SAFE Meeting Notes
9-20-09

Expectations and what to hope to get out of the meeting:

- Face to face meeting and what about the feeding ecology of Roi?
- Share more info about the Roi Round-up and inspire other islands to find commonalities between fishers and scientists/ managers
- See some of the stomach contents coming out of Roi what are the extremes in toxicity in Roi?
- Would like the group to think about the link between rivers and the ocean
- Meeting everyone and learning what folks know
- Came to observe and see how it goes
- Has a student who want to do an experiment by removing roi and see what happens to other fish
- Meet more people interested in this topic and learn
- Like to see many different people together collaborating
- More knowledge about roi
- Want to learn more
- Hear what people are thinking about roi and provide more info

Questions:

- If divers kill roi and leave them in the ocean will that lead to more ciguatera?
- Why is there a pronounced difference from year to year a the same place and same time of year
- Can individuals change their level of toxicity
- Why does roi have ciguatera more than other carnivorous fish? Why is the focus on roi?-
    - answer- scientists picked because fishers were more likely to donate that fish. Roi is in the top three contributors to ciguatera illness; roi are known predators-community need to sustain ourselves on other islands-negative impacts other than fishing
- How fast do roi move back in after removal
    - Answer-Big ones seem to move in-#'s are still there
- What is the territory of roi?
    - Answer-roi has a harem of 1 male to 3-4 females. Below is some info from Amanda Meyer's research on roi's home range in Hawaii and Moorea.

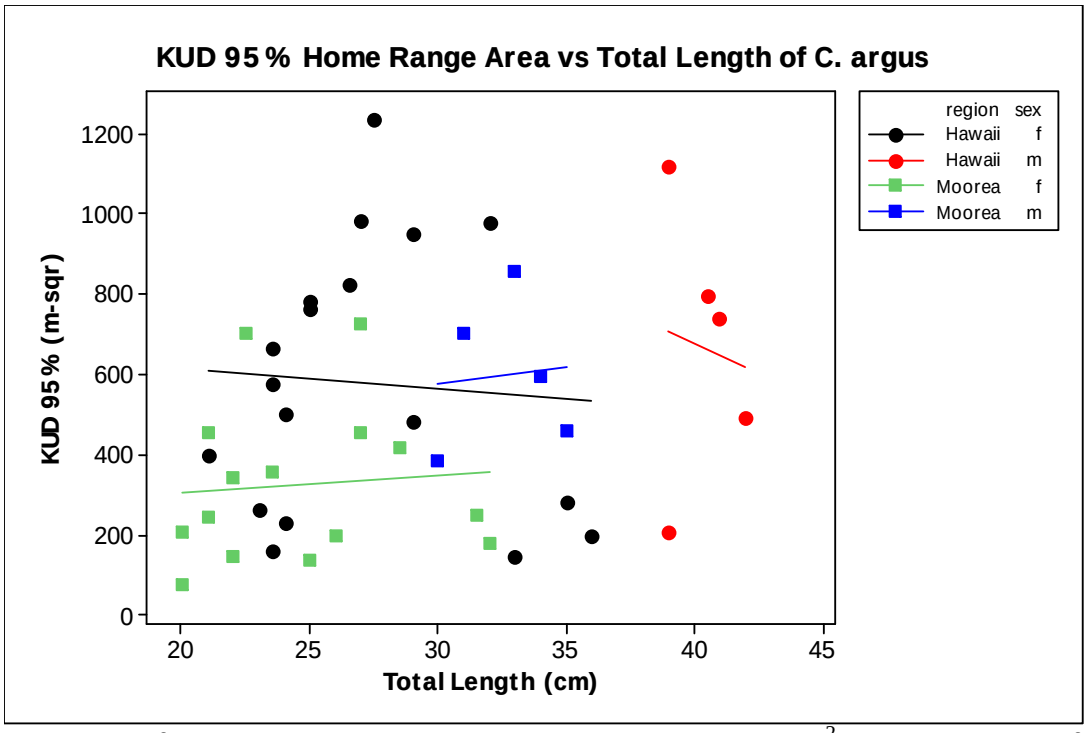

Figure 4.10. Scatterplot of kernel utilization distribution home range area (m^2) vs total length of *C. argus* (cm), by geographical region and sex of fish. Black circles represent Hawaiian females, red circles represent Hawaiian males, green squares represent Moorean females, and blue squares represent Moorean males. In Moorea male home range areas were significantly larger than female home range areas, $p<0.001$. There was no significant different in home range areas between sexes in Hawaii.

- Is there a better time of day to get roi?
  - Answer- Do eradications in the mornings because conditions are better but generally fish move around more before sunset
- How many more roi are needed to figure out the molecular structure(of the cuguatoxin-CTX)?
  - Don't know and the toxin in Hawaii is different than toxins in other parts of the Pacific
- How many different toxins have been detected?
  - Does size and level of toxin relate?
  - Are there different? in different parts of the fish(head/tail etc….)
    - Answer- no, but generally more fatty areas are worse
- Information about Size not mattering for toxin should be publicized
- Are you testing eggs of fish that are caught?
  - Answer-its going in to be assessed for toxin but not targeted individually
  - Not really possible to have fish born with high levels because amount of toxin is so small in eggs
- Can some people break down the toxin?
  - Not that we know of.
- Do external events impact the toxin(hurricanes, channels etc…)?
  - Answer- unknown
  - One study showed pristine reefs having more CTX than disturbed reefs
- Why do the dinoflagellates produce toxin? Is it just a natural bi-product?
  - Answer- Microbiologists finding that microbes can tell if others of their kind are in the area by some compounds they emit-not a defense mechanism,-it's a social mechanism
- According to Darla White's study there was no difference between windward and leeward side and toxicity

- How can managers facilitate changes in roles so that fishers can help us manage fisheries?
- Why was Roi chosen vs. native species?
    - Test kits(cigua-check) is not species specific
    - Test kits(cigua-check) may be unreliable