

Participants:

- Alex Hearn (UC Davis)
- Pete Klimley (UC Davis)
- German Soler (F. Malpelo)
- Hector Guzman (STRI)
- James Ketchum (UC Davis)
- Cesar Peñaherrera (CDF)
- Eduardo Espinoza (PNG)
- Scott Henderson (CI)

Unavailable: George Shillinger (Stanford-TOPP)

Provided input later: Randall Arauz (PRETOMA)

Methodology:

"ReadyTalk" service was used to set up a conference call based at UC Davis. Participants rang a toll-free number in each country, except Costa Rica where we intended to call out but were unable to connect. A later meeting between Randall, Alex and James took place by skype on June 3rd.

Agenda and Minutes:

1. Research Update

Malpelo:

- Off to France to place PAT tags on basking sharks
- Trip to Malpelo in August for downloads, some funds for more ultrasonic gear
- Shark #6928 was detected at Cocos, so 3 hammerheads have now been recorded as travelling from Malpelo to Cocos – one of these continued to Galapagos and has been resident there for several months
- Preliminary analysis of the sandtiger shark data shows that it spends nighttime hours around the island and possibly moves into open water during the day.

Cocos:

- Expect to expand array – deploy more receivers at Rio Sirena on mainland CR. There appear to be large numbers of juvenile lemon and blacktip sharks in the mouth of the river. Also large bullsharks.
- Trip to Cocos in August to do downloads
- Juvenile *S. lewini* detected at Parque Corcovado – want to include this site in the monitoring array, with a view to getting information on reproductive movements of females.

Galapagos

- Placed SPOT tags on 2 hammerheads (one female) in March – got some good info for several weeks – one shark headed towards Cocos fairly directionally, but transmission was lost 2/3 of the way. Also tagged 15 more hammerheads and did another continuous track.
- Trouble with losing some deployments due to nicopress quality.
- Presented poster at American Fisheries Society – California Chapter on hotspots at Wolf
- Funding cycles coming to an end. NSF proposal in, waiting for response

Revillagigedos

- James has obtained funding to install a fairly large array at the Revillagigedos and surrounding islands later in the year, also to tag some sharks there. This means that the Migramar Array will now cover pretty much the entire north-south range of scalloped hammerheads in the ETP.
- We have been coordinating with other researchers working there – there are already some receivers deployed – we are attempting to come to data sharing agreements with their owners.

Coiba

- Have focused mainly on whale sharks - 19 tagged (7 SPLASH tags). One individual migrated to Mexico where it appears to have been caught, another has been recorded in El Salvador, but most transmissions have been local.
- Behaviour shows some dives, but the area is shallow so not much opportunity for deep dives.
- No detections from 9 animals tagged with ultrasonic pingers.
- Funding secured for 3 years for whale sharks
- Imminent trip to Coiba to tag hammerheads with SPOT tags (also some v16). Tagging method – by fishing. Will look at programming the SPOT at different time intervals 1,2,3 days.
- 5 receivers have been lost
- Want to look at a known nursery area and catch animals before they enter the area to give birth – SPOTs might then give a good idea of connectivity if animal makes return trip immediately after giving birth.

2. Publications update

- Bessudo et al. Hammerhead vertical movements at Malpelo is currently under final revision from James, and should be ready to submit soon
- Hearn et al. Hotspots at Wolf Island is being reviewed by the co-authors and should also be ready for submission soon (before end of June)
- Ketchum et al. Diel movements of Hammerheads at Darwin and Wolf – first draft almost complete, hope to get out to co-authors for revision within a month.
- Guzman – working on a manuscript about the whale shark data
- We were approved to give a poster and talk at the Galapagos Science Symposium in July 2009 – poster will be the Hotspot at Wolf, presentation (Ketchum et al) will be on shark movement and marine reserve design
- We were approved for a poster (Ketchum et al) and two talks (Hearn et al Hotspots, given by Pete Klimley; and Hearn et al migrations and Roca Redonda, given by Alex) at the American Elasmobranch Society Symposium in July 2009.

3. VEMCO issues

We don't have all that many VR2s left: 5 at Malpelo, 1 in Panama, 4 in Galapagos and 1 at Cocos. In any case, as the new tags will not be on sale for another 2 years, we can slowly phase out the VR2s .

4. 2010 Symposium planning

We discussed the preliminary list of talks. German said that 2 Malpelo talks might be a lot of work – rather publish the vertical movements paper now, and then focus on a paper looking at Sandtiger sharks for 2010. Also possibly a basking shark paper if enough data.

James (initially down as lead author for 3 articles), decided that the article on diel behavior of hammerheads should be published soon, so better focus on the other 2 for next year (Refuge designs and Long distance movements).

Cesar and Alex both happy to do a talk on white-tips and Galapagos sharks respectively, assuming that there will be enough data available by then. Hector happy to give a talk on whale sharks, Randall OK with 2 talks: hammerheads at Cocos and Bullsharks at Bocas del Toro.

5. Website

At the moment, the website is unfunded. Changes have been made to it by a volunteer at CDF, who can also post new things on it. We now have spoken to a web design company and obtained a preliminary costing of rebuilding the online database, managing the website and designing a tracking map (animated). Scott said that Conservation International could commit \$5K immediately to the website through the communications budget, but suggested that each organization commit to raising another 5K. However, this commitment was not echoed by anyone immediately and we need to decide whether we are willing to do this.

In one of our new sections "Impact" we need more articles which reflect how our work is being translated into action. Randall and Eduardo agreed to send asap. Pete and James need to write up something about the Argos and AAAS meeting, Alex about the CAL-NEVA AFS meeting poster.

6. Other

We did not talk about setting up Migramar as an NGO as we felt that George should be present so he can fill us in on what the next steps are.

Scott mentioned that we might want to produce a SWOT report – 5-7 page glossy booklet on the state of sharks in the ETPS, including our results and work on landings, observers etc. There would probably be a cost to this and would require someone to coordinate. We need to see an example so we can work out how long it will take.