

# Monitoring Reef Fish Protection Areas

Reef Fish Protection Areas (RFPAs) have been in place since 2015, to protect reef fish including Golden Snapper and Black Jewfish.

Since 2016, NT Fisheries have undertaken non-invasive monitoring using Baited Remote Underwater Video Stations (BRUVS), focusing on reef fish habitat both inside and outside three previously highly impacted RFPAs (Charles Point Wide, Bathurst Island, and Lorna Shoal). The two remote, less-impacted RFPAs (Melville Island and Port Keats) were not prioritised for these BRUVS monitoring surveys.



Figure 1 RFPAs (blue) in the Greater Darwin Region. The three most fishing-impacted areas, currently monitored with BRUVS, are shown in bold.

## BRUVS Surveys

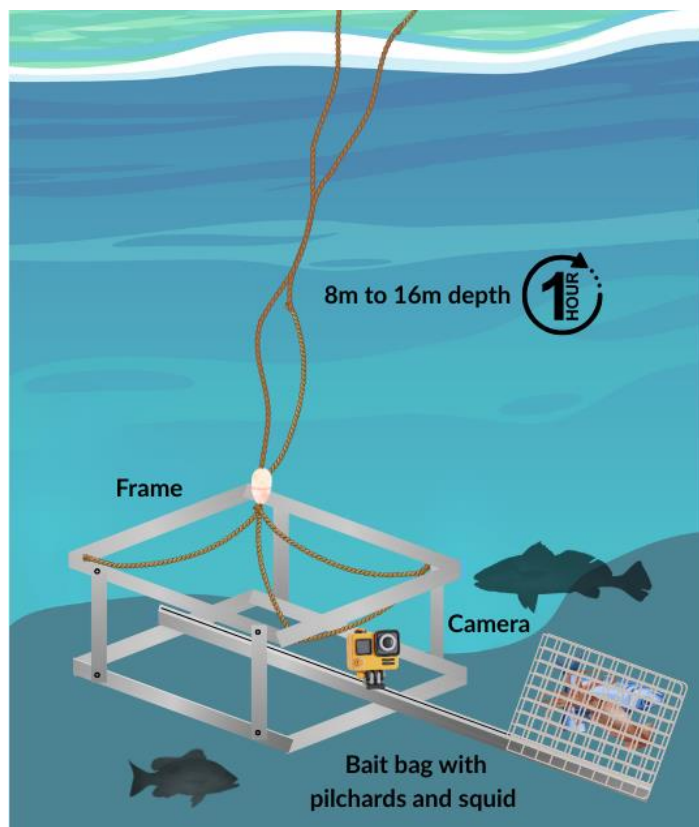


Figure 2 The BRUVS frame, equipped with an action camera and bait bag, is deployed from the boat in reef fish habitat between 8 m and 16 m depth inside and outside the RFPAs. Recording time is 1 hour.



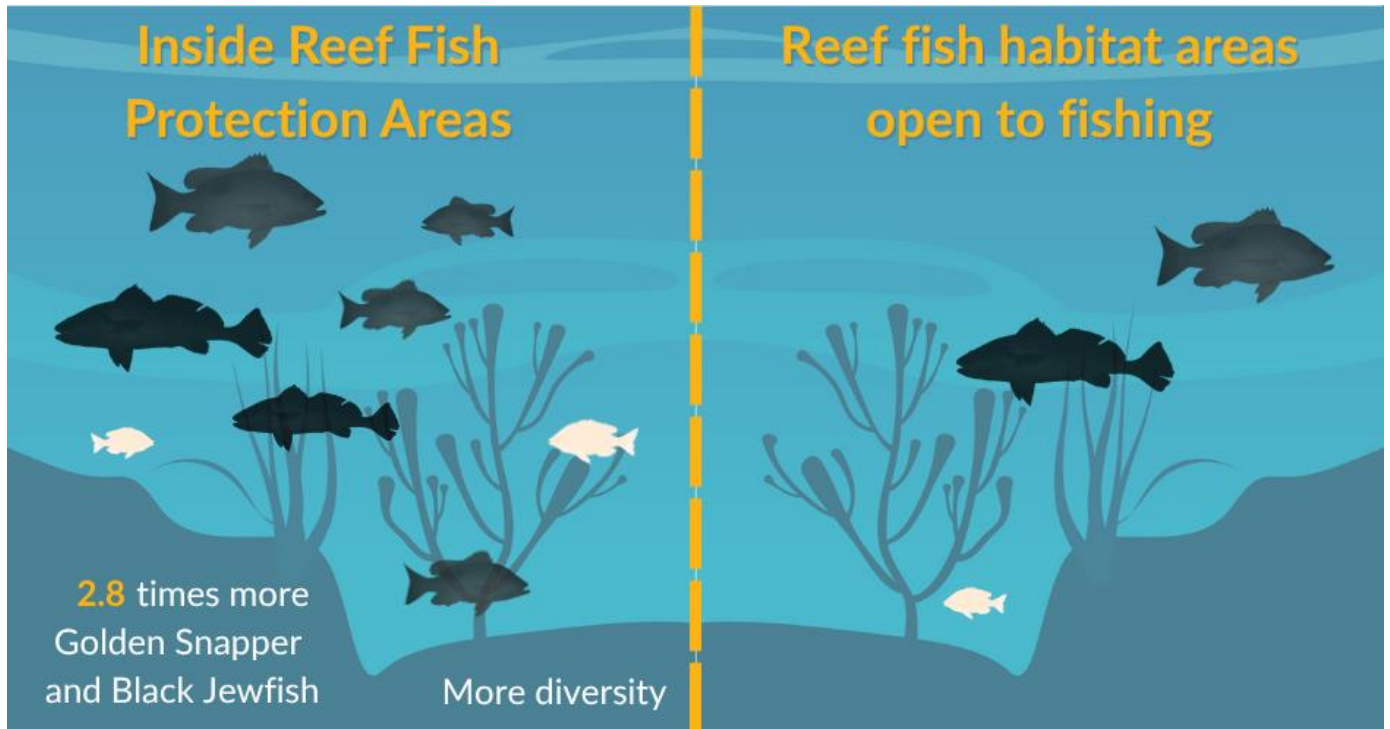
Figure 3 BRUVS video showing Golden Snapper.

Between 2016 and 2023, hundreds of hours of BRUVS video were collected both inside and outside the RFPAs. BRUVS operate by attracting fish to a bait bag, which is attached to the frame in the field of view. The fish are recorded by action camera and the video is later analysed to identify and count fish, as well as to provide an indication of how each site is performing.

Although the region's low visibility and large tides can make the surveys challenging, 257 species were observed, including key species commonly targeted by fishers.

## What we found

The BRUVS surveys indicate a positive effect of the protection areas, with 2.8 times more Black Jewfish and Golden Snapper observed inside the RFPAs. At Lorna Shoal RFLPA, there was a greater number of species seen inside the RFLPA than outside of it, including more species associated with tropical coral or rocky reefs. Bathurst Island and Charles Point Wide observations included species often associated with muddy or sandy seabeds. Golden Snapper and Black Jewfish across a range of size classes have been observed inside the protection areas.



NT Fisheries uses best practice monitoring and management to meet national and international standards. BRUVS monitoring supports other data collected including annual recreational fishing surveys, charter fishing records, commercial fishing records, biological sampling, and genetic information. The RFPAs support important sites for the growth of juvenile and adult Golden Snapper, but despite this, recent stock assessments indicate fishing pressure on reef fish is too high and that stocks of Golden Snapper in the Greater Darwin Region are depleted.

## What's next?

Evidence-based decision making needs to be informed by the best-available data and scientific expertise. NT Fisheries recognises that ongoing monitoring and collaboration with stakeholders are essential to obtaining timely, accurate and reliable data. NT Fisheries is working closely with key stakeholders to develop a Recovery Plan for Golden Snapper in the Greater Darwin Region which will include further management and monitoring actions.



**It is an offence to fish in any Protection Area. Criminal convictions with penalties as well as the seizure and forfeiture of your equipment may apply.**

More information about the reef fishing in the Greater Darwin Region is available at [Reef fishing management | NT.GOV.AU](https://www.nt.gov.au/ntfisheries/reef-fishing-management). **Tomorrow's fishing starts TODAY**