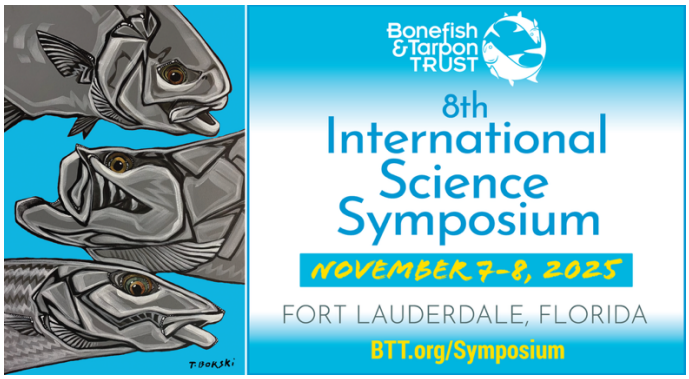


Permit spatial ecology in relation to the newly established seasonal fishing closure at Western Dry Rocks

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The movement patterns of Permit (*Trachinotus falcatus*) in the Florida Keys have been tracked extensively for over a decade using acoustic telemetry. Early work, supported by Bonefish & Tarpon Trust (BTT), identified Western Dry Rocks (WDR) as a critical spawning site along the

Florida Reef Tract, supporting reproduction of over 70% of flats Permit. These findings helped inform the establishment of the WDR seasonal fishing closure in 2021, designed to protect spawning Permit from angling pressure each year from April through July. With continued backing from BTT, we have tracked Permit movements before and after the implementation of the seasonal fishing closure to assess its effectiveness. Here, we present key metrics of spatial ecology across spawning sites in the Florida Keys, including (1) the extent of space use in and around the WDR closure boundaries, (2) residency time at WDR and nearby spawning sites, and (3) connectivity between spawning sites in the Lower and Middle Keys. Our results suggest the WDR seasonal closure is achieving its primary goal of protecting spawning Permit. However, there is room for refinement. Some Permit spend time outside the current boundaries during the closure period, and activity begins there as early as March. This indicates that spatial boundaries and closure timing could be adjusted to better align with this behavior. Additionally, limited connectivity between fish at WDR and those at Middle Keys sites (i.e., Thunderbolt Wreck, Seven-Mile Bridge Rubble) suggests that the WDR closure does not encompass all spawning subpopulations. As a result, protections may not be uniform across the broader Permit population in the Florida Keys. Given the 7-year sunset provision on the fishing closure, we hope these findings will be valuable to decision makers during the initiative's evaluation and contribute to a deeper understanding of Permit ecology in the Florida Keys.

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