2014 Florida Sea Grant: Developing a size-structured stock assessment model for the spiny lobster, *Panulirus argus*, in the southeast United States

Objectives

The main objective of this project is to develop a size-structured model to better assess the status of the spiny lobster stock in the southeast US. To achieve this objective, eight steps need to be completed:

- Design and develop sub-models to simulate the lobster life history and fisheries processes;
- Identify statistical estimators for the stock assessment model;
- Develop an Individual based model to generate a growth transition matrix for the stock assessment model;
- Collect fisheries-dependent data for the stock assessment model;
- Develop and debug the stock assessment model by using Bayesian framework;
- Use the models to estimate the status of the spiny lobster fishery and to develop biological reference points;
- Discuss the preliminary results with Florida FWC fisheries scientists, and fine-tune the model;
- Provide the size-structured stock assessment model and the individual-based model (IBM) to end-users for future stock assessments.