



Muri Rapid Coastal Assessment



Muri RapCA study presentation

- Introduce the study site
- Present the methods used
- Introduce the team that conducted the field work
- Present the data
- Questions

Muri RapCA study area



Muri RapCA study area



Methods

Methods used were prescribed by the project document and in alignment with methods used by SPC.

Benthic cover for percentage coral cover

-> Line intercept transect method

Invertebrate abundance

-> Quadrat counts

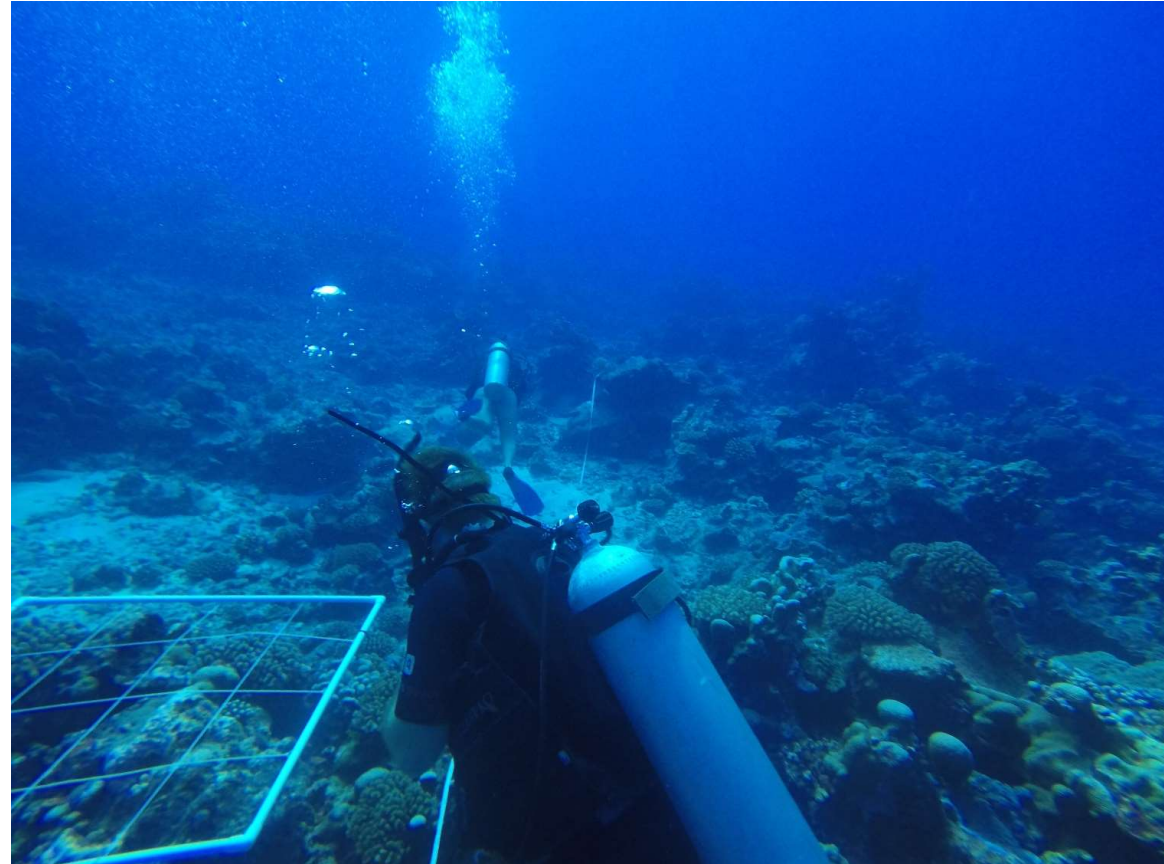
Fish abundance and diversity

-> Universal Visual Census

General environmental observations for each site were made using standardized methods

Methods 2

- At each site a 25m transect was run out.
- Concurrently environmental data including salinity, visibility, cloud cover, sea state, wind and location data were recorded.
- The UVC was conducted first after the fish had been given time to normalize.
- The LIT was started concurrent to the Invert count.
- The quadrats for the invert count were 1m² each side of the line at 4m intervals for a total of 12 quadrats per site.



The team



- Stephen Lyon, BSc, PGDipSci
Environmental and Marine Science
- Israel Miles, BSc, Zoology
- Rose Winters, PADI Instructor and fish
ID expert



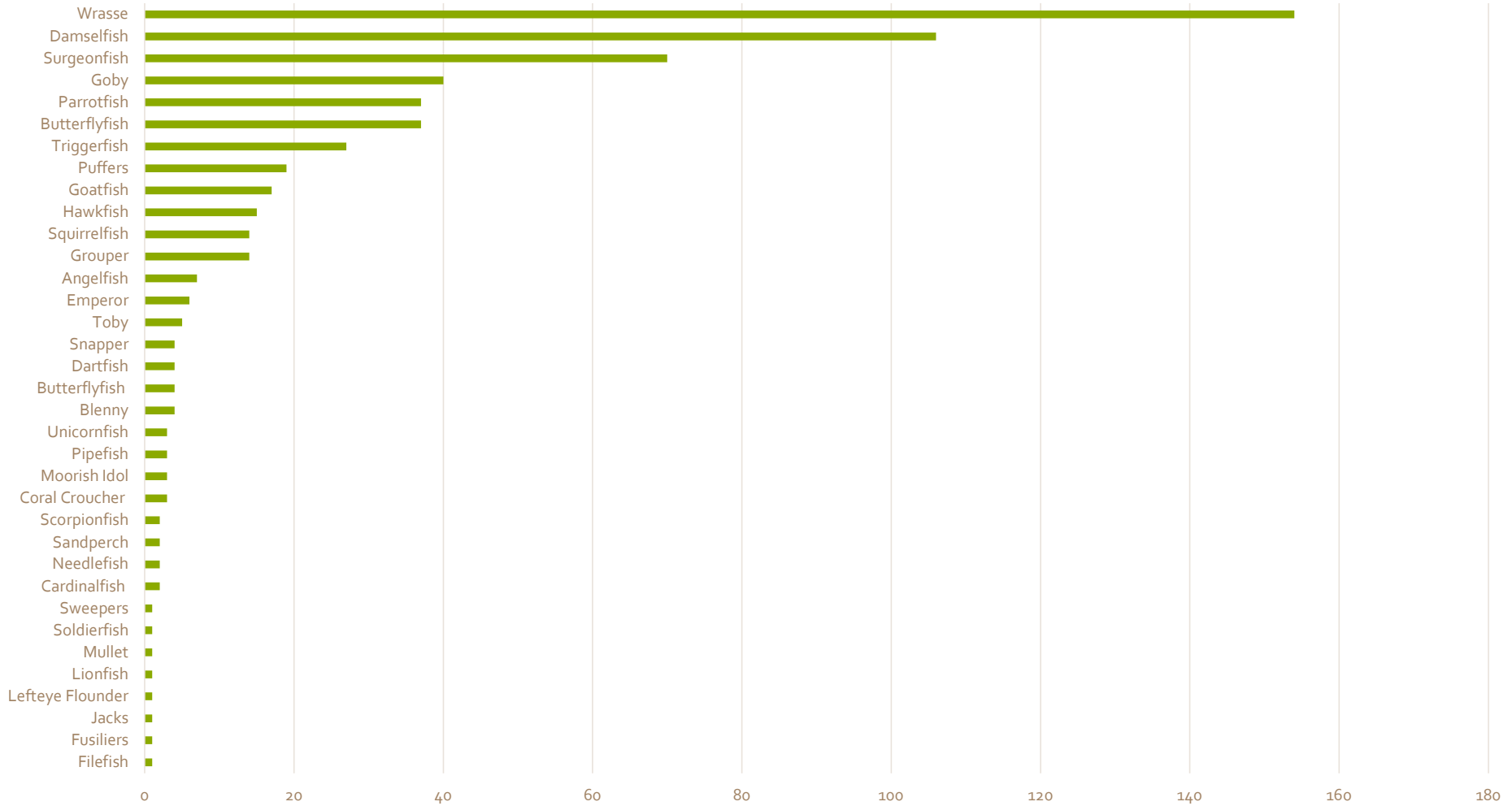
Survey Results



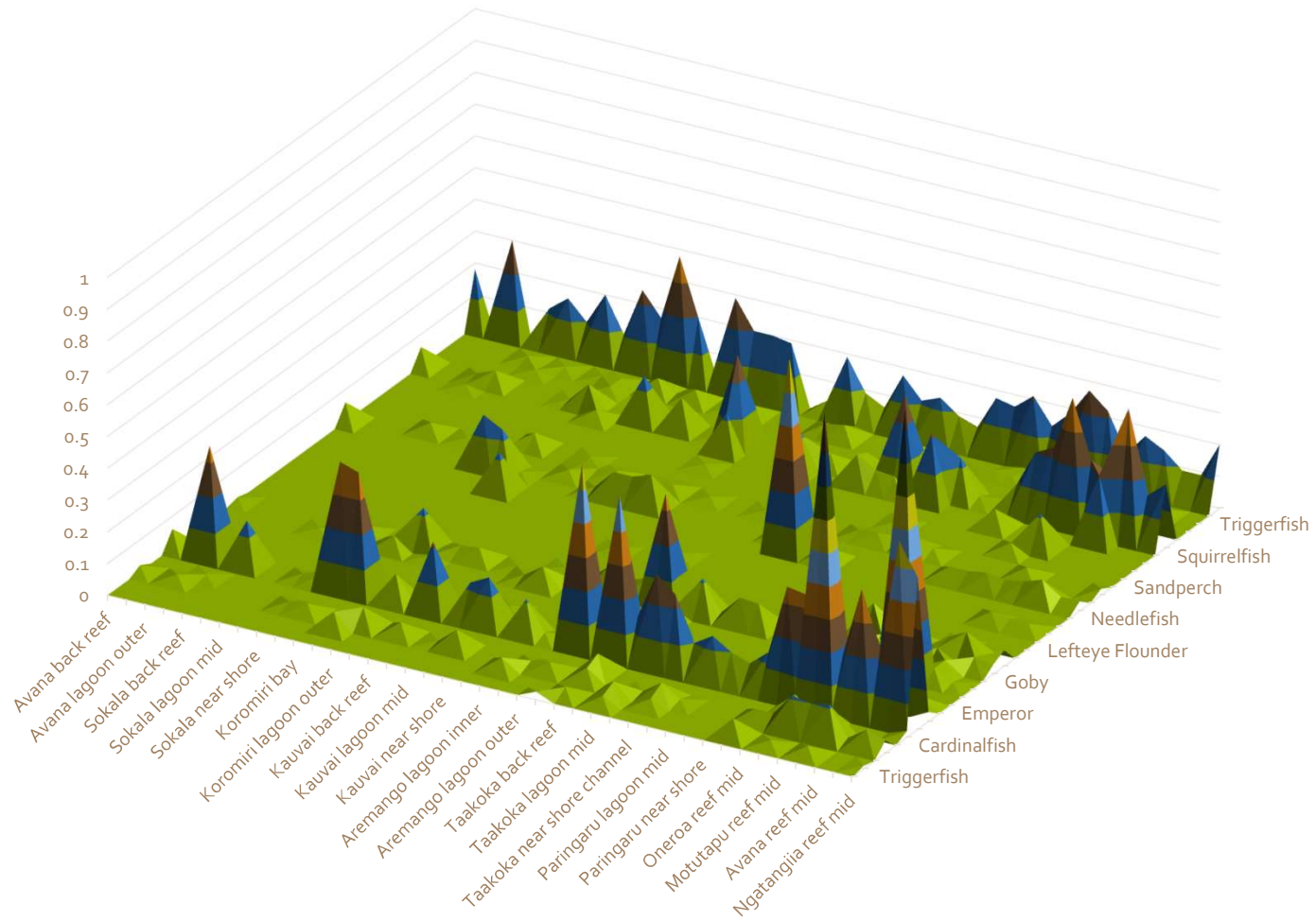
Fish diversity and abundance

- A total of 148 different species of fish were identified over the 42 sites.
- There were 35 common family groupings represented.
- Wrasse were the most common family group present.
- 8 family groups had only 1 individual counted over the survey.
- The range of fish abundance between sites was from 0 fm^{-2} to 2.48 fm^{-2} with an average fish abundance of 0.661 fm^{-2} .
- The reef habitats had overall higher counts than the lagoon habitats.
- Reef sites ranged from 0.89 fm^{-2} to 2.48 fm^{-2} with an average of 1.38 fm^{-2} .
- Lagoon sites ranged from 0 fm^{-2} to 1.02 fm^{-2} with an average of 0.462 fm^{-2} .

Fish occurrences by family grouping



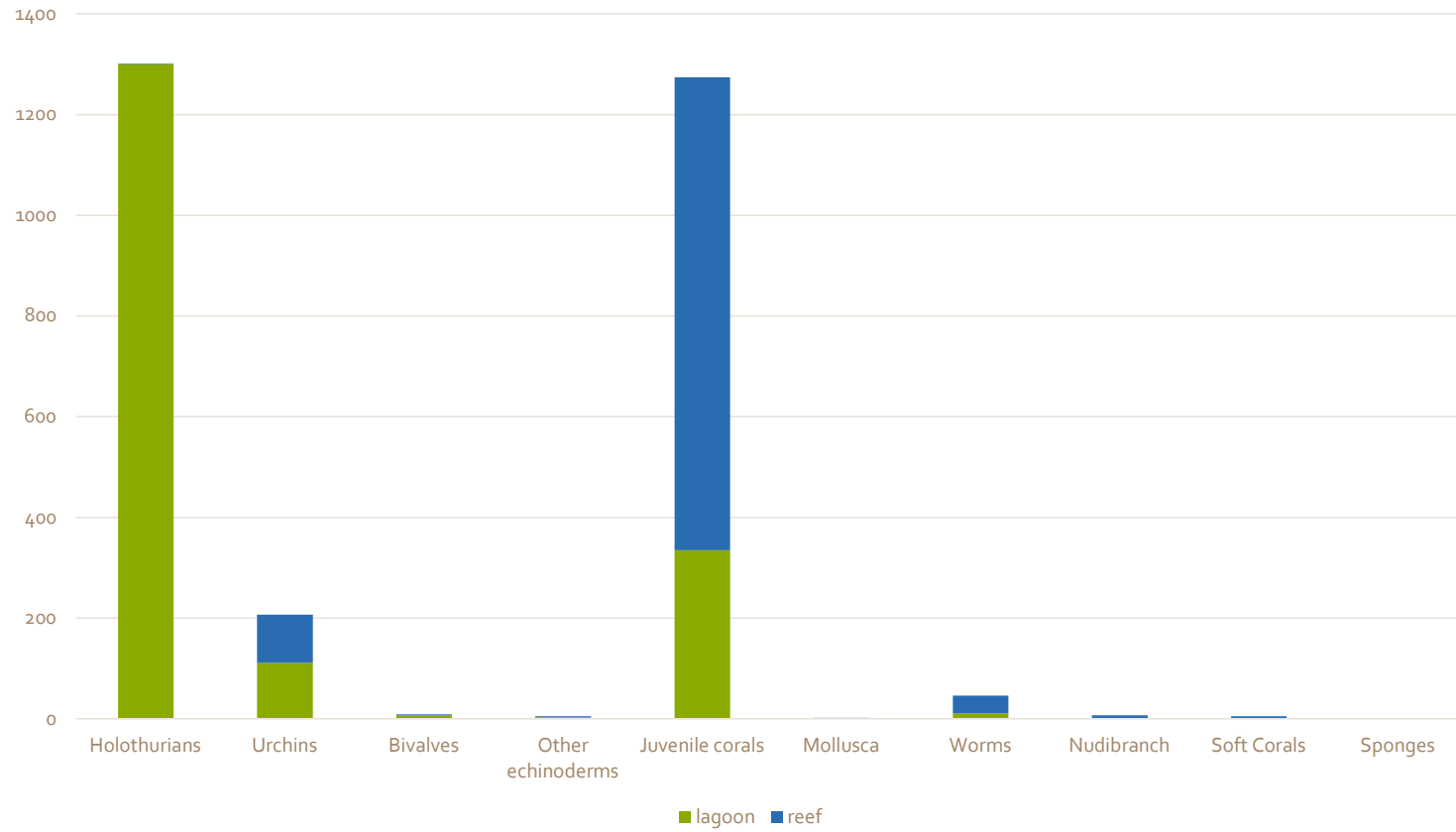
Fish abundance and diversity



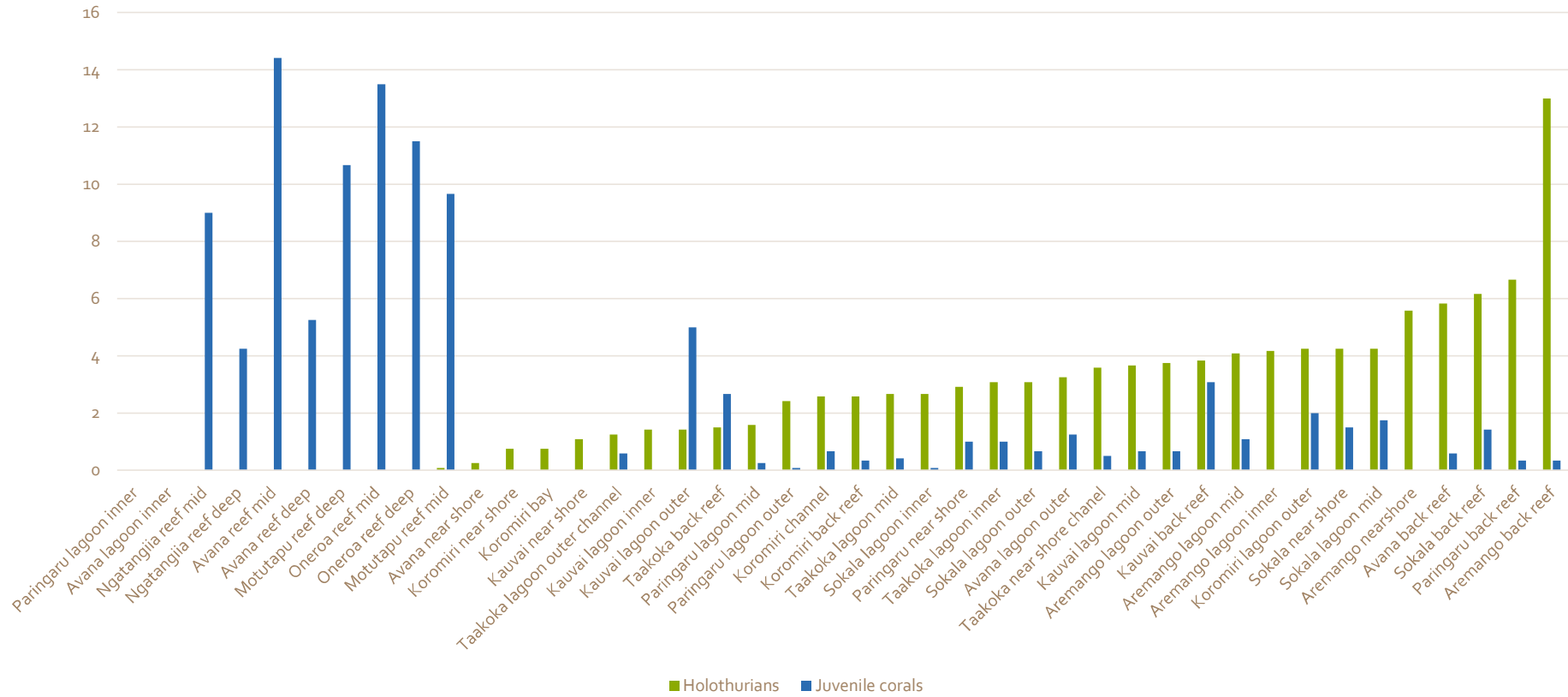
Invertebrate and Juvenile Coral abundance

- There were 10 classification groups made up of 37 higher level classifications.
- Juvenile corals presented the highest diversity while holothurians the highest abundance.
- These two groups dominated the invertebrate counts.

Invertebrate abundance



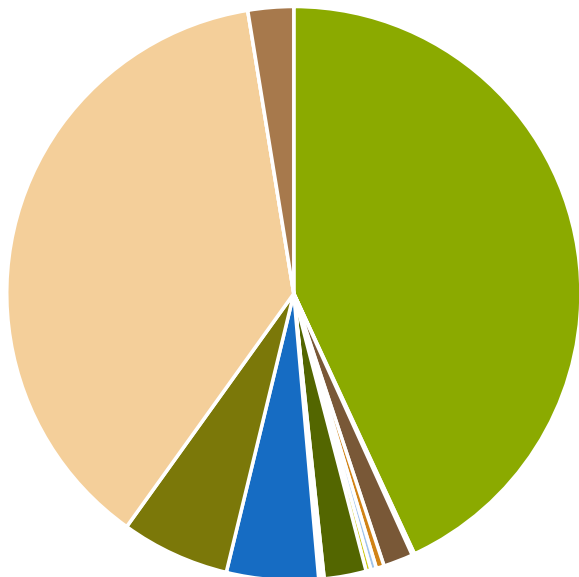
Juvenile Coral and Holothurian counts for comparison



Line Intercept Transect - Benthic Cover

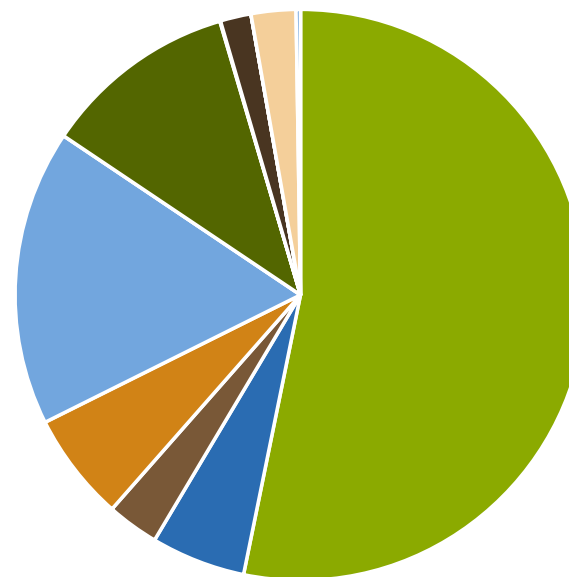
- Lagoon and reef environments differ significantly.
- The Lagoon has 44% abiotic (sand, rubble and rock) while the reef has 3%.
- The reef has 41% coverage of corals, which indicates a healthy reef.
- The lagoon has 4% coral cover.
- The reef and lagoon habitats differ significantly and can't be directly compared for the purpose of this report.

Aggregated benthic cover for lagoon sites



- Algal assemblage
- Coral branching
- Coral massive
- Dead coral
- Sand
- Acropora branching
- Coral encrusting
- Coral millipora
- Macro algae
- Soft coral
- Coralline algae
- Coral foliose
- Coral submassive
- Rock
- Turf algae

Aggregated benthic cover for reef sites



- Algal assemblage
- Coral branching
- Coral massive
- Dead coral
- Sand
- Acropora branching
- Coral encrusting
- Coral millipora
- Macro algae
- Soft coral
- Coralline algae
- Coral foliose
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- Rock
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Data reported per site
is provided in the full
report.



Community Fishing Survey

Indicator SE4 Exploitation of living resources



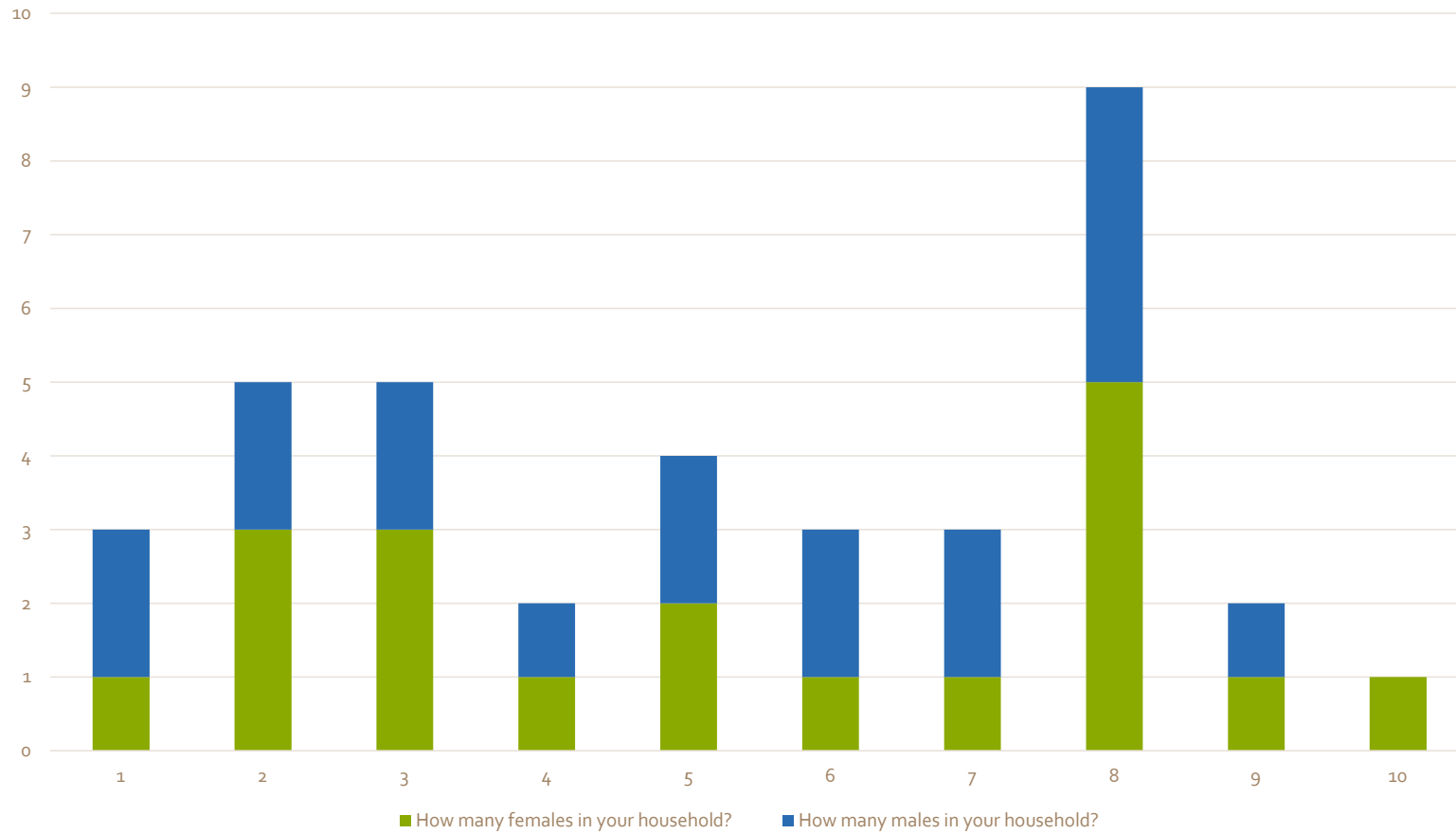
Methods

Methods used were provided by SPC for community fishing surveys and were adapted for Rarotonga due to the limited amount of lagoon fishing and dominance of pelagic and reef fishing.

A survey questionnaire was established using Google Forms and administered by an interviewer who recorded responses immediately onto a device.

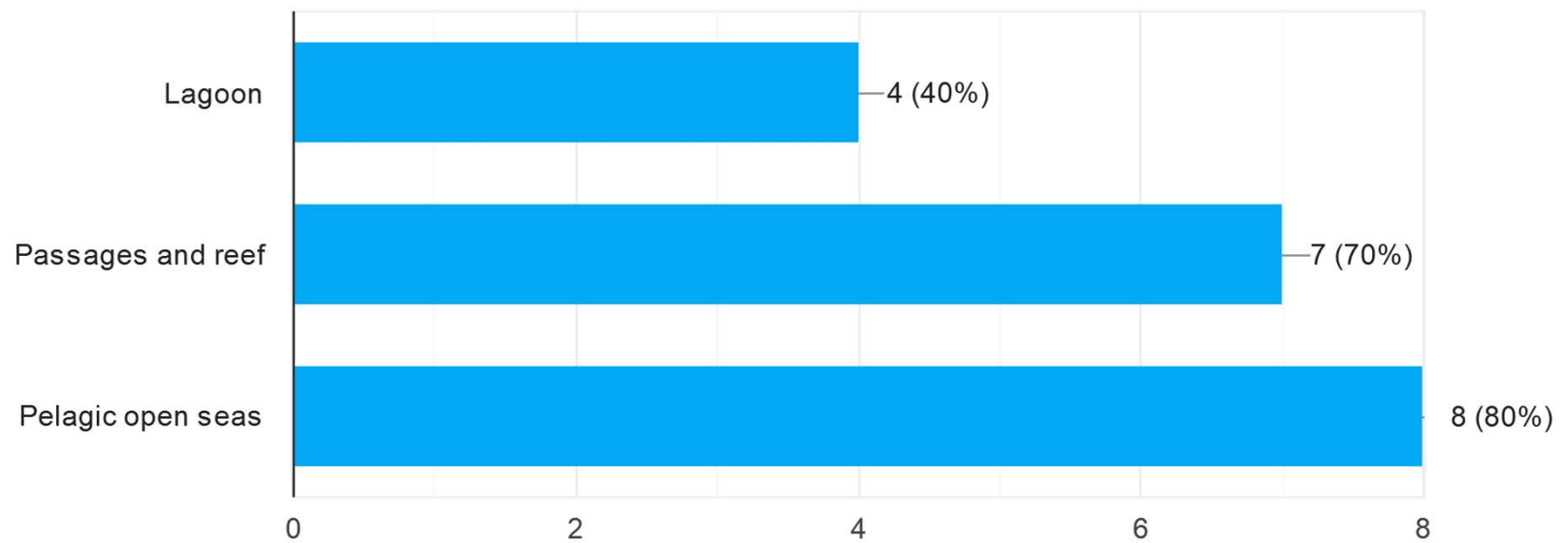
This survey can be easily emailed out or reused for future surveys.

Household size



Which is the most important habitat(s) for fishing?

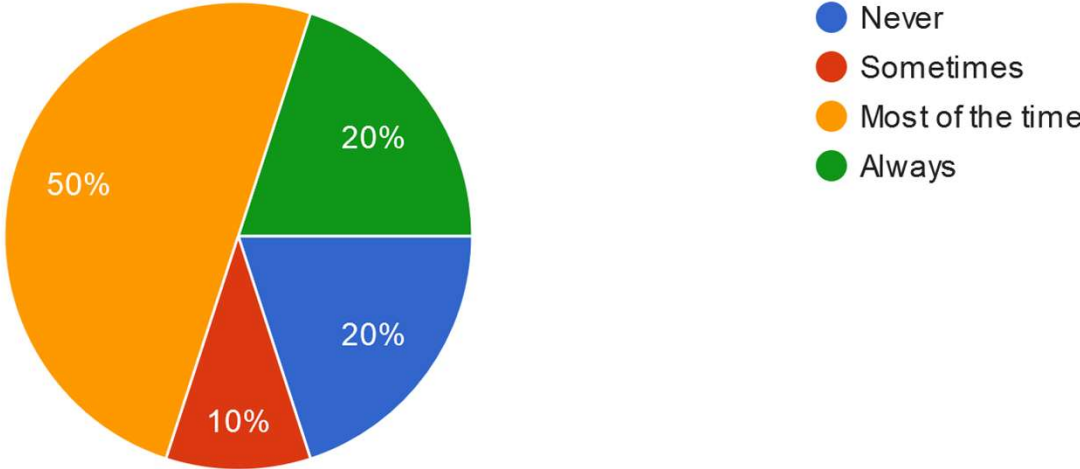
10 responses



Data calculation by Google

How often do you use a boat for fishing?

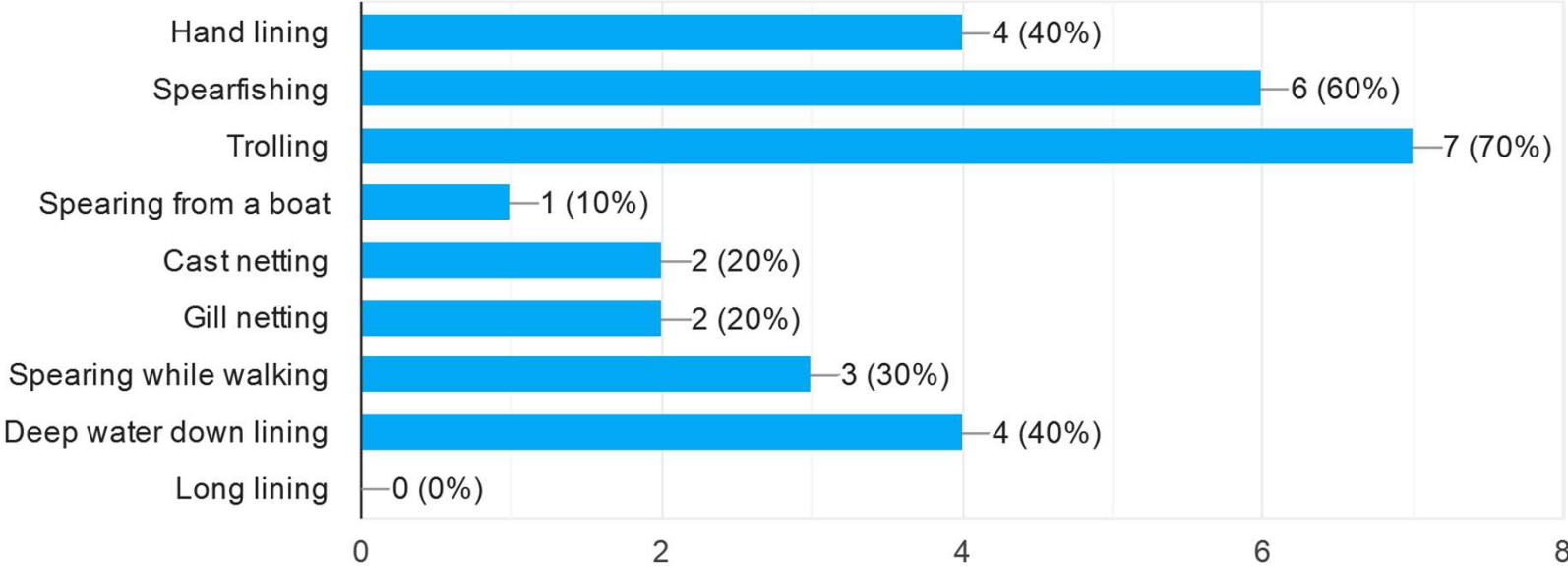
10 responses



Data calculation by Google

Which fishing techniques do you use?

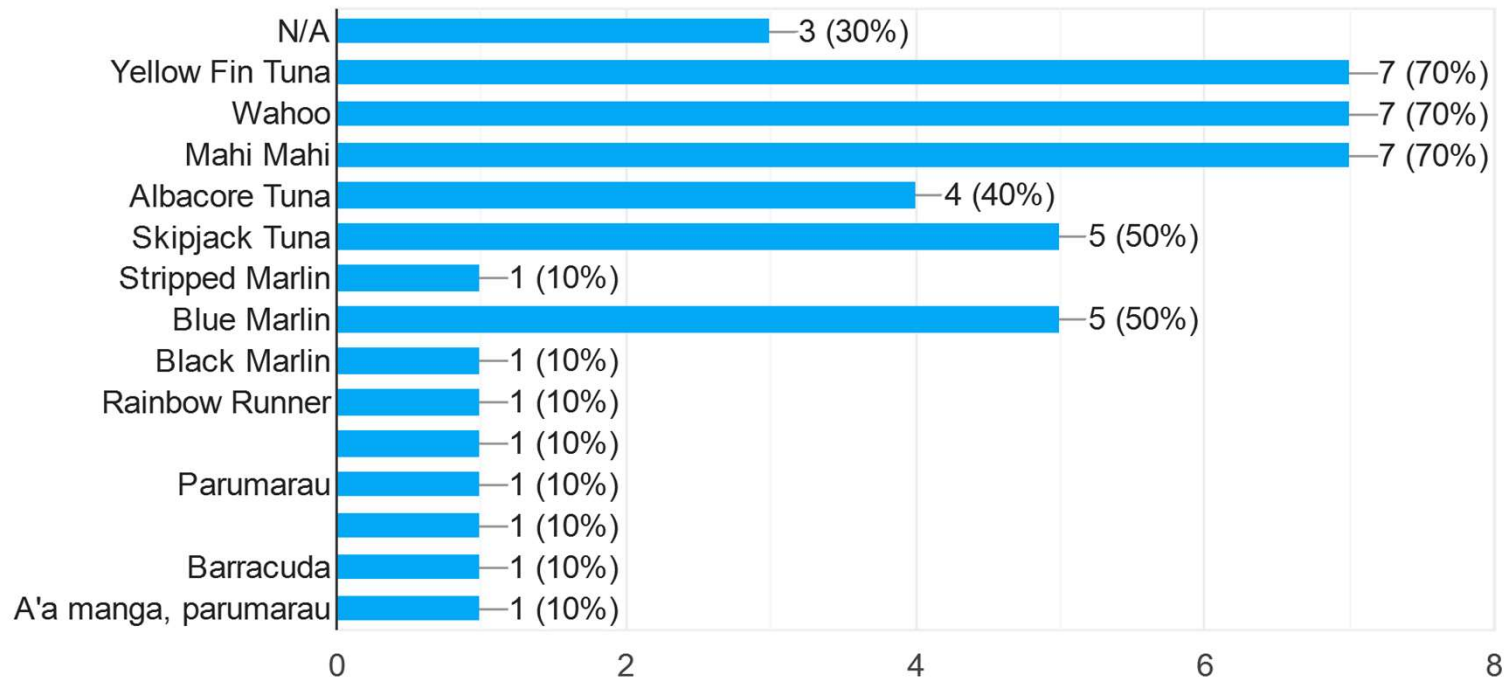
10 responses



Data calculation by Google

What type of Pelagic fish do you usually catch?

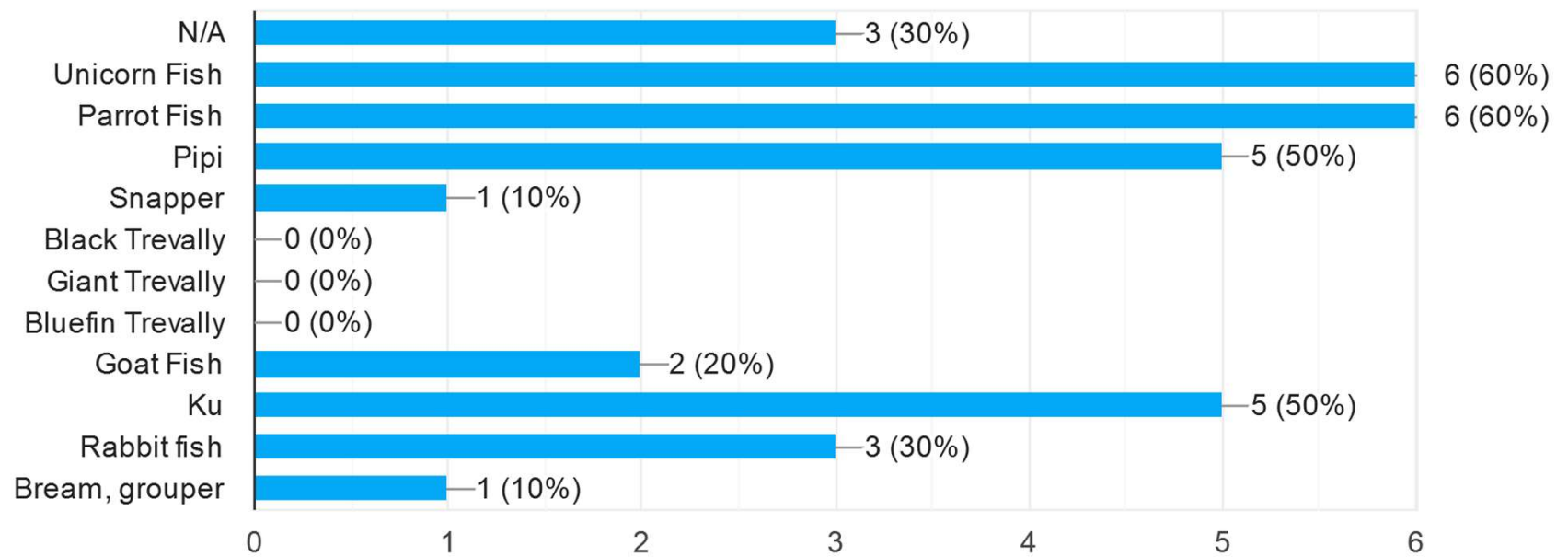
10 responses



Data calculation by Google

What type of reef fish do you usually catch?

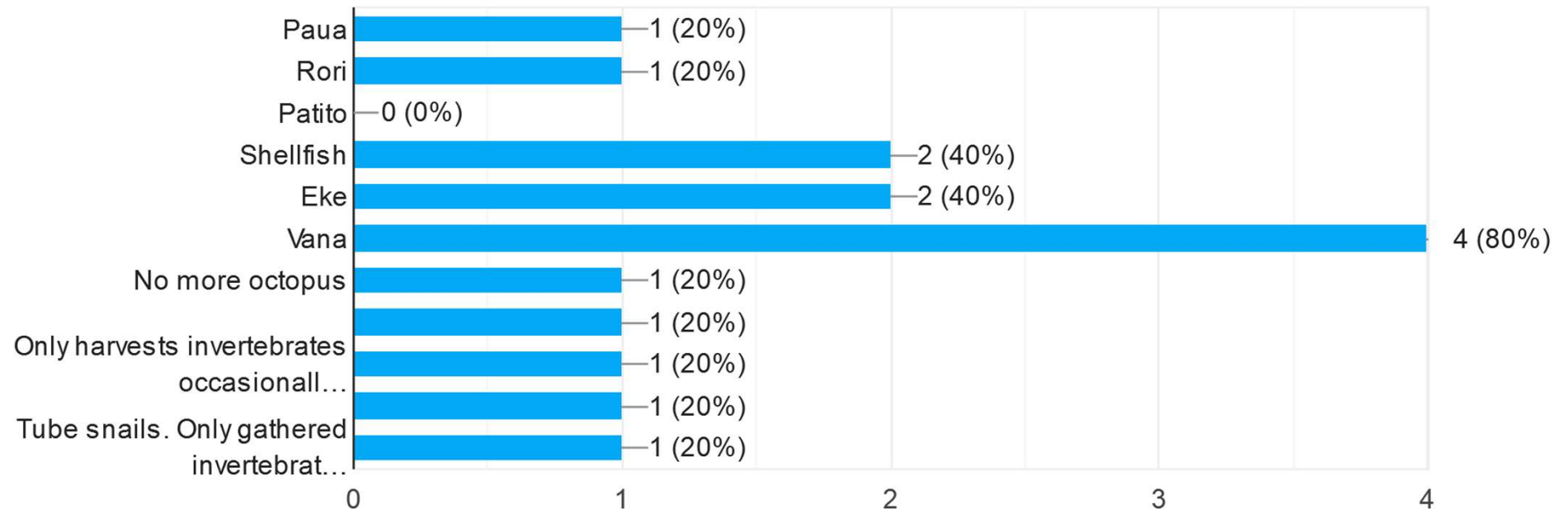
10 responses



Data calculation by Google

What invertebrates do you harvest?

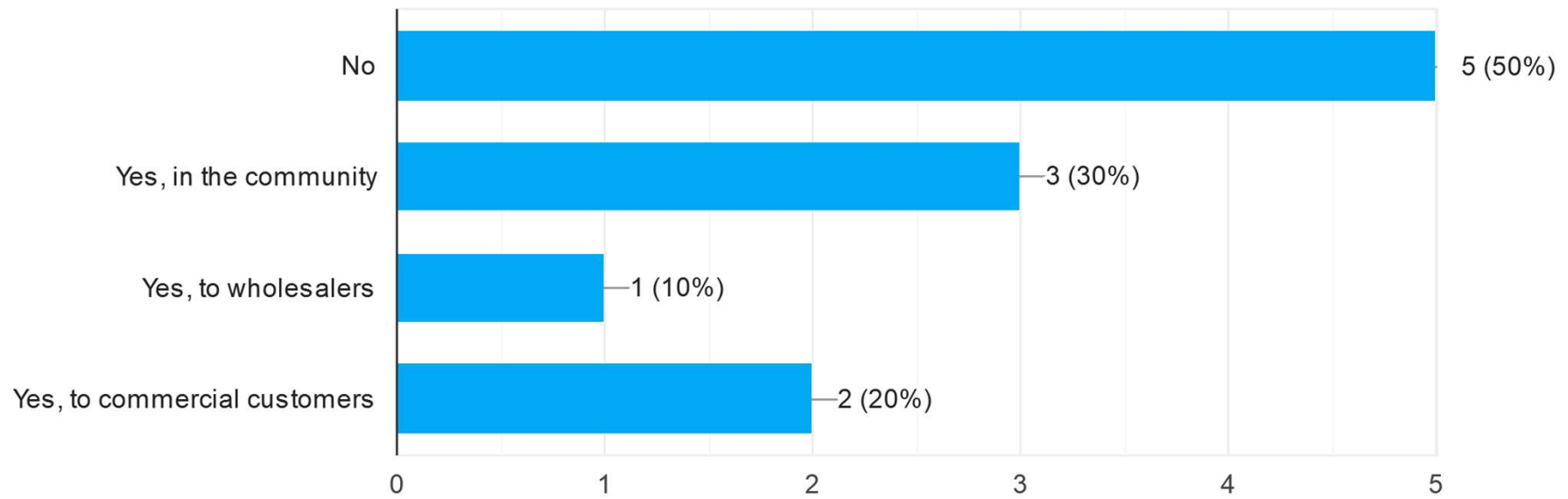
5 responses



Data calculation by Google

Do you sell your fish?

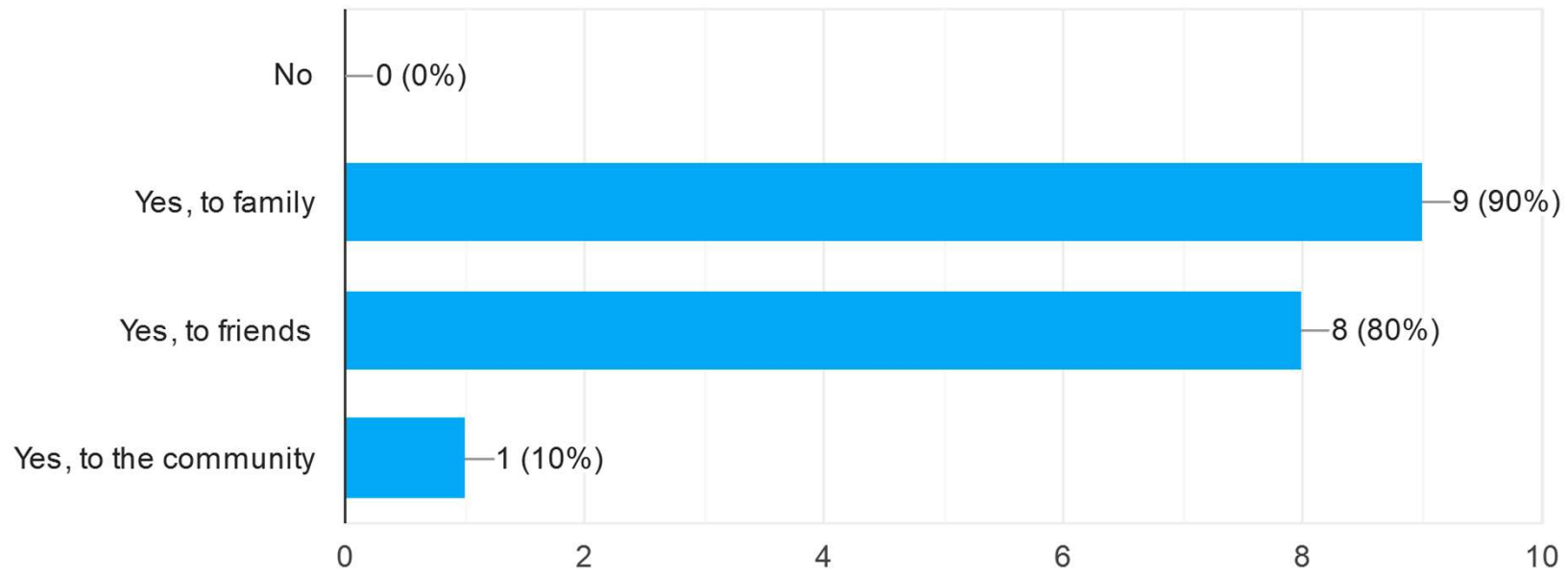
10 responses



Data calculation by Google

Do you give fish away?

10 responses



Data calculation by Google



Questions?

