

Table 1. Adaptive management components of the Lone Cabbage oyster reef restoration project, Suwannee Sound, Florida. (Modified from Schreiber et al. 2002.)

<b>Component</b>	<b>Application to Lone Cabbage Reef restoration</b>
Specification of objectives as testable hypotheses	(1) H <sub>0</sub> : Restoration through the addition of limestone rock as a durable substrate suitable for oyster spat settlement will lead to increased oyster abundance on Lone Cabbage Reef. (2) H <sub>0</sub> : Restoration of Lone Cabbage Reef will detain freshwater, promoting estuarine conditions through lower salinity levels.
Incorporation of existing knowledge into predictive models	Current restoration efforts build on hypotheses developed and tested during field assessments and small-scale restoration efforts (Seavey et al. 2011; Frederick et al. 2016; Kaplan et al. 2016).
Identification of performance measures	(1) Increase in oyster counts from standardized monitoring (using methods presented in Moore et al. 2020). (2) Decrease in salinity on landward side of restored Lone Cabbage Reef as measured from paired autonomous water quality stations landward and seaward of restored reef.
Evaluation of candidate restoration actions and performance predictions	(1) Use of limestone as a durable substrate suitable for supporting oyster settlement and growth tested as part of pilot project (Frederick et al. 2016). (2) Use of freshwater detention to promote lower salinities tested as part of pilot project (Kaplan et al. 2016). (3) Performance of oyster monitoring program to track whether oyster reef is responding as predicted (Moore et al. 2020).
Defined decision structure to revise future restoration actions based on past performance	(1) Absence of oyster spat on restored vs. control (wild) sites would suggest limestone is not a suitable settlement substrate. Response: Change durable substrate used in future restoration projects. (2) Freshwater detention could trigger changes in salinity resulting in negative impacts to nearby (8–10 km distant) economically valuable shellfish aquaculture leases involving species ( <i>Mercenaria mercenaria</i> and <i>M. campechensis</i> ) that are intolerant of low salinity. The leases were developed after the collapse of the Lone Cabbage oyster reef, and the potential impact to these lease areas from reef restoration and detention of freshwater is unknown. Response: If these leases are impaired by restoration, increase the number or size of gaps in the restored reef to reduce detention and shunting of freshwater.

<b>Component</b>	<b>Application to Lone Cabbage Reef restoration</b>
Implementation of restoration actions	Pre-restoration monitoring of oysters and salinity, 2017–2018. Construction phase of reef restoration, summer 2018. Oyster and salinity response monitoring, 2018–2023.
Monitoring and evaluation to assess performance	Rigorously developed living-data management plan is integrated with routine summaries of oyster and water quality data that are assessed prior to and during sampling events to assess informativeness of monitoring (see application in Moore et al. 2020; Moore and Pine 2021).