

Biological Sampling Newsletter

for Observers and Port Samplers

SPC-OFP Ecosystem Monitoring and Analysis Section*

Issue #8 – 15 Octobre 2008

Welcome to the eighth issue of the *Biological Sampling Newsletter*, which provides news about the Ecosystem Monitoring and Analysis Section (EMA) of the SPC Oceanic Fisheries Programme (OFP). In this issue we present the tag seeding activities of the tagging project, an update on the stomach sampling programme, and OFP-EMA staff activities.

SAFETY FIRST: SPC STAFF TRAINED FOR FIRST AID, FIRE FIGHTING AND SEA SAFETY

In July, some EMA staff members participated in different safety training sessions to improve their skills. New Caledonia's maritime college held two sessions on fire fighting and sea safety. After two days of theory, EMA staff went to the harbour to practise using different types of extinguishers on a fire simulator.



Brian Kumasi practising fire fighting using the fire simulator. In the background are EMA staff Caroline Sanchez and Ashley Williams, maritime college instructor André Copola, and SPC interpreter Patrick Delhaye.

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We ignited different types of flares on our second day of practise, which was on the water using the maritime college's small boat. We also deployed a life raft and, wearing survival wetsuits, we practised getting into the raft. The exercise was difficult enough in calm waters, and we all agreed that we should never end up in a situation where we would have to do it for real...



Ashley Williams and Valérie Allain using flares.

The team practises getting into a life raft.



ANNIE PORTAL: OUR NEW INTERN



Caroline Sanchez, Annie Portal and Aude Chenet in the EMA lab.

A new laboratory intern started with the EMA Section last August. Annie recently graduated with a Scientific A level. She is keenly interested in marine biological studies, and wants to continue her studies at James Cook University in Australia. Her input was very valuable during the taxonomy process, and Annie was very involved in various tasks necessary for examining stomach contents. With the rigour and dedication she put into her work, this experience will certainly help with her future studies and potential employment.

SCIENCE FAIR, 4 OCTOBER 2008



The 17th Science Fair took place at SPC's headquarters in Noumea. This event is a great opportunity for students from middle school and high school to share their knowledge about one specific scientific topic. During their science practical curriculum, students were asked to work on a subject and present it (if they were willing) at this event. Also during the fair, representatives from scientific institutions such as SPC, the French Institute of Research and Development (IRD) and the Institut Pasteur, give an overview of some of their main research programmes. Our OFP team presented two topics.



TAGGING PROJECT: Bruno Leroy from SPC's EMA Section presented a map showing tagging cruises as well as videos explaining the main objectives of the project, the methods used, and the major outcomes expected. The main questions asked were: "Why do you tag tuna?", "How do you tag them?", "What information do you get from that?" The questions and answers resulted in great discussions with visitors and our team.



Trophic Programme: EMA Section laboratory assistants introduced the public to the importance of studying tuna stomach contents. Our activities mainly focused on fish identification and taxonomic methods. Many people were amazed to observe deep-sea fishes and that some of the stomach samples contained whole fish that were undigested.

Albacore Tuna Project

As we reported in the previous newsletter, fisheries observers throughout Pacific Island countries and territories (PICTs) are being asked to assist in a new albacore project, led by Ashley Williams, by collecting otolith and gonad samples from albacore while at sea. The assistance and cooperation of observers will be key to the project's success.

In August, Ashley travelled to Fiji to attend an observer refresher course and train fisheries observers in techniques for collecting biological samples (otolith and gonads) from albacore. Five Fiji observers attended the course. Most already had experience in collecting biological samples, including stomach and liver samples for Valerie Allain's trophic ecology project and gonads and otoliths for Keller Kopf's striped marlin project. The observers were very enthusiastic to learn how to remove gonads and otoliths from albacore, and showed great competency in demonstrating their new skills.

A sampling kit with all the necessary tools, tags and instructions will be sent to observers very soon. A reward for the collection of biological samples and data is also being offered to observers.

For further information about this project please contact Dr Ashley Williams (ashleyw@spc.int).



Miteli Bosevakatubou, Sairusi Madigi, Apenisa Sauturaga, Eroni Bautani and Sailosi Naiteqe are training in sampling otoliths and gonads.

PACIFIC TUNA TAGGING PROGRAMME (PTTP): TAG SEEDING



Tagged tuna (single and double) during demonstration and tag practice.

Tagseeding experiments involve the secretive tagging of dead fish on board fishing vessels before they can be detected by the normal processes of tag detection such as transshipment, unloading and sorting. The return rates of seeded tags are, subject to various conditions, indicative of the reporting rates of similar tags from the regular tagging programme. One of the key requirements of this approach is that seeded tags can be planted in the catch without the knowledge of the crew or others involved in tag detection. Previous work suggests that this works best on purse seiners, which handle large quantities of fish, rather than longliners and other types of operations in which fish are individually handled.

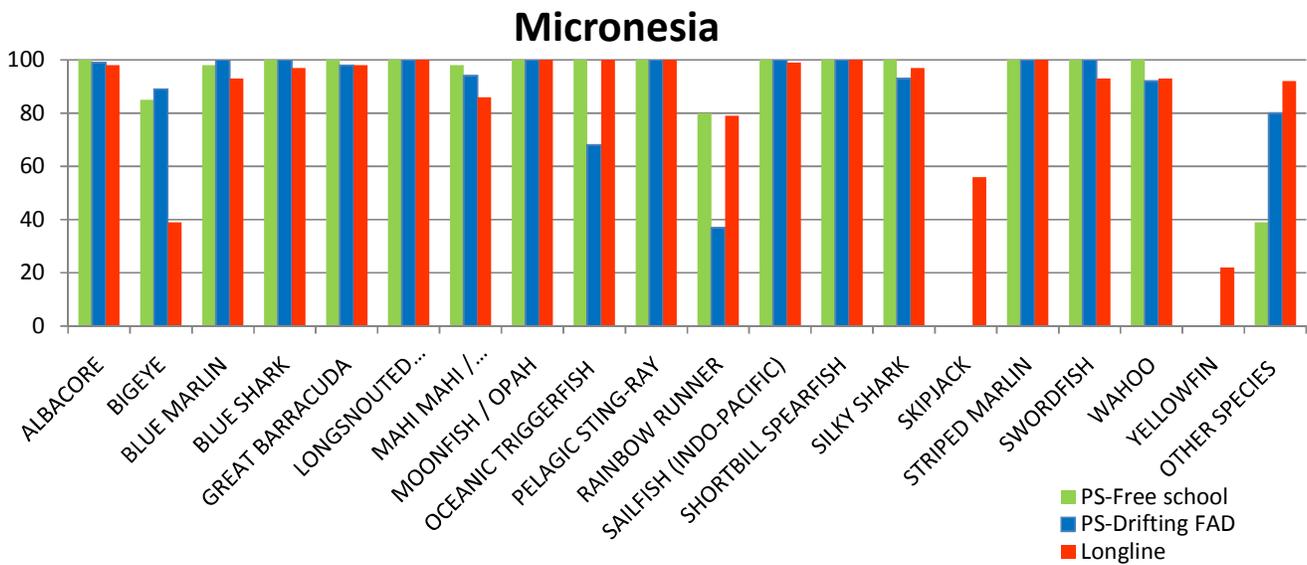
In this project, we expect the majority of tag returns to originate from purse seiners; therefore, high priority will be given to conducting tag seeding throughout the course of the project in order to estimate tag-reporting rates. We plan for tag seeding to be undertaken by regional and national observers on purse-seine vessels operating throughout the western and central Pacific Ocean.

These experiments will be designed to provide statistically reliable information on tag reporting for the purse-seine component of the fishery throughout the duration of the tagging programme.

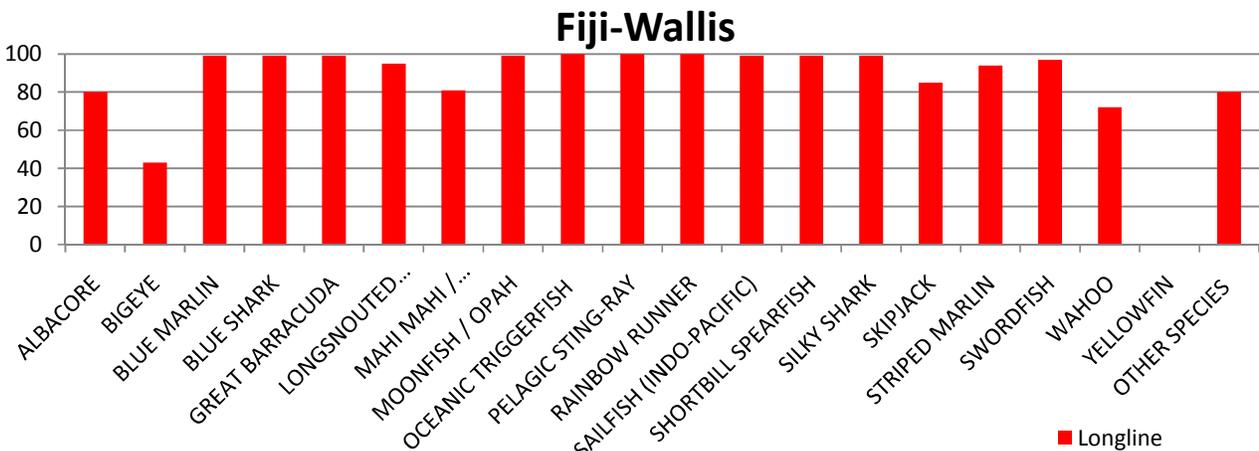
STOMACH SAMPLING: GAPS IN THE SAMPLING STRATEGIES

Our lab team, with the assistance of a new intern, is still analysing stomach samples. Our objectives before the end of the Global Environment Facility/Oceanic Fisheries Management project are to ensure good qualitative and quantitative results on diet studies and analyse at least 100 samples per species per region. In order to fill the gaps in the sampling strategy programme, the following graphs show the number of samples per species needed to be collected for each region. Figure 1 shows the geographical boundaries of each region and the distribution of samples collected.

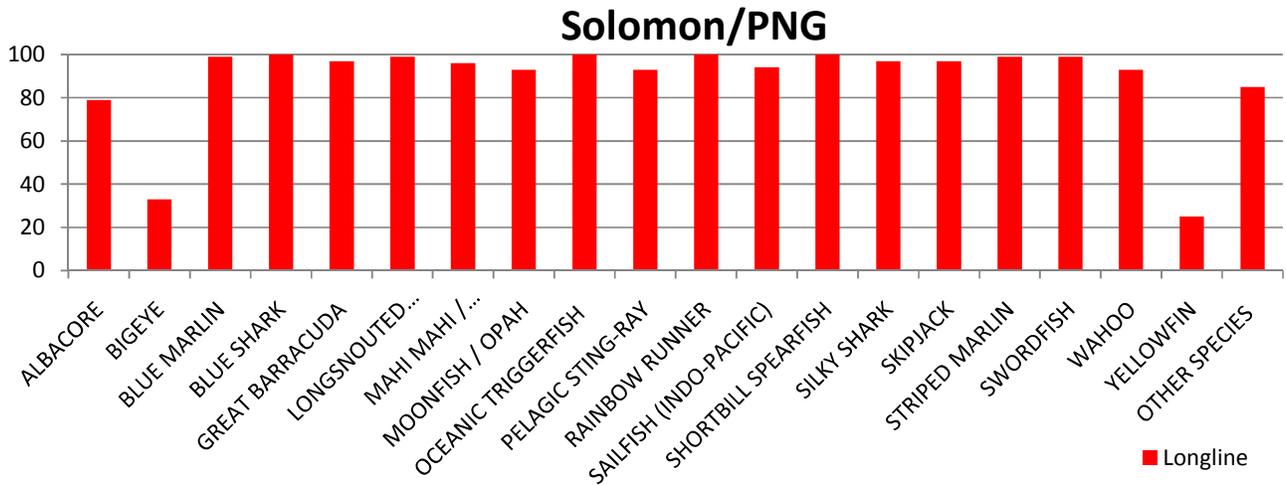
For some species, only a few samples still need to be collected to reach the 100-sample goal. It would be of great assistance if you could mention this to observers within your region. Thanks in advance for continuing the collection of samples and helping us to fill in the gaps in our research



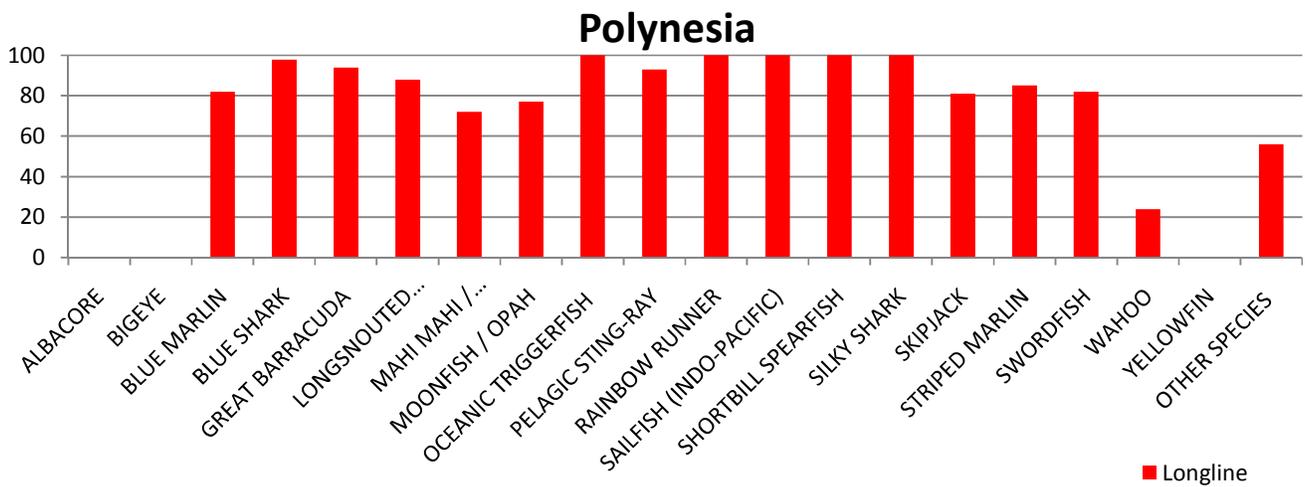
Graph 1: Number of stomach samples needed per species per gear in Micronesia.



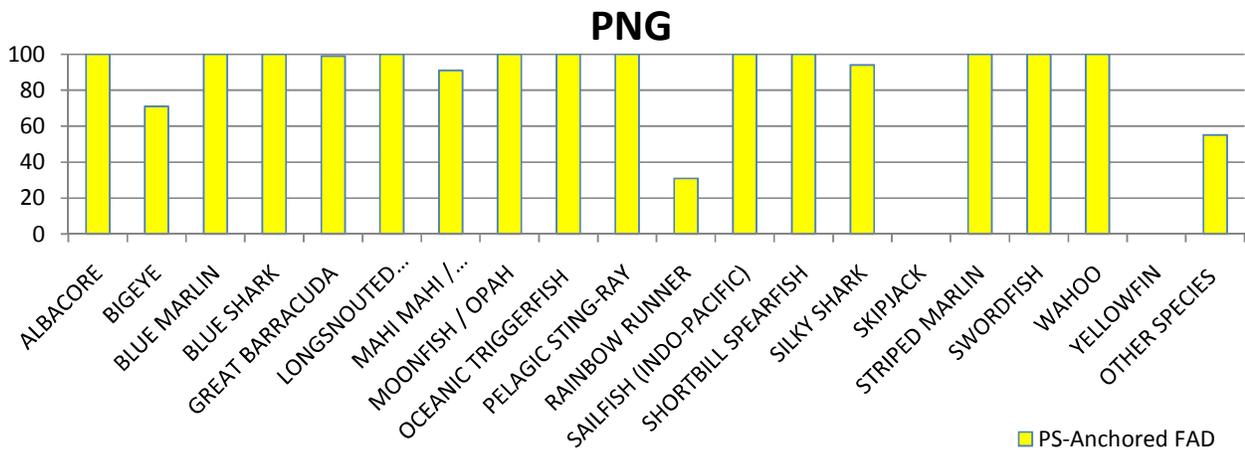
Graph 2: Number of stomach samples needed per species in the Fiji-Wallis region.



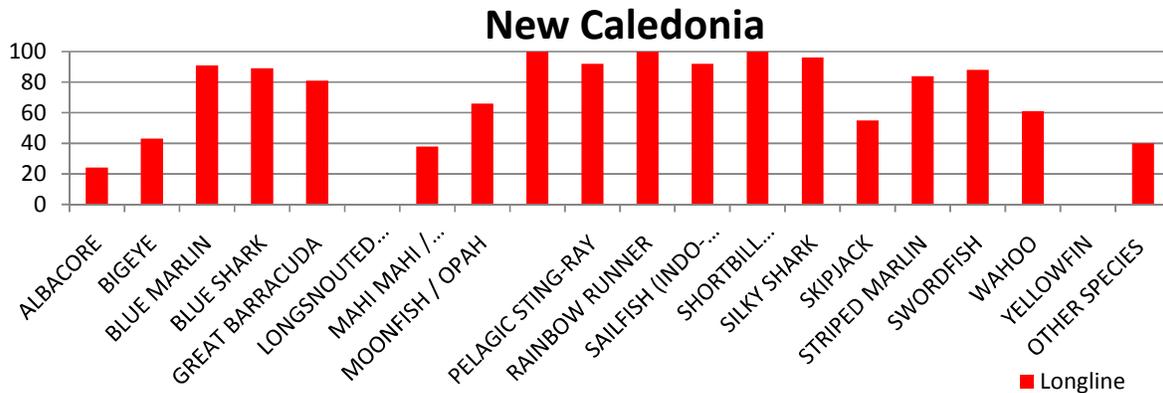
Graph 3: Number of stomach samples needed per species in the Solomon Islands/Papua New Guinea region.



Graph 4: Number of stomach samples needed per species in Polynesia.



Graph 5: Number of stomach samples needed per species in Papua New Guinea.



Graph 6: Number of stomach samples needed per species in New Caledonia.

The Western Tagging Program Phase 2 (WTP Phase 2) was conducted from June to September in the Philippines through to the Federated States of Micronesia (FSM). This allowed us to collect 217 stomach samples in Palau and 354 stomach samples in FSM. In addition, more samples were collected in other regions. Thank you again for your support in maintaining a strong collaboration with the observer programmes.

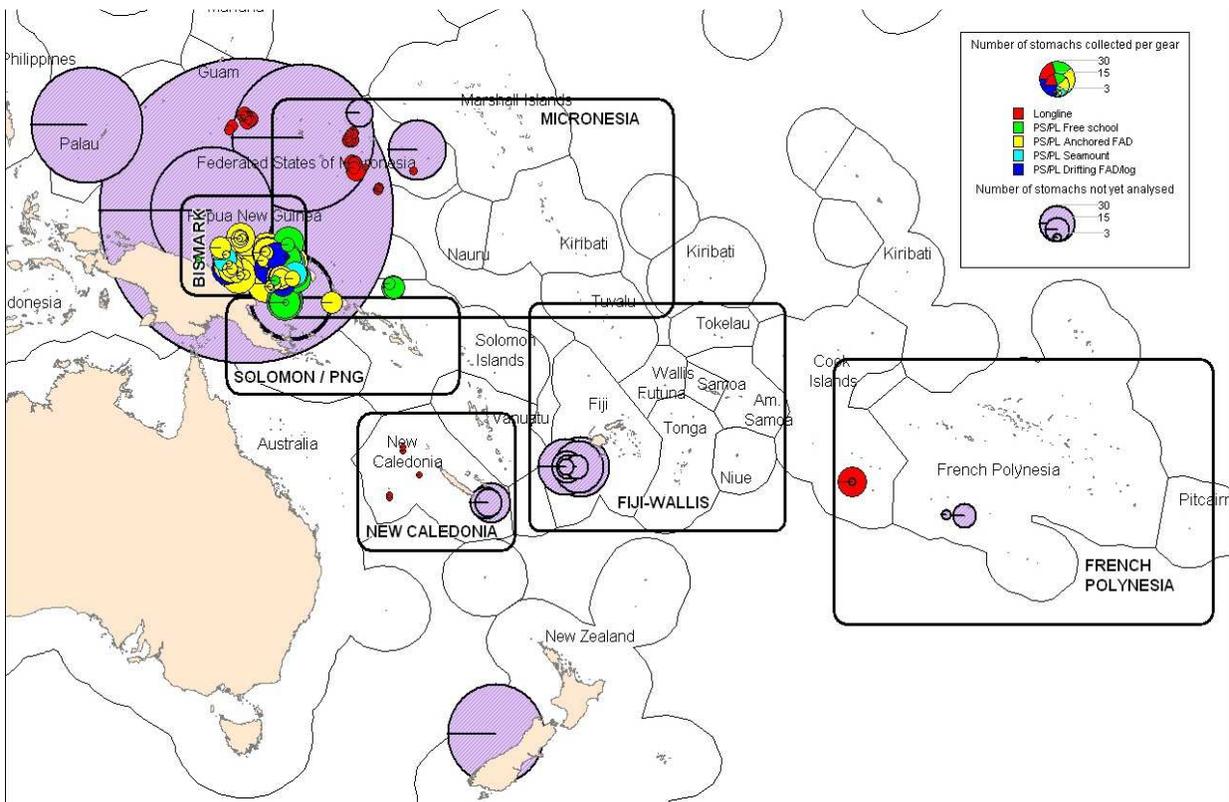


Figure 1. Geographic distribution of samples collected and analysed, and samples collected and not yet analysed during the GEF-OFM Project 2005–2010 as of 30 October 2008. (PS = Purse Seine, PL = Pole and Line).

**NEXT NEWSLETTER:
END OF DECEMBER 2008/BEGINNING OF JANUARY 2009**

We welcome your comments on the content of this newsletter – please send them to Valérie Allain (valeriea@spc.int), Caroline Sanchez (carolines@spc.int) or Aude Chenet (audec@spc.int).