

AISWG Marine Subcommittee: Green crab Monitoring Coordination teleconference

May 23, 2008, 9:30 am

Hosted via NMFS bridge number. Minutes taken by Deena Jallen

Participants

Tammy Davis- ADF&G, Juneau

Gary Freitag- Alaska Sea Grant Marine Advisory Program, Ketchikan

Dan Gilson- PWSRCAC, Valdez

Ingrid Harrald- KBRR, Homer

Deena Jallen- AISWG volunteer, Fairbanks

Lisa Ka'ahue- PWSRCAC, Anchorage

Whitney Rapp- Glacier Bay National Park and Preserve, Gustavus

Linda Robinson- Prince William Sound Regional Citizens' Advisory Council, Anchorage

Linda Shaw- National Marine Fisheries Service, Juneau

Heather Woody- Sitka Tribe, Sitka

Agenda: Items to discuss

- Update on activities
- Set next meeting time
- Possible agenda items for next meeting

Additional Resources

- Web resources for Paul Jivoff and Memphis Net & Twine
- Photo of red rock crab

Update on Activities

Gary Freitag has been talking to Paul Jivoff about green crab ecology. Paul works for Rider University and has been working on the east coast from Maine to Virginia. Green crab were introduced to the east coast at least 100 years ago. In the summer, green crabs have extremely limited habitat range. Paul thinks that it is because blue crab (*Callinectes sapidus*) are limiting green crab habitat. In large estuaries, green crabs were almost never found in trawls 3-4 meters off shore, but in traps against the mud, 60-80 green crab could be caught. Blue crabs would be found in the open on sandy bottom areas, and appeared to be limiting green crab in those areas with heavy predation. When placed in traps, green crab tolerated salinities from 9-30 parts per thousand. Tethered green crabs would survive in marsh and muddy marsh areas, but experience mortality in open water habitat. Blue crabs go dormant in the winter between October and April, and during those times, green crab could be found on sandy bottom areas.

Dan Gilson asked if Paul found that green crab had displaced other species? Gary Freitag said that Paul's work was showing that green crab were finding their own niches, and were only dominant in the environment in the winter. At other times of year, green crab were only found near the banks. As he went further north, he would find green crab more in open waters. Blue crabs are found from the Gulf of Mexico to New York. Their larvae are unable to travel above Cape Cod. In areas without blue crab, green crab would

be found throughout the habitat. Paul's conclusion was that blue crab presence is controlling the expansion of green crab.

Blue crab are not found on the west coast. Linda Shaw said that red rock crab may play the same role of limiting green crab on the west coast.

Heather Woody recently did green crab trapping in Crescent Bay near Sitka on May 6. Every trap had something; sculpin, greenling, or red rock crabs (*Cancer productus*). The traps were set in areas of muddy bottom, eel grass beds, and mixed kelp. The red rock crabs were very feisty. The largest were 7-8 inches across. Linda Shaw said that the green crabs they trapped in Vancouver were pretty wimpy, and shouldn't be much of a match for red rock crabs. Linda mentioned that red rock crabs may have a lesser salinity tolerance than blue crabs. This may allow green crabs to avoid red rock crabs by living in low salinity waters. Tammy Davis said that Claudio DiBacco's work on *Cancer gracilis* and green crab found that they utilized different areas. When *gracilis* moved for the mating season, green crab switched the habitat they used. Green crabs are very flexible in their habitat usage, especially when other crab species are present.

Linda Shaw asked Heather what depth she placed her traps, and suggested that she also trap in shallower waters, and close to fresh water to see if she can find areas with out red rock crab that may be suitable for green crabs. Heather said that the salinity at her site was 24.7 parts per thousand, fluctuated a lot, and was lower than other areas of the bay. Her traps were set 10 feet from the water line. Ingrid Harrald said that in Homer, they set their traps up in a grid in order to see what species were caught at different depths and salinities. Dan Gilson suggested that next time, instead of placing traps parallel to the shoreline, traps should run perpendicular to the beach, in order to sample at different depths. Linda asked that the data sheet have a sketch of where the traps were placed and arranged so that data could be collected.

Tammy Davis has sent traps and YSI meters to Whitney Rapp. Whitney will be putting the traps out in 2 weeks during the low tide near the park headquarters in Gustavus.

Linda Shaw said that Heather was needing ID tags for her traps. Dan Gilson has extra tags. They identify the trap as scientific research equipment property of PWSRCAC. Dan Gilson can send tags to people who need them. To get tags, email gilson@pwsrcac.org. Tags will need to have the permit number written on the back.

Gary Freitag is making progress in finding trapping spots. He is looking at areas that would be suitable habitat, accessible by small plane, and that fit into the volunteered plane availability. He plans to fly to two outer coastal sites; Doll Island, and the entrance to Dixon Bay. The bay is protected, with lots of sea grass beds. Linda said that the time frame for trapping is during the lowest tide of the month, through September. Dan Gilson said that they learned in Vancouver that green crab do not go dormant in the winter. Trapping could continue in to October, or until traps can be deployed without freezing.

Dan suggested that if participants have time, they could sample more often than once per month. Gary said that the remote areas will be interesting to sample, but will probably not be accessible more than once a month, and Ketchikan does not have ideal habitat. Ingrid Harrald suggested setting traps at fish cleaning stations. Claudio DiBacco has found in his work that people have seen green crab on fish carcasses, and has placed traps

at fish cleaning stations near harbors. This would be food source based sampling, as opposed to habitat based, and would not have to follow tidal schedules. Gary said there are a couple areas in Ketchikan that would be ideal for such sampling. Ingrid said that in Seldovia, they caught many different crab species at food source sites.

Tammy Davis asked about the status of traps, and if more needed to be ordered. Linda Shaw still has about 28 traps left. Dan Gilson has 20 traps he could loan out. PWSRCAC plans to order more traps when they are out of loaner traps. Gary Freitag has 20 traps from Linda, and may be able to get more from Scott Walker in Ketchikan. Dan Gilson said they have 40 traps (20 each) set aside for Seward and Chenega. Ingrid Harrald has traps available for a teacher in Nikiski.

Several types of crab traps are commercially available. Sylvia Yamada is trying out two types of traps to see how each works. Paul Jivoff uses a more rigid type of trap, which wouldn't be suitable for collapsing and transporting via small plane. On the east coast, Paul did not have to worry about collapsible traps in his logistics, and found that both types worked well. Memphis Net & Twine is one domestic source of traps. PWSRCAC has ordered their traps from a Japanese company.

Lisa Ka'aihue asked if people have a good source for getting crab specimens mounted in acrylic. Dan Gilson and Tammy Davis have recently had theirs go missing. Ingrid Harrald said she has been in discussion with a company that can make the specimens from frozen crabs, but would need a source of green crabs. Lisa Ka'aihue recommended Graham Gillespie, and Gary Freitag recommended Paul Jivoff. Paul would have no trouble getting 80 at a time. It will depend on where the company making the mounts is located as to whether it would be cheaper to ship them crabs from the west or east coast.

Linda Shaw asked if people looking trapping are recording the sex of crabs caught of other species. Heather Woody sexed the red rock crabs that she caught, and said it was pretty easy to do. Lance Lerum with the Forest Service was given a simplified protocol, which only asked for data on species, latitude/longitude, type of bait, date, temperature and salinity. If people can do the sexing, it would be good information to have. Ingrid said that Claudio DiBacco would find it useful, as he would be interested to get baseline data on native crab species prior to green crab invasion.

Blake Feist is gearing up to use larval current models to do simulations of green crab larval releases. He wants sites along BC and southeast Alaska. His model predicted green crab larvae could disperse up to Cook Inlet. Linda Shaw will be working with him on the model using stepwise approach to see how far north larvae could get using 10 different starting locations.

Ingrid Harrald received green crab larvae from Claudio DiBacco. Gary Freitag would love to get sample or pictures so they can check their plankton tows for green crab larvae. He is also trying to get the same identification information for tunicate larvae. Deena Jallen would also like photos to add to green crab information.

Upcoming teleconferences and meetings

Marine Subcommittee and Green crab monitoring (combined meeting)

July 9, 9:30 am

To attend, call into 907-586-7977. Allow line to ring until another party picks up, long distance charges apply.

Tunicate monitoring

August 6, 9:30 am

To attend, call into 907-586-7977. Allow line to ring until another party picks up, long distance charges apply.

AISWG

TO BE ANNOUNCED OVER LIST-SERV AND WEBSITE

To attend, call into 907-271-1405. Allow line to ring until another party picks up, long distance charges apply.

CNIPM and AISWG Annual meeting

October 21-23

Millennium Hotel, Anchorage

October 21- Terrestrial Plants (CNIPM)

October 22- Aquatic plants and animal/plant interactions (CNIPM)

October 23- All-taxa (AISWG)

Additional Resources

Paul Jivoff

http://www.rider.edu/172_2043.htm

Memphis Net & Twine: Crab traps

http://www.memphisnet.net/category/traps_crab



Red rock crab (*Carcinus productus*) sampled during green crab monitoring. May 7, 2008 in Crescent Bay, Sitka. Photo by Heather Woody, Sitka Tribe.