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du Pacifique

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Information paper 4

Update on FAME research assets

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Background

1. This Information Paper provides HoF14 with an update on:
 - a. Construction and operation of the Pacific Regional Fisheries Research Vessel;
 - b. Upgraded Fisheries Laboratory capabilities to support the Pacific Marine Specimen Bank.

Regional Fisheries Research Vessel Project

2. The project was presented at the 13th Heads of Fisheries meeting (see HoF13_IP7) and the continuation of the project endorsed. Since that time, discussions with the French Oceanographic Fleet (FOF) highlighted the fact that it was not possible to deliver anticipated vessel usage requirements through a common project. The regional vessel project is more oriented toward fisheries research (providing data for regional tuna stock management being the main goal) while the FOF programme is more oriented toward physical oceanography. The total number of sea-days required to fill all these missions clearly demands the support of at least two different fit-for-purpose vessels.
3. An information brochure has been designed that is available at <https://fame1.spc.int/component/content/article/258> and is presented at the end of this paper. This brochure is designed to raise awareness of the project and act as the next step in resource mobilisation.
4. The regional support for the project is unanimous and clearly demonstrates the necessity for the region to develop this capacity to undertake its own independent research to manage its natural resources.
5. An in-country project activity priorities survey has been initiated to evaluate the amount of boat time that could be attributed for regional and specific country needs. The results will be used to more precisely define project vessel capabilities and its design (and necessary links to other research assets).
6. The preferred approach for the project vessel governance should preferably be defined in parallel with vessel construction. This governance could be composed of an executive board, and a programming board. The executive board would have responsibility for budget and management oversight and ensuring its equitable use. Since the activities of such a vessel are often scheduled up to two years in advance, with operations scattered around the entire region, the work agenda would be designed by an operations and programming board, whose role is to prioritize the vessel's mission for each voyage, optimize transit times, and coordinate vessel usage around the region. The composition of these boards needs to be defined. SPC would provide administrative support for both boards, including the execution of board decisions, supervision of vessel contracts and day-to-day operations.

7. The Pacific Community Fisheries Research Vessel has the opportunity to further focus and harness attentions to the importance of ocean resources and conservation for Pacific livelihoods and culture. The construction of the vessel has the capacity to further raise awareness and engage the community in the decade of ocean science.
8. Two immediate tasks to further progress from concept to construction are (1) the resourcing and appointment of a project manager to facilitate the mobilisation of resources for construction and associated preparatory works; and (2) the resourcing and completion of a functionality study which will finalise the design specifications and generate the documentation for requesting proposals for construction. SPC is currently seeking donors to support these two activities.
9. Noting that the operational commissioning of the research vessel is unlikely to commence until 2025 at earliest, there will be a need to work with existing charter vessels to achieve FAME's work plan. This may include the need to negotiate specific arrangements that support maintenance of exiting vessels to ensure they are sea-worthy and reliable for high seas and remote deployment.

FAME Fisheries Laboratory to support the Pacific Marine Specimen Bank

10. The project was presented at the 13th Heads of Fisheries meeting (see HoF13_IP9) and the continuation of the project endorsed. Since that time, the preferred option has been identified and detailed design completed.
11. The preferred option includes:
 - a. DNA extraction laboratory;
 - b. PCR laboratory;
 - c. otolith and bioclimatology laboratory;
 - d. PMSB and tagging dry room;
 - e. enhanced cold storage;
 - f. external dirty laboratory;
 - g. out of office hours sample delivery room;
 - h. back-up power;
 - i. enhanced taxonomic reference library.
12. In addition to maintaining capacity within SPC for modern fisheries science the infrastructure investment will allow the Pacific Marine Specimen Bank to:
 - a. meet general requirements for the competence, impartiality and consistent operation of biobanks including quality control requirements to ensure biological material and data collections of appropriate quality;
 - b. provide laboratory facilities that meet current health and safety standards;

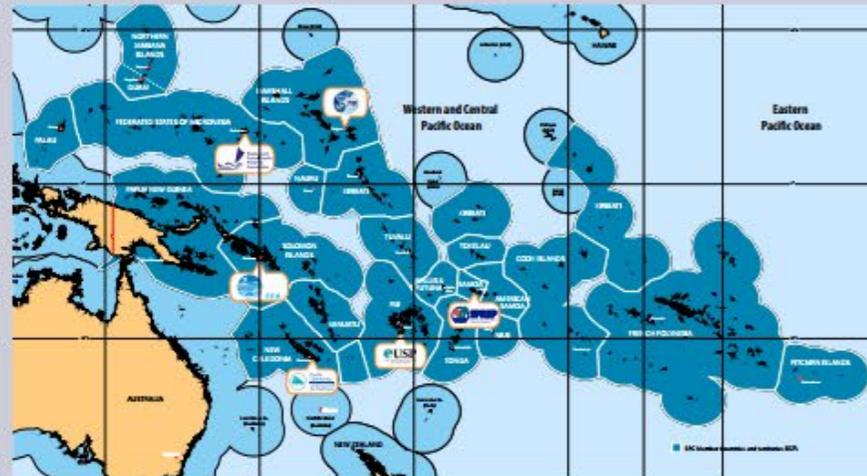


- c. provide capacity for expansion of CFAP life history and biobank analyses;
 - d. provide capacity for training and internships to fisheries officers and scientists from SPC's membership.
13. SPC is currently seeking donors to support this infrastructure development. This infrastructure is critical for FAME to achieve the work programs of the GCF regional tuna program, WCPFC and regional stock assessment, and Mindaroo's "Building the science foundations for a Pacific approach to sustainable, evidence-based coastal fisheries management" programme.

Conclusion

14. FAME and PCCOS hope that HoF14 will note the progress made to establish the research assets and infrastructure needed for SPC and its members to maintain and enhance its fisheries science and monitoring capabilities.
15. FAME and PCCOS encourage HoF14 participants and their associated agencies to promote the resourcing of these assets to potential donors as a priority.

Region, Partners and Collaborators



To inform and preserve the Pacific Ocean, its people and resources, the region is supported by key inter-governmental organisations



The Pacific Community
Based in Noumea, New Caledonia, SPC is an international development organisation owned by its 27 member countries and territories across the Pacific region. It mobilises scientific and technical knowledge to support 20 thematic sectors, including climate, fisheries and geosciences.

About 500 staff



The Pacific Islands Forum Fisheries Agency
Based in Honiara, Solomon Islands, FFA provides expertise, technical assistance and support so its 17 members can take informed sovereign and regional decisions about their tuna resources and their sustainable management through the WCPFC.

About 80 staff



Western and Central Pacific Commission
Based in Pohnpei, Federated States of Micronesia, the WCPFC is a regional fisheries management organization in charge of ensuring, through effective management, the long-term conservation and sustainable use of highly migratory fish stocks (tunas, billfish, marlin) in the western and central Pacific Ocean.

About 35 staff



Parties to the Nauru Agreement
Based in Majuro, Marshall Islands, the Parties to the Nauru Agreement comprise FSM, PNG, Kiribati, Palau, Solomon Islands, Marshall Islands, Nauru and Tuvalu, and Tokelau. They control the world's largest sustainable tuna purse seine fishery and work to optimize economic benefits for their members.

About 9 staff



Secretariat of the Pacific Regional Environment Programme
Based in Apia, Samoa, it is in charge of protecting and managing the environment and natural resources of the Pacific.

About 100 staff



The University of the South Pacific
With its main campus located in Suva, Fiji, USP is a regional university with 12 campuses across the Pacific, providing higher education and research in the Pacific Islands.

Managed by the region for the region's needs

Managers from the region support the Pacific Research Vessel Project

 Pamela Maru Secretary, Ministry of Marine Resources, Cook Islands	"The interest for us here in the Pacific is ensuring that we have sustainable stocks so that in the future we can continue to benefit from these resources. SPC's tuna tagging programme is critical in our understanding of the Western and Central Pacific tuna fisheries."	 Dr Manu Tupou-Roosen Director-General, Pacific Islands Forum Fisheries Agency (FFA), Solomon Islands	"The proposed Pacific fisheries and oceanographic research vessel will be a critical asset for the region to enhance its capability to undertake independent research to manage our valuable tuna resources."
 Eugene Pangelinan Executive Director, National Oceanic Resource Management Authority, Federated States of Micronesia	"We are supportive of building-up human capacity and in platforms that support such work to ensure ownership of research data and outcomes are also attributed to the Small Islands and Development States including national and regional organisations."	 Dr Tuikolongahau Halafih Chief Executive Officer, Ministry of Fisheries, Tonga	"A Pacific fisheries and oceanographic research vessel is a critical asset for the region to build its capacity to understand its own independent research to manage its natural resources."
 Glen Joseph Director, American Samoa Marine Resources Authority	"The proposed research vessel is a critical asset for the region to continue to collect fishery independent information to assess the status of our tuna stocks, without the capacity to independently collect data and undertake ecosystem research the ability of the region to develop strategies to adapt to climate and other disturbances will be significantly disadvantaged."	 Dr Agnes Yeeting MFMARD, Secretary	"Vital support the significance for the region in having its own vessel to conduct fisheries work and collect valuable information related to tuna stocks and other fisheries."
 Tilafono David Hunter Chief Executive Officer	"We see that this research vessel is critical in collecting fisheries independent data and information to improve our knowledge on our tuna fisheries stock which supports our economic development, livelihood and food security."	 Justin Ilakini Managing Director, National Fisheries Authority, PNG	"A fisheries and oceanographic research vessel is a critical asset for the region to build its capacity to undertake its own independent research to manage its natural resources."
 Samasoni Finikaso Director of Fisheries	"A dedicated research vessel, owned and operated by our own regional organization SPC, is now a necessity."	 Taotasi Archie Soliai Director	"The vessel can also support research for other stocks such as bottomfish deep snappers that are also culturally and economically important to American Samoa and other south Pacific countries."
 G. P. N. Baleinabuli Permanent Secretary for Fisheries, Fiji	"We welcome this initiative and take pride in this project as it will be owned and operated by the region."	 Charleston Deije Chief Executive Officer	"A regional fisheries research vessel owned and operated by the Pacific Island countries and territories will give us the capacity to conduct our much needed independent research."
 Feleti Tulafono Director, Tokelau Fisheries Management Agency	"As the region struggles with impacts of climate change, the vessel, as a research platform will play an all too important role in capacity building for the region."		

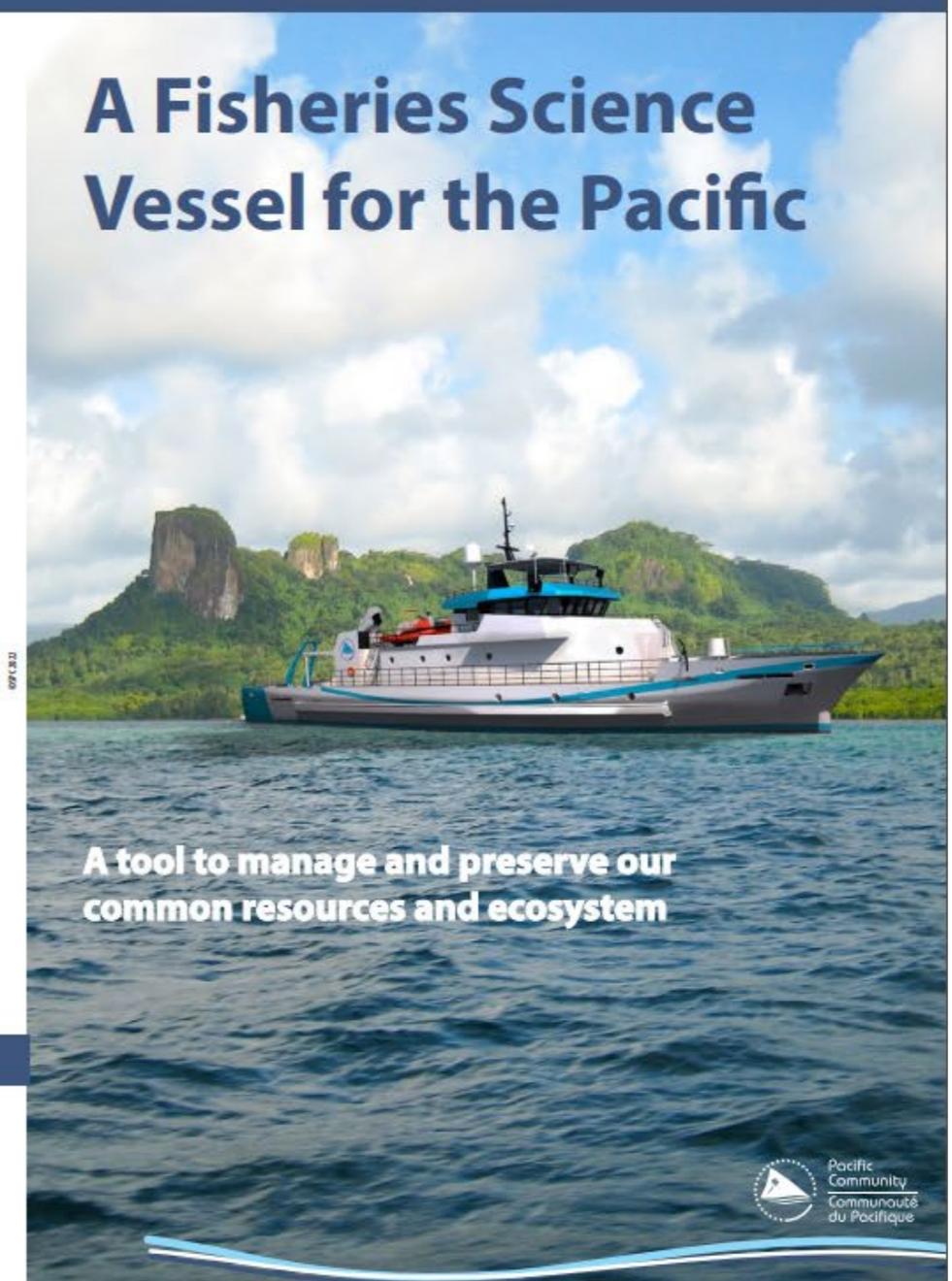
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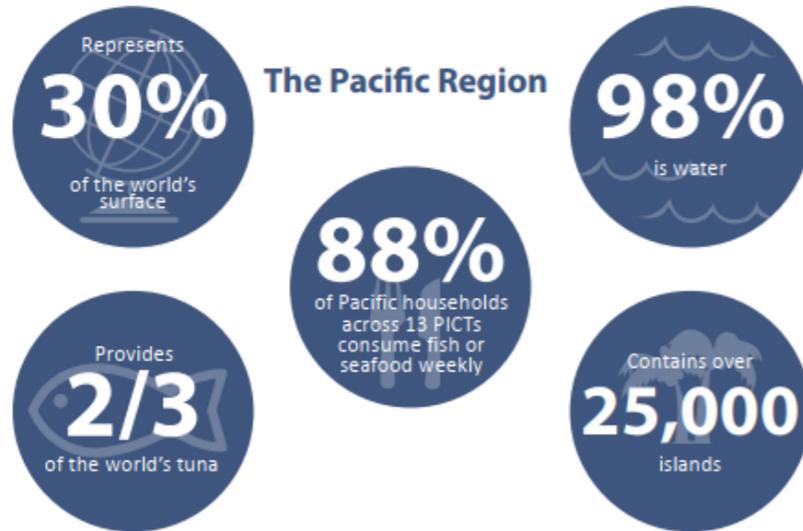
A Fisheries Science Vessel for the Pacific



A tool to manage and preserve our common resources and ecosystem



Why do we need a Fisheries Science Vessel for the Pacific?



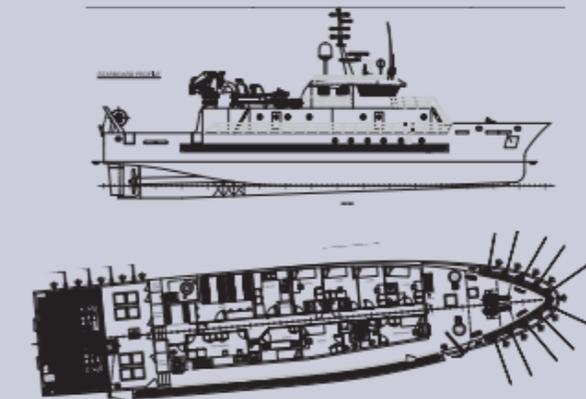
- Managing the sustainability of common marine resources is vital for the Pacific Island countries and territories that rely on them for key ecosystem services.
- Pacific tuna fisheries are of global importance, delivering two-thirds of the world's tuna resources, and it is crucial to maintain the sustainability of regional stocks. Regional fisheries decision making would be greatly weakened without the time series of data provided by continuous scientific experiments conducted onboard a suitable and reliable research vessel. Previously used vessels are in the process of being decommissioned due to their age.
- The largest oceanic region must play a major role in integrated ocean/ climate initiatives.
- Satellite observations need to be complemented by in-situ scientific monitoring to understand the complexity of the planet's largest ecosystem and its response to global warming.
- Properly designed and built for its environment and research goals, an adaptable modern sea-going platform will serve to benefit the Pacific people and the whole planet.

Adaptable, connected and clean

LOA 43m Range >6,000 nm Draft < 3.5m 25 crew	Adapted to the region's scale and geography	1	Efficient tuna pole and line fishing vessel	Support sustainable stock management through regional tagging programme
2	Efficient and safe pelagic fish capture	3	Scientific laboratory spaces	Collect and analyse ocean ecosystem data
4	Capacity to operate mid-water trawl nets	5	Capacity to collect essential physical oceanography parameters	Forecast changes in tuna ecosystems linked to climate variability
6	Scientific acoustic equipment associated with low radiated noise hull design	7	Powerful hydraulic crane	Understand the link between tuna fisheries and the ecosystem through seafloor mapping, seamount characterisation Reduce reliance on regional port facilities through vessel operation and deployment autonomy.
8	Auxiliary boats	9	Computer network and communication	Real-time sharing of research results, regional capacity building First-response capability for disaster relief
10	Removable 20' container	11	Efficient and low footprint vessel	Electric-diesel engines compatible with future energy upgrades Customisable for specific research needs (Labs, diving) Cargo for disaster relief

Mission sheets
Inside

The largest ocean needs a Fisheries Science Vessel to support the monitoring of its marine resources and unique ecosystem



To evaluate options for the acquisition, operation and underwriting of operational costs for an adaptable research vessel dedicated to regional marine monitoring needs, a study has been implemented and completed in 2020 by external expert consulting firm F&S (<http://fs-marine.fr/en/contact/>).

The final report includes a detailed analysis of best vessel flag choice, appropriate management scheme, operating costs, and risk assessment, in addition to a review of the five technical proposals received from the 23 shipyards invited to provide proposals.

Although in charge of ensuring the sustainability of over half of the world's tuna and the largest oceanic ecosystem on the planet, the countries and territories of the Pacific Islands do not have consistent access of a suitable research vessel to support these vast responsibilities.

The in-country available fisheries research vessels are limited in size and range and could only supplement data for near-shore resources management and provide training for small-scale fishers.

A review of regional research vessel availability and capabilities was implemented in 2019. This demonstrated that there is no fisheries research vessel operating in the Pacific Ocean that possesses the characteristics to meet the specifications required to support sustainable tuna stock management.

The regional research platform project will fill this gap, monitoring this part of the world for the next 30 years, providing scientific information at a critical moment in time.