



Title: Cleveland Bay & Bowling Green Bay Estuary Monitoring Program

(Townsville Saltwater Sportsmans Club)

Q1: What do you intend to monitor?

Monitoring will primarily include, but not be limited to, tagging for the purpose of assessing populations, movements and growth rates for the following species.

Target species

| | |
|---|---|
| Barramundi, <i>Lates calcarifer</i> | http://fishesofaustralia.net.au/home/species/4643 |
| Golden Snapper, <i>Lutjanus johnii</i> | http://fishesofaustralia.net.au/home/species/558 |
| Mangrove Jack, <i>Lutjanus argentimaculatus</i> | http://fishesofaustralia.net.au/home/species/548 |

Q2: Where will you monitor?

In all waters that enter the Cleveland Bay and Bowling Green Bay regions, North Queensland

Grid references:

J21, K21, K22

Q3: Why is this species and area a priority for monitoring?

The waters entering the Cleveland Bay and Bowling Green Bay areas are popular amongst a large number of local and travelling recreational anglers. Barramundi, mangrove jack and golden snapper are amongst the three most highly sort after sportfish in the area.

Both areas are also sporadically covered with different management zones, including limited or no recreational or commercial fishing. The many of the rivers and estuaries entering these bays however are not protected by such management zones and as such the impact on the local sportfish populations are unknown.

To monitor potential impacts from this mix of management zones and recreational and commercial fishing, the Townsville Saltwater Sportsmans Club proposes to monitor 3 key recreationally targeted species, one of which is also targeted commercially (Barramundi).

It is also hoped that data collected may be able to contribute to future justification for a commercial net free zone over the whole, or strategic parts of, the monitoring plans target area.

Q4: Who will use your data?

1. Townsville Saltwater Sportsmans Club
2. ANSA Qld
3. Approved Third Party Researchers, pending approval from both the Townsville Saltwater Sportsmans Club & ANSA Qld

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Q5: How will the data be used?

The Townsville Saltwater Sportsmans Club, and ANSA Qld, will use the monitoring program and the data collected to,

- monitor populations, movement patterns and growth rates of the target species to gain an understanding of the impacts of recreational and commercial fishing effort over time
- monitor survival rates of each of the listed target species through tagging & recapture
- monitor changes in capture patterns associated with weather
- promote sustainable fishing on a local, regional and state level with the ability to in future assess the benefits of a commercial net free zone over the whole, or part of, the stated target areas.

Q6: What data quality do you require?

The primary objective of this project is to allow anglers opportunity to collect fishery data as a means of citizen science participation. The idea is to value add to the fishing experience and in doing so, create greater awareness of the study species (population, growth, movement, capture rates associated with different weather patterns and post-capture survival patterns)

Although the primary focus of the program is citizen science based, data collection methods will be as robust as possible to ensure data quality is as high as possible to allow for as many potential end uses as possible. Data Quality will be set at a level where the complexity of collection and data entry methods does not greatly inhibit participation.

Townsville Saltwater Sportsmans Club members who choose to partake in tagging of fish from the target species list will be required to be approved taggers under the ANSA Qld guidelines.

The quality of data is likely to be of indicative quality (better than demonstrative but not analytical)

Q7: What is the proposed period of monitoring? When and how often will you monitor?

Monitoring is scheduled to commence in 2017 and no end date has been set.

Regular monitoring by Townsville Saltwater Sportsmans Club members will take place during both official and unofficial club outings on an “opportunistic” basis.

At regular intervals (approx. every 12-24 months) a review of the monitoring plan’s effectiveness will take place with a re-allocation of resources and/or effort if deemed necessary.

Q8: What methods will you use?

- All target and non-target species captured will be handled so as to cause as little stress as possible.
- Target species will be measured, tagged and released as quickly as possible so as to maximise the chances of survival.
- Fish capture information as outlined in field of form: <http://www.ansaqld.com.au/awards/entry-form/> will be collected for target species along with any other data that meets the objectives.
- Members will fish according to the ANSA QLD code of Ethics (<http://www.ansaqld.com.au/code-of-ethics/>) and the National Code of Practice (http://www.ansaqld.com.au/wp-content/uploads/2014/06/recfish_australia_ncop_brochure.pdf) adopted by ANSA QLD.

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- Fish destined for release will be released according to the ANSA Code of Practice for Releasing Fish (<http://www.ansaqld.com.au/code-of-practice-for-releasing-fish/>)
- Tagging will be conducted according to the AUSTAG Manual (<http://www.ansaqld.com.au/wp-content/uploads/2016/07/Austag-Manual-Complete-with-Work-Instructions.pdf>) noting that the manual may be updated over the life of the monitoring plan. Tagging data is added directly by members who tag a part of the fish capture form. Any field sheets used reflect fields in this web-form.
- Location of fish will be recorded using Queensland Government Logbook Maps (<https://www.business.qld.gov.au/industry/fisheries/commercial-fishing/monitoring-and-reporting/reporting-commercial-fishers/queensland-logbook-maps>)
- Fishes of Australia (<http://fishesofaustralia.net.au/>) is used to identify fish species

Q9: Who will be involved and how?

Monitoring will be conducted primarily by members of the Townsville Saltwater Sportsmans Club. Reporting of recaptures will be open to the general public.

ANSA QLD will provide fish capture database facility, tags and support to the Townsville Saltwater Sportsmans Club.

Pending approval from both the Townsville Saltwater Sportsmans Club and ANSA Qld, a third party may become involved providing their involvement is in line with assisting to achieve the objectives of this monitoring program.

Q10: How will the data be managed and reported?

Data will be added directly by approved Townsville Saltwater Sportsmans Club members into the fish capture form; or via a multi-capture upload file. When submitted this is logged in the ANSA QLD MySQL database.

The results will be reported online using a series of codes that query the database and then visualise this data. Data will also be provided to approved third party researchers to report as required.

Records are maintained on ANSA QLD server using MySQL database with database being regularly backed up.

The Townsville Saltwater Sportsmans Club will store manual field capture record forms unless future reviews warranty it unnecessary.

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Version

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