Progress Report STP 2019-038 (FY 2018-2019)

Habitat quality as a driver of epinepheline serranid productivity and replenishment

Marine Science

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Project Team	granted
Program Leader	granted
Directorate	required

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Understanding the habitat requirements of animals and how this influences their distribution is essential for their effective management. Moreover, ongoing shifts in habitat due to changing climate and acute environmental disturbance emphasize the need to understand how changes in habitat effect associated fauna. Epinephelid serranids are ecologically important predators on tropical reefs that are an attraction for both tourists and fishermen. This project will focus on the habitat requirements of epinepheline serranids at Ningaloo, exploring mechanisms that influence their distribution, abundance and productivity. The project will examine fish within two habitat types, macroalgae and corals, which represent extremes of the current regime shift paradigm on tropical reefs.

Over the first year of this study PhD student David Ellis has collated information on the abundance of Ephinephelid species from surveys within both macroalgal and coral reef habitats that have been collected annually by DBCA, ANU and AIMS researchers since 2013. Early results indicate there are distinct Epinephalid assemblages in the two habitats and that microhabitats within both macroalgal and coral reefs are important determinants of fish abundance. These results were presented at the ASFB conference in Melbourne 2018 and will be the topic of a manuscript that is being prepared for submission.