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Status of coastal fisheries in Polynesia

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This presentation

- Overview of coastal fisheries in Polynesia
- Recent estimates of catch and value
- Status of coastal fisheries
  - Finfish
  - Invertebrates
- Data
- Concluding remarks

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What are coastal fisheries?

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- Demersal finfish (from lagoons and reefs)




- Invertebrates (intertidal and subtidal)





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How are they harvested?

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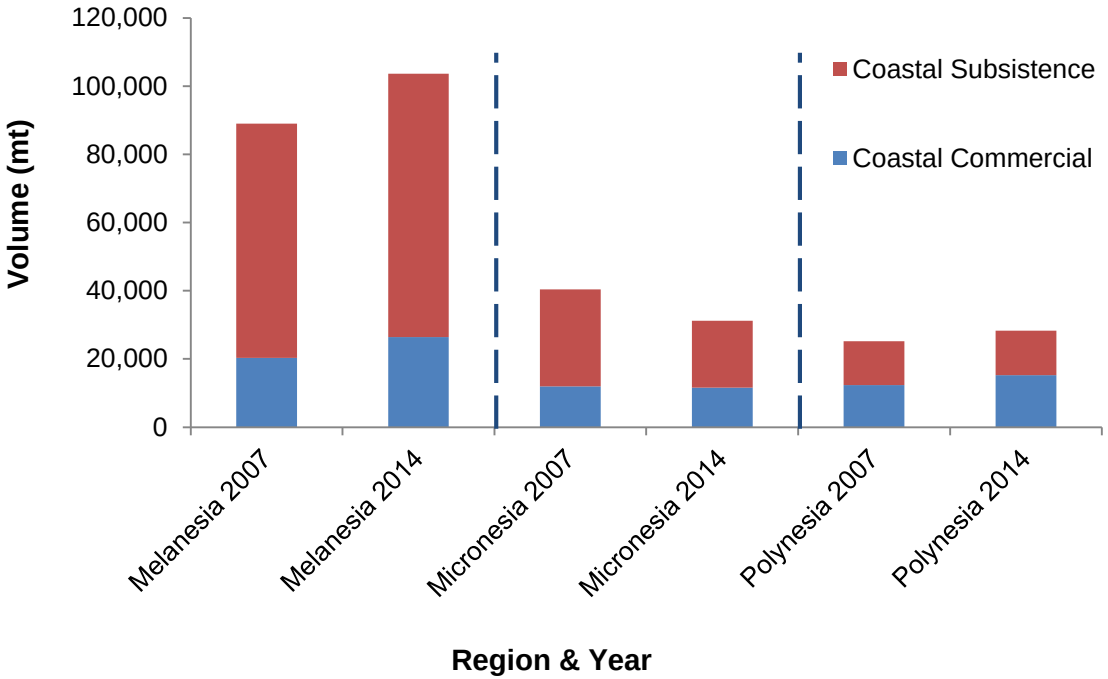
What is the catch?

- Overall catches lowest of the three Pacific regions
- Estimated 28,338 mt landed in 2014 (ca. 12% increase from 2007)



Source: Gillett 2016

How much fish do we eat?

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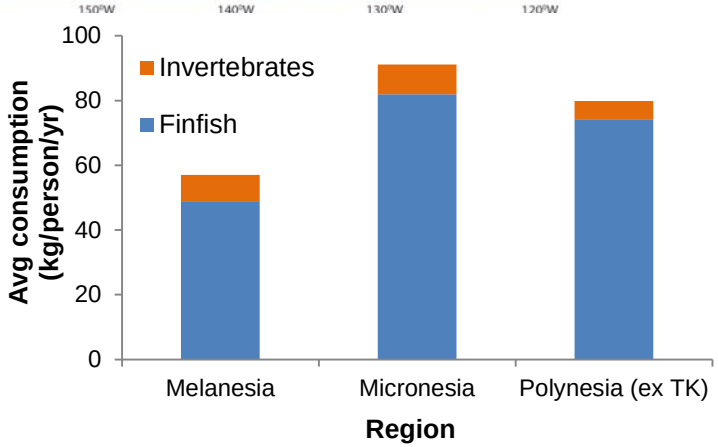
Fresh fish consumption by coastal communities (kg/person/year) (PROCFish)



70
81
112
53
112
142
>150
38
115
74
84
20
59
79
34
54
34
81

Regional average = 75.3 kg/person/yr
(Pinca et al 2010)

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Status of coastal fisheries in Polynesia

- Status assessments largely limited by lack of long-term data
  - > 1,000 islands
  - Large number of species & stocks
  - Geographic spread of area
  - Cost of travel, surveys
  - Lack of attention to coastal fisheries
- However several ‘snapshot’ studies / projects available from which to infer status

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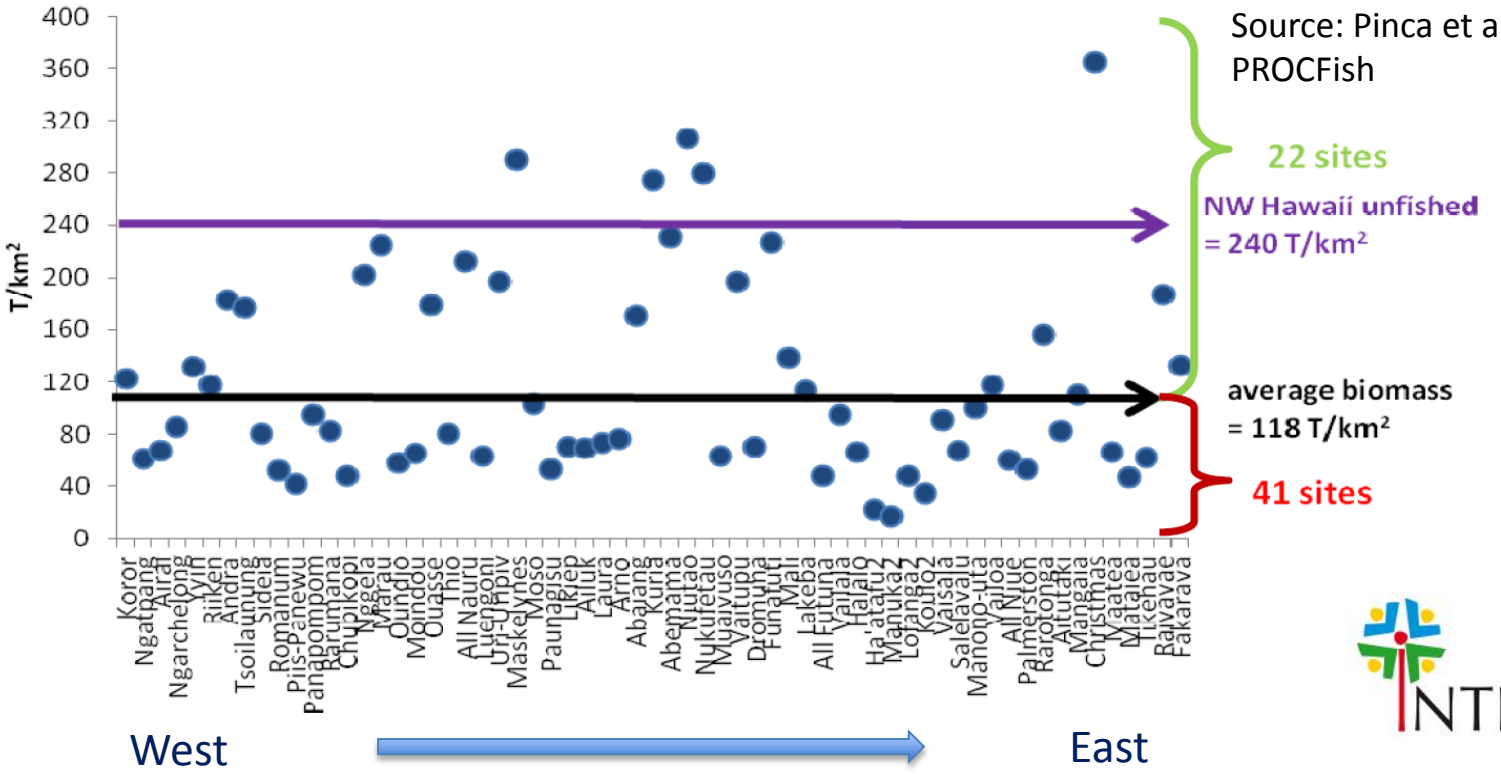
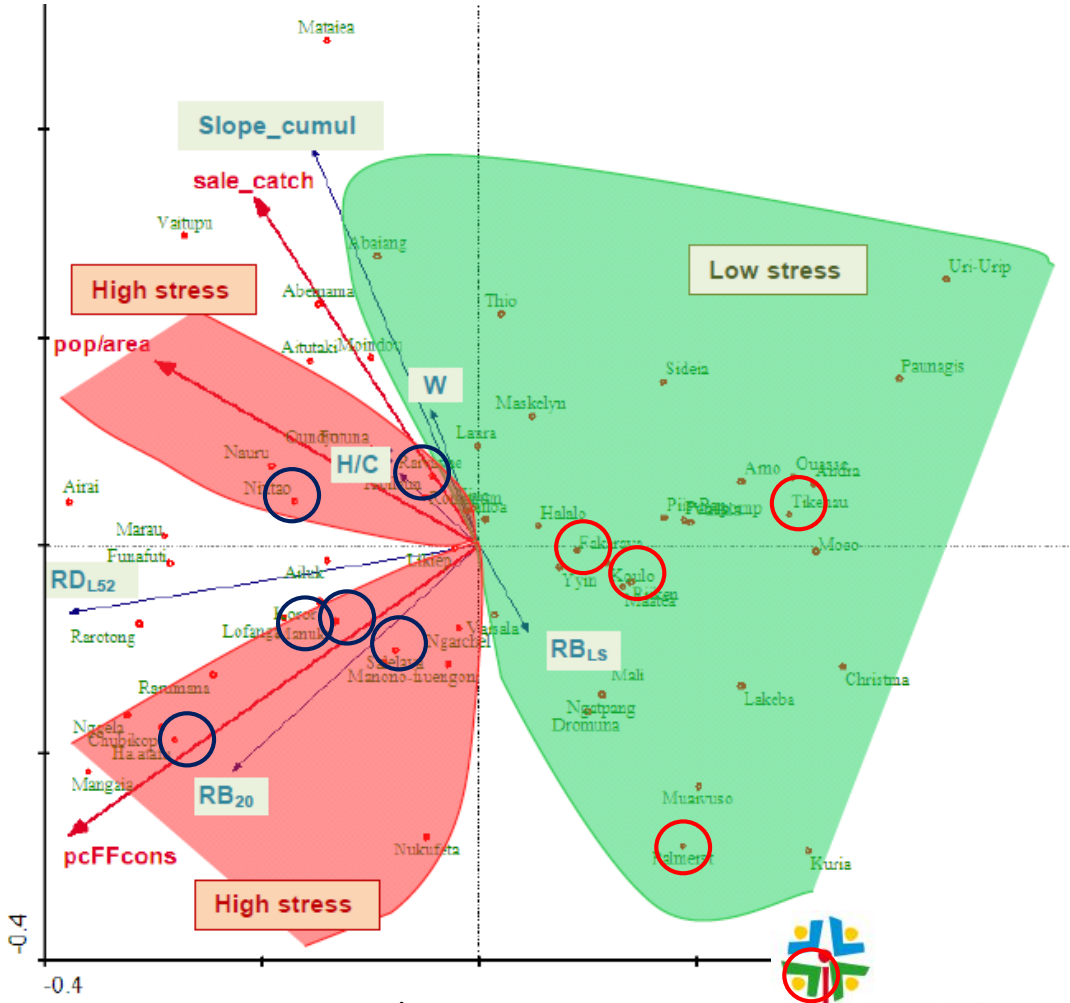
Status: At a regional level

- PROCFish: Regional average finfish biomass of 118 t per km^2
- 41 sites below this (59 % of all sites)
- 65% of Polynesian sites below regional average



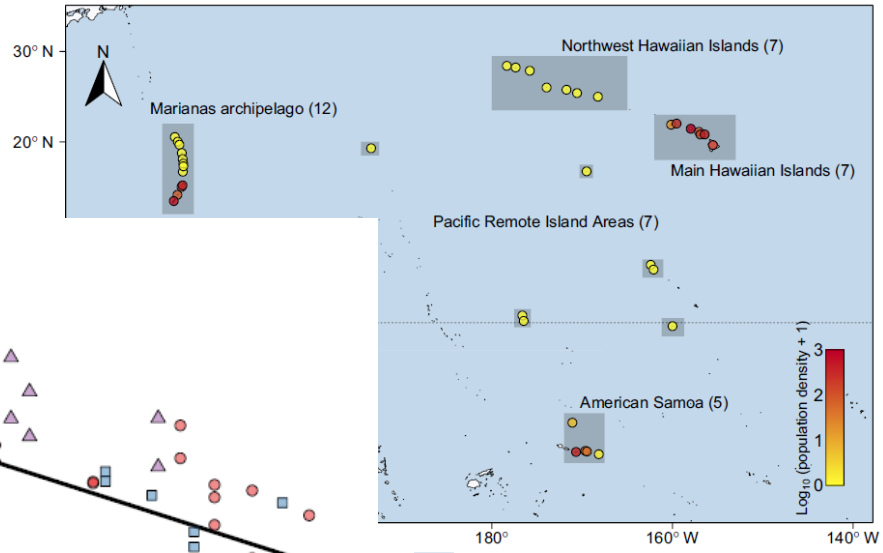
Status: At a regional level

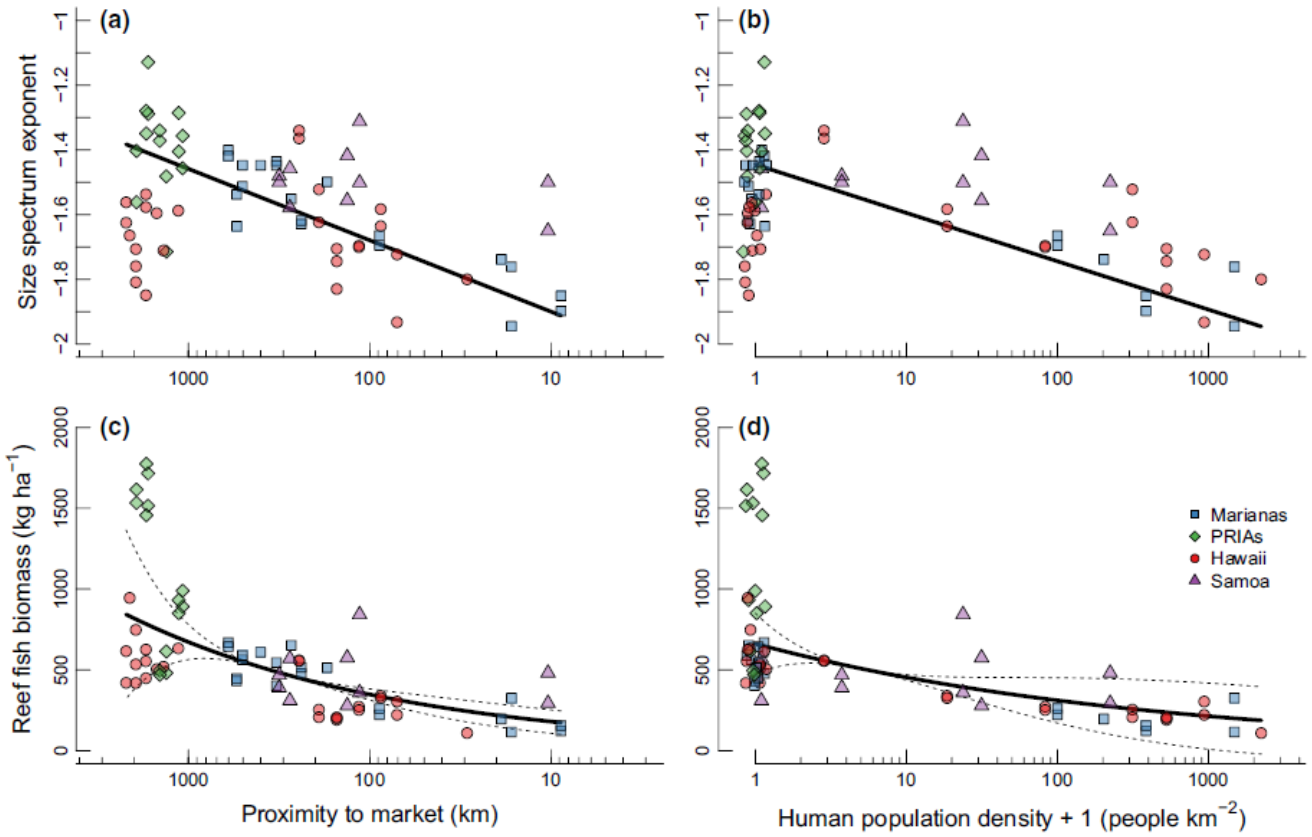
- When habitat is removed, and only fishing is accounted for, Polynesia reefs are a mixed bag
- Some low stress, healthy
- Some high stress, heavily degraded



Source: Pinca et al. 2010
PROCFish

Status: At a regional level





Decreasing fish size (top row) and biomass (bottom row)

Source: Robinson et al. 2016 *Global Change Biology*

Increasing proximity to market (left column), human pop. density (right column)

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Status: At a local level

- Collapse and closure of certain fisheries, changes in catch composition and decreases in fish size observed at some locations

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Majority of sea cucumber fisheries are overexploited

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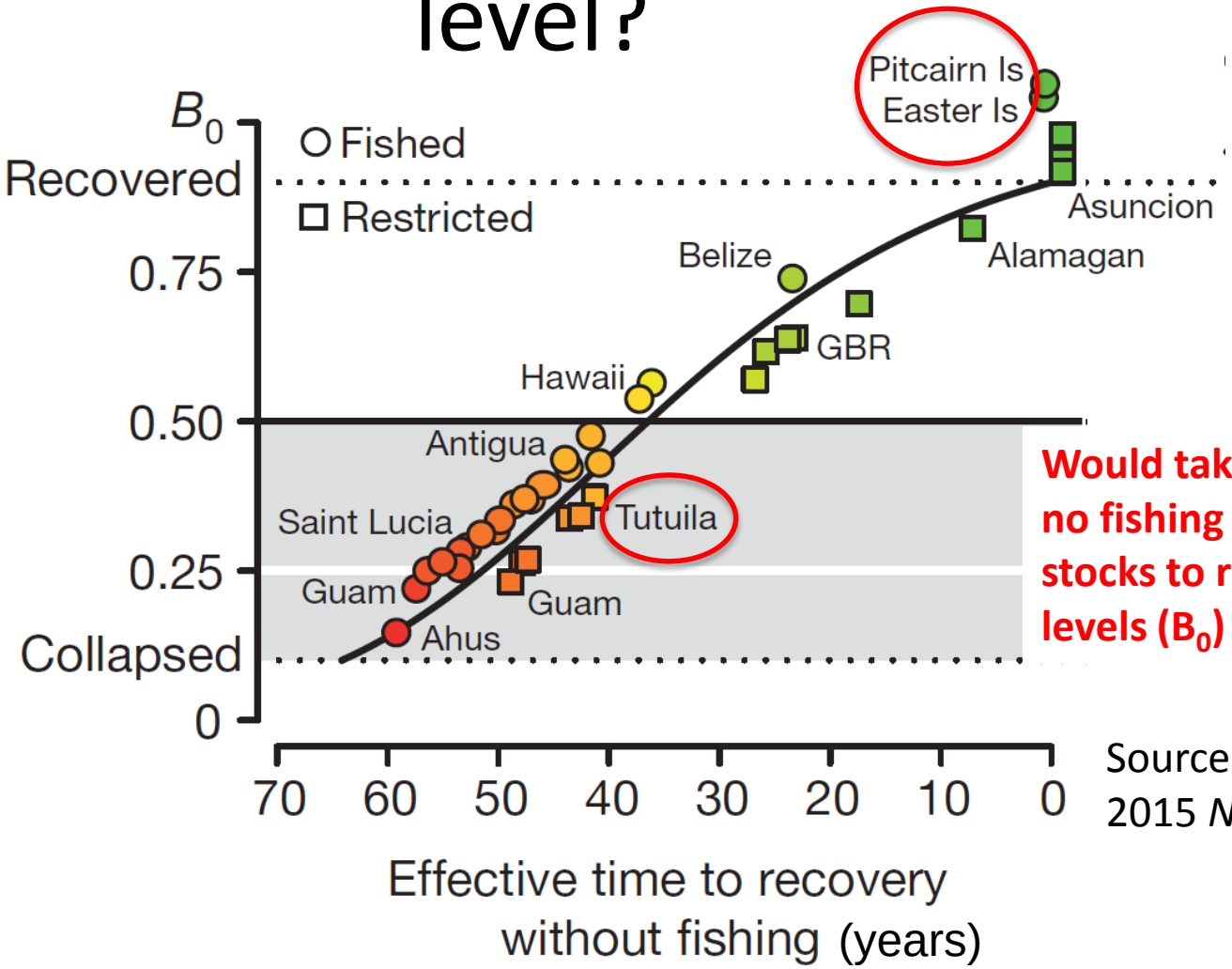
How do our fish stocks compare on a global level?



Would take 40 years of no fishing for Tutuila stocks to return to virgin levels (B_0)

Source: MacNiel et al. 2015 *Nature*

Data deficiencies

- Coastal fisheries in Polynesia, like elsewhere in the Pacific, considered data deficient

- Urgent and pressing need for long-term (& standardised):
  - Catch and effort data
  - Multiplier data to estimate annual catches (no. fishers, no. fishing trips per year)
  - Length frequency
  - Biological information of harvest species

Concluding remarks

- Coastal fish critical for food security (and livelihood, cultural identity etc.) across Polynesia
- Status of coastal fisheries in Polynesia a mixed bag
  - Some locations overexploited, some appropriately exploited, most data deficient
- Urgent need for long-term data collection programs to address data deficiencies
- Need for sustainable management of coastal reef fish and invertebrate stocks and the habitats that support them.

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Thank you

Questions?

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