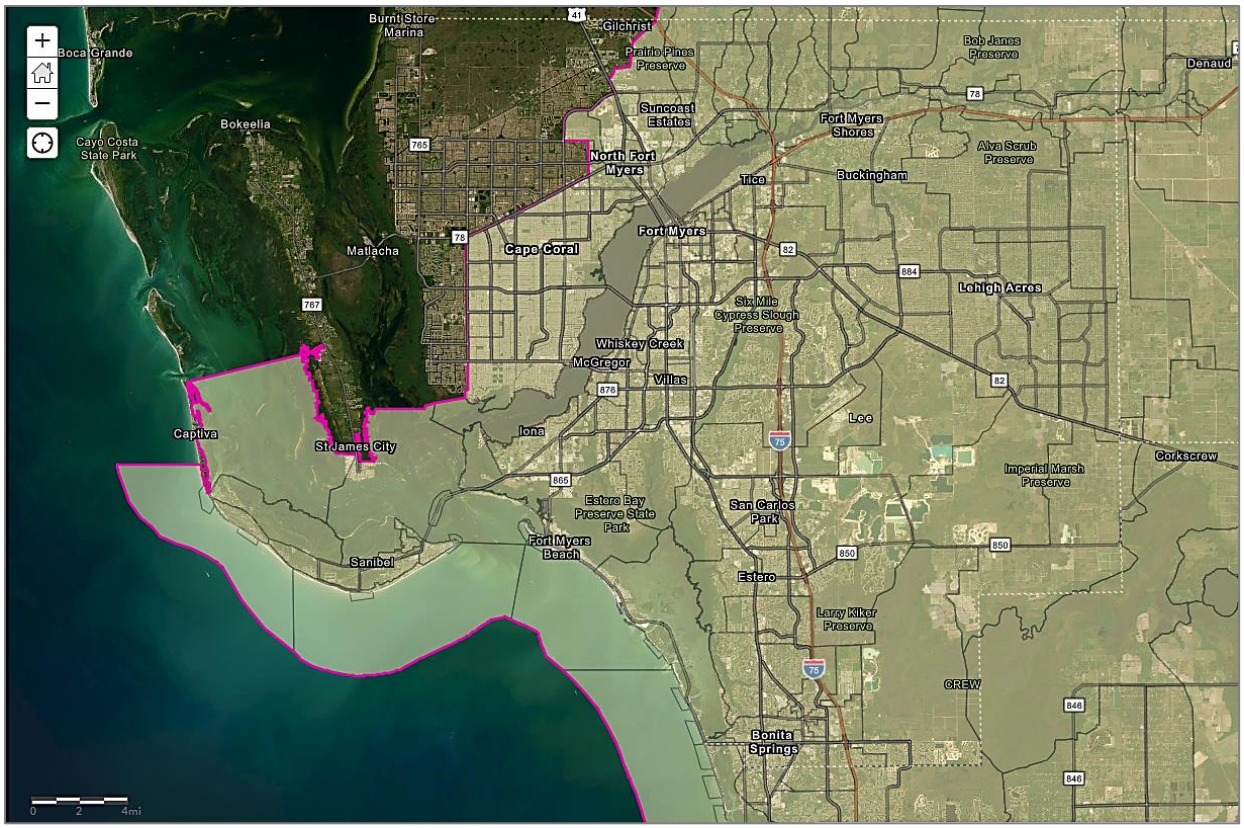
The CHNEP is part of the US EPA National Estuary Program, created by Section 320 of the Clean Water Act, to protect and preserve Central and Southwest Florida estuaries and watersheds from Lemon Bay to Estero Bay– recognized as estuaries of national significance by Congress. Long-term management, preservation, and restoration activities within the CHNEP are guided by our Comprehensive Conservation and Management Plan (CCMP, available at chnep.org/our-plan), developed and implemented with all the local, state, and federal entities in the Partnership. Our CCMP priorities include Water Quality Improvement, Hydrological Restoration, Fish, Wildlife, & Habitat Protection, and Public Engagement. Herein we address Hydrological Restoration Action 1, to conduct data collection, modeling, and analyses to support hydrological restoration and 3, to protect and restore natural flow regimes.

CHNEP Recommendations for Proposed Major Update to Region 03 – FL Hydrologic Units

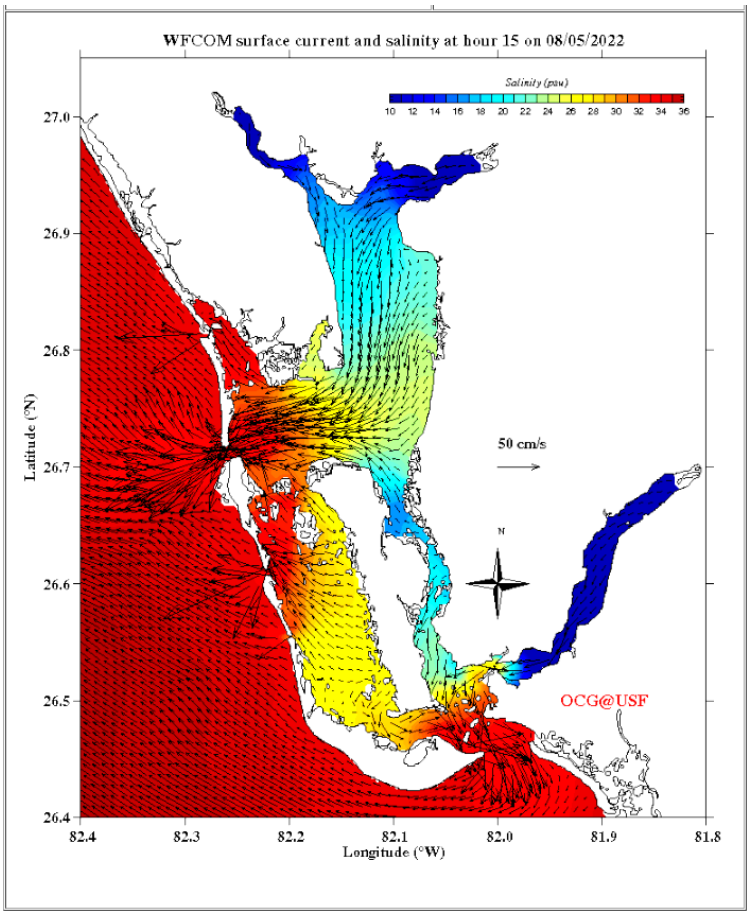
The CHNEP agrees with the South Florida Water Management District (SFWMD) that the Caloosahatchee River is hydrologically part of the Lake Okeechobee system, and as such, does not recommend separating it from the regions of Lake Okeechobee watershed to the north (i.e., HUC 0310). Alternatively, the CHNEP proposes two options to expand HUC 0309 further west to include the Caloosahatchee River impacts on Sanibel and San Carlos Bay for your consideration. The first is the more conservative option with the proposed cut off between HUCs 0309 and 0310 being Redfish Pass, and the second is more expansive with the proposed cut off between HUCs 0309 and 0310 being Boca Grande Pass. To view a web map of both options, visit https://arcg.is/1irq5O.

Option 1 – More Conservative Proposed HUC Change

The CHNEP proposes to expand HUC 0309 further west to include the Caloosahatchee River impacts on Sanibel and San Carlos Bay, with the cut off between HUCs 0309 and 0310 being Redfish Pass. This proposed change would align with Waterbody ID (WBID) boundaries and is illustrated in the map provided below. With this proposed change, HUCs 0309 and 0310 would be more representative of the majority influence of the major rivers they encompass. Circulation maps demonstrating that HUC 0309 Caloosahatchee River flows primarily into San Carlos Bay, while HUC 0310 Myakka and Peace Rivers flow primarily into Charlotte Harbor are provided below. This option is the minimum refinement we would suggest, to more accurately depict the flow and circulation of these two systems where they meet.



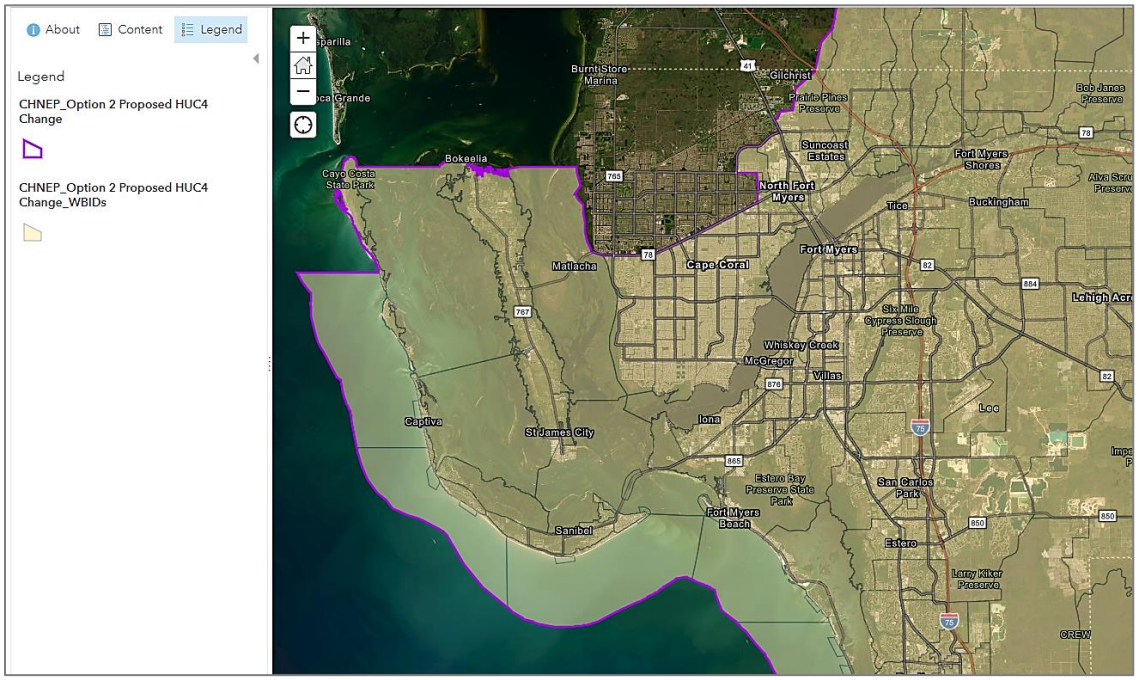
Option 1 – More Conservative Proposed HUC Change



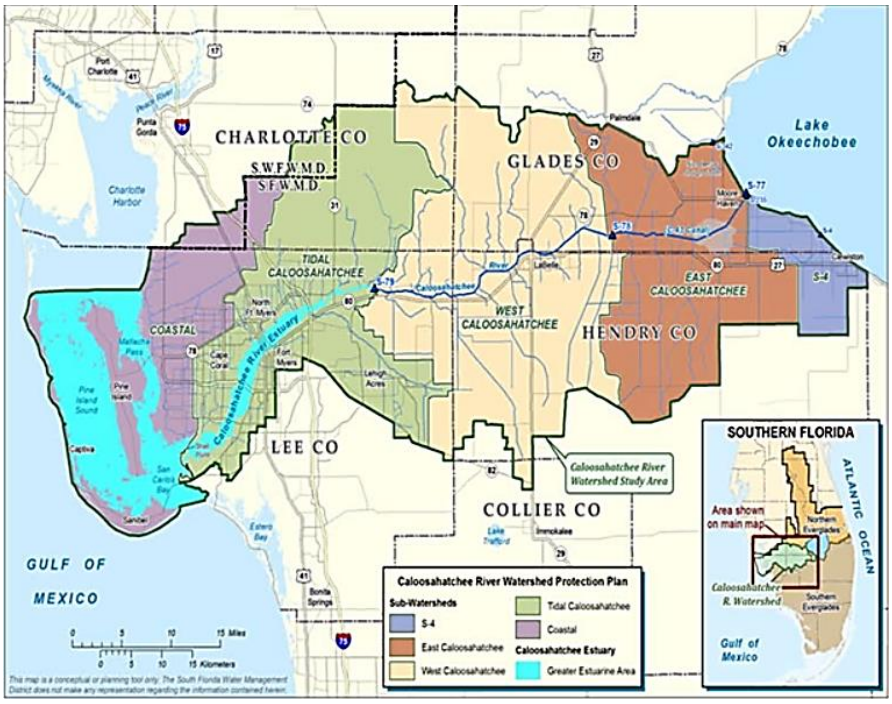
West Florida Coastal Ocean Model (WFCOM) Circulation Map showing less circulation

Option 2 – More Expansive Proposed HUC Change

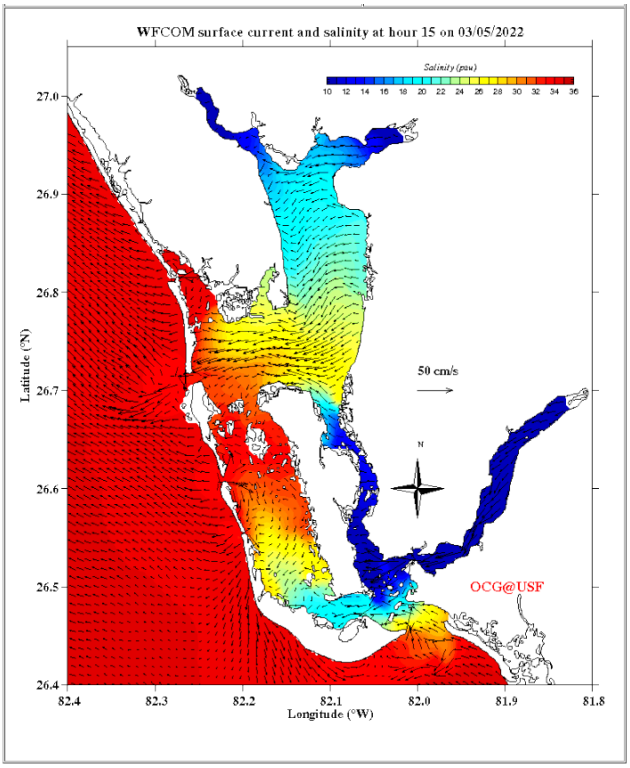
The second option would be to expand HUC 0309 further west to include the Caloosahatchee River impacts on Pine Island Sound and Matlacha Pass and Pine Island Sound, with the cut off between HUCs 0309 and 0310 being Boca Grande Pass. With this proposed change, HUCs 0309 and 0310 would be more representative of the majority influence of the major rivers they encompass when the circulation patterns of the Caloosahatchee are more expansive reaching near the top of Pine Island (and even sometimes into Lower Charlotte Harbor), as demonstrated in the Circulation and Hydrodynamic Modeling Map below. This proposed change would align with WBID boundaries, and the Caloosahatchee River Watershed Protection Plan Caloosahatchee Basin Map (Source: South Florida Water Management District) as is illustrated below.



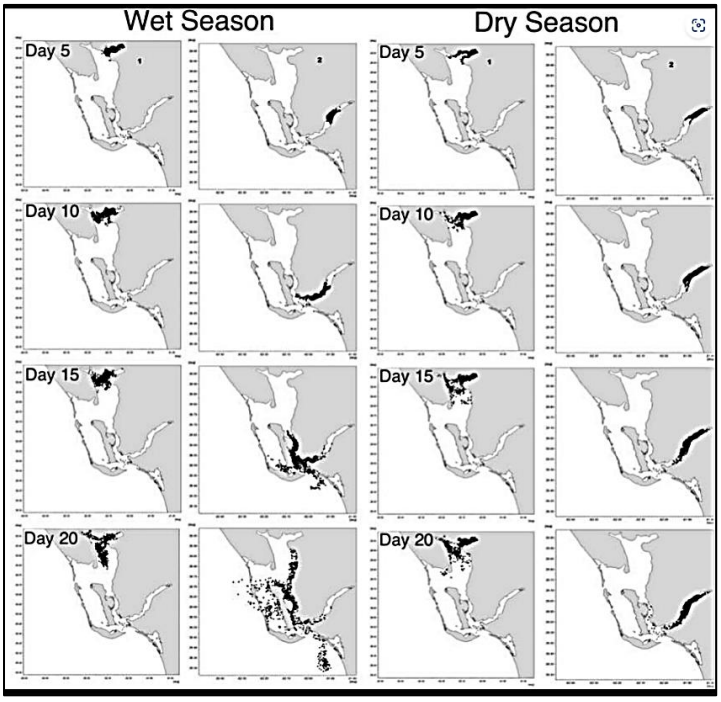
Option 2 – More Expansive Proposed HUC Change



Caloosahatchee River Watershed Protection Plan Caloosahatchee Basin Map



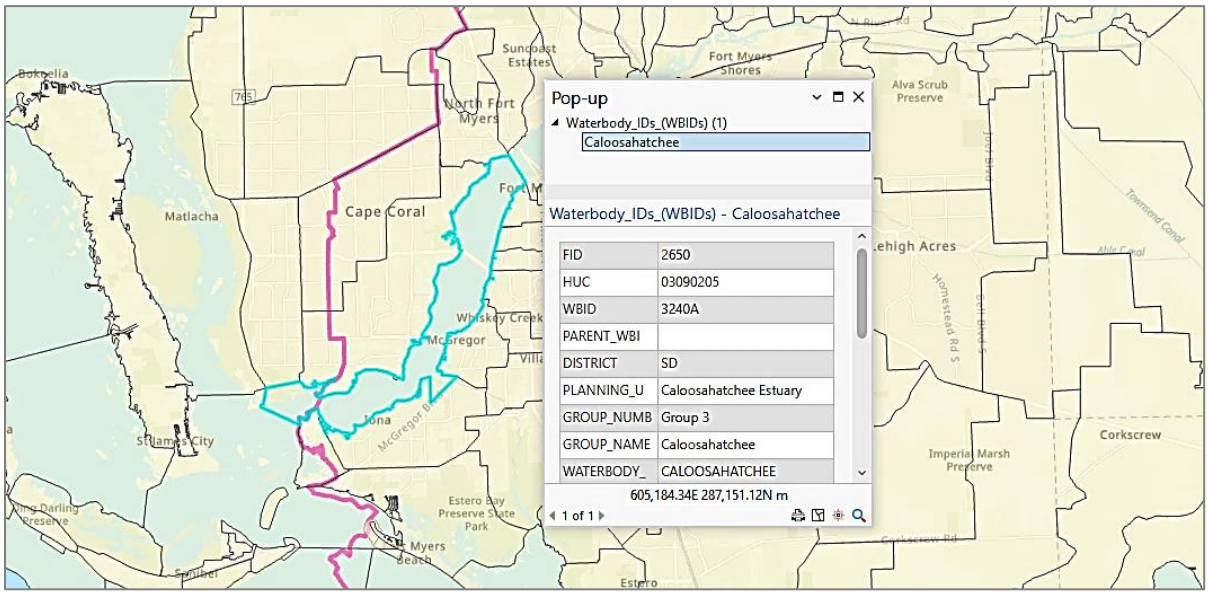
West Florida Coastal Ocean Model (WFCOM) Circulation Map showing more circulation



Hydrodynamic Model Maps from Circulation dynamics and seasonal variability for the Charlotte Harbor estuary, Southwest Florida coast by B Dye, F Jose, MN Allahdadi - Journal of Coastal Research, 2020 showing the results of a particle transport study on Peace River and Caloosahatchee River under contrasting hydrologic conditions. Panels on the left represent Peace River simulations; panels on the right represent Caloosahatchee River simulations, divided by dry and wet seasons. You can see that Caloosahatchee Estuary particles move out through San Carlos Bay but also up into Matlacha Pass and Pine Island Sound (and sometimes along the east wall of Charlotte Harbor) at certain times of year.

Current Region 03 – FL Hydrologic Units and WBIDs

Another important issue to note is that the Hydrologic Units do not currently align with WBID boundaries, including several WBIDs that overlap HUCs 0309 and 0310 as shown in the map image below. These include, but are not limited to, WBIDs 2065H1, 3240A, 3240A1, 3240A2, 3240L, 3240O, 3240F, 3240T, 3240EB, and 8059. CHNEP recommends HUCs to be aligned to WBIDs, with HUCs being updated as WBIDs are adjusted over time. Both recommended options outlined above would help fix this issue by aligning HUCs 0309 and 0310 with the Run 64 WBID boundaries.



WBID 3240A Overlapping HUCs 0309 and 0310

On behalf of the CHNEP, thank you for this opportunity to provide comment and please feel free to contact me at (941) 833-6583 should you wish to discuss this further.

Sincerely,

Jennifer Hecker
Executive Director

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