

# ECOSYSTEM MANAGEMENT AND RESTORATION RESEARCH PROGRAM

## FY25 Q2 WEBINAR SERIES

**FEB. 13  
11:00 AM (CT)**     **Developing Ecological Models for Adaptive  
Management in Aquinnah, Martha's Vineyard**



Effective ecological management requires integrating diverse knowledge systems to assess environmental changes and inform decision-making. This project, conducted in collaboration with the Wampanoag Tribe of Gay Head (Aquinnah), explores ecological modeling as a tool for adaptive management in the Herring Creek Fishery on Martha's Vineyard. Habitat and agent-based models combine local ecological knowledge with quantitative analyses to assess factors influencing river herring population dynamics, including culvert impacts, striped bass predation, and estuarine habitat conditions.

By incorporating feedback from the Wampanoag Tribe of Gay Head (Aquinnah), we refined our modeling approach to better reflect local ecological conditions, biological knowledge, and management priorities. This iterative process enhances model accuracy while ensuring its relevance to community-led conservation efforts. Results indicate that while historical spawning zones remain viable, increased predation has reduced herring migration success in recent years. These findings emphasize the value of collaborative model development in supporting adaptive management.

### WEBEX



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