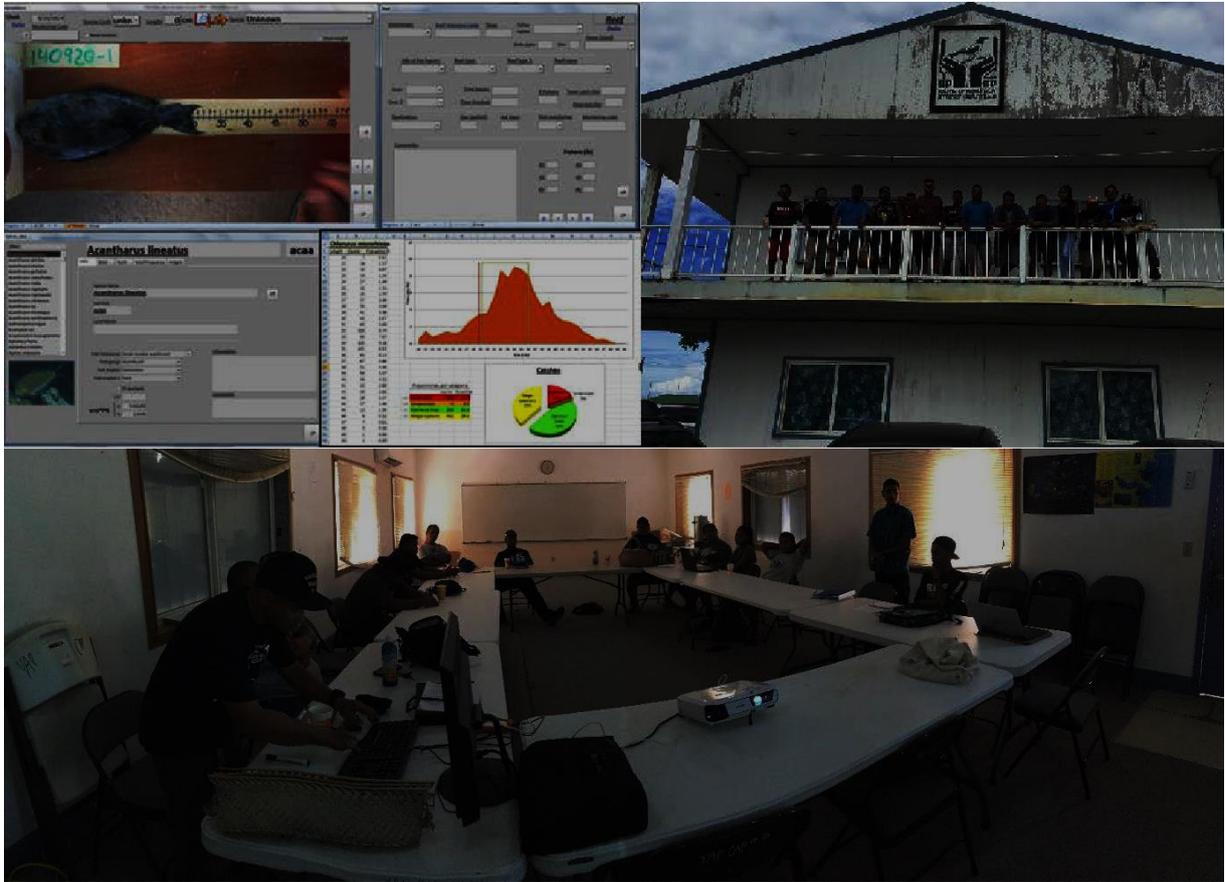


Micronesia Fisheries Monitoring Network

Data analysis workshop and stakeholder meetings, Yap, FSM



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The Nature Conservancy Micronesia

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Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety



The Nature Conservancy 

Background

Micronesia's coral-reef ecosystems host a wealth of biological biodiversity, ecological complexity, and fisheries potential, which have played a central role in societies for generations [1,2]. Traditionally, fisheries have been sustainably exploited for subsistence purposes under customary tenure [3,4]. Yet, westernization and growing cash economies have led to increasing and unregulated fishing pressure in recent decades, with ensuing impacts to fishing success, catch profitability, and coral ecosystem condition [5–7]. In response, a standardized regional fisheries monitoring network is being developed over the past years to assess stocks and guide fisheries policies [8,9].

In Yap, declining fisheries and coral reef health have prompted the development of a network of marine protected areas, which has been successful in managing resources within these areas [1]. Alternatively, anecdotal evidence suggests that impacts of protected areas on non-protected reefs have not compensated for persistent fishing pressure, and that overall fish stocks keep declining. Given this situation, Yap fishers and managers are exploring additional fisheries management policies to complement existing area-based protection. Aiming to provide the needed information to support the development of sound fisheries policies, a 1-year monitoring project co-led by Yap Community Action Program (YAPCAP) and University of Guam (UOG) was started in December 2017, aiming at collecting fisheries-dependent datasets at the market level.

In an effort to inform stakeholders of the progress of the project, and to build local capacity for data analysis and Ecosystem Approaches to Fisheries Management (EAFM), a preliminary workshop was conducted in Yap in June 2018. In addition, findings from preliminary analysis of available datasets were presented to stakeholders following the completion of the workshop.

Name	Organization/Community
Anthony Y.	Yap Community Action Program
Dua R.	Marshal Islands Conservation Society
Ezekiel K.	Tamil Community
Janice T.	Tamil Community
Javier C.B.	The Nature Conservancy
Joe N.	Weloy Community
Junior M.	Marshal Islands Conservation Society
Justin G.	Marine Resources Management Division
Lance S.	Yap Community Action Program
Marialyn T.	Tamil Community
Martin K.	Yap Marine Resources Management Division
Michael G.	Weloy Community
Petrus R.	Tamil Community
Sam G.	Tamil Community
Thomas T.	Marine Resources Management Division

Table 1. List of participants of fisheries workshop

Goals and activities

The main goals of the workshop were to i) conduct a preliminary analysis of available datasets collected up to June 2018, ii) build local capacity for analysis of fisheries-dependent datasets and EAFM, and iii) share preliminary findings with relevant stakeholders. Initial fisheries-dependent datasets collected in Yap since December 2017 were analyzed. Basic queries were explored alongside several local stakeholders, including estimations of overall landings, dynamics of landings, catch composition, size-frequencies, and location of fishing activities (Figure 1 and 2). In addition to 2017-2018 datasets, overtime changes in the fishery were also explored by comparing the new data with limited datasets collected in 2008 [6] (Figure 2).



Picture 1. Fisheries monitoring at one of Yap's fish markets (left), and participants conducting analysis of collected fisheries dependent monitoring datasets during workshop (right).

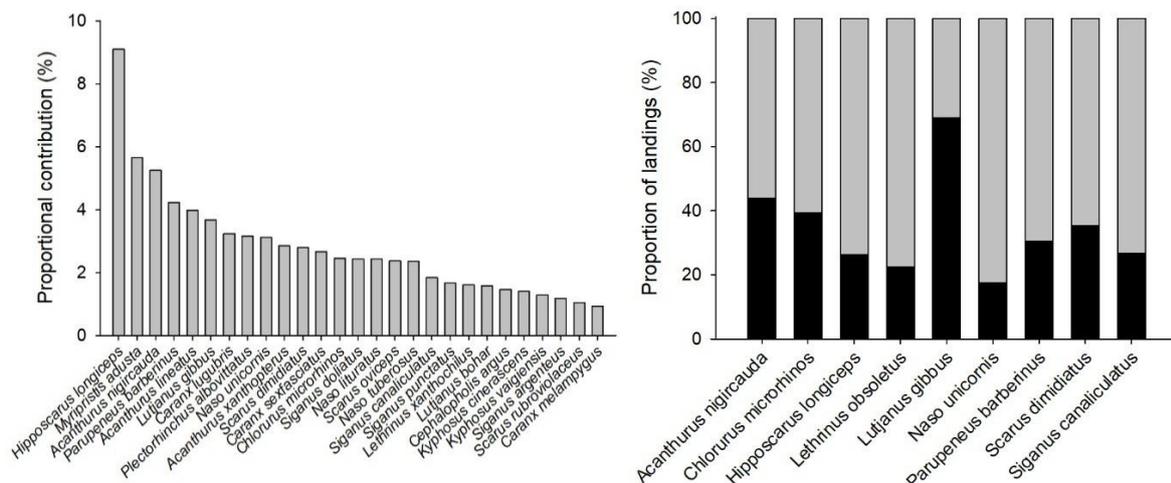


Figure 1. Main species that contributed to 75% of overall reef-fish commercial landings in Yap's in 2018 (left), and differences in contribution across moon phases for some of the top species (full moon: black, new moon: gray; right).

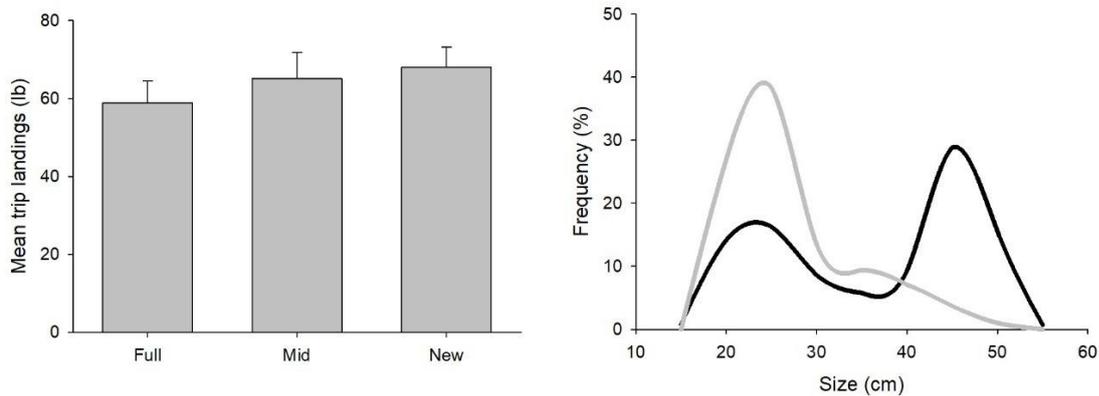


Figure 2. Mean fishing trip landings at different moon phases (left), and smaller sizes of *Naso unicornis* (blue spine unicorn fish) in 2008 (black) as compared to 2018 (gray, right).

Lastly, updated status and results from preliminary analysis conducted during the workshop were shared with fisheries stakeholders during a meeting held at YPACAP conference room. Presentations from Javier Cuertos-Bueno (TNC) and Anthony Yalon (YAPCAP) were introduced to community representatives, government officials, fishers, and other stakeholders. Following presentations, discussions regarding the current project, and preliminary results were had. Within, initial discussion regarding potential management strategies for selected species were maintained, highlighting the willingness to consolidate holistic management regimes in Yap, building upon the successful Locally Managed Marine Area (LMMA) Network.

Name	Organization/Community
Andy T	Yap Community Action Program
Anthony Y	Yap Community Action Program
Dua R	Marshall Islands Conservation Society
Ernest T	Toruw Community
Filenguy .	Okaw Community
Gloria M	Wanyan Women's Group
Janice T	Tamil Resource Conservation Trust
Javier CB	The Nature Conservancy
Jeffery	Rull Community
Jessica F	Gachpar Women's Group
Jonathan F	Gagil Community Conservation
Junior M	Marshall Islands Conservation Society
Lance S	Yap Community Action Program
Luson	Okaw Community
Magmay	Okaw Community
Martin K	Marine Resources Management Division
Michael G	Yap Community Action Program
Teresa S	Yap Fishing Authority
Xavier J	Marine Resources Management Division

Table 2. List of participants of fisheries stakeholder meeting

Future directions

Building upon the current workshop, a follow-up workshop will be conducted in early 2019, following the end of the data-collection component of the project. Learnings from the current workshop will be further disseminated in Yap by YAPCAP during community consultations and visits. In addition to the final workshop, formal analysis will be conducted collaboratively between local partners (YAPCAP and DMR), and researchers from UOG and TNC. Following those, an outreach campaign will be implemented to share the findings of the project, and communities and management agencies will be supported on the development of scientifically-sound management policies.

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