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HIGHLIGHTS

**Special Session on the West Philippines Sea (WPS)
16th National Symposium on Marine Science (PAMS16)
23 July 2021 | 10:00am-12:00pm**



BACKGROUND

The WPS Special Session was organized by the University of the Philippines' Marine Science Institute and USAID's Fish Right Program as part of PAMS16.

PAMS is a biennial event of the Philippine Association of Marine Science. The 3-day PAMS16 focused on the theme "linking marine science and governance in addressing global challenges."

WPS is a globally significant bioregion that has been designated a 'priority seascape' for conservation investment and action under the U.S.-supported Coral Triangle Initiative on Coral Reefs, Fisheries and Food Security (CTI-CFF).

SESSION OBJECTIVE

To share and discuss the best available science and research data on fisheries and habitats in the WPS, including resource status and utilization, threat and impact of illegal, unreported and unregulated (IUU) fishing, and governance responses.

PARTICIPANTS

More than 200 people attended the live stream event via Zoom and Facebook.

The session was recorded and continues to be shared on Facebook, where it has generated more than 4,400 views as of July 25, 2021.

SESSION AGENDA – Hosted/moderated by Dr. Marie Antonette J. Meñez, Professor, University of the Philippines-Marine Science Institute (UP-MSI)

OPENING

Opening remarks Prof. Nygiel Armada, Chief of Party, USAID Fish Right Program

Message of support Chargé d’Affaires John C. Law, U.S. Embassy in Manila

PRESENTATIONS

The current and projected status of Philippine reefs in WPS Dr. Wilfredo Licuanan, Full Professor, Dela Salle University

The seaweed resources of WPS Dr. Wilfred Santiañez, Assistant Professor, UP-MSI

Capture fisheries in WPS: Is it worth fighting for? Associate Professor, UP-Cebu

Trends and patterns of fishing activities in WPS and the broader South China Sea (SCS), 2007 to 2021 – Mr. Rollan Geronimo, Marine Environment and Resources Foundation, Inc./University of Hawaii at Mānoa

Environmental Governance in WPS – Atty. Analiza Teh, Undersecretary, Department of Environment and Natural Resources

REACTION PANEL

Dr. John Walsh Director, Coastal Resources Center-University of Rhode Island

Dr. Ben Malayang Professor Emeritus, Silliman University

Q&A

CLOSING REMARKS – Dr. Michael Atrigenio, Assistant Professor, UP-MSI

HIGHLIGHTS

Opening

- *Opening remarks:* Prof. Armada said this special session was being held as part of PAMS16, where “almost all” marine scientists in the Philippines present, as it was the Fish Right Program’s intention to bring together the best available resources and information on WPS. Fortuitously, he also noted, the event is happening against the backdrop of the start of the UN Decade of Ocean Science for Sustainable Development.
- *Message of support:* Charge d’Affaires Law outlined U.S. support for marine and fisheries conservation and management in the Philippines, highlighting in particular USAID’s work with both Philippine and American universities, and reaffirmed his government’s commitment to supporting the marine and fisheries science community in protecting “the Philippines’ unique and globally significant seascapes.”

Presentations and Discussion

The current and projected status of Philippine reefs in the West Philippine Sea (Dr. Licuanan)

- The work presented was undertaken by the presenter jointly with Giannina Nicole Feliciano and Denise Danielle Alcantara at Dela Salle University.
- The authors did “quick and dirty computations” using recent satellite and field data on hard coral cover (HCC) from Philippine mainland atolls that are nationally managed, subdivided by coral community type.
- They concluded that: (1) Fringing reefs in the West Philippine Sea have the second highest hard coral cover and diversity among mainland fringing reefs. (2) If the offshore reefs are as well-managed as mainland atolls, estimated HCC in the occupied reefs in the Kalayaan Island ranges from 18% to 35%, or an average of 24.7%, slightly higher than the current Philippine national average of 22.8%. (3) But the more likely situation is that the HCC has likely been reduced by 69-84% by construction and reclamation.

The seaweed resources of WPS (Dr. Santiañez)

- WPS is an important biogeographic region in terms of seaweeds, with 631 seaweed taxa recorded (59% of Philippine seaweeds), some of which are endemic with limited distribution, and others that are yet to be discovered and described.
- 33 new seaweed records were added to the marine flora of KIG following the Protect 2019 WPS Cruise, and 2 more new records were added this year (e.g., new genus *Mimica*, a carrageenan-producing red seaweed segregate from farmed seaweed *Eucheuma*, named after its type species *Mimica arnoldii*, which mimics hard and soft corals); 3 new *Lobophora* records, including 1 putative species, etc.)
- The region is important for ocean-based industries, with several commercially important seaweeds grown and/or wild harvested there, including food species (*Caulerpa* spp, or *lato*) and *Codium* spp. (*pokpoklo*), carrageenan-producing (*Eucheuma* and *Kappaphycus*, or *guso* and *Halymenia durvillei*), and the black gold of the north, *Phycocolidia* (*gamet*).
- These resources need to be protected and managed not only for their ecological and economic benefits but also for their potential medicinal uses.

Capture fisheries in the West Philippine Sea: Is it worth fighting for? (Dr. Arceo)

- The answer to the question in the title is a definite yes. WPS accounts for 1/3 of the Philippines exclusive economic zone (EEZ) and 27% of total fisheries catch (based on cumulative catches from 2000-2014), and 3-5% of total reef catch, making it an important source of food security and livelihood to the country, especially for the 104 municipalities and cities along its coast and the 600,000 Filipino fishers who use it as their fishing ground.
- A regional review done almost a decade ago provides the following indicative status of the various fisheries in SCS:
 - Large and small demersal species: overfished in all areas in SCS.

- Large pelagic species: moderately fished or underfished in the eastern region, including the Philippines
- Small pelagic species: fully fished in the northern part of the Philippines within SCS
- Anchovies and sardines: Moderately or underfished in the northern and central parts of the Philippines.
- The KIG has 3,258 km² of coral reefs, with fisheries yields from 3 offshore reefs estimated at 2-31MT per km² per year, or about 62,000-91,000MT per year for the whole KIG. The annual yield from Scarborough shoal is estimated at 31MT, which is very high for a small area.
- Increasing access restrictions have changed the fishing dynamics – Filipino fishers, who used to fish near or just over the shoal, say they now have to fish away from shoal because hostile forces keep them from getting close to the shore. Along with this, there has been a shift in fishing gear from spear guns targeting reef fishes (which command higher prices) to gillnets. Some fishers have stopped fishing altogether.
- Moving forward, there is a need to: (1) Improve catch monitoring and reporting, with the catch/catch composition data for WPS disaggregated (we need to know and understand what we want to manage). (2) Ensure continued access for Filipino fishers, including providing security of fishing operations for both commercial and municipal fishers and appropriate subsidies/support for commercial fishers (as sustainability measures). (3) Educate and disseminate, i.e., promote WPS as a national pride and natural heritage.

Trends and patterns of fishing activities in the West Philippine Sea and the broader South China Sea (2007 to 2021)

- There is a lot of literature on fishing activities in WPS, most of it from other countries (mainly China).
- The literature suggests the expansion of light-assisted fishing in SCS started in 2010.
- There are more fishing boats now and the trend is continuing for most EEZs, with the total number of detections increasing every month since 2012. If left unchecked, this could lead to fisheries collapse (there is no management body in SCS).
- Poaching in northern Luzon has been reduced over time, so it can be done!
- Fishing activity around Panatag Shoal has been generally stable since 2012, and likely not because of Filipino fishers.
- Scientists and citizens can help with fisheries management if the data are transparent and made available
- WPS is not just the KIG or Panatag Shoal, but in fact also includes northern Luzon.
- What is happening in WPS does not only affect WPS ecosystems, local governments and stakeholders. Fishing effort would eventually spill over as the different states' fisheries law enforcement agencies squeeze fishers from their fishing grounds.

Environmental Governance in the West Philippine Sea (Atty. Teh)

- The Philippine government is undertaking several environmental programs and initiatives to protect marine resources in WPS. These include, among others, the formulation of the Strategic Action Plan for the Protection of Marine Resources in WPS and the establishment of national protected areas, including 7 NIPAS MPAs in WPS, 3 of which have become full-fledged national MPAs through RA 11038, which provides regular funding to support protection and management
- Out of the 1,620 LMMAs in the Philippines, 235 are in WPS. There is now a focus on interconnectivity, which the programs try to achieve through the establishment and strengthening of MPA networks.
- Marine scientific research conducted by DENR shows fair to poor coral reef condition in WPS. Long-term monitoring is needed. More research is needed to provide more information about the resources in WPS, and reveal more of its potential.
- Government is investing in biodiversity-friendly and social enterprise development to support small and medium enterprises run by community groups.
- Pag-asa Islands and eastern Kalayaan have been proposed as national protected landscapes and seascapes: The proposed Pag-asa Islands Protected Landscape and Seascape includes the main Pag-asa Island (the only island in the KIG boasting seagrass meadows), along with nearby islets, while the proposed Eastern Kalayaan Protected Landscape and Seascape will include Patag and Lawak Island, reefs and atolls (e.g., Panganiban reefs, Quirino Atoll, etc.)
- National initiatives are being scaled up through strengthening of multilateral partnerships and regional initiatives, including PEMSEA, SCS-SAP, CTI-CFF, AWGCME (regional cooperation is imperative!)
- Next steps include: (1) Continuous monitoring, observation and reassessment to determine new baselines of ecosystems and help identify and prioritize threats, craft science-based policies, and make informed decisions; (2) reef damage assessment and valuation; (3) push for an Integrated Coastal and Ocean Act that will provide for intersectoral integration among the different coastal and marine sectors and between the coastal and marine sectors and the land-based sectors, a whole-of-government approach, spatial integration between the land and ocean side, oceans science-economic policy integration for an evidence-based policy measure, and international integration to address boundary issues and international commitments; and (4) reframing of the WPS narrative from contestation of claims of sovereignty, territory and maritime entitlements to consensus-building and cooperation.

Reaction panel

Dr. Walsh

- We need to better understand this system so the Philippines will know its value before it's permanently damaged or altered by climate. While Philippine scientists and their partners have learned a great deal about WPS, so much remains to be explored and evaluated.
- Scientists are using innovative remote sensing and GIS methods to shed light on the shallow portions of WPS, using tools like Landsat to quantify characteristics such as habitat estimates. This work can inform changes over time.
- Much more work is needed. We need to combine remote assessments with in situ measurements to understand this complex region's dynamics and driving processes. We can gain a lot through satellite-based work, but research on and in the water is needed to map and measure shallow seagrasses, corals and algae. Mapping deeper subaqueous morphology with multibeam bathymetry and sampling the water column and seabed would be also insightful. We

need to also couple satellite observations with state-of-the-art ship-based measurements to get valuable information on the distant and deep marine world of this region.

- A lot of research on biota and biogeochemical cycles is needed, and because much of this region is remote and hard to access, survey ships are needed to plan and conduct projects using traditional and sophisticated new tools to interrogate the waters and determine rates and fluxes of different qualities.

Dr. Malayang

- Azanza et al suggested in 2017 that the value of ecosystem services critical to human survival and the Philippine socioeconomy could exceed the GDP of the country (at least in 2016). It is therefore imperative that we keep our living seas and oceans in the highest state of integrity and sustain their genetic stocks. They are not just our national commons, but are global commons as well.
- It would be our responsibility to protect and to care for our marine resources, and it is the responsibility of the world to respect that and to complement our efforts.
- I see one clear challenge for us: How to expand science-informed, culture-sensitive and legally founded maritime awareness and development of our seas. This involves effective jurisdictional control of our seas, and improved governance and management consistent with national and international laws, covenants, protocols and scientific standards.
- It must be embedded into our policies, plans and programs that our seas and oceans are deep wellsprings of benefits for our people and the world, that the good things that happen in our seas would spill over into good things happening in our neighbor's seas, and that the bad and the ugly things that happen in our waters would affect the world.

Q&A

Q -- Do we have values in percentage of increase in activity in WPS?

A – We have partial information from the VBD which shows seasonal increase in WPS waters (up to 1000 vessels operating in WPS in one night).

Q -- Can the VBD be correlated with the adjusted catch statistics of the Sea Around Us Project and brought up to the latest available year to get a better idea of possible catch per vessel?

A – The catch reconstruction done by the Sea Around Us Project didn't have this dataset but they were still able to come up with estimates. Now that we have some actual spatial and temporal information on vessels, we can do the same calculations. We just need to be transparent with our assumptions and also find a way to validate these. The problem in the WPS is that a lot of the VBDs we see there are most likely not from Filipino fishers so unless we can cooperate with fisheries authorities in other countries whose citizens are also entering our EEZ, we cannot really know how much they're catching. Right now, we can only glean this from literature.

Q – How much data is available on coral cover or other shallow water information in the Kalaayan Island Group? I believe there is some data from the work of Dr. Aliño and others. What is your general recommendation to our decision makers to lessen if not stop construction and reclamation in the area?

A – I was with Dr. Aliño for most of their trips to the KIG, but in our analysis we tried to work with data from the last 5-6 years because those correspond to the ages of the images from which we're getting some of the numbers. But if the question has to do with validation, the numbers

from PAGASA presented in the last PAMS are very close to what we came up with. We used data from the 206 reefs we surveyed in NACRE, which were used to calibrate the Allen Coral Database (ACD), so we are confident in working with the numbers it provided. Basically, we took the estimates of area covered by coral in the ACD, assigned them to one of three community types and, using weighted averaging, we came up an estimate of how much coral there should be in those reefs. For too long, because we don't have a choice, we've been using % coral cover, which is a very abstract concept. Ideally – and I believe we are now maybe 5-7 years away from being able to do this in reefs – we should be talking about hectares of coral lost, the same way we're talking about hectares of forests lost or gained. With regards to policy, we need to demonstrate first that we can take care of the reefs close to us so we can be more convincing about taking care of the reefs that we have trouble getting to. So far, our response has been rather myopic and uncoordinated. For example, we rely too much on assessments, but we have no reef monitoring. Assessments tell you what we have lost, monitoring will allow you to respond while the change is just starting.

Q -- Besides damage to our reefs, how does overfishing affect ordinary fishers? How much does it cost them?

A – We have data for the fishers from Masinloc who go to Scarborough Shoal to fish. We scoped out those parts of Zambales facing Scarborough Shoal to identify the areas that are heavily dependent on the shoal, and we found one barangay in Masinloc where majority of the fishers frequent the shoal to fish. The estimate of 31MT per km² per year was based on their responses. It represents what they lose every year when they're unable to go to or near the shoal. We did not do any valuation computations because we only wanted speak to the catch loss but we can easily do this using prevailing market prices. So basically, for the ordinary fisher, the effect is to limit their fish catch and access to the fishing ground.

Q -- What role do you see for other marine scientists and the higher education institutions (HEIs) in Palawan and Zamboanga? What are the prospects for collaboration with LGUs and national government agencies in relation to our marine flora?

A – Collaboration between HEIs is very important because many of the places that we've been visiting frequently are just those with existing reports, and most of the reports that we have are primarily based on shallow water areas. In my group, we are discovering a lot of seaweed resources in the shallow subtidal and deeper areas that are relatively underexplored, and we are discovering new records, even new species. So, in my lab, we see the need to collaborate between different HEIs and LGUs, and this is something the UP-MSI is also championing.

Q— What are the concrete results of the government programs for ocean conservation? Please quantify?

A – I don't have the figures now, but our investment has been increasing. In terms of support to marine research, DENR, along with other NGAs, support and even lead expeditions covering the entire country, particularly priority areas like WPS and Philippine Rise. These expeditions have led to the discovery of new species and resources that we may be able to utilize later on. More can be done through partnerships and collaboration especially with scientists and academe. At the moment, what the government is doing in particular in WPS is that we are continuously documenting resources in WPS so that we will have enough information for resource valuation. This is important, because we cannot manage what we don't know. Once we have the data, we can chart our next steps in terms of the legal actions that may be necessary to undertake.

Q -- If there is one immediate strategic action that would be important to do, what might that be?

A – It's started -- it's been decades of work, but recently there have been some research cruises and that's an exciting step in the right direction

A regional plan agreed on by countries more than just those in the region. The legacy value of our oceans and seas should be brought together, and it's not just about WPS but the larger context of the security of assets and natural resources in the the whole SCS. Of course, we see the problem with respect to defense and security but we need to also it as both a defense and environmental security issue in the same way that China has done through their 15-year plan. We need to approach regional and global cooperation anchored on science and a policy of shared legacies. Shifting policy anchors from competition to common stake holding would be crucial.

Chat comments

- In 2013, Pres Xi Jinping visited Hainan and made an important speech encouraging Chinese fishermen and maritime militia to go south and fish further in the SCS to assert their sovereignty over it. Data corroborates increased fishing activity; before 2013, the trend was relatively stagnant. [See here](#)
- Immediate strategic actions:
 - Regional cooperation should still be pursued
 - Improve information sharing by strengthening data collection, sharing, and reporting mechanisms
 - Educate the public on the worth (all aspects) of WPS to the country and the people
 - Capacity building on AI and machine learning
 - Use precautionary principle in managing resources
 - Implementation/actions are necessary

We tend to look at science as one phase and then the response as another. But because we're dealing with dynamic ecosystems and dynamic situations, we should be tying monitoring to management. Otherwise, if it's one without the other, it's either an academic exercise or a baseless response. We have to connect the two.

We need to make sure that future data would be better used for management, by improving the monitoring system for fisheries, and disaggregating data for the different areas so it is easier to zoom in on the status of resources in particular areas of interest.

Capacity building, whether formal or informal, is very crucial. We need more scientists.

When it comes to the literature, if you search for SCS in Google, a lot of the names that come up are Chinese, and as they say, if you don't study and publish it, you lose it. One thing I found out from looking at those studies is that a lot of the data also come from the government, which also get published, shared, and used. Maybe that's something we need to look into. Our government has a lot of data, but they are not processed, and they are not shared. We need to share these data not only internally but to the world, in a way that says, "this is our WPS," so that, in the next 2-3 years, if you google 'Scarborough Shoal or 'Panatag shoal,' the work of Filipino authors will appear at the top of the search results.

Again, we need to reclaim our narrative in WPS. We need to continue our work and increase our investments for the protection of our oceans, including WPS. And we need to continue supporting our scientists who are doing really great work in this field.

I hope we can communicate science not only within the scientific society but more importantly, to the masses so that they will also be able to appreciate what we have. I hope all Filipinos will be able to appreciate and know more about WPS so they will have the heart to really champion and advance the protection and conservation of these resources.

Closing Remarks

- Dr. Atrigenio thanked all discussants and reactors and called on everyone “to work together in order to protect and conserve this highly diverse area and important fishing ground for generations to come.”