



# MARITIME REVIEW

A PUBLICATION OF THE MARITIME LEAGUE

Issue No. 18-5

September-October 2018

## CHINA'S MARITIME STRATEGY

Also Inside:

- ▶ Revisiting SS Corregidor
- ▶ Defense Buildup
- ▶ Philippine Border and Customs Security
- ▶ Gensan: Philippines' Tuna Capital



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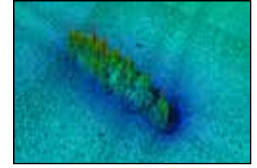
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**About the Cover:**  
*China's Belt Road Initiative, with its Maritime Silk Road, is supported by a robust maritime strategy that aims to transform that nation into a great maritime power. Graphic work by Ardee G. Ocampo*



# Maritime Events Calendar

## SEPTEMBER '18

- 4-7 SMM 2018 (HAMBURG MESSE, HAMBURG, DE)
- 14-16 PALM BEACH MARINE FLEA MARKET AND SEAFOOD FESTIVAL (SOUTH FLORIDA FAIR, WEST PALM BEACH, US)
- 17-20 GASTECH EXHIBITION & CONFERENCE 2018 (FIRA GRAN VIA, BARCELONA, ES)
- 20-22 MARITIME NATION INDIA (CIDCO EXHIBITION CENTRE, MUMBAI, IN)
- 25-27 MARINE SOUTH MILITARY EXPO (QUANTICO STATION, QUANTICO, US)
- 25-27 2ND BALTIC PORTS AND SHIPPING 2018 EXHIBITION & CONFERENCE (RADISSON BLU HOTEL LATVIA, RIGA, LV)
- 26 MARITIME BREAKFAST FORUM #137 (PHILIPPINE COAST GUARD (PCG))**

## OCTOBER '18

- 1-3 AFRICAN PORTS AND RAIL EVOLUTION (DURBAN ICC, DURBAN, ZA)
- 1-4 SINGAPORE INTERNATIONAL BUNKERING CONFERENCE AND EXHIBITION (SG)
- 2-5 SINGAPORE INTERNATIONAL BUNKERING CONFERENCE & EXHIBITION (RESORTS WORLD CONVENTION CENTRE, SG)
- 6-10 INTERFERRY 2018 (JW MARIOTT RESORT, CANCUN, MX)
- 9-11 TRANSTECH 2018 (LENEXPO EXHIBITION COMPLEX, ST PETERSBURGH, RU)
- 11-13 CHINA (SHENZHEN) INTERNATIONAL LOGISTICS & TRANSPORTATION (SHENZHEN CONVENTION & EXHIBITION CENTER, SHENZHEN, CN)
- 12-14 RESCUE 2018 (HARPA CONCERT BUILDING, REYKJAVIK, IS)
- 13-15 MARINE EQUIPMENT TRADE SHOW (RAI AMSTERDAM, AMSTERDAM, NL)
- 16-18 INTERNATIONAL CONFERENCE ON EL NINO SOUTHERN OSCILLATION (ESCUELA SUPERIOR POLITÉCNICA DEL LITORAL (ESPOL), GUAYAQUIL, EC)
- 17-18 COMMERCIAL MARINE EXPO PROVIDENCE RI (HODE ISLAND CONVENTION CENTER, PROVIDENCE, US)
- 19 MARITIME BREAKFAST FORUM #138 (DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES (DENR))**
- 22-23 PORT DEVELOPMENT MIDDLE EAST (SUNDUS ROTANA, MUSCAT, OM)
- 23-25 OIL & GAS VIETNAM (PULLMAN VUNG TAU, VŨNG TÀU, VN)
- 23-25 TRANS MIDDLE EAST (INTERCONTINENTAL AQABA (RESORT AQABA), AQABA, JO)
- 24-26 SHIPTEC CHINA (DALIAN WORLD EXPO CENTER, DALIAN, CN)
- 23-25 15TH TRANS MIDDLE EAST 2018 EXHIBITION & CONFERENCE (INTERCONTINENTAL AQABA RESORT, AQABA, JO)
- 29-31 SEATRADE MARITIME MIDDLE EAST (DUBAI WORLD TRADE CENTER, DUBAI, AE)

## NOVEMBER '18

- 5-8 IRANIMEX 2018 (KISH INTERNATIONAL EXHIBITION CENTER, HORMOZGAN, KISH, IR)
- 7-10 INDO MARINE EXPO & FORUM ( PRJ KEMAYORAN (GAMBIR EXPO), JAKARTA, ID)
- 18-20 PACIFIC MARINE EXPO (CENTURYLINK FIELD, SEATTLE, US)
- 21-23 EASTERN INDONESIA INTERNATIONAL SHIPBUILDING OFFSHORE MARINE EQUIPMENT MACHINERY AND SERVICE EXHIBITION (GRAND CITY MALL & CONVEX SURABAYA, SURABAYA, ID)
- 20-22 IRAN INTERNATIONAL MARITIME & OFFSHORE TECHNOLOGIES EXHIBITION (KISH INTERNATIONAL EXHIBITION CENTRE, KISH, IR)
- 22-23 LNG & LPG SHIPPING SHIP/SHORE INTERFACE CONFERENCE (ILEC CONFERENCE CENTRE, LONDON, GB)
- 23 MARITIME BREAKFAST FORUM #139 (DEPARTMENT OF TRANSPORTATION (DOTR))**

- 27-29 20TH INTERMODAL AFRICA 2018 (MÖVENPICK AMBASSADOR HOTEL ACCRA, GH)
- 28-30 INTERNATIONAL WORKBOAT SHOW (MORIAL CONVENTION CENTER, NEW ORLEANS, LA, USA)

## DECEMBER '18

- 5-7 INMEX CHINA 2018 (POLY WORLD TRADE CENTER, HAIZHU DISTRICT, GUANGZHOU, CN)
- 13-15 SHIPPING & LOGISTICS INDIA (CHENNAI TRADE CENTRE, CHENNAI, IN)

## JANUARY '19

- 4 GUJARAT JUNCTION (RADISSON HOTEL KANDLA, GANDHIDHAM, IN)
- 17-20 KREUZFAHRT & SCHIFFSREISEN (MESSE STUTTGART, STUTTGART, DE)
- 18 MARITIME BREAKFAST FORUM #140 (DEPARTMENT OF FOREIGN AFFAIRS (DFA))**
- 29-30 NAVAL TRAINING AND SIMULATION (LONDON, GB)

## FEBRUARY '19

- 7 MARITIME BREAKFAST FORUM #141 (CEBU PORTS AUTHORITY (CPA), CEBU)**
- 20-21 PHILIPPINE PORTS & SHIPPING (MAKATI, PH)
- 27 MARITIME BREAKFAST FORUM #135 (PHILIPPINE PORTS AUTHORITY (PPA), PORT AREA, MANILA)**

## MARCH '19

- 13-14 LOGISTIC SUMMIT & EXPO (CENTRO CITIBANAMEX, MEXICO CITY, MEXICO, MX)
- 20-21 INTERMODAL AFRICA (SAROVA WHITESANDS BEACH RESORT, MOMBASA, KE)
- 26-28 NAVEXPO INTERNATIONAL (PORT DE LORIENT LA BASE, LORIENT, FR)
- 27-29 INMEX VIETNAM (SAIGON EXHIBITION AND CONVENTION CENTER, HO CHI MINH, VN)

# China's Maritime Strategy: A Whole of Nation Approach

by VAdm Emilio C Marayag Jr AFP (Ret)

The 2016 ruling of Permanent Court of Arbitration (PCA) did not dissuade China from conducting activities to demonstrate its military might in South China Sea (SCS), and its obvious disregard for rules-based international order. It dispatched a naval task group in the area in early 2017 consisting of an aircraft carrier and several surface and subsurface combatants for naval drills. A few months later, it launched the first Type 055 destroyer, a 10,000-ton warship designed and built in China, and further fortified its 3 bases in the disputed area that is far beyond its borders. It also challenged other nation's military aircraft and ships that traversed SCS's international waters and airspace as it insists ownership of areas within its nine-dash line, and unilaterally declared boundary limits.

China's behavior is clearly an indication that it has a robust maritime strategy that is supported by the entire country – party, government, military, police and civilian. With the largest population and second largest economy worldwide, Chinese leaders fully recognize the necessity to expand its reach to ensure continuous supply of resources, and to establish dominance in international affairs. This expansion requires an integrated civilian-military command and control, and a streamlined armed forces. To link Asia to Europe and Africa, China's Belt and Road Initiative with its maritime component – Maritime Silk Road – needs an integrated effort from all sectors of society.

The strategy aims to transform China into a great maritime nation in the near future. This calls for unhampered use of the maritime routes using its merchant fleet and seagoing force supported by attendant facilities, including bases, in selected littoral states. To expedite entry to those countries and generate positive international reaction, the strategy spells out two core elements: preservation of marine environment, and exploitation of ocean resources. Already, China gained foothold in many countries in Asia, Africa, and Europe through various projects including port development, offshore wind power generation, seawater desalination, seaside industrial park, railway, and special economic zone. It also established cooperative mechanisms for joint maritime and fishery law enforcement, counter-terrorism and anti-violence on sea. Further, it promoted training, exchanges, SAR, information sharing, marine disaster warning systems, and liaison networks with other countries to enhance capacities to confront maritime emergencies.

This whole-of-nation approach in dealing with maritime matters is best described by three (3) latest actions by China on SCS.

First, the protection of maritime rights and interests through policy and strategic issuances is now elevated to the Foreign Ministry level. Most of SCS has been placed under the administrative control of China's Hainan province. This allows synchronization of activities from intelligence

collection and analysis, research and elimination of negative impact of the 2016 PCA decision to coordinated responses to emergencies.

Second, the functions of State Oceanic Administration were split into two departments: national resources; and ecology and environment. This realignment of functions at department-level will support the core elements of the maritime strategy, marine environmental protection, and ocean resources management.

Third, China Coast Guard, which was under the State Oceanic Administration and organized only in 2013, will no longer report to dual authorities – civilian and military. It will now be under the control of the People's Armed Police that reports to the Central Military Commission thereby effectively changing its status from civilian to military. This change of status will allow the Coast Guard to assume military tasks and have flexibility to act aggressively. The integration of the party,

government, military and police is strengthened by the support of fishermen and maritime industry. The military pays the fishermen who are members of civilian militia to report presence of non-Chinese vessels in SCS and undertake actions that "shield" direct military participation. These include surrounding foreign warships, harassing fishermen from other countries and stealing sonar buoys of a foreign navy in water areas that the Chinese assumes ownership. The civilian militia serves as naval auxiliaries.



Center for International Maritime Security. Photo Credit: ChinaUSfocus.com

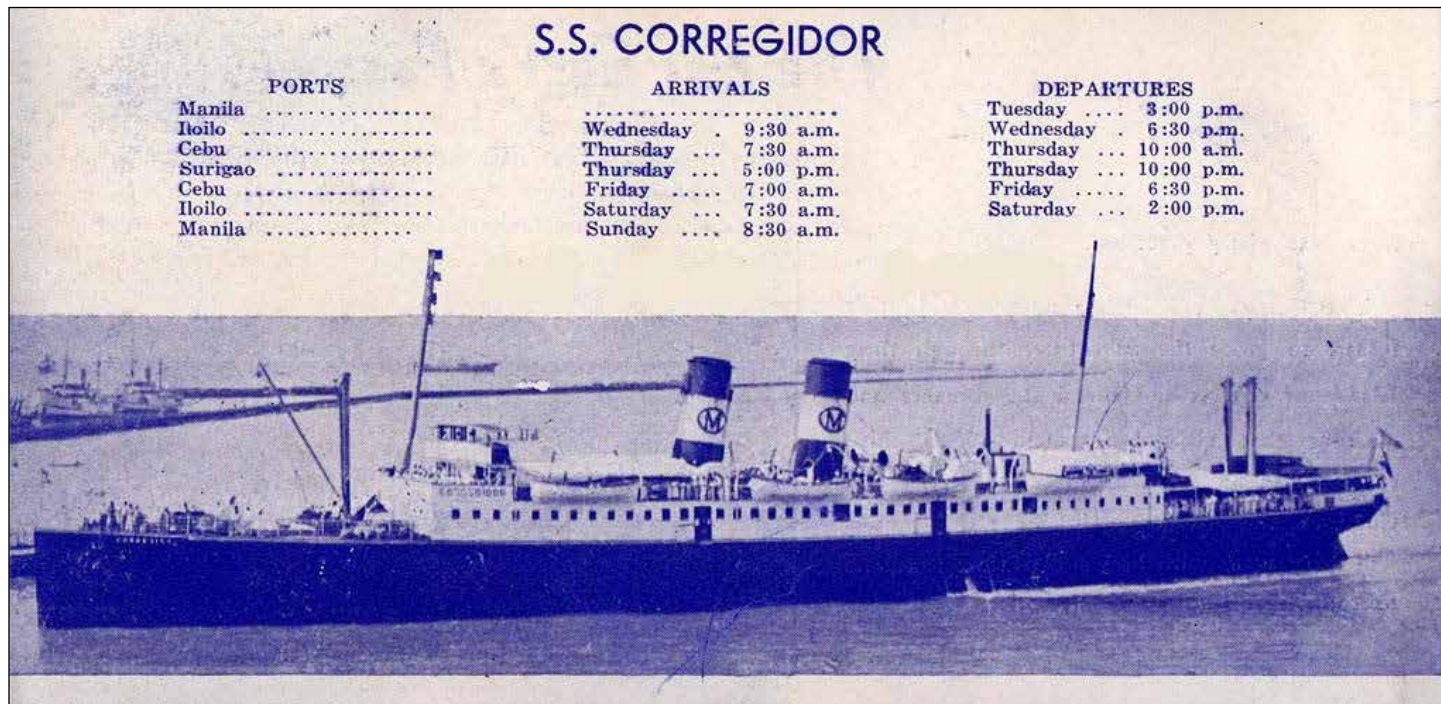
China's maritime strategy has alerted several maritime nations including India, Japan, Australia and United States. The US very recently renamed its Pacific Command into Indo-Pacific Command to highlight the importance of the two oceans, Pacific and Indian, where half of world trade passes. Their individual actions may not be enough to counter China's maritime objectives but collectively they can influence that country to adhere to international rules-based regime while achieving its strategic objective through diplomatic engagements. They may also consider improving maritime domain awareness, sharing protocol, and forming a multinational maritime force to protect freedom of navigation, if other alternatives become untenable.

With regard to the other claimant countries, they should carefully study the implications of the change of status of the China Coast Guard including the effect on their defense strategy and capability acquisition plans and programs. The PLA Navy with its formidable capabilities may delegate its responsibility in SCS to its Coast Guard and focus its missions in other water areas to protect the Maritime Silk Road. So far, China's maritime strategy appears to have gained considerable headway in the past few years. This must have been achieved by consolidation –not dispersion– of power and resources in the party, government, military and police, with the support of the civilian population. 🇨🇳



# Revisiting the Sinking of the SS Corregidor

by Commodore Carlos L Agustin AFP (Ret)



In the Mar-Apr 2016 (MR16-2) issue, I wrote about the sinking of **SS Corregidor** on 17-December-1941 that resulted in the death of my late father, an Army Lieutenant in the Corps of Engineers on that fateful night, as he sailed on the **SS Corregidor** to rejoin his unit in Davao. He was the Assistant City Engineer and was called to active duty and given command of the Second Davao Training Cadre earlier that year.

I also mentioned that in 2003 I learned that the Manila-based Malayan Towage Co. had a deep submergence vehicle (DSV) coming in, and had gotten a commitment from one of its executives that they would consider a sortie between La Monja Islet and Corregidor Island to seaward. As it turned out, that did not happen. I also mentioned in January 2016 that an associate led me to a website ([www.corregidor.org](http://www.corregidor.org)) that contains lots of information, accounts and opinions about the forces and their life on Corregidor, including the **SS Corregidor's** sinking. I recommend that site to US and Philippine historians and researchers. I had concluded that commentary stating:

*Perhaps someday, we can find out where the SS Corregidor lies, and maybe recover much of what perished with it. The Titanic took almost a century; the Musashi, off Romblon took 70 years. The Corregidor, with much lesser area and depth, should have taken much less time.*

I will get to this point later. Meanwhile, there is an interesting – and intriguing – aspect of this disaster. In the course of my research, I got acquainted with an American who was investigating the cause of the accident, and he opined to me on 16-December-2015 (the eve of the 74th anniversary of the sinking):

*...You will find a fair amount on this (SS Corregidor) forum concerning the tragedy. My personal belief is that the information released at the time was false, as an honest investigation*

*into the affair would have uncovered some unsavory facts which the United States did not want known. Generally, you can search "SS Corregidor" using the forum search facility or you can google search "SS Corregidor" and "corregidor.org" jointly.*

He adds further on:

*I have been doing the Corregidor websites for over a decade now. Sometimes I can get a bit outspoken when I see things that I should really bite my tongue about. (I am critical of the way Corregidor, Fort Drum and Caballo Islands are handled, for example.)...*

*I reviewed my writing on the **SS Corregidor**, particularly the post of 12-April-2012. I was tiptoeing through a minefield there, wasn't I? The "minefield" he was referring to concerns delving into discussions relating to claims on the culpability of **Col Paul D Bunker** USA, who was commanding the Coast Artillery Corps (CAC) unit that had control of the Corregidor minefields.*

He asked me further on:

*How much have you tracked down on the sinking? <http://corregidor.proboards.com/thread/1168/loss-corregidor> is the start of the public side of it. I had done some internet browsing on it, and behind the scenes had encouraged some of the players to be more outspoken about it. My private view was that **Col. Bunker** may well bear some significant direct responsibility for the tragedy. If you have his published diary, you'll note that his editor has left out everything which happened leading up to the war, and all which occurred in December. That there is nothing in the published diary about the sinking indicates that his editor (a relative) has covered up what **Bunker** could have been reasonably expected to write.*

Thus we are not filled in on the details of the dispute between the Army and the Filipino skippers and harbor captains, because it seems to me that **Bunker** had some very strong (negative racial) views, and may well have been of a mind not to bend the rules, just to show them who is boss. In doing so, I think **Bunker** may well have committed a crime. Essentially, this is what **Captain George Steiger** alleges.

There was another aspect. In trying to justify that the US Army had no control over the tragic accident, the Corregidor command used the reported presence of the Japanese submarine in the area during that period, which has not been proven as the plausible cause of its sinking. Pointing to **Col. Bunker's** culpability for not acquiescing to recommendations of his officers to turn off the electric mines is a difficult proposition, as per one dedicated Australian researcher emailed to me in 2015,

*In a truthful world, one which searches for truth and does not kneel to authority, it would be interesting to see a screenplay written in which **Bunker**, in a POW camp, faces a court-martial or board of enquiry to examine his decision not to turn off the mines. **Bunker**, of course, died in Japan and every aspect of his personal conduct became moot, in a legal sense, but not the lessons, which the US should have learned about many aspects of how a militarily driven policy may conflict with the very interests of those it purports to assist or protect.*

*There's lots of JAG people who are familiar with war crimes with respect to the **Uniform Code of Military Justice**, but I am of the view that the **UCMJ** doesn't apply to the circumstances of the **SS Corregidor** (the sinking predates **UCMJ** applicability), and thus the level of **Bunker's** responsibility would be measured by the old rules which applied in the Army from around the time of the Civil War. So a moral guilt, but maybe not a legal one. From a dramatic point of view, if one US citizen was proven to have been on that ship, **Bunker** could have been charged with murder.*

*I don't think entertainment America is ready for another courtroom drama, which serves as a background for an examination of the way US foreign policy operated in the last century, and by extension, today.*

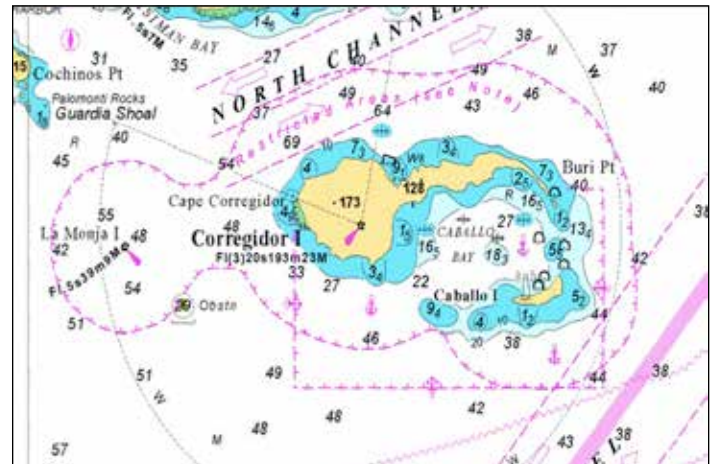
*I have long wondered whether the Filipino Authorities ever got closer to the truth than they seemed to accept. Did they just swallow the Japanese sub excuse, or was that their cover story too? Were they in on the cover up, or were they the target of the cover up? Or was it the confidence of the Filipino population in the US defending them against the Japanese? Or is it that everything disappeared under the carpet and that nobody knows anything any more?*

But my passion is really just to convince the Philippine government to do whatever it takes to locate the resting place of the **SS Corregidor**, raise parts of it and its cargo and salvage whatever can be salvaged (and this would be fruitful historically and financially for the government). There were **Philippine Army** troops who died there, bringing along weapons and ammunitions for units in the field, and some, including my late father, just returning to their units after the briefings on War Plan Orange and other necessary actions.

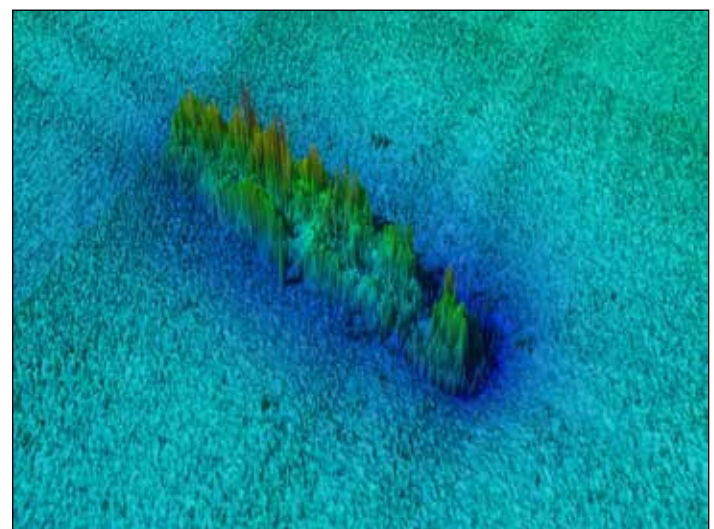
The location part has been done, and surprisingly it is not in deep waters, confirming an account I read from a record written by the late former **Ambassador Jose E Romero** (father of the former Ambassador and columnist Jose V Romero Jr., the late Chairman of the Philippine Council for Foreign Relations (PCFR), who just passed away two weeks ago. Romero Sr., in his account stated that the ship had touched bottom, just before he got away and swam upwards, from that fateful incident just past midnight, 17-December-1941, and rescued by a USN PT boat.

The **NAMRIA** had actually located it in 2011. The location was given to me by Capt **Herbert Catapang** of the Coast and Geodetic Survey Department of **NAMRIA**, Shown in a region extracted from **NAMRIA** chart 1501. Highlighted in red ellipse is the position of a 29-m depth obstruction, which was investigated using high-resolution multi-beam echo sounder data acquired on 27-October-2011. The charted obstruction is about 2 km (1.75NM) SE of La Monja Island. Adjacent sea bottom configuration is generally flat, perhaps composed of fine sediment aggregates.

The geographic coordinates in WGS-84 is: Lat: 120 32' 8.59"E Long: 14 21' 52.77"N depth: 48.82m, about only 200 feet of depth! (Source: **NAMRIA**)



A perspective model (false-color bathymetry) of the observed wreck by **NAMRIA**, generated using advance survey data analysis software. The dark-blue region around the obstruction indicates gradual depression of soft sea bottom material due to obstruction's weight. (Source: **NAMRIA**)



**Way ahead.** In order to put this issue to rest, we need to take action. I am suggesting that the government act on the survey, salvage and take inventory of whatever can be recovered from the wreck of the **SS Corregidor**. Many valuable government and private properties may still possibly be laying there.

This is not difficult to do, and the worst that could happen would be to realize that after all these years, the post World War II salvors from 1946 to the early '50s had already done so and gotten all the artifacts worth saving. ⚓



# TOBAW 2018 Awardees

by The Boholano Chronicle



**T**he Outstanding Boholanos Around the World (TOBAW) Awards is the most prestigious award given to honor Boholanos who have shown professional excellence in their chosen field of endeavor, and whose community and humanitarian involvement have significantly contributed to the Boholano community, nationwide, or internationally, through philanthropic efforts and/or volunteerism.

The **10 TOBAW Awardees** were given recognition on 22-July-2018, coincident with the 164th Bohol Day celebrations. The 2018 TOBAW Awardees include Mr. Michael Luke P Mejares (Arts Performing); Dr. Ed T Escalona (Business & Entrepreneurship); Mrs. Francisca S Baluyot (Community Advocacy, Medicine); Fr. Floranti S Camacho (Education); Engr. Valentino C Pueblos (Engineering); Ms. Terese R Salazar (Journalism); **RADM Margarito V Sanchez Jr (Military/Protective Service), Trustee & Treasurer of the Maritime League**; Congressman Rene L Relampagos (Public Service – Local); Cabinet Secretary Leoncio B Evasco Jr (Public Service – National); and Dr. Rene N Rollon (Science).

They were awarded by Ms. Claire Uy-Evardone, Chairman, First Consolidated Bank (FCB); and Mr. Dave Fabiosa, President, Tigum Bolanon sa Tibuok Kalibutan (TBTK).

The search for the **TOBAW Awardees** is an open nomination process with an immense years-long search of nominees as advertized by means of newspaper, radio, committee websites, and invitation letters to local

and international Boholano organizations and universities. Nominations within the duration of the search are then thoroughly assessed by an independent panel of judges to finally bring out the most deserving Boholano around the world in all categories.

**TOBAW** is a project of both TBTK and FCB, in cooperation with the Province of Bohol; Diocese of Tagbilaran; The Bohol Chronicle Radio Corp (DYRD); and the Bohol Chamber of Commerce and Industry. ⚓



*RADM Margarito V Sanchez Jr. and Cabinet Sec. Leoncio B Evasco Jr*



# The continental shelf, the exclusive economic zone, the Philippine Rise, they are not Philippine territory:

## Comments on the National Territory Provision

by Julius A Yano, JD, LL.M.

The Consultative Committee has presented to President Rodrigo R. Duterte the Draft Federal Constitution. Below are some comments that may be made in respect of the provision on National Territory contained in the draft that has been released online.

### ARTICLE I NATIONAL TERRITORY

#### SECTION 1

The Philippines has sovereignty over its territory, consisting of the islands and waters encompassed by its archipelagic baselines, its territorial sea, the seabed, the subsoil, and its airspace. It has sovereignty over islands and features outside its archipelagic baselines pursuant to the laws of the Federal Republic, the law of nations, and the judgments of competent international courts or tribunals. It likewise has sovereignty over other territories belonging to the Philippines by historic right or legal title.

#### SECTION 2

The Philippines has sovereign rights over that maritime expanse beyond its territorial sea to the extent reserved to it by international law, as well as over its extended continental shelf, including the Philippine Rise. Its citizens shall enjoy the right to all resources within these areas.

**The Philippines has sovereignty over its territory** – The formulation provides emphasis, but likewise reveals the circular statement of the concepts of sovereignty and territory as elements of statehood. As we know, in addition to people and government, a defined territory and sovereignty over such territory are the elements that compose a state. Thus, having 'sovereignty over its territory' seems to say little insofar as stating the extent of national territory; the phrase operates to describe the nature of the right of the state which is essentially a given. In any case, this sentence is supplemented by the clause 'consisting of the islands and waters [...]'. Thus, the extent of such territory is defined by making the archipelagic baselines the point(s) of reference.

Concerning the mention of the territorial sea, that it is part of a state's territory is a rule firmly established in international law; the seabed of the territorial sea, as well as the subsoil of the land features, and the superjacent airspace, are considered part of a state's territory. (When and where the Philippines shall define the extent of its territorial sea, which is limited only to 12nm, remains to be seen.) The problem, however, is the inclusion of the territorial sea in this sentence as though it were *within* the archipelagic baselines. Such an idea is factually incorrect and legally insupportable given that the territorial sea of an archipelagic state is measured from the archipelagic baselines seaward following the 1982 United Nations Convention on the Law of the Sea (LOS).

It appears sound that archipelagic baselines are made the reference point in defining the national territory. The waters encompassed

by said baselines are thus deemed archipelagic waters through which foreign vessels enjoy not only the right of innocent passage in the territorial sea, but also the more controversial right of archipelagic sea lanes passage. Within the archipelagic baselines are archipelagic waters, without the archipelagic baselines up to a maximum distance of 12nm therefrom is the territorial sea.

***It has sovereignty over islands and features outside its archipelagic baselines pursuant to the laws of the Federal Republic, the law of nations, and the judgments of competent international courts or tribunals.***

It can be asked whether the sentence describes (a) the extent of national territory, as the Article is supposed to provide, or (b) the legal bases on which the claim of territory is being made. It seems to reflect the latter. The mention of 'law of nations', a concept not free of ambiguity, deserves some attention as well. What exactly is referred to as 'law of nations' - a concept defined by many writers including Vattel, Grotius, Mill, Hobbes, *et al.*? In fact, the term is regarded as archaic and in modern usage already replaced by 'customary international law'.

It is understood that the part relating to 'judgments of competent international courts or tribunals' is mentioned in recognition of the South China Sea (SCS) Arbitration Case between the Philippines and the People's Republic of China (PRC). As can be observed, the sentence appears to have been taken from Article 38 of the International Court of Justice Statute, which is understood as providing for the sources of international law. (Thus, this bolsters the observation that the paragraph functions more as explaining the sources of Philippine territorial claims under the Federal Constitution rather than defining its scope.) More importantly, if the drafters of this provision have the SCS Arbitration case in mind, then there seems to be confusion between issues of sovereignty and maritime entitlements. Over the former, the arbitral tribunal had no jurisdiction and consequently could not and did not address the same. It appears that this sentence concerns the Federal Republic's adherence and/or reference to international law and rules or norms arising therefrom, and is not quite a description of the extent of national territory.

The Consultative Committee properly excluded the continental shelf and the exclusive economic zone (EEZ) from the scope of Philippine territory. They are *not* part of our national territory over which the Philippines has sovereignty. The authority for this statement is international law, particularly the LOSC, on which the Philippines as a matter of fact anchored its case against the PRC in the SCS Arbitration Case. The LOSC is crystal clear that 'the sovereignty of a coastal State extends [...] to an adjacent belt of sea, described as the territorial sea [...] and to 'the air space over the territorial sea as well as to its bed and subsoil'. Sovereignty does not

extend to areas beyond the territorial sea, e.g., the continental shelf and the EEZ. This is not to say that the Philippines is giving up all its rights in relation to these areas; it is but a recognition of international law and its regime of maritime entitlements, e.g., sovereign rights, per the LOSC. Clearly, between sovereignty, which applies to territory; and sovereign rights, which apply to the continental shelf and the EEZ, there is a huge difference that should be considered lest diplomatic tension between states is caused.

***It likewise has sovereignty over other territories belonging to the Philippines by historic right or legal title.***

It is understood this sentence refers to the Philippine claim over North Borneo, and states the basis of such claim.

***Section 2. The Philippines has sovereign rights over that maritime expanse beyond its territorial sea to the extent reserved to it by international law, as well as over its extended continental shelf, including the Philippine Rise. Its citizens shall enjoy the right to all resources within these areas.***

This section is supposed to be an assertion of sovereign rights possessed by the Federal Republic. For emphasis, such statement is permissible but may be unnecessary especially in view of our adherence to international law. Likewise, it reveals the selective appreciation of the nature of rights possessed by states in the maritime zones beyond the territorial sea given that only 'sovereign rights' are mentioned, without other rights such as exercise of 'control' and 'jurisdiction'.

Again, for emphasis, the mention of the Philippine Rise is understandable, but what about other areas in reference to which we have or may have a right to establish the limits of an outer continental shelf as well? Without meaning to undermine the importance of the Philippine Rise and our successful establishment of the limits of an outer (extended) continental shelf in said region, the reference thereto seems superfluous; after all, the Article does not mention Boracay Island, Camotes Sea and the like, in reference to the islands and waters within the Philippine Archipelago.

The last sentence of the section is not free from controversy, and might be a source of confusion, as well. To begin with, under international law, the regime of continental shelf is characterized by exclusivity already, such that 'if the coastal State does not explore the continental shelf or exploit its natural resources, no one may undertake these activities without the express consent of the coastal State.' This statement therefore appears unnecessary.

Moreover, one cannot help comparing this sentence with a similar provision in the 1987 Constitution stating that the use and enjoyment

of marine wealth are reserved exclusively to Filipino citizens. The omission of the word 'exclusively' therefore assumes much importance and might be suggestive that under the Federal Constitution, our right over the outer (extended) continental shelf is not characterized by exclusivity. In addition, the phrase 'all resources' may be problematic given that sovereign rights in favor of a coastal state per international law refer only to natural resources.

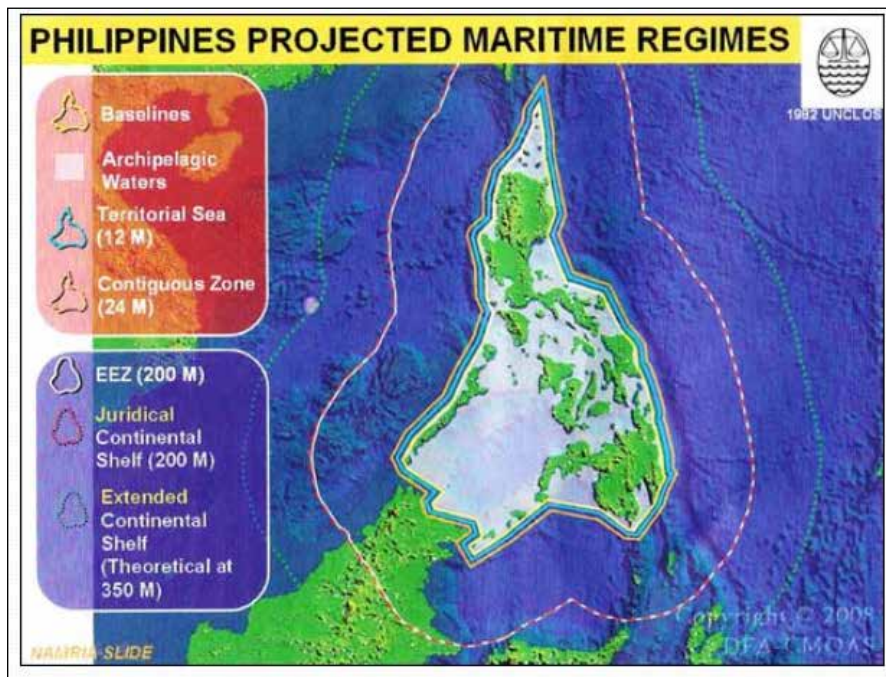
Lastly, because of this sentence, one might have the impression that the Philippines is claiming sovereign rights even to the resources in the water column above the outer (extended) continental shelf. This idea will then be legally inaccurate given that the superjacent waters of the outer (extended) continental shelf is covered by the regime of the high seas and is outside the jurisdiction of any state.

The wording of the article on National Territory in the Draft Federal Constitution shows a significant departure from that of the pertinent article in the 1987 Philippine Constitution. The draft constitutional provision on National Territory seems to unnecessarily speak of the legal status of the national territory, the bases of the Federal Republic's claim of territory and the Federal Republic's principles and policies. National territory can be sufficiently described as comprising the islands and waters of the

Philippine archipelago as defined by the archipelagic baselines, certain areas outside said archipelago based on historic right or legal title, the territorial seas generated by them and the subsoil or seabed and the superjacent airspace.



*Atty. Julius A. Yano is presently a lecturer at the IMO - International Maritime Law Institute in Malta, and a member of the Institute for Maritime and Ocean Affairs (imoa.ph). The views and opinions expressed in this article are those of the author, and do not necessarily reflect the official policy or position of any organization or his affiliations.*



**Letter to the Editor**

Dear Editor,

I refer to the Chairman's Page of the Jul-Aug 2018 issue of the Maritime Review, which refers to the proposed Laguna Lake-Paranaque Spillway project.

Please be informed that in view of the completion of the FS by JICA and the interest of the Japanese government to work on the tunnel project instead of the canal, we have learned that the DPWH has instead endorsed the aforesaid plan to build the Paranaque Spillway in Metro Manila. The project is a 9.2 km spillway that will start from the mouth of Laguna Lake in Paranaque to Manila Bay.

Thus, the spillway canal project will no longer be undertaken.

Truly yours,

**GENEROSO DUNGO**  
Asst General Manager  
Laguna Lake Development Authority



# Dredging for Gold in the Bering Sea

by U.S. Coast Guard News



Dredges at the Pier, Nome, Alaska. Photo Credit: USCG

The snow has thawed enough for the gold dredging season to kick off, and dredgers in Nome, Alaska, are ready to be on the water in search of hidden treasures on the Bering Sea floor. With boats in the water and deckhands aboard, these gritty and independent men and women are ready to hit the season hard in hopes of finding their lucky cache. However, before these pioneers can seek out their awaiting treasures on their unique vessels, they must first obtain an inspection from the U.S. Coast Guard. An approved Coast Guard vessel inspection is also required by the Department of Natural Resources in order for dredgers to obtain a seasonal permit to dredge in Nome. They are off to a later start than usual this year, which made for a bustling week of inspections that picked up steam.

LCdr. **Mason Wilcox**, the Sector Anchorage chief of inspections, Lt. **Jonathan Dale**, an inspections and investigations officer, and **Jeff Ahlgren**, a port security specialist, spent the week of June 11-15 in Nome conducting dredging inspections, fishing vessel inspections, and a foreign tank vessel inspection, in efforts to help the dredgers and fishermen alike get back out on the water with the knowledge and equipment to mitigate potential risks encountered on the Bering Sea. *"Gold dredgers must contact the Alaska DNR Division from Fairbanks or part-time office in Nome to obtain a DNR mining permit number to dredge the waters of Nome,"* said Ahlgren. *"Coast Guard dredge inspectors conduct the gold dredge safety portion of the inspection. If they pass, currently, they receive a gold dredge safety check equipment examination good for the current season."*

Between climbing in and out of the underbelly of the Myrtle Irene, one of the largest dredges, and maintaining the high pace of the numerous inspections conducted on smaller vessels, the marine vessel

inspectors were hustling to keep up with the pace, but they did it with flying colors under the vibrant Alaskan sun that never sets.

Over the course of the week, **Wilcox**, **Dale**, and **Ahlgren** conducted 17 gold dredge inspections, 6 fishing vessel inspections, and 1 foreign tank vessel inspection, **Ahlgren** said.

*"I conducted six commercial fishing vessel exams,"* said **Dale**. *"CFV exams are required for vessels operating more than 3 miles from the territorial sea baseline. Carriage requirements for vessels are based upon length, number of persons on board and how far from shore they operate. Once a vessel is in compliance, it receives a decal which is good for two years."*

Gold dredging has been an on-going expedition in Nome, but the U.S. Coast Guard's involvement with inspections has been minimal until 2011, and as more safety concerns have arisen. Dredging for gold in such frigid waters is dangerous; currently dive certifications are not required for the gold dredge operators or those aboard the vessels. Divers are going out deeper every year, and without a permanent U.S. Coast Guard presence in Nome, it is paramount that the U.S. Coast Guard returns yearly for these inspections, both to maintain vessel safety and to answer any questions that may arise.

*"As the easy to reach near shore gold has mostly been picked over, operators are designing larger dredges able to mine in deeper waters,"* said **Dale**. *"The new dredges are crossing regulatory thresholds requiring more detailed Coast Guard inspections."*

**Lucas Stotts**, the Harbormaster with the Port of Nome, said there are a variety of requirements for the dredges and their operators; they have the

U.S. Coast Guard requirements as well as others from the Department of Natural Resources and from the State of Alaska before they can begin their quest underwater. June is a busy month because they have to get everyone permitted, make sure they have insurance, and then get everyone on the water, which is what they are in the process of doing now, he said.

"The Department of Natural Resources is going to give them a mining claim permit," said **Stotts**. "I'm going to give them a permit to use our improved facilities based on foot length." **Stotts** said his job as the harbormaster is primarily to dispatch in and out all large vessel traffic, which can be difficult with the minimal amount of docking space. "With the dredging fleet and the fishermen, it's more so with the dredgers, it's constantly managing where everybody is," said **Stotts**. "It's like playing Tetris every day." There are no assigned slips, so docking is on a first-come, first-served basis, **Stotts** said.

Compared to previous years, the number of vessels in the harbor is down for June, said **Ahlgren**. It could just be a late start to the season, he said. The harbor is usually filled by the first week of June, but either way, the inspectors worked relentlessly all week to respond to the inspection calls when they came in.

**Ahlgren** said the dredging season ranges from early June until October, with some vessels dredging longer into November, depending on the ice formation in the Nome Harbor. "Weather is very unforgiving in the Nome and Bering Sea area," said **Ahlgren**. "Most gold dredgers pay attention to the rapidly changing wind and weather conditions and prefer to conduct activities in calm winds and seas, and under clear visibility."

However, **Ahlgren** said, just like with any other vessel, gold dredge vessels do break down, engines and equipment can fail and human error may occur on occasion. For this reason the U.S. Coast Guard highly encourages vessel inspections to reduce the chances of things like this happening. ⚓



## MARITIME FORUM

The League organized the Maritime Breakfast Forum (MBF) series in 1995 as a venue for developing plans and programs to discuss and resolve issues in the maritime industry. The MBF is attended by stakeholders in the maritime sector and resource persons in the government and private agencies involved in maritime concerns. The MBF is regularly held, without fail, every month except December, hosted by different agencies and organizations in the maritime industry. Policies and projects presented during the forum are published in the Maritime Review for information and dissemination to the general public.



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# Defense Buildup

by Rafael M Alunan III

As far back as 1991, I was vocal about investing in our defense, should the government decide to let go of the U.S. bases on account of a provision in the 1987 constitution mandating “no foreign troops on Philippine soil.” Up to that point, the U.S. was our defense shield, and if we were to give it up then we would have to be responsible for the country’s defense.

Well, one can say that due to intervening economic, financial and political crises stemming from internal and external factors that rocked the country from 1989-2012, the government was unable to invest in defense. We lost Mischief Reef to China in 1995; lost tens of billions of dollars to international poachers in our EEZ; lost our coral reefs to illegal fishing practices; lost our reefs and shoals now occupied by China that reclaimed them to build military forward operating bases.

In short, on account of our failure to invest in national security, our borders are porous and enable terrorists and criminals to ingress and egress at will; our sovereign rights in our EEZ have been compromised; we have limited control over our maritime domain; and we lack the means to back diplomacy with credible deterrence or enforcement. We behaved mindlessly for a long time like a rich bank without a security fence. There were times though when we attempted to improve our defense posture. After Mischief Reef was stolen

from us, then President Fidel V. Ramos caused the passage of the First AFP Modernization Act in 1995 where its core source of funds would be from the privatization of Fort Bonifacio. Its implementation was impeded by the 1997 Asian financial crisis that took several years to overcome. By that time, it was President Joseph E. Estrada’s turn to continue where FVR left off but then he was ousted 2.5 years after he took office. Not much happened during then President GMA’s time again because of a global financial crisis that hit in 2007, and within the first two years of the PNoy presidency. However, after China occupied Scarborough Shoal in 2012, government passed the Second AFP Modernization Act where Php70-billion was earmarked for our defense buildup.

The AFP thereupon drew up its procurement plan spanning 15 years split in three 5-year horizons. The first horizon was completed in 2017. The AFP is now in its second horizon and so far, President Duterte has approved almost Php300-billion, or four times more, than the first horizon in his first two years of office. In fact, some items that fall under the third horizon are being accelerated to the second. Read between the lines.

What’s significant also is the approval of two vital national security documents – the National Security Policy and National Security Strategy – that PRRD approved last year and this year, respectively, to guide our national security sector during his term in office. It sets the tone for our defense planners and legislators to rationalize their procurement based on specific strategic guidelines. Sources of funds to pay for the defense buildup have been identified to serve as the focal point for their deliberations.

No longer shall defense acquisitions be on the basis of unjustified wish lists, or driven by the budget or by suppliers. It will now be on the basis of what is or will be needed to adequately deter and defend our country based on a keen awareness of the current and future security environment. This brings us up to par with our security allies and partners who’ve

applied this discipline long ago to rationalize their defense acquisitions and, more importantly, sustain their capital assets to maximize operational readiness and extend their life cycles to their fullest potentials. This is one area, however, that we still need to focus on.

That said, our sea-air buildup is crucial to deter or defend against external threats to our maritime domain and airspace. Submarines are critical to the equation as with a radar system that covers our entire EEZ; multi-role missile equipped frigates and corvettes; landing dock ships; unmanned air, surface and sub-surface combat vehicles; and multi-role helicopters. We’re lucky to have reliable suppliers in Israel, the U.S., South Korea and Indonesia, while Japan, Australia, France and Germany have been fully supportive of the Coast Guard’s build-up.



Philippine Navy’s latest arsenal, the Israeli Spike-ER missile system aboard the MPAC. Photo courtesy of the Philippine Navy

In the air, multi-role fighters to defend our airspace are crucial as with radar to detect hostile threats; ground attack and close support aircraft, manned and unmanned; and transports, rotary and fixed wing. All those are in the pipeline to include our land forces that are eyeing strategic land-based missile defense systems. South Korea has supplied us with 12 FA-50 fighter-trainers with ground attack capability. The U.S. and Japan have supplied us with aircraft for Intelligence, Surveillance and Reconnaissance. And we’re considering multi-role fighters from the U.S., Sweden and Russia to fill up two squadrons.

I’m partial toward mobile land-based long-range shore-to-ship and surface-to-air standoff missile systems that cover our EEZ and airspace 360 degrees. Missile systems from the U.S. (if we have access), Israel, Sweden, India and Russia are go-to supplier countries. They have what we need to provide strategic credible deterrence on land that could be complemented by naval platforms. The USA’s Tomahawk, India’s Brahmos, Sweden’s Rbs-15, Israel’s LORA, and Russia’s S-400 are good examples of that.

I look forward to a joint service command and control (C2) system from the U.S. that will provide information integration and dissemination to each of the AFP joint and service specific headquarters, greatly expanding their ability to form and maintain a national common operational picture. The system will provide command, control, communications, computers, intelligence, surveillance, target acquisition and reconnaissance capability. It will require a microwave communications backbone system with satellite communications capability.

Last but not least, we need to conduct a no-nonsense self-reliance program to build our own weapons and defense systems. National security is everyone’s responsibility and ideally carries no price tag. National unity is critical to its sustainment for a better Philippines for all Filipinos.



**About the author:** Rafael M Alunan III, a member of the Maritime League, was Secretary of Tourism during the Cory Aquino administration, and DILG Secretary during the Ramos administration. A DLSU graduate, he was in the Naval Reserve but subsequently transferred to the Army reserve, where he now commands an Army Reserve Division. He is very active in government affairs as a private citizen with confidence building with China, government reform in the Philippines, National Security, and overall national development. Alunan is a member of many civic organizations and known to be an exemplar in his work while in government.

# Philippine Borders and Customs Security Concerns

by Vicky Viray Mendoza

The Philippines, being an archipelago, has no land borders with neighboring countries. Unlike some countries in Northern Africa like Morocco, Algeria, Tunisia, Libya, and Egypt, that have problems with porous borders between countries, the Philippines is spared of that kind of border problem. However, while these North African countries share the same stretch of coastline along the Mediterranean Sea, the length of their individual coastlines are more manageable to protect (Morocco 1835 kms; Algeria, 1000 kms; Tunisia 1148 kms; Libya, 1770 kms; and Egypt, 2000 kms) compared with the Philippines' total coastline of 36,289 kms.

The **Philippine Coast Guard** had requested for an increase in procurement of Offshore Patrol Vessels (**OPVs**) to increase border security due to the increase in sea-based illegal activities such as drug smuggling, human trafficking, marine animal trade, poaching and intrusions into the Philippine Exclusive Economic Zone (EEZ), which is about 200 nm from the Philippine coastline shelf. Most of these illegal activities have been traced to mainland China, some to Taiwanese and Vietnamese fishermen, and to Islamic forces in the south of Mindanao. About 9 Chinese drug cartels called Triads have been involved in most illegal drug trade in the Philippines (R. Ramirez 2016). The U.S. Department of State found out that Chinese drug cartels are behind the trade of methamphetamine hydrochloride (crystal meth or Shabu) in the Philippines (P. Ranada 2016).

The border patrols that make use of fast **OPVs** are very adept at catching vessels loaded with smuggled goods entering our open waters, but the shipments keep continuing to enter our maritime borders and in an increasing number, as if to exasperate the border patrol agents.

Northern African countries – Morocco, Algeria, Tunisia, Libya, and Egypt – share very similar border security concerns as the Philippines. As part of their defense solution, they all invested in procuring OPVs and Frigates to help their navy and coast guard secure their borders. These countries would be good comparators when we try to analyze how the Philippines is doing in tackling exactly the same problems, and having generally the same type of vessels to counter illegal trafficking and terrorism.

Within the **Bureau of Customs**, there is the **Enforcement Group** that exercises policy authority at all ports, taking charge of customs border control, port security and communication, as well as inspection and monitoring of cargoes. Whenever massive smuggling has transpired within our marine ports or airports, it is because of rampant corruption in Customs, and what ensues after following the tracks of the smuggled goods is a homeland security problem later. The Bureaus of Customs, Immigration, and Investigation offices must be especially vigilant during these uncertain times when drug trafficking and movement of humans may take place using the front door of Customs and Immigration, rather than attempt to penetrate through porous holes in maritime borders in the rough open seas. Inter-agency support is therefore crucial.

Certainly, there is maritime white-collar thievery in the north, financed by foreign business smugglers and assisted by corrupt

government personnel. And, there is sea borne terrorism in the south, perpetuated by homegrown and foreign-financed Islamic groups. The illicit trafficking of goods that come with the lure of making a quick buck promotes more corruption, social disorder, and destabilizes the country with a bigger shadow economy, all of which rob the populace of resources that could have otherwise been used in rebuilding land infrastructure and schools, which are long-term investments that would provide a more stable standard of living in a more equitable economy.

Having secure borders is critical and essential to economic prosperity, national sovereignty, and homeland security. **Border security** is responsible for the control and examination of what enters and leaves a country. This is quite important due to current terrorist threats and organized crime infiltrating our country. We must protect our borders from the illegal movement of weapons, drugs, contraband goods, and people, while promoting lawful entry and exit.

In June 2017, Philippines, Malaysia and Indonesia signed a **Trilateral Cooperation Arrangement** to tighten border security with **trilateral maritime patrol**. The agreement aimed to halt crimes, including kidnapping, drug trafficking, and the transit of terrorists in the vast Sulu Sea. (Agence France Presse, 2017)

In October 2017, the National Security Council (NSC) and the **National Coast Watch System (NCWS)** had highlighted the importance of maritime and border security, and organized an ASEAN regional forum to discuss the 5 areas of focus:

- ♦ Inter-agency support **within** and **between** countries, and operational experience between military and government;
- ♦ Sustainability of fisheries – with a focus on combating illegal fishing activities and practices; and how to eliminate illegal unreported and unregulated fishing (IUUF);



Indonesian Defense Minister Ryamizard Ryacudu, Malaysian Defense Minister Hishammuddin Hussein, and Philippine Secretary of National Defense Delfin Lorenzana launch the Trilateral Air Patrol at the Royal Malaysian Air Force Base, Subang, Malaysia on 12-October-2017. Lai Seng Sin / Reuters



- ♦ Confidence and capacity building measures – including infrastructure security, challenges and recent development plans, sea terrorism, best practices in joint responsibility efforts, and training;
- ♦ EEZ security – with reference to efforts in controlling piracy, counter-terrorism, military civilian inter-agency cooperation, developing shared maritime awareness; and
- ♦ Understanding that although there are challenges within the ASEAN Region, we must support a regional desire to expand partnerships to develop national capabilities for security, law enforcement, and border controls. (Marsecreview, 2017)

Following the success of the **Trilateral Maritime Patrol** inaugurated in June, the **joint air patrol** was the second component of the **Trilateral Cooperative Arrangement (TCA)** to secure the maritime areas of common concern among the Philippines, Indonesia and Malaysia. Also in October 2017, the three defense ministers of **Malaysia, Indonesia and Philippines** discussed the potential and importance of cooperation among neighboring nations. Malaysia, Indonesia and the Philippines began their coordinated **Trilateral Air Patrols** off the strife-torn southern Philippines to crush the mounting threat posed by Islamist militants. These 3 countries had already launched joint sea patrols four months back in June in the Sulu Sea. Fears had been rising because the Islamic State (IS) group was trying to establish a Southeast Asian outpost in southern Philippines, after gunmen waving the jihadists' black flag occupied the Muslim City of **Marawi** in May. There had also been a rise in kidnappings in the Sulu Sea by the **Abu Sayyaf**, a Philippine Islamist militant group. A Malaysian defense spokesperson said the patrols were aimed at combating the threat from **Daesh** (IS), piracy and sea robberies. The countries took turns to lead the patrols, starting with Malaysia in November 2017, followed by the Philippines in December 2017, and Indonesia in January 2018. *"The extensive nature of the effects inflicted by these threats has made it clear that it should not be addressed by one country alone. It requires regional cooperation among like-minded countries,"* Defense Minister Hishammuddin Hussein said, adding that the **joint maritime and air patrol** operations of the three countries would be permanent and would continue for as long as needed. (Agence France Presse, 2017)

Indonesian authorities tightened security in areas bordering the Philippines, and at the Philippine mission in Jakarta following Manila's declaration that its southern City of **Marawi** had been liberated from pro-Islamic State militants. Philippine President Rodrigo **Duterte** made the declaration that two commanders of the Islamic rebel alliance were killed. **Marawi** had been partly held by fighters linked to the Islamic State since the attack in May. Indonesia's National Police Chief Gen. **Tito Karnavian** said that the deaths of **Isnilon Hapilon and Omarkhayam Maute**, as well as the liberation of Syria's northern city of Raqqa from Islamic State militants by U.S.-backed Syrian forces, had taken a toll on the IS terrorist network. He warned, however, that the surviving militants would try to escape, with as many as 100 militants still at large in southern Philippines. He added that some Indonesians are among the jihadists in Syria and Marawi. *"We need, therefore, to stay alert, working together with our intelligence counterparts, either those who have intelligence assets in Syria or in the Philippines to detect whether they are still there or have returned (to Indonesia). To anticipate their return by sea, military soldiers and police have been deployed to border areas. The Indonesian police have also been trying to determine the reaction of terrorist networks in Indonesia to the liberation of Marawi, and whether they will respond by deploying their members to Marawi or retaliate,"* Gen. **Tito Karnavian** said. (Kyodo News, 2017)

A report jointly prepared by the Financial Transaction Reports and Analysis Center, the National Counterterrorism Agency, and the State Intelligence Unit, which mapped the risk of Terrorism-Financing finds that online donations from sympathizers and supporters are hard to trace because of the ease to open social media accounts using fake identities. It reports that donations via nonprofit organizations, and funds obtained from illegal activities used to be rated as high risk, meaning there is a high chance of occurrence, but are now rated medium-risk. However, the report states that in recent years, terrorism-related funding had been mainly moved through remittance and banking transactions than by cash. It cites the inbound transfer of funds from Australia, Hong Kong and Malaysia to finance terrorism activities in Indonesia, and the outgoing wire transfers to buy weapons from the **Philippines**. And as a result of tighter monitoring of cross-border movements of people in recent years, there has been a decline in the incidence of terrorist suspects found at the border carrying cash, thus, cash movements are now considered low-risk. (Kyodo News, 2017)



In November 2017, the then head of the Armed Forces of the Philippines (AFP), Gen. **Rey Leonardo B Guerrero**, urged members of the **ASEAN** to fortify their border security in order to curb transnational crime and prevent the entry of terrorists. Gen. **Guerrero** stressed the need to enhance regional border security through coordinated border patrols. (Reyes, 2017)

Gen. **Guerrero** said the **AFP** would be banking on a national policy and defense agenda to develop a "credible defense force" by strengthening the country's Naval and Air capabilities. He said this would result in a "more effective" monitoring and control of sea lanes and air space within the region. "For this, we will reinforce our **Maritime Domain** awareness on our maritime areas of interest particularly our Sea Lanes of Communications (SLOCs). We will also push through with our capability build-up in order to enhance our maritime operations capability," Gen. **Guerrero** explained. (Reyes, 2017)

Given the possibility that lawless elements may use the country's common maritime borders for illegal activities, there is no other option for the Philippines but to work with its neighbors to strengthen their regional border security. The Philippines and other member-countries of **ASEAN** ought to work in unison to combat transnational crimes, like piracy and hijacking. (Journal.com, 2017)

The new head of the Armed Forces of the Philippines, Gen. **Carlito Galvez**, was appointed in April 2018. He has been very active in the implementation of the AFP modernization program so as not to hamper ongoing and future military operations, and holding peace



talks with the MILF group. His efforts are focused on ensuring successful implementation of various peace mechanisms. In particular, the AFP is jointly planning and organizing the **Joint Peace and Security Teams (JPST)** with the **Philippine National Police (PNP)** and the **Moro Islamic Liberation Front (MILF)**.

In May 2018, after 12 days of training, approximately 8,000 service members from the U.S. military and Armed Forces of the Philippines (AFP) completed the **Exercise Balikatan**, resulting in increased inter-operability and improved military skills. Through **Balikatan**, the forces built upon a long and productive history of joint military exercises that enhance interoperability, strengthen partnerships, and improve disaster response and counterterrorism capabilities. (U.S. Embassy, 2018)

This is the 34th **Balikatan**, which focused on counterterrorism, humanitarian assistance and disaster relief, as well as combined military operations to ensure a more rapid response to natural disasters and manmade crises in the region. The combined **U.S.-AFP** military forces conducted a diverse range of training events, such as a combined arms live-fire exercise, an amphibious raid, close air support operations, artillery training, search and rescue operations, and small unit tactics operations. These training events strengthen the U.S.-AFP military partnership and will provide a more effective combined joint response for future operations.

In June 2018, the **AFP** had been able to train 14 teams of **JPSTs** that have been deployed to Central and Western Mindanao. Each **JPST** is composed of 7 **AFP** officers, 8 **PNP** officers, and 15 from **MILF**. This number is expected to continually increase as the Bangsamoro normalization process progresses. (AFP News, July 2018)



In the past couple of years, defense and security needs have become increasingly important based on the escalating tensions in the South China Sea between Claimant Countries and China. Centering on the **Freedom of Navigation** issue, it is imperative to strengthen protocols that can prevent unintended incidents. There are also perennial issues of seaborne terrorism in Sulu Sea, southwest of the country, including drug trafficking of Shabu within southern Philippine EEZ waters.

In June 2018, the **PNP** found 24 kilos of Shabu worth over Php163 million sold as refined Chinese tea in packets that are made in Caloocan. (Andrade, 2018)

In July 2018, the PNP Director General **Renato "Bato" de la Rosa** declared there are no longer any Shabu manufactured in the Philippines. He said they now enter from abroad through normal procedures of the **Bureau of Customs**. A suspect was arrested by the Philippine Drug Enforcement Agency (**PDEA**) with P47 million worth of Shabu in San Andres Bukid, Manila, with its mastermind running the operation from inside jail using a cell phone. Another arrest by a joint effort of **PDEA, PNP (SAF)**, and **PA (7th Infantry Battalion)** of a Barangay Captain and his wife distributing Shabu packets worth P340 million in North Cotabato. A departing 61 year old Korean was also arrested by **PDEA** and **PNP (AVSEGROUP)** with P54,400 worth of Shabu in Clark International Airport, Pampanga. (PDEA News, 2018)

It is important that we protect our maritime borders not only from illegal trafficking of drugs but also from the "mules" sent by organized crime to distribute Shabu inside our borders. Once they have penetrated our borders through the porous door of the open seas or the front door of the **Bureau of Customs**, it becomes easier for them to package and distribute, and in turn, harder for law enforcement agents to mitigate the spread of illegal drugs, particularly Cocaine and Shabu. The idea of our border security being a maritime concern would be more successful with coordinated foreign regional maritime border patrols and air patrols, as well as local inter-agency coordination.



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# New Spanish Submarine too Big to Berth at Naval Dock

by Vicky Viray Mendoza



The Spanish S-80 Plus submarine experienced an eventful development stage, with newest fixes causing the sub to exceed the size of naval base docks.  
Photo Credit: Spanish Navy

Spain had designed a new submarine. However, the project encountered some physical and engineering problems. In turn, the solutions to these problems created even new problems. At first, it was a design error, which made the submarine unable to float. The solution was to make the submarine longer. As an unfortunate result, the new size of the submarine ended up too big to berth at Spain's naval base at Cartagena.

[Safety4Sea](#) reports that the problems began with wrong estimations in the initial plans, and nobody had noticed them. As a result, the cost of the submarine has doubled, and it is now estimated to reach €1 billion or about \$1.125 billion. Moreover, there are 4 submarines to be built.

**Joseph Trevithick** reported in [Drive.com](#) that in 2013, **Navantia** uncovered a serious and potentially fatal design flaw. The addition of more than 100 tons of added weight during development had thrown off the boat's buoyancy characteristics, which meant it might not be able to resurface reliably. Also the Cartagena docks are shy of 256 feet long, while the **S-80 Plus** was now over 265 feet long.

According to [Safety4Sea](#), the original design envisioned a 71-meter, 2,200-ton displacement vessel. After all the corrective measures were implemented, the **S-80 Plus** submarine is now an 81-meter, 3,000-ton submarine.

**Andrew Jarocki** reported in [DefenseNews.com](#) that the S-80 Plus was extended by 10 meters to increase buoyancy after the original model of the sub appeared unable to resurface and float, as first

reported by the Spanish newspaper **El País** on 18-July-2018. However, the additional length meant it would also require a much larger docking infrastructure to be built at Cartagena naval base to fit the S-80 Plus. In order to accommodate the S-80 Plus, as well as the **S-81**, **S-82**, and **S-83** subs, the Cartagena naval base would need to be dredged and reshaped to fit all four lengthened subs. **Joseph Trevithick** states that additional funds will be needed to upgrade the docks and facilities, costing upwards of \$18 million.

The total price of the contract for the 4 Spanish submarines, excluding the expenses for new docking, has already nearly doubled after the unexpected challenges, reaching €3.9 billion or about \$4.5 billion.

Spain's Minister of Defense **Margarita Robles** stated over Spanish radio that while "there have been deficiencies in the project," the problems "are already corrected and the project is absolutely viable."



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# Automation for Maritime: The Future of Shipping and Ports

by Martek Marine



**A**utomation is only going one way. How will it impact you? It's estimated that tens of thousands of dollars could be saved each day by introducing automation to a single container vessel – but is this realistically on the horizon? We've spoken at length about **drones** being used in the future, but what about ships and ports?

**Ports.** Container cranes at Maasvlakte 2 are unmanned and pretty much fully automated. Aside from a few small processes, computers manage the whole operation.

Moving forward, this could be used on a larger scale to speed up the shipping supply chain process, but there are some concerns. Digital errors, unchecked by human eyes, could cause damage or harm. There's also the risk of criminals hacking into the system.

**Ships.** Entirely unmanned, or hosting a small skeleton crew, self-piloting and self-managing – possibly out for testing later this year.

The **YARA Birkeland** Autonomous Container Vessel plans to be operational on a sea route between Brevik, Herøya and Larvik Ports in southern **Norway** by 2020.

The ship's navigation and autonomous operations will be supported by a number of proximity sensors, including a radar, a **Light Detection and Ranging (LIDAR)** device, an **automatic identification system (AIS)**, an imaging system and an infrared (IR) camera. As well as shipping, there are plans for **autonomous cruise ships** too.



The looming downside is, of course, a lack of jobs, which will impact the shipping industry. That's not to say this will see jobs lost immediately, with ships like the **YARA Birkeland** Autonomous Container Vessel costing 3 times more than a similar sized conventional ship, and plenty of regulatory and legal requirements to iron out. We don't expect to see fully autonomous shipping just yet.

**Martek Marine** will continue our mission to revolutionize ship safety, performance and crew welfare. Where automation is a benefit for the industry as a whole, you can guarantee we'll be leading the way. ⚓





Project team pioneers methods to reduce sheet metal distortion from heat welding for greater time and cost efficiencies

# LIFT Project Streamlines Shipbuilding Process, Enables Increased Use of Lightweight Metals

by News from LIFT

**D**etroit's LIFT, "Lightweight Innovations For Tomorrow," a Manufacturing USA institute, announced the creation of a new process which introduces the opportunity for shipbuilders to save production costs and improve build time — all while reducing distortion of lightweight materials.

The **Joining-3 Project**, led by **Huntington Ingalls Industries'** Ingalls Shipbuilding division, with partners in government, NSWC-Carderock Division, NAVSEA and industry, including American Bureau of Shipping (ABS), Comau, ESI, and research, including the University of Michigan, EWI, Massachusetts Institute of Technology and The Ohio State University, developed innovative computer modeling to better predict where distortion, or warping, will occur when steel plates are welded together, ultimately reconfiguring the welding sequence. Using a U.S. Coast Guard Cutter unit as a test article, the project team demonstrated a 30% reduction in distortion and a 13% reduction in production costs compared to similar, previous cutter production units.

*"As naval ship designs have trended toward using thinner and higher strength materials to reduce structural weight and add new combat capability, controlling the quality and cost of distortion has increasingly and adversely affected the shipbuilding industry,"* said **T.D. Huang**, Principal Engineer, **Huntington Ingalls Industries**. *"The LIFT project has provided an avenue to collaborate with world-class experts and systematically address thin steel distortion."*

The **Joining-3 Project** team took a five-pronged approach, conducted over a 2-year period, which included:

- ♦ Observing the baseline Coast Guard Cutter production assembly and collecting distortion data at each process step;
- ♦ Fabricating nineteen (19) test panels featuring different variables and assembly sequences;

- ♦ Employing Integrated Computational Materials Engineering (ICME) modeling to establish recommended fitting, welding and assembly sequences for optimized distortion control;
- ♦ Recommended procedures were employed on a full-scale mock-up unit; and
- ♦ Detailing process flows to determine the change in cost due to improved technology and reduced distortion.

*"Developing better modeling to enable lightweight solutions is a big step forward for manufacturers across the country, and across industries,"* said **Alan Taub**, Chief Technology Officer, LIFT. *"Lightweighting is more than just substituting materials. It can be achieved through optimal engineering too."*

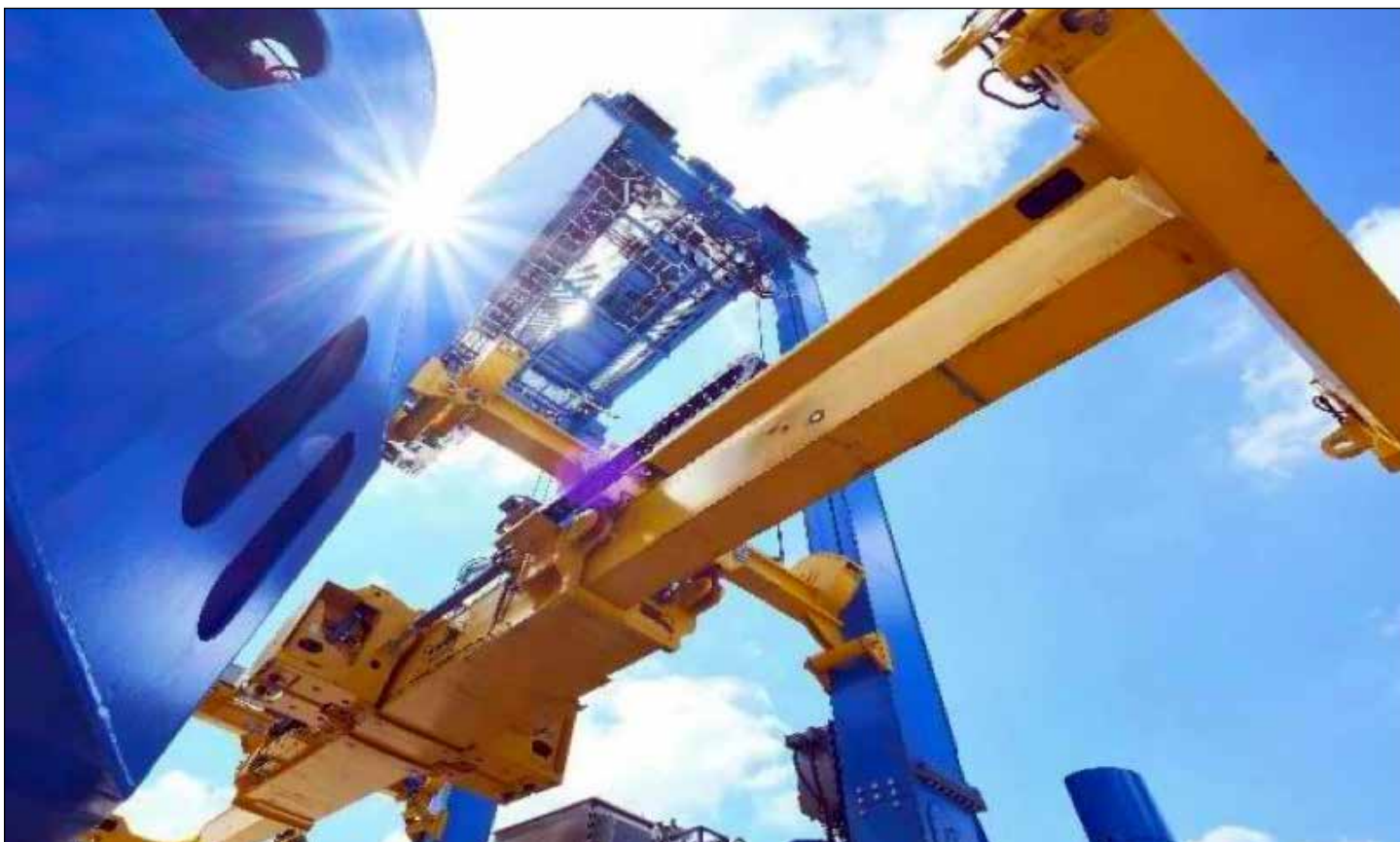
The modeling and streamlined process is currently being implemented by **Ingalls** through **ICME** analysis and utilization of the cost model to predict changes in design and the associated cost impact across all production platforms.

A follow-on project to evaluate advanced steel alloys for **ICME** implementation has been approved by LIFT for kick-off this summer.

**LIFT**, operated by the American Lightweight Materials Manufacturing Innovation Institute (ALMMII), is a Detroit-based, public-private partnership committed to the development and deployment of advanced lightweight metal manufacturing technologies, and implementing education and training initiatives to better prepare the workforce today and in the future. **LIFT** is one of the founding institutes of **Manufacturing USA**, and is funded in part by the **Department of Defense** with management through the **Office of Naval Research**. Visit [www.lift.technology](http://www.lift.technology) or Twitter [@NewsFromLIFT](https://twitter.com/NewsFromLIFT) to learn more. ⚓

# Autonomous Straddle Carrier Boosts Efficiency

by Port Strategy



*The straddle carrier's driverless technology features integrated navigation and positioning. Photo Credit: ZPMC*

**A** container straddle carrier with an autonomous navigation system is helping improve operational efficiency during its final testing phase.

Developed by China-headquartered Shanghai Zhenhua Heavy Industry Co., Ltd. (B), the straddle carrier can undertake self-repositioning, handling, stacking, loading and unloading, as well as transporting empty containers. The benefits of automating these tasks include energy savings, lower maintenance costs, environmental protection and regulatory compliance. The straddle carrier has high mobility and flexibility, enabling modular retrofit for current operations in existing terminals.

**ZPMC** North America Inc.'s President Larry Li, said: "ZPMC'S ability to deploy automated straddle carriers as a cost-efficient, modular retrofit solution unlocks new opportunities, not only for current straddle carrier operations but also for current RTG terminal operations."

## Good navigation

The straddle carrier's driverless technology features integrated navigation and positioning alongside modular design, diesel and battery hybrid capability, wheel-side synchronous motor drive and eight-wheel hydraulic independent steering.

As the machine is dual operation, it can be switched freely between manual driving and driverless modes, depending on the situation.

Automated straddle carriers currently account for less than 5% of the container terminal straddle carrier market, however, Mr Li stated: "A conservative estimate indicates that automated straddle carriers will reach 20% of the global market in the next 5 to 10 years."

"At **ZPMC**, we are continuing to innovate our port machinery to achieve the seamless integration of artificial intelligence and port efficiency, and the driverless straddle carrier is our benchmark product. We look forward to implementing this new technology in ports around the world," Li added. ⚓





# Overview of Hull Design of Diesel Electric Submarines with Air Independent Propulsion (AIP) System

## Design Series 1 of 12

by Captain Tomas D Baino PN (Ret) NAval Architect

### INTRODUCTION

Stealth is the main reason for acquiring a submarine. Submarine warfare is governed by avoiding being detected underwater by controlled sound propagation and crew activities on-board. Submarine invincibility is lost and the effective use of her weapon system would be denied once her presence underwater is detected. The submarine is a sitting duck because her location, rate of motion, and depth is detected and vulnerable to anti-submarine weapon systems with a guidance system. Submarines rely on acoustics or sound propagation and make use of the returning echo to detect and navigate targets underwater by the use SONAR to locate her fixed position in navigating underwater. It operates through the principles of physics, the Archimedes principle. The submarine must be able to shift from various sequences of buoyancy (negative, positive and neutral buoyancy) to dive, to surface, and to navigate between the surface and the bottom of the sea.

### HULL STRUCTURE

**Depth Rating.** Human occupants of a submarine would suffer physiological problems if the air pressure inside were simply allowed to be equal to the water pressure outside the hull (for example, oxygen becomes toxic at high pressures). So, when the inside air is kept at

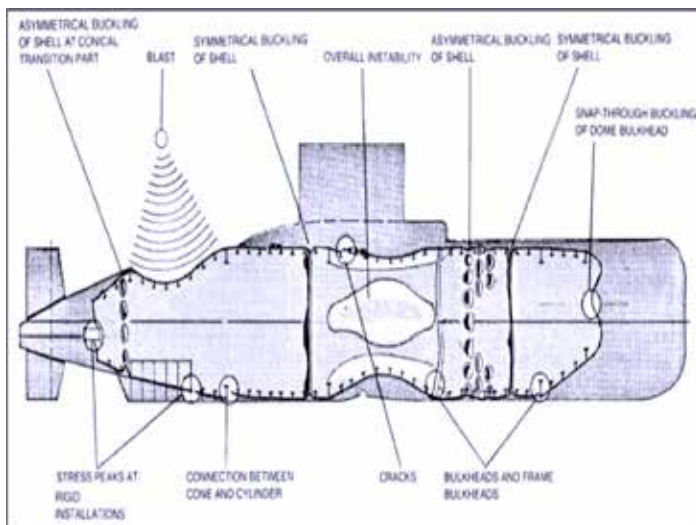
normal atmospheric pressure, the hull must be able to withstand the forces created by the outside water pressure being greater than the inside air pressure. The outside water pressure increases with depth and so the stresses on the hull also increase with depth. Each 10 meters (33 feet) of depth puts another atmosphere (1 bar, 14.7 psi, 100 kPa) of pressure on the hull, so at 300 meters (1,000 feet), the hull is withstanding thirty atmospheres (30 bar, 441 psi, 3,000 kPa) of water pressure.

**Design Depth.** Design depth is the nominal depth listed in the submarine's specifications. From it, the designers calculate the thickness of the hull metal, the boat's displacement, and many other related factors. Since the designers incorporate margins of error in their calculations, crush depth of an actual vessel should be slightly deeper than its design depth.

**Test Depth.** Test depth is the maximum depth at which a submarine is permitted to operate under normal peacetime circumstances, and is tested during sea trials.

**Operating Depth.** The maximum operating depth (popularly called the never-exceed depth) is the maximum depth at which a submarine is allowed to operate under any (e.g., battle) condition.

**Crush Depth.** Crush depth, officially called collapse depth, is the submerged depth at which a submarine's hull is expected to collapse due to pressure.



**PROPULSION SYSTEM**

1. **Diesel Electric** – A combination of Marine Diesel Engine with Generators and several units of batteries (60-80 pcs) of high density batteries being charged and re-charged by the Marine Engine Generators. At the surface, the Marine Diesel Engine are connected to the atmosphere, oxygen is available to operate the Internal Combustion Engine of the Marine Engine to complete ignition-combusting to charge the batteries at the surface of the sea. Once the batteries are charged, the submarine will dive underwater using the batteries with the Marine Diesel Engine shut-off. These batteries can run-out of charge in 4-6 days and the submarine will need to re-surface to charge the batteries again.

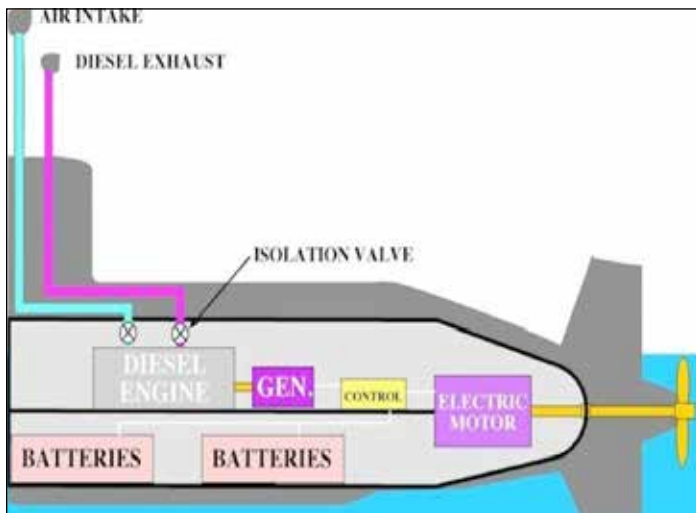


Figure 1. Diesel Electric Propulsion Photo Credit: defencyclopedia.com

2. **Air Independent Propulsion System** – There are commonly four (4) types of Air Independent Propulsion (AIP) currently installed in the conventional submarines. The AIP can make the submarine operate underwater without connecting it to the atmosphere. The AIP can extend underwater endurance of the submarine for the next 30 days or more.
  - **Closed Cycle Diesel Engine** – this technology stores a supply of oxygen in the submarine compartment in a tank called the Liquid Oxygen (LOX), and freed-in to the diesel engine to support ignition-combustion of the Marine Diesel Engine. The oxygen is mixed with inert gas (called argon). The ex-

haust gasses are cooled and scrubbed for extra left over of oxygen and argon. The remaining gasses are discharged into the sea after being mixed with seawater. The argon extracted from exhaust gasses is re-sent to the diesel again after being mixed with oxygen to support the ICE of the main engine.

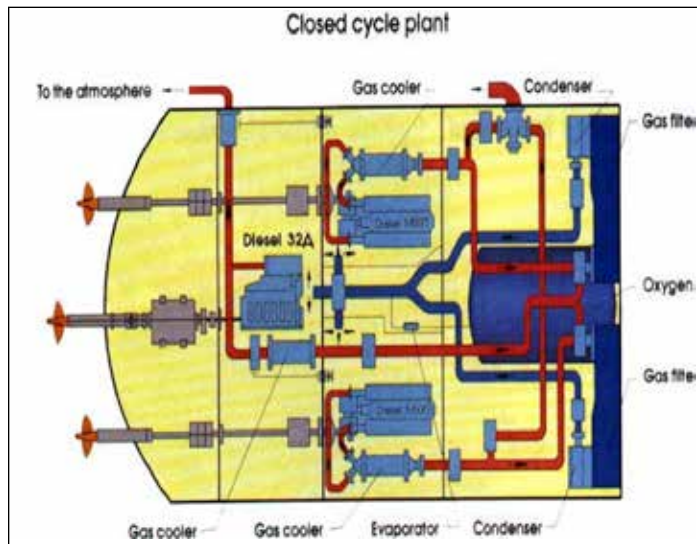


Figure 2. ClosedCycle Diesel Engine Photo Credit: forum.sub-driver.com

- **Closed Cycle Steam Turbines** – The Steam Turbine is the source of energy to heat water and convert it to steam in order to run the turbine called MESMA (Module d'Énergie Sous-Marine Autonome / Autonomous Submarine Energy Module) by the French; it is a system that uses ethanol and oxygen at high pressure to generate steam. As a working fluid, this is used to generate steam to run the turbines. The high-pressure combustion allows the exhaust carbon dioxide to be expelled outside the submarine hull at any depth without the use of compressors.

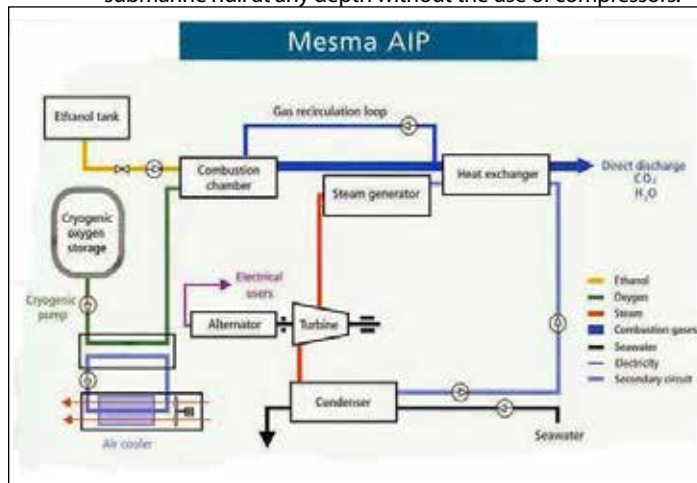


Figure 3. Closed Cycle Diesel Engine Photo Credit: gentleseas.blogspot.com

- **Fuel Cell** – an electrochemical cell that converts the chemical energy from fuel into electricity through an electrochemical reaction of hydrogen fuel with oxygen or another oxidizing agent. Fuel cells are different from batteries in requiring a continuous source of fuel and oxygen (usually from air) to sustain the chemical reaction, whereas in a battery, the chemical energy comes from chemicals already present in the battery. Fuel cells can produce electricity continuously for as long as fuel and oxygen are supplied.



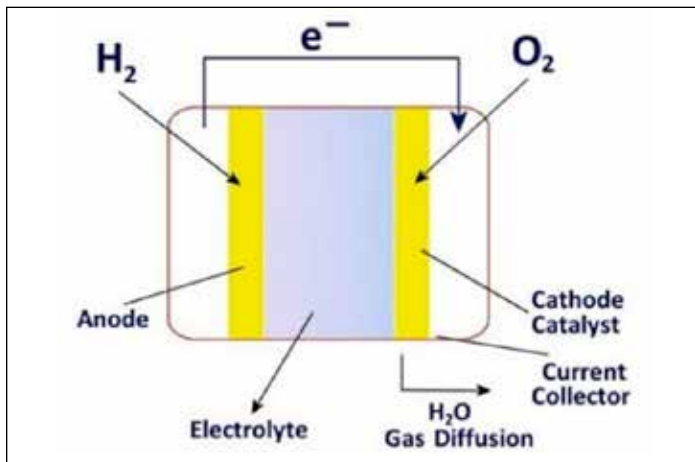


Figure 4. Closed Cycle Diesel Engine Photo Credit: fashion.stellaconstance.co

- **Stirling Cycle Engines** – The Swedish shipbuilder Kockums constructed 3 Gotland-class submarines for the Swedish Navy were fitted with an auxiliary Stirling engine, which burns liquid oxygen and diesel fuel to drive 75 kilowatt electrical generators for either propulsion or charging batteries. The endurance of the 1,500-ton boats is 14 days at 5 kn (5.8 mph; 9.3 km/h).

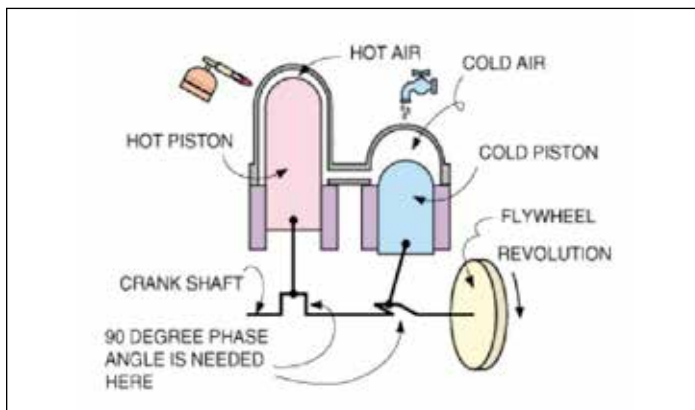
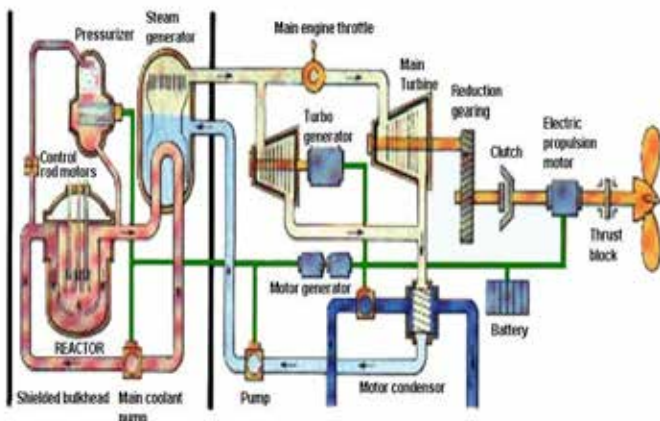


Figure 5. Stirling Cycle Engine Photo Credit: sivakrishna.com

3. **Nuclear Propulsion System** – is a propulsion system of a ship or submarine with heat provided by a nuclear power plant. The power plant heats water to produce steam for a turbine to turn the ship's propeller through a gearbox or through an electric generator and motor.

#### Pressurized-water Naval Nuclear Propulsion System



#### BATTERIES OF SUBMARINE

Lead-acid batteries are the heritage batteries used in nuclear powered naval submarines. Although, they have low energy density, they are mature in technology and cost considerably less than lithium-ion alternatives.



Figure 6. Submarine Batteries Photo Credit: egypt-business.com

#### Advantages of Submarine Propulsion Batteries:

- ♦ High Power Density
- ♦ High Reliability and Safety
- ♦ Minimal Hydrogen Evaluation
- ♦ Low Maintenance
- ♦ Thru-life warranty
- ♦ Prevention of overheating and Electrolyte Stratification
- ♦ These batteries are commonly used by Augusta, Daphne, Scorpene, Romeo, kilo, and Foxtrot, etc. Diesel Electric Submarines. Weight per unit of batteries (245 cm. x 80 cm. x 240 cm) is about 1,650 pounds. The weight also serves as fixed ballast for the hull of the submarine to maintain an upright position under water and also at the surface.

**Recommendation:** Among the four types of AIP, the fuel cell is the quietest unit with the least acoustic signature, and can achieve a high level of stealth because batteries of the submarine are being charged by fuel cell (no moving parts compared to the other three AIPs which have components that are mostly moving parts).



**About the Researcher:** CAPT TOMAS D BAINO PN (Ret) completed his post-graduate studies in Submarine Design at the Department of Naval Architecture, University College of London, United Kingdom of Great Britain, under the sponsorship grant of the UK Ministry of Defense.

Capt Baino is an associate editor of the **Maritime Review** providing series of articles in Naval Ship Design, and presently serving as Naval Architect Consultant with the Philippine Department of Transportation and the Philippine Coast Guard Project Management Office in Ship Acquisition Program.



# The Port of Davao

by Vicky Viray Mendoza

**T**he **Port of Davao** is a seaport located in the island of Mindanao. The **Port of Davao** consists of a number of ports, all within the Davao Gulf, which is part of the Celebes Sea, but its main office and seaport is located at Sasa, Davao City. The **Sasa Wharf** is one of the largest and busiest piers in the port area. **Sasa Wharf** is owned and operated by **International Container Terminal Services Inc. (ICTSI)**. Operations at the **Port of Davao** are mainly comprised of container cargo; raw materials exportation, bulk cargo, general cargo; and passenger traffic.

The **Port of Davao** has a natural coastal harbor. It has a small dry dock and a small harbor with over 500 ft in length. Nevertheless, its anchorage depth is between 21.6m-22.9m deep; its cargo pier depth is between 9.4m-10m; and its oil terminal depth is between 6.4m-7.6m, all perfect for large cargo carriers and tankers. It has a transit shed of 1,200 sqm and 360 sqm for passenger terminals and parking. Its container yard is 33,000 sqm, with storage area of 20,000 sqm, and a warehouse of 6,000 sqm.

The **Port of Davao** is the gateway to southern Philippines, considered the most important port in Mindanao, as it is the busiest international container port serving both Visayas and Mindanao regions, and is the best-performing port in Mindanao.

**Philippine Ports Authority (PPA)** 2017 statistics show that the **Port of Davao** contributed 11.1% of the total container cargo

nationwide (in TEUs), compared to Manila North Harbor at 12.3% and Manila South Harbor at 19.3%. Ship calls were 7.3%; cargo throughput (in MTs) is 6.4%; passenger traffic was 2.9%; but no RORO traffic was registered at all. There are actually some passenger shipping-lines that have operations to and from Davao, such as **WG&A Superferry**. Moreover, **DOTr** Under Secretary for Maritime Transportation Felipe Judan stated at the 135th **Maritime Forum** held at **PPA** HQ that *"there are small passenger ferries traversing to and from Samal Island."* He also said that President **Duterte** had made a request for **PPA** to look into the feasibility of bringing back the old RORO operations in Davao. Commodore Chuck Agustin, former GM of **PPA**, explained that *"the Port of Davao is far from the other ports in Mindanao, thus, it makes more sense for passengers to travel by land than by sea."* **DOTr** USEC **Judan** added, *"the Duterte administration has plans of building a railway system soon between Davao and several points in Mindanao."*

The **Port of Davao** is a premier port. It is one of the country's major seaports, which is comparable to the large ports of Manila, Subic, and Cebu. It includes Davao City and the four provinces: **Davao del Norte; Davao del Sur; Davao Occidental; and Davao Oriental**. The Port of Davao services inter-island and international shipments. Davao is along the shore of Davao Gulf in southwestern Mindanao.

In **Davao del Sur**, the City of **Davao** is located there but is politically



and administratively independent of the province. The access to the port of entry is through Davao Gulf, is either at **Pakiputan Strait** along the waters of western Samal Island, or along the waters of eastern Samal Island.

In **Davao Oriental**, the Piso Point Port is primarily used for mineral stockpiling and exportation. The **Tefasco Pier** handles asphalt shipments and similar products. The **Stevedorage Services Corporation Pier** handles general cargo, bulk cargo, vehicles and lumber, all of which makes it one of the busiest piers in the port. The **Caltex Pier** and **Petron Pier** are also located in Davao Oriental. Access to **Mati Port** is through Pujada Bay.

Davao City and the **Port of Davao** have 2 government international seaports, **Sasa Wharf** and **Sta. Ana Wharf**, and 9 privately owned ports. In addition, the Toril international Fish Port Complex accommodates small and large-scale fishing activities, and provides cold-storage facilities. Anchorage in Davao is well protected except during southwest monsoons.

In Davao del Norte, the **Davao International Container Terminal, Inc. (DICT)** located in **Panabo City** has transformed Davao Region into the industry leader in port logistics in Mindanao. **Panabo City** is part of the Davao Metropolitan Area, which is the country's largest metropolis, in terms of land area. DICT, a modern container port, is a joint venture between **ANFLOCOR** and Dole-Stanflico, the leading producers and exporters of fresh Cavendish bananas in the Philippines. **Tadeco**, which covers 7,500 hectares of banana plantations in Panabo City, exports millions of boxes of Cavendish bananas, which is the main economic driver of the city. The agricultural cargoes are transported via refrigerated shipping containers called Reefers.



The Php5 billion expansion of **DICT** in 2016 increased its handling capacity from 300K TEUs to 800K TEUs. Alex Valoria, President and CEO, Antonio Floirendo Group said, "From 2 quay cranes, we now have 4 quay cranes, 8 rubber-tired gantry cranes, and container handling equipment. The expanded **DICT** "offers world-class container terminal facilities and services in this heavily agricultural island in the Philippines, the **DICT** helps ensure the global competitiveness of Mindanao's export-grade products." **Davao del Norte** 2nd District Representative **Antonio Floirendo Jr** is the visionary who turned Panabo into an agro-industrial city, and regarded as "The Banana Capital of the Philippines."

**DICT** container port has an area of 11 hectares, with a 15-hectare container yard, adjacent to a 70-hectare export-processing zone (**EPZ**), and has access to an 88-hectare mixed-use land in **Panabo City**. Its clients enjoy the **EPZ** benefits of duty-free importation of equipment, raw materials, and an income tax holiday. At least 9 major shipping lines do ship calls on **DICT**. These are: American President; Maersk **MCC**; **CMA CGM**; Wan Hai Shipping; Advance Container; Regional Container; Pacific International; Mariana Express; and Cosco Shipping Lines. 📍

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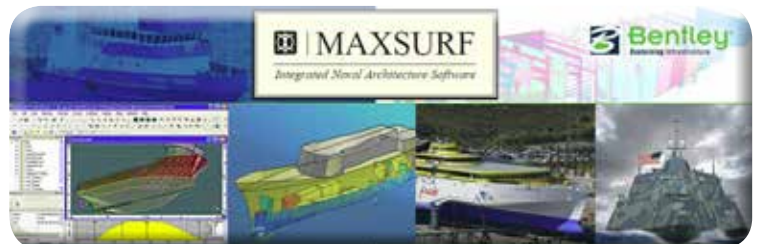
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# The Top 10 International Shipping Centers

by Safety4Sea

**S**ingapore is considered as the top world's shipping centre for the fifth year in a row, followed by **Hong Kong, London, Shanghai, and Dubai**. The outcome is based on the **International Shipping Centre Development Index (ISCD)** issued by Baltic Exchange and Xinhua news agency.

The index, which was first introduced in 2014, ranks 43 of the largest global ports and cities revealing the most important shipping hubs. The index system includes 3 primary indicators and 18 secondary indicators.

The Baltic Exchange and Xinhua published a report in mid-August to analyze the ranking results supporting that Singapore maintains leading position thanks to strategic opportunities brought about by the "Belt and Road" initiative while thanks to Guangdong-Hong Kong-Macau Greater Bay Area, the Hong Kong overtook the second position from London for the first time in five years.

## Key Outcomes

- ♦ For 2018, the Top Ten International Shipping Centers are **Singapore, Hong Kong, London, Shanghai, Dubai, Rotterdam,**

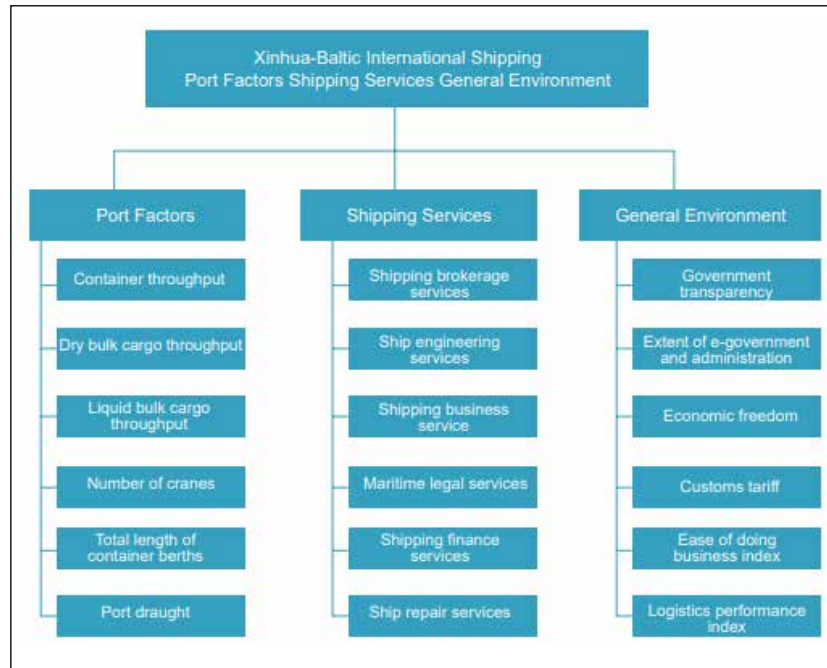
**Hamburg, New York, Tokyo, and Busan**, respectively.

- ♦ Comparing between 2014-2018, the overall evaluation results are relatively stable.
- ♦ Emerging shipping centers in Asia-Pacific region still maintain a strong growth trend.
- ♦ **Singapore** maintains its leading position for four consecutive years, thanks to strategic opportunities brought about by the "Belt and Road" initiative.
- ♦ Supported by its rapidly developing modern shipping logistics system and shipping services system, and coordinated development of its regional shipping counterparts, **Shanghai** advanced to the fourth place, right after **London** at third place.
- ♦ Driven by its innovative free-trade zone and improvement in trade environment, **Dubai's** ranking was stable at the fifth place. According to The **Maritime Executive** Magazine, "**Dubai** has scored a new milestone in its bid to cement its leadership in the international maritime sector after it was selected as one of the world's top five in the ISCD. According to a recent report by the



London-based Baltic Exchange and the Xinhua News Agency, **Dubai** has overtaken **Hamburg**, confirming anew the emirate's reputation as one of the leading maritime shipping and logistics centers in the world.

- ◆ **Busan** made its return to the top ten by virtue of its strategy of vigorously developing its transshipment ports.
- ◆ European and American traditional international shipping centers remain low in ranking.
- ◆ **Rotterdam** has improved its operating efficiency with new technology applications such as Internet of Things, big data, and artificial intelligence, as well as smart port construction. It has leaped to the sixth place.
- ◆ Impacted by the overall weak economy in the European region, London's overall shipping development was behind that of **Hong Kong**, while **Hamburg** has dropped to seventh place.



**London, Singapore, Hong Kong, Shanghai, Dubai, Athens, Hamburg, New York-New Jersey, Tokyo, and Houston.**

Of these, **London, Singapore, Hong Kong, and Shanghai** have been occupying the top four places for four consecutive years; thus indicating their stability as shipping centers. Houston's shipping services have gained significant momentum in development and attained the top ten places for the first time in five years.

### Global Brokerage Services

Shipping brokerage is the link between many facets of shipping transaction. Therefore, it possesses a huge amount of information related to ship sale transaction and can help in rapid delivery of ships. For a long time, London, as a traditional shipping center, still holds a leading position in shipping brokerage services. In particular, its information resources and the wide network of brokerage companies have exhibited strong competitiveness.

However, with the eastward shifting of the world's shipping centers, second-tier shipping services in the Asian region, led by Singapore have also taken shape and are beginning to close the gap with London in terms of services.

### Trends after Panama Canal Expansion

Connecting the Pacific Ocean and the Atlantic Ocean, the **Panama Canal** is one of the most important shipping channels in the world. With about 6% of the world's trade transported through the canal each year, the canal's usage situation can be regarded as the barometer for global trade.

Thus, this year the report includes an additional chapter analyzing the impact of widening of the **Panama Canal**, revealing a clear trend of larger-size ships transiting the Canal.

From the size of ships transiting through the **Panama Canal**, in terms of dimensions and tonnage, there has been a clear trend that **ships of growing sizes** are passing through the canal after the expansion. In 2015, the average DWT of ship transiting the Panama Canal was 41,538 tons. In 2016, it was 42,900 tons, up 3.28% or 1,362 tons; while in 2017, the increase was even more significant at 49,260 tons, up 14.83% or 6,360 tons.

The report finds that **LNG** and **LPG** vessels benefited most from the expansion of the Panama Canal with significant increase in vessel trips and total DWT tonnage, which reflected relatively strong market demand. There was a slight increase in market demand for **oil tankers** and **chemical tankers**, but the demand was generally stable. The **container ship** vessel type is most affected by the trend of growing ship size, with a slight increase in market demand. There was rising recovery of market demand for **bulk cargo ships**. ⚓

The report identifies three tiers, which acknowledge the global shipping centers: the traditionally-renowned tier, the innovation-leader tier, and the potential-for development tier.

1. The traditionally-renowned tier of shipping centers is represented by traditionally well-known international centers: Singapore, Hong Kong, and London.
2. The innovation-leader tier includes international shipping centers around the Asia-Pacific: Shanghai, Dubai, Guangzhou, and Ningbo-Zhoushan.
3. The potential-for-development tier of shipping centers includes developing ports: Newcastle, Tanjung Pelepas, and Port Klang.

Of the top ten shipping centers in the world, 6 are located in Asia, 3 in Europe and only 1 in America. In this regard, the report mentions that there is rapid development in shipping centers in both Asia and Europe, but the rising trend of shipping centers in Asia is becoming increasingly evident.

### Global Shipping Services

Although **Singapore** is considered the top shipping center, in the evaluation of shipping services it holds the second position.

Shipping services are generally evaluated in six aspects: namely ship broking service, ship engineering service, shipping business service, maritime legal service, shipping finance service and ship repair service.

Evaluation of international shipping centers in 2018 shows the top ten port cities with the best shipping services are, by order of ranking:

# Size Isn't Everything

by Port Strategy



Nine of the Top Ten connected ports are in Asia, including BUSAN Port coming in at 4th Place. Photo Credit: Jens-Olaf Walter

It's reassuring that even in the ports world, the best things can come in smaller parcels. **Drewry's new global container port connectivity index** has thrown up some unexpected stars – and pushed some giants further down the list than they might ever have expected.

**Drewry** launched its bespoke index in order to rank and monitor how well connected the world's container ports are, and it will be updating the data every quarter in order to track the ups and downs across the sector.

No surprises that the world's largest port, **Shanghai**, also takes top spot in the index with a score of 100, based on 168 mainline services per week and six trade routes served – the maximum, based on **Drewry's** breakdown of world regions. **Ningbo** is second, **Singapore** third, **Busan** fourth. Nine of the top ten ports are in Asia, with Rotterdam coming in at tenth place.

But reading down, the list gets more interesting. The **Port of Savannah** tops the list for North America, with 55 mainline services per week serving the maximum six trade routes, giving it a **connectivity index score** of 32.7. The east coast US port has a global ranking of 13 – ahead of **New York**, which is at number 17, with 45 services a week and a **connectivity score** of 26.8.

Looking at North America as a region, the top four slots are all taken by **East Coast** ports; the largest port in the region, **Los Angeles**, only makes it to sixth, and the second largest, **Long Beach**, is in twelfth place. That reflects the fact that these largest ports are more focused on Asia. **Oakland** is also ahead of LA/LB, taking fifth place on the North America list.

Another surprise hit is **Valencia**, which emerged as the **most**

**connected port** in the West Med region, ahead of both **Algenciras** and **Barcelona**, with 43 services a week serving 6 trade routes giving it a **connectivity score** of 25.6.

## Comparative data

*"We did this analysis because we could see it would be an interesting comparison – we didn't know what the results would yield,"* says **Neil Davidson**, Senior Analyst for ports & terminals, **Drewry**.

*"You naturally assume that the biggest ports are the best connected – but our methodology showed that you didn't have to be the biggest port to be the most well connected. And from the shipper point of view, **connectivity is better than size**. You want to use a port not only for frequency of services but also for the widest possible range of places, and that is where **Savannah** has scored, with direct connections to all the 6 world regions."*

Only 2 other ports on the US east coast were found to have similar connections but they didn't have as many services per week, he explains. *"How can that be, given that **New York** is so much bigger? The answer is that you might be a smaller port, but having services twice a week with smaller ships rather than once a week with bigger ships is a big factor. From a shipper perspective, frequency and range of services is the most attractive thing."*

**Savannah**, of course, is delighted. **Ed McCarthy**, Chief Operating Officer at **Georgia Ports Authority**, says: *"To be the most connected port in North America is truly an honor, and it has taken decades of preparation to get to where we are today."*

**Savannah** embarked on a clear strategy more than 20 years ago, which has effectively transformed it from an export-dominated port to one that has a good balance of import and export.



*"The port authority saw a lot of land within 5 miles of the port, and we started to reach out to the carriers and the market. We started to help our export market – instead of bringing empties in to load, we started bringing in imports, so that the same containers could be loaded for export. And in this past year, we went from export to import dominated."*

### Making the most of assets

**Savannah's** volumes out are mainly raw materials, including clay, forest products and poultry. Bringing the containers in with imports and turning them around fast is good news for the carriers, which get more use out of their equipment, points out Mr **McCarthy**.

What is the secret to **Savannah's** success? *"Absolutely it is finding out what the cargo owners desire and making sure that we maintain our image of doing business."*

The availability of land close to the port has been a major factor. *"We are connected to the major highways and have 55 square feet of warehousing in adjacent counties within 20 minutes' drive of the port. We also have two on-dock railyards, so offer the benefit of rail services directly into the port."*

None of this is to suggest that **Savannah** is not seeing larger vessels. Two years ago, it was mostly handling 6,000-8,000 Teu ships, he says. Now, 60% of vessels calling are 10,000 Teu or larger, and the port is handling vessels of over 13,000 Teu.

**Savannah** gained from the alliance reshuffles last year, and has gained at least one more service since then.

**Swift rail and road links are also vital**, he points out. *"That is really connectivity for the end shipper, who is not looking for large or small vessels – we get no particular feedback on that. It really comes down to last-mile connectivity. If we can deliver on that, each and every day, that is where we gain the confidence of shippers and we are rewarded with more business."*

### Removing limitations

For **New York**, the raising of the **Bayonne Bridge** and the deepening of the main access channel to 50 ft, both completed last year, removed a significant limitation on ship size accessing the port. **New York** is now regularly handling ships of over 14,000 Teu, and simulations have shown that it can handle container vessels of up to 18,000 Teu. This also has implications for other US East Coast ports, points out **Edward Kelly**, Executive Director of the **Maritime Association of New York/New Jersey**.

*"Any successful East Coast service requires a call at New York, because of the volume of business. You have to do New York, and then it is a question of where else you go in terms of a mid-Atlantic and a south Atlantic port. These larger vessels were almost completely halted from working on the East Coast, until the Port of New York was able to handle them."*

Any resultant reshuffle could lead to changes in the **Drewry** index, of course. Mr **Kelly** also emphasizes the importance of land-side connectivity. As well as terminal operators deepening berths and upgrading cranes during 2017, New York saw the development of the new intermodal rail service and expanded on-dock rail capacity, improvements to on-terminal roads, and the updating and digitalization of terminal gates to speed the flow of trucks.

Apart from **Bayone Bridge**, 3 other major bridges were upgraded or rebuilt in the port area, and millions of square feet of new warehousing and distribution centre capacity were added.

*"If you are not connected, you can't move,"* says Mr **Kelly**. *"Severe congestion can make a port too expensive and causes a public outcry from domestic truck drivers and private drivers. It becomes a matter of high expense and increased road pollution. The port handles a large volume of business going into the hinterland. A good volume of this will move by rail and never go on the local roads, and that is important."*

### SAVANNAH'S VISION PAYS OFF

The Port of Savannah handled just over 4m Teu in 2017 and volumes continue to rise. *"We have now had 15 straight months with back-to-back improved volumes,"* says the port's **Ed McCarthy**.

The port works closely with neighboring ports such as Charleston and Virginia, benchmarking and sharing information "so we can all be better and stronger."

*"We serve the east coast, all of us, and the competition is really for the US heartland. Los Angeles and the west coast are near capacity and sometime struggle to meet demand. If we can get a small part of that volume, it will be big benefit for us."*

Three years ago, **Savannah** had four super Post-Panamax cranes – today it has 12, with another six on order. GPA has just finished its 'Focus 2028', and the plans include investing \$2.5bn over the next decade to increase capacity from 5m Teu to 10m Teu through new equipment, densification of existing facilities and using land nearby.

*"We are blessed to have some amazing geography and the tremendous foresight of 20 years ago has turned the port into what we see today,"* says **McCarthy**. ⚓



The raised Bayonne Bridge allows bigger ships to call at New York's terminals. Photo Credit: US Coast Guard/Sabrina Clarke



General Santos City Fish Port Complex. Photo Credit: Tripadvisor.com

# GenSan, South Cotabato – Tuna Capital of the Philippines

by Vicky Viray Mendoza

**G**eneral Santos City (**GenSan**) is located in **South Cotabato**, in southwest Mindanao, and is a modern fish port. Its original name was **Dadiangas**, but was later renamed **General Santos** after the city's founder, General **Paulino Santos**, who was a former commanding general of the Philippine Army.

As the Tuna capital of the Philippines, **GenSan** carries the flag for South Cotabato and aids the national economy in a significant way. **GenSan** is well known for high quality 'Sashimi-grade' Yellowfin Tuna, which is mostly exported, while the rest are processed into canned goods, or sold locally.

There are more than 15 frozen Tuna processors in the Philippines, and 80% are located in **GenSan**, providing around 3,000 jobs. There are also 6 Tuna canneries with a combined daily production capacity of about 700 Metric Tons (MT), and about 7,500 jobs made available to plant workers. The 6 canneries in **GenSan** are export facilities, such as: Alliance Select Food International, Celebes Canning, General Tuna, Ocean Canning, Philbest Canning, and Seatrade Development Canning.

Thailand is the leading Tuna producing country, According to Commodore **Marfenio Tan**, a commercial fishing ship-owner and Force Commander, Naval Affiliated Reserve Force, Eastern Mindanao, "Thailand does not catch Tuna – it buys from the fishermen. Thailand's fishing industry is heavily subsidized by government in the form of good landing ports, lower shipping costs, lower taxes, lower export duties, large cold storage facilities, and lots of canneries." Yet the Philippines remains a major Tuna producer despite all the hurdles faced by its fishing industry. Tuna also remains the largest seafood export

commodity of the Philippines. Currently, the Philippines is the leading Yellowfin Tuna exporter to the European Union, mainly Germany and UK. The annual average national **Marine Tuna** produced in the Philippines over the period **2004-2016** is 506.6K MT, worth P13.2M. About 38% of total national Marine Tuna (Bigeye, Frigate, Skipjack, and Yellowfin) lands in **South Cotabato**. In 2016, Tuna ranked 5th among the country's top agricultural exports, worth \$277.5M, declining 5.4% from its export value of \$293.3M in 2015. Japan was the largest buyer of tuna, with 16.8% of total tuna export.

**National Commercial Tuna.** Over the same period, national **Commercial Tuna** produced an annual average of 349.75K MT, or 31% of national Commercial Fishery, worth P23.1M. The average annual share of major Tuna species (in MT) as a % of national **Commercial Tuna** is: 3% Bigeye (*Thunnus Obesus*), 26% Frigate (*Auxis Thazard*), 48% Skipjack (*Katsuwonus Pelamis*), and 24% Yellowfin Tuna (*Thunnus Albacares*).

**National Municipal Marine Tuna.** National Municipal Marine Tuna produced an annual average of 199.7K MT, or 18.6% of national municipal marine fishery, worth P10.8M. Clearly, **Municipal Marine Tuna** is much less than **Commercial Tuna** landings. The average annual share of major Tuna species (in MT) as a % of national Municipal Marine Tuna is: 4% Bigeye, 49% Frigate, 19% Skipjack, and 23% Yellowfin.

**National Tuna Trade.** The major markets of the country's Tuna exports are to the United States, Germany, United Kingdom, Japan, Thailand, Netherlands, and Vietnam. Philippine Tuna exports maintained a steady average of **40%** of total fishery exports over **2004-2016**.



National Commerce Tuna	Bigeye (%)	Frigate (%)	Skipjack (%)	Yellowfin (%)
2004-2008	4.1%	33.1%	39.6%	24.2%
2009-2013	1.9%	21.7%	49.4%	23.3%
2014-2016	1.8%	22.0%	55.6%	25.2%
<b>Avg</b>	<b>3%</b>	<b>26%</b>	<b>48%</b>	<b>24%</b>

The major markets of the country's Tuna imports were initially from Papua New Guinea, Taiwan, Japan, Marshall Islands, and Singapore. During **2014-2016**, Tuna imports shifted to Thailand, Peru, Denmark, Korea, and Argentina. Although Tuna imports comprised an average of only **26%** of total fishery imports, the trend of imports has sharply been increasing amidst the increasing price of Tuna. The wholesale price of Yellowfin Tuna is P153.3/kg in 2018, compared to P119.8/kg in 2016.

The national major **Marine Tuna** landings as a % of total national fishery is: 8% Frigate, 9% Skipjack, and 10% Yellowfin.

National Tuna Trade	2004-2008	2009-2013	2014-2016
Avg Tuna Export to Total Export Fisheries	40.1%	40.7%	40.2%
Avg Tuna Export to Total Export Fisheries	19.7%	24.0%	33.8%
Avg Tuna Wholesale Price (Php/kg)	p73.7	p109.2	p121.7

**Total Fishery Production in South Cotabato** produced an annual average of 219.5K MT, or 4.7% of the annual average national fisheries, worth P14.7M over the period **2004-2016**. But in the 1980s, VAdm **Emilio Marayag**, former Coast Guard Station Commander in GenSan during 1980-84 said, "There used to be more fish then but not enough processing plants and cold storage facilities on land and at sea."

**Commercial fishery in South Cotabato** produced an annual average of 221K MT, or 20.2% of annual average national commercial fishery, worth P14.3M. This makes South Cotabato the largest commercial fishery in the country. The second largest is Zamboanga City with 190.6K MT. Of the 8 tuna canneries in the Philippines, 2 are in Zamboanga.

**Municipal fishery in South Cotabato** produced an annual average of 2,360 MT, or 0.2% of annual average national municipal fishery, worth P120K. **Municipal Marine fishery** in South Cotabato produced an annual average of 2.8K MT, worth P1.1M. **Municipal Inland fishery** in South Cotabato produced an annual average of 273 MT, or 0.15% of national Municipal Inland fishery, worth P13.2K.

**Marine Tuna Landings in South Cotabato** produced an annual average of 200K MT or 39% of annual average national marine fishery, worth P13.1M. **Marine Tuna** is therefore 96% of fishery production in South Cotabato. The major **Marine Tuna** species are: 6% Bigeye; 11% Frigate, 61% Skipjack, and 38% Yellowfin.

**National Trend Update.** Of the total major Tuna species caught, an average of 64% (349.75 MT) is **Commercial Tuna**, and 36% (199.65 MT) is **Municipal Marine Tuna**. While both are separate and distinct sectors, they are actually competitors.

Average **Marine Tuna** landings from 2004-2016 have a slightly **increasing** trend, which can mainly be attributed to the increase in Skipjack and Yellowfin Tuna catch. Since then, during 2017-2018, Yellowfin landings have been decreasing by 2.86%, while Skipjack Tuna landings have been increasing by 9.08%.

Marine Tuna in South Cotabato	Bigeye (%)	Frigate (%)	Skipjack (%)	Yellowfin (%)
2004-2008	9.3%	23.3%	48.7%	35.2%
2009-2013	3.2%	3.5%	62.3%	33.4%
2014-2016	5.3%	5.6%	71.7%	47.1%
<b>Avg</b>	<b>6%</b>	<b>11%</b>	<b>61%</b>	<b>38%</b>

Although fishing effort is likely to further increase in the coming years as a result of rising costs of basic necessities and inflation, it is possible that **Marine Tuna** landing figures shall remain stable or decrease further until the Tuna stocks are sufficient, sustainable, and compliance issues are efficiently managed (i.e., over-fishing; and Illegal Unreported and Unregulated Fishing [**IUUF**]). But part of the problem can also be attributed to poaching in our local waters by foreign fishing vessels, mostly from **China, Thailand** and **Taiwan**. Philippine commercial fishing vessels and poor fishermen in smaller crafts are likewise being restricted from fishing in Indonesian waters. Our fishermen worry about the non-renewal of the Philippine-Indonesia fishing accord.

In **GenSan**, there are two types of handline fishers, the 'palaran' and the 'pamariles'. The main difference between the two fishers is their fishing ground. The 'palaran' handliner is confined to municipal waters, while the 'pamariles' fisher can venture to distant waters, even beyond Philippine EEZ. Yet it is the 'palaran' who is the primary producer of "Sashimi-grade" Tuna.

Commodore **Marfenio Tan** stated, "We provide a medical mission every year as well as Brigada Eskwela to repaint and upkeep school surroundings as our way of giving back to the fisherfolk of GenSan. As naval reservists, our main duty is to undertake search and rescue missions, intelligent gathering in the high seas, environment protection, fight against illegal fishing activities, and assist the Philippine Navy maintain peace and order in our AOR"



Under the direction of national **BFAR** Director Commodore **Eduardo B Gungona**, the **DA-BFAR** will be setting up 12 additional **Tuna Conservation Management Zones (TCMZ)**, which is a national priority. Hopefully, the Tuna that abounds in the **Philippine Rise** and the high seas (e.g., Celebes Sea, Moro Gulf, Sulu Sea, Mindanao Sea) would also increase national **Commercial Tuna** landing figures. On the other hand, our small-scale 'palaran' fishermen could be more successful when using handline fishing in **BFAR** fiberglass payao boats installed with vessel monitoring system to curb **IUUF** in municipal waters, and in so doing, alleviate them from poverty.

Handline fishing is the **TCMZ's** fishing method of choice to catch only adult Tuna, thereby, protecting the juveniles, which become by-catch in Tuna ringnets, shallow hooks, or via purse seine fishing method.



Sources of data:

1. (2004-2016) 3-Year Statistical Tables from the Department of Agriculture, Bureau of Agricultural Statistics (BAS), Fisheries Statistics Division.
2. Fisheries Situation Report April-June 2018, Philippine Statistics Authority.
3. Wholesale prices, June 2018, Philippine Statistics Authority.
4. Agricultural Marketing Statistics Analysis Division (AMSAD), BAS.

# The Saga of the Tañon Strait

by Vicky Viray Mendoza

The **Tañon Strait** is a body of water, situated between the islands of Negros and Cebu in the Visayas region. The Strait is about 100 miles (161 km) long, and connects the Visayan Sea in the north to the Bohol Sea in the south. Its width varies from 3-17 miles (5 to 27 km), with the narrowest point in the southern tip. In the north, the Strait is closed off by the **Don Islands**, the largest of which is the **Bantayan Island**. Its waters are deep, reaching 500 meters. San Carlos City, Negros Occidental; Bais City, Negros Oriental; and Toledo City, Cebu have deepwater port facilities flanking both sides of **Tañon Strait**.



The **Tañon Strait** is an eco-tourism destination, known for whale and dolphin watching. The Strait encompasses small marine protected areas, which include the popular diving sites like Moalboal, Malapascua, Bantayan Island, Pescador Island, and Mantalip Reef. There are 14 species of dolphins and whales that live in the Strait. This count comprises 52% of the 27 species of dolphins and whales in the entire Philippines. **Tañon Strait** is home to spinner dolphins, spotted dolphins, dwarf sperm whales, pygmy killer whales, hammerhead sharks, chambered nautilus, giant diamond-backed squid, and the critically endangered Dugong. Its shorelines are protected by 26 species of mangrove forests, as well as coral reefs said to host 60% of the coral species in the country, spanning 18,830 hectares that serve as habitat to 70 species of fish and 20 species of crustaceans living in the Strait.

Commo Chuck Agustin (AFP Ret) stated, "**Tañon Strait** is a good example of cooperation to protect the environment." Agustin recalls he had spent some time in the Strait as a Junior Officer in the '60s, and as a Skipper in 1971. "There was no whale watching then. When I visited the Negros Occidental coast along the Strait in 1996 investigating the possibility of the development of Bais, I heard there was dolphin watching there, and there was a concerted effort to protect them. The San Sebastian Pier in Southern Cebu was a favorite watering port of PN

ships in the Central Visayas in the '60s and '70s, where we were allowed to top up our water tanks for free. It was also a favorite patrol base for units waiting to "ambush" smugglers entering via southern Negros Island at night, within radar range of our patrol vessels."

The marine wealth of **Tañon Strait**, the **second largest marine protected area in the country**, is threatened by commercial fishing, which is illegal in the Strait as it is a protected area, and all municipal waters. The threats include destructive fishing methods, pollution from industrial establishments, pressures from certain political authorities, and the uncoordinated policies of government agencies. The latter is rather due to topography. The **Tañon Strait**, being situated fully between 2 islands, is under the jurisdiction of the national government, 2 regions, 3 provinces, 42 coastal cities and towns, and 298 villages. This resulted in the Strait having overlapping and conflicting mandates, rendering weak policies to conserve the Strait.

Thus, former President **Fidel V Ramos** established on 27-May-1998 *Presidential Proclamation No. 1234*, which declared the **Tañon Strait** as a Marine Protected Area (**MPA**) in accordance with RA 7586, the 1992 National Integrated Protected Areas System (NIPAS Act), and renamed it the **Tañon Strait Protected Seascape (TSPS)**. It covers 521,018 hectares, 5 times larger than the **Tubbataha Reefs Natural Park** in the Sulu Sea that covers 97,030 hectares.

In December, 2007, twin cases were filed by the displaced **fisherfolk** in their personal and representative capacities, in '**Central Visayas Fisherfolk Development Center (FIDEC) vs Secretaries of DOE, DENR et al, SC-GR no.181257**'); and the resident marine mammals in TSPS, represented by lawyers **Liza Osorio** and **Gloria Estenzo Ramos**, (Resident Marine Mammals et al vs Secretaries of DOE, DENR et al, SC-GR no.180771) against government and the oil exploration company for their obstinate refusal to stop oil drilling in the protected seascape, on the grounds of violation of the Constitution, national laws, and international conventions for the protection of marine habitats and wildlife. The Strait serves as a marine wildlife reserve thus provides habitats for breeding, feeding and resting to 11 species of marine mammals.

On 07-February-2008, the Supreme Court ordered **DENR** (Department of Environment and Natural Resources) and **DOE** (Department of Energy) to comment on a *certiorari* petition filed for baleen and toothed whales, dolphins, porpoises, Irrawaddy dolphins, and other cetacean species living in the **Tañon Strait** to help stop oil exploration by **Japan Petroleum Exploration Co. Ltd. (JAPEX)** in the protected waterway.

During the pendency of the suit, **JAPEX** abandoned its oil exploration in the **Tañon Strait**, indicating that the initial drilling results revealed a lack of commercial viability.

In May 2008, the growing Visayas-wide campaign against oil exploration in TSPS was supported by the approval of **Negros Oriental Mayor's League** of a resolution opposing any extension of oil drilling or exploration in TSPS. **Atty. Gloria Estenzo Ramos** said the resolution was the first collective expression of opposition by ranking LGU officials against oil drilling in the Strait.

After 17 long years since former President **Ramos** declared **Tañon Strait** a protected marine area, the **1st Tañon Strait Protected Seascape (TSPS) Stakeholders Summit and General Assembly** was



held in February 2015. The 3-day summit was titled *“Restoring the Beauty and Bounty of Tañon Strait.”* **OCEANA** Philippines and **RARE** Philippines in partnership with **DENR** and the Cebu Provincial Government made the event possible, with the support of the Department of Agriculture and Bureau of Fisheries and Aquatic Resources (**DA-BFAR**), LGUs, academe, and environmentalists.

At the end of the Summit, the participants signed a declaration of commitment to **TSPS**, which proposes that certain vulnerable areas in the Strait be declared “no-take” zones. The remaining areas would serve as multiple use areas where people would be allowed to live and pursue sustainable resource use.

In 2013, the earthquake that shook the islands of Bohol and Cebu had destroyed most of the corals in the southern tip of the **Tañon Strait**, in Mantalip Reef, Negros Oriental. It would take 5 years to witness a revival of the coral reef.

Then on 21-April-2015, in a unanimous decision, the Supreme Court declared as unconstitutional the service contract granted to **JAPEX**, which allowed the exploitation of petroleum resources within the **TSPS**. **Oceana** Philippines hailed the high court’s decision as a landmark ruling. The court said the Philippine government violated the constitution when in 2004 it entered an agreement with **JAPEX**, which was not authorized by a general law, signed by the President, nor reported to Congress. *“This is a landmark ruling which should prevent any project which destroys the ecological integrity especially of a protected seascape,”* said **Atty. Gloria Estenzo Ramos**, Vice President, **Oceana** Philippines. *“An ecologically destructive activity, such as oil drilling, is an oddity especially in an environmentally critical area like the **Tañon Strait Protected Seascape.**”*

A Protected Area Management Board (**PAMB**) resolution was approved during the third general assembly of the **TSPS PAMB** in April 2017 in Cebu City requiring all vessels transiting and docking within the area to have the prescribed tracking device for monitoring purposes. This would also allow the operators, as well as concerned authorities, to monitor the behavior of the commercial fishing vessel while in a fishing expedition.

On 09-November-2017, the Department of Justice (DOJ) has appointed a Special Prosecutor, **Karla Cabel**, to handle cases relating to abuses in the **Tañon Strait**. The appointment of a Special Prosecutor is a boost to the campaign of protecting and preserving the Strait, **Oceana** Philippines said.

On 15-November-2017 various groups composing the stakeholders of the Strait linked arms during the ceremonial send-off 3 patrol vessels held at the **Port of Dumaguete**. Collectively known as **“Protectors of Tañon Strait”** —an alliance of national government agencies, LGUs, law-enforcement agencies, NGOs, and community-based organizations— came together to ensure the sustainable management of **TSPS**, and the strict enforcement of various environmental laws, including the **Nipas Act** and the **Philippine Fisheries Code** (RA 10654).

**Oceana** Philippines, which is at the national fishery policies level, works with Rare Philippines, which is at the community level. The patrol vessels that were deployed to both ends of the Strait were from the **Philippine Navy**, **Philippine Coast Guard**, and the **DA-BFAR** to prevent commercial fishing vessels from fishing within the waters of **TSPS**.

*“Not all LGUs can have patrol vessels. But it is now a requirement for all commercial fishing operators or owners to have vessel-monitoring measures. We are also helping local governments in localizing the features of the **Philippine Fisheries Code** to be integrated into their local laws,”* **Atty. Ramos** said.

Based on the amended fisheries code, all local commercial fishing vessels must install automated identification system (AIS) and a vessel monitoring measure (**VMM**) transponder by 2020 to institutionalize measures for sea safety and fisheries transparency in the country. **VMM** has been identified as the best method to ensure that fishing vessels operate only in designated zones, enhancing transparency and traceability, using satellites, **GSM** or radio waves to plot the location and course of vessels.

**TSPS** Protected Area Superintendent **Prospero Lendio** said they have been coordinating with commercial fishing companies that dock within **TSPS** to install vessel-monitoring devices, which could be satellite-based or radio frequency-based VMM that would provide both the operators and concerned authorities real-time data to pinpoint the exact vessel location within a 50 km range.

About 288,000 small-scale fishers rely on the Strait for livelihood. However, competition from commercial fishers that illegally enter the Strait, over-fish, and use destructive fishing methods have led to an overall decline in fishing productivity. Police Director Chief Supt **Jose Mario Espino** said 656 illegal fishers were arrested and over 2,000 explosives seized during January-November, 2017.

In December 2017, **DA-BFAR** added more patrol vessels in the Strait to fight illegal, unreported and unregulated fishing (**IUUF**), which is a serious threat to the oceans, next to pollution. *“Despite its status as a protected seascape, the Tañon Strait still faces illicit activities, destroying its ecological integrity and depriving fishermen of their rightful catch,”* **BFAR** National Director Commodore **Eduardo Gongona** said.

A most important policy issuance came from the Department of Interior and Local Government (DILG), which issued on 23-April-2018 DILG MC 2018-59 to provide guidelines to coastal local government units in regulating and monitoring fishery activities in all municipal waters. This requires LGUs to integrate all features of the amended Fisheries Code into the local ordinance such as the vessel monitoring measures in municipal waters nationwide.

## BFAR INTERVENTION ON TAÑON STRAIT

The **DA-BFAR**, through the leadership of Secretary **Emmanuel Piñol**, has been and continues to be steadfast in protecting the fisheries and aquatic resource of **Tañon Strait** through the years.

The **DA-BFAR**, guided by its vision of a sustainable, threat-free marine environment, works incessantly to fight, prevent and eliminate illegal unreported and unregulated fishing (**IUUF**), which to this day continues to imperil our resources and the livelihood of hundreds of thousands of fisherfolk.



In partnership with other agencies, **DA-BFAR** has been successful in implementing fisheries laws in **Tañon Strait**. At present, there have been 5 **IUUF** apprehensions filed by **DENR**.

To ensure proper implementation of **RA 10654**, otherwise known as the Amended Philippine Fisheries Code, the DA-BFAR has organized training of fish wardens. These trainings were attended by 37 fish-wardens in the municipality of Ronda, and 18 fish-wardens in Toledo City.

### DA-BFAR COORDINATION WITH LGUs OF TAÑON STRAIT

The **DA-BFAR** has high recognition of the critical role of the LGUs in the development, management and conservation of **Tañon Strait**. As a result, **BFAR** is mindful to engage the LGUs and seek their support in any resource management mechanism that the agency implements.

By jurisdiction, 68% of this body of water's area is well within the municipal waters under the care of LGUs while only 32% is part of the national waters, thus, under the direct supervision of BFAR.

BFAR maintains close coordination with the local government units straddling Tañon Strait. In brief:

- ♦ **BFAR** continually provides technical assistance to LGUs on fisheries resource management within municipal waters, coordinates management between municipal and national waters, and implements regulations in national waters.
- ♦ Opportunities for environmentally sound, sustainable enterprises and livelihoods are likewise provided to municipal fisherfolk to augment their income while they implement fisheries resource management in the municipal waters.
- ♦ At present, **DA-BFAR** already turned over 3 community fish landing centers (**CFLCs**) to 3 identified municipalities in the **Tañon Strait** area.
- ♦ **BFAR** has also given various fishing gears to municipal fisherfolk such as bottom set gill net, drift gill nets, set long line, hook & line, and squid jig.
- ♦ Through the FB Pagbabago Program, the agency has distributed 106 units of fiberglass boats with 5.5 horsepower (HP) engine, and 8 units of fiberglass boats with 15 HP engine to municipal fisherfolk families. The agency also aided in the repair of 32 units of damaged non-motorized boats of fisherfolk in **Tañon Strait**.
- ♦ Priority is given to people affected by the restricted use of coastal resources.



### RESOURCE MANAGEMENT APPROACH TO TAÑON STRAIT

**BFAR** adopts the ecosystems-based approach in its programs and projects. The agency believes this approach is most appropriate in managing adjoining resources.

Through the ecosystem approach, **BFAR** is able to formulate policies and guidelines to regulate exploitation, utilization and disposition of the resources through best available scientific data, environmental profile of the fishery area, and socio-economic conditions, where stakeholders' perspectives are given high value.

Fisheries resource management is not just about managing the fish and other aquatic resources—ultimately, it is about managing the people who use the resources.

Educating fisherfolk on resource management is one thing. However, interventions must not only target socio-economic factors but also and more importantly, spark a change on how they perceive the resources, and work in the direction of conservation.

To spark change and impart knowledge to aquaculture stakeholders of **Tañon Strait**, **DA-BFAR** has conducted several capability building trainings, and has given various fish farming implements to identified stakeholders.

- ♦ Training for aqua-silvi-culture, in particular, oyster farming, were already conducted to 5 municipalities;
- ♦ There were 4 units of fish pens and 1 fish (fixed) cage given to identified fisherfolk-beneficiaries
- ♦ In promoting the seaweed industry in Tañon Strait, the BFAR has distributed 312,000 kilograms of seaweed propagules to 1,040 beneficiaries in the area, as well as seaweed farm implements to 166 beneficiaries, and to 10 people's organizations.
- ♦ Fertilizers for tilapia farming were also given to fish-farmers who have existing fish ponds.

Recently, in May 2018, the **Tañon Strait Protected Seascape** celebrated its **20th Anniversary** from the time it was established as a Marine Protected Area in May 1998.



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# Maersk Supply Service to Support Ocean Cleanup



by Maersk Press

**M**aersk Supply Service will, in the coming months, provide marine support to The Ocean Cleanup, the Dutch non-profit that is developing advanced technologies to rid the oceans from plastic, and install their first cleanup system in the North Pacific. This moment will mark the start of the World's first large-scale initiative for collection of floating ocean-plastic debris.

Global plastic production has risen steadily since the 1950's with, as an unintended result, an estimate of over 5 trillion pieces of plastic waste now littering all major ocean basins. **The Ocean Cleanup**, is a globally recognized front-runner addressing the problem of plastic pollution, having developed a solution in the form of long floating screens to collect plastic debris for recycling.

This fall, the first offshore cleaning system, in a partnership between **The Ocean Cleanup** and **Maersk Supply Services**, will be installed in the **Great Pacific Garbage Patch (GPGP)**, which is located 1200 nautical miles off the **Coast of San Francisco**. The system will be deployed by **Maersk Supply Service's** AHTS vessel, the **Maersk Launcher**.

"We are truly proud to be supporting the installation of **The Ocean Cleanup's** first system. Large towing operations have been a part of **Maersk Supply Service's** work-scope for decades. It is rewarding to see that our marine capabilities can be utilized within new segments, and to support solving such an important environmental issue," said **Steen S. Karstensen**, CEO of **Maersk Supply Service**.

Departing on 8-September-2018, the system will be delivered 250 nautical miles offshore for a 2-week sea trial before towage to the final deployment location at the **GPGP**. **Maersk Supply Service** will in addition to the towing and installation, be monitoring **The Ocean Cleanup's** **System 001**. Total duration of the campaign is expected to be 60 days.

"Part of **Maersk Supply Service's** strategy is to diversify its business and use its technical capabilities in new areas outside traditional oil and gas. With recently announced other new partnerships in innovative fields with **Deep Green** and with **Vestas Wind Systems**, this collaboration with **The Ocean Cleanup** is a confirmation we are taking important steps in this direction," said Steen S. Karstensen.

**Maersk Launcher** is currently on charter by **DeepGreen**, who has released it so that **Maersk Supply Service** can perform the operation for **The Ocean Cleanup**. The charter cost of providing the installation vessel for deployment of the first cleanup system is shared between **A.P. Moller-Maersk** and **DeepGreen**. The total contribution to **The Ocean Cleanup** project is around USD 2m in vessel services and equipment, which also includes providing transportation of equipment needed for the installation of **Cleanup System 001**, from the **UK** and **Denmark** to **San Francisco**, as well as providing the containers that will be used for the return to land of the collected plastic.

"Maersk contributes to the protection of the ocean environment through enhancing the sustainability of all our activities both at sea and on land. In addition to always taking great care that our operations do not pollute the oceans with plastic, we are also very pleased to take part in the world's first major collection of plastics from the ocean. As a responsible maritime operator, we are committed to ensuring that the oceans can remain a healthy environment for generations to come," says Claus V. Hemmingsen, Vice CEO of A.P. Moller- Maerskand, and CEO of the Energy division.

The **Ocean Cleanup's** long-term ambition is to install a fleet of at least 60 floating screens in order to remove 50% of the 80,000 tons of plastic in the **Great Pacific Garbage Patch** every 5 years. ⚓

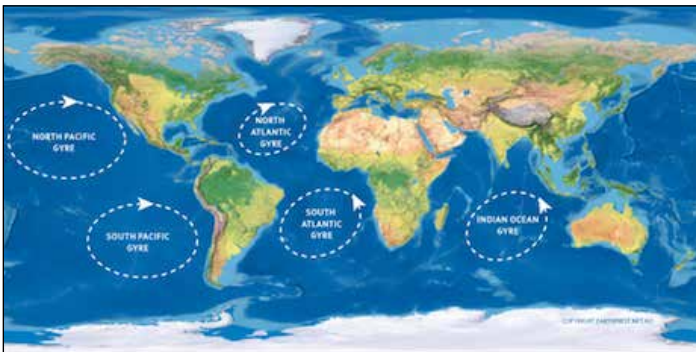




# Ocean Trash

by Timothy Muelder

**W**e are killing the Earth with pollution. It's true. Just have a look at the recent local news regarding Boracay Island and other notable tourist-resort areas in the Philippines. The problem is extensive and growing. But don't stop there. Have a look at this problem on a global level.



The world's oceans are awash in trash. Due to ocean currents there are vortices called "Gyres" that pull ocean trash in to form a swirling mass, of mostly plastic, causing fatal damage to aquatic, air born wildlife, as well as hazards to maritime traffic. It is also growing at an alarming rate.

The largest Gyre is located in the middle of the Pacific Ocean and is reported to be the size of the state of Texas in the United States. Putting that size into perspective, one can visualize driving a car at 100 KM an hour taking twelve hours to cross Texas, either going North to South or East to West.

The Philippines is #3 on the list of the most trash debris contributed

to the Ocean as reported in 2010, neighbors China and Indonesia rank # 1 & 2, respectively.

Of all the debris identified plastic beverage bottles ranked 3rd, after cigarettes, filters, food wrappers or containers, and one step ahead of plastic shopping bags.

Something must be done to control, reduce, or virtually eliminate this growing problem before it's too late.

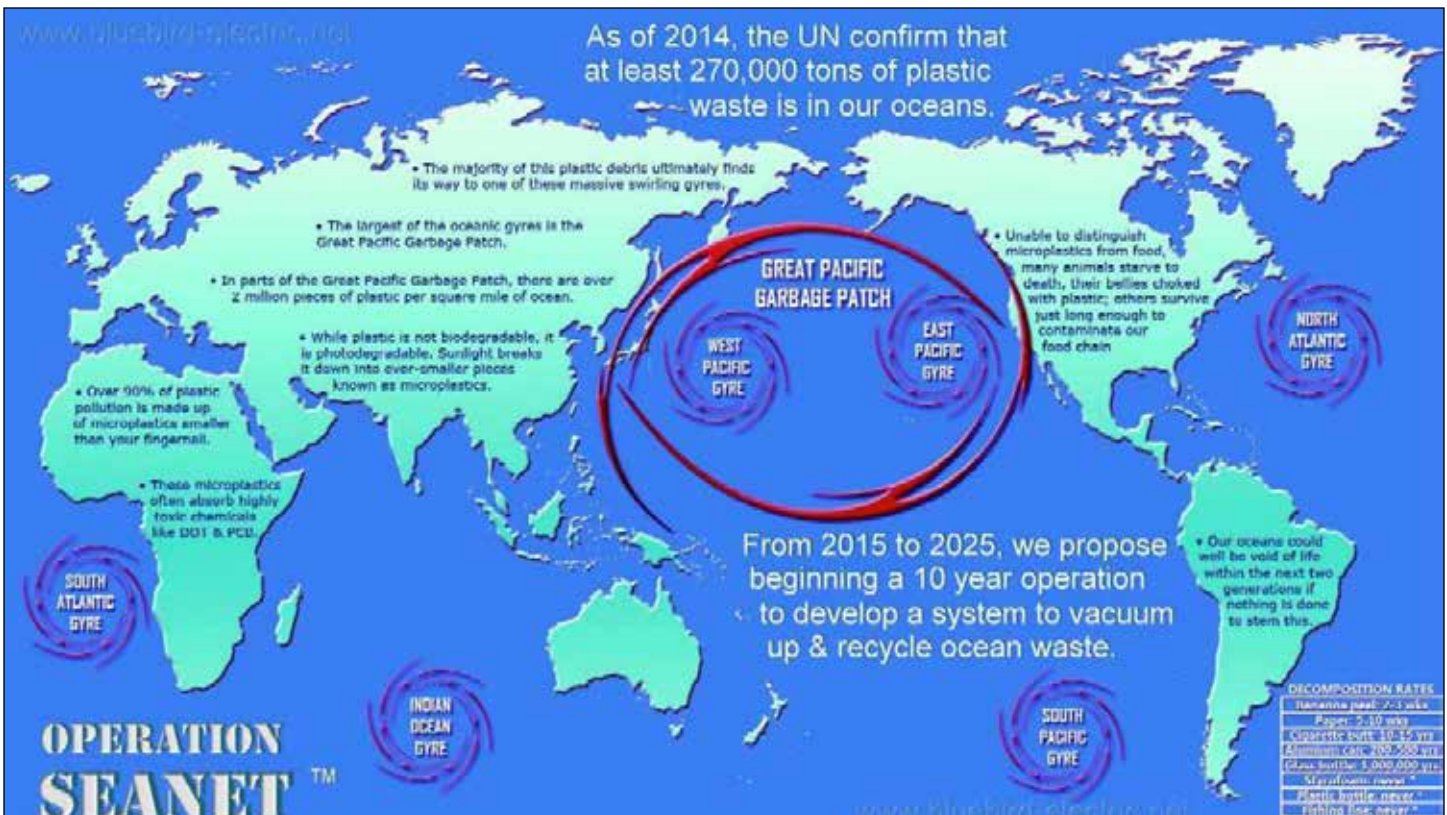
Two things come to mind that could be done on a personal level in that if enough participation could be realized, a global control and reduction could be met. We have to think globally.

Eliminating plastic water bottles would be a significant start. Anti-smoking efforts are already underway so I decided to focus on the plastic water bottle issue.

Reducing or eliminating the personal use of plastic throw-away water bottles by making your own safe potable water at home using "Point of Use" Reverse Osmosis filtration or using a "Solar Powered"







water distiller, is very possible although each has specific requirements that must be met.

Point of use Reverse Osmosis devices require 40 to 60 psi water pressure to operate correctly although they do provide unlimited safe drinking water 24/7.

Solar distillation require sun, but the advantage is they are portable, cleanable, will provide safe drinking water where there is no water utility system, and can be moved to where/when the need is most required.

Disaster Relief to areas after a disaster – think the 3 most important supplies after a disaster: 1) shelter; 2) water; and 3) food. Give the folks something to do – Make water for everyone.

Either system is a viable option to consider instead of shipping cases of plastic bottled water that ultimately find their way into the trash cycle, and into the ocean.

Recycling plastic is also a viable path forward in controlling and reducing the mountains of waste we are currently building. Many countries have started replacing butyl rubber in asphalt used to pave their roads with recycled shredded plastic. The roads laden with shredded plastic are reported to be 60% stronger, and last ten times longer. Using recycled plastic as a primary material stock could be an economic incentive for a company focused on building quality roads and highways.

In the big picture, we all have a part to play – the world's environmental future depends on all of us making wise decisions for Planet Earth.



**About the Author:** Timothy Muelder is a retired Facility Manager of the U.S. Department of State.



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# Malinis at Masaganang Karagatan (MMK)

## The Search for the Country's Outstanding Coastal Community

by Vicky Viray Mendoza

With the culmination of the second **Malinis at Masaganang Karagatan (MMK)** The Search for the Country's Outstanding Coastal Community, the **Department of Agriculture's Bureau of Fisheries and Aquatic Resources (DA-BFAR)** is now accepting nominations for the third season of MMK.

An annual program by the **DA** through the **BFAR**, **MMK** gives recognition and incentives to outstanding coastal communities for their efforts and contributions to sustainable resources/fisheries management.

The winners are assessed based on five criteria: (1) No Illegal Fishing, (2) Observance of off-fishing season, (3) Declaration of marine protected areas, (4) Clean, coastal waters without any garbage or industrial effluence flowing to the sea, and (5) Effective mangrove protection and rehabilitation program.

The Search and Evaluation process starts at the regional level and ends at the national level. Interested municipalities must submit their entry at **DA-BFAR's** respective regional offices. The municipality that tops the regional selection will advance at the national level.

The Grand Prize winner will receive Php30 million worth of fisheries livelihood projects; the First Runner-Up will get Php18 million worth of fisheries livelihood projects; and the Second Runner-Up will receive Php10 million worth of fisheries livelihood projects.

### MMK 2017 HIGHLIGHTS

**Laguindingan** was awarded the Grand Prize in the 2017 **Malinis at Masaganang Karagatan (MMK)**. On 5-April-2018, President **Rodrigo Duterte** together with Agriculture Secretary **Emmanuel "Manny" Piñol** conferred the **MMK** awards on **Laguindingan** and four other winners during the Awarding of Outstanding Farmers, Fisherfolk and Coastal Communities at the Malacañan Palace.

"The **Malinis at Masaganang Karagatan** program promotes fisheries protection and conservation, highlights the value of sustainable management of fisheries and aquatic resources, and encourages stakeholders' engagement in guarding our seas," DA Undersecretary and concurrent BFAR National Director **Eduardo Gongona** said.

**Laguindingan's** success is mainly rooted in the local government's strong will to protect not only their aquatic resources but also the livelihoods of the people. The establishment of a 50-hectare man-made mangrove forest ensured alternative livelihoods, aside from serving as a fortress against typhoons. The municipality's structured facilities in **Ecological Solid Waste Management** enabled most barangays to manage their own solid waste.

Aside from Laguindingan, four other exceptional coastal municipalities were awarded for their various efforts in resource conservation and management. **Palompon, Leyte** was named first runner up while **Claveria, Cagayan** bagged the second runner-up award. Last year's grand prize winner, **Cortes, Surigao Del Sur**, was inducted into the **MMK** Hall of Fame for consistently being an outstanding coastal community. The municipality of **Calatagan, Batangas** was given a special award as a national finalist.

**Laguindingan** and **Cortes** will each receive 30 million worth of fisheries livelihood projects. **Palompon** and **Claveria** will get 18 million and 10 million worth of fisheries livelihood projects. 📍

**"MALINIS AT MASAGANANG KARAGATAN"**  
THE SEARCH FOR THE COUNTRY'S OUTSTANDING COASTAL COMMUNITY

SUMALI SA PATIMPALAK PARA SA MGA NATATANGING PAMAYAMAN NA MAY KAHANGA-HANGANG PANGANGASIWA AT PANGANGALAGA NG PANGIIDAAN AT ZAMANG-TUBIG

Criteria:  
(1) no illegal fishing  
(2) observance of closed fishing season  
(3) establishment of marine protected areas  
(4) clean coastal waters without domestic and industrial wastes  
(5) effective mangrove protection and rehabilitation program

National Winners will receive:

**Php 30 million - Grand Winner**  
**Php 18 million - 2nd Place**  
**Php 10 million - 3rd Place**

Prizes will come in the form of fisheries livelihood projects.

For more information, please contact your respective BFAR Regional Office or the BFAR Information and Fisherfolk Coordination unit at (02)454 - 5863 or (02)366-8535, or email [dabfar\\_iprg@yahoo.com](mailto:dabfar_iprg@yahoo.com).

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### MAAP Profile

Geographic destiny has given the Filipino the innate talent to be an excellent seafarer. To enhance this natural skill, the Maritime Academy of Asia and the Pacific (MAAP) was established on January 14, 1998. The Academy stands on a 103-hectare property in Kamaya Point, Mariveles, Bataan.

The Associated Marine Officers' and Seamen's Union of the Philippines (AMOSUP) founded by the late Capt. Gregorio S Oca, capitalized and developed the Academy. The new AMOSUP President, Dr. Conrado F. Oca, heads the Academy's board of governors. The board is comprised of representatives from the private sector, the International Transport Workers Federation, the Filipino Association of Maritime Employers, the International Transport Workers Federation, the All Japan Seamen's Union, the International Mariners Management Association of Japan, the Norwegian Seafarers' Union, the International Maritime Employers' Committee, the Danish Shipowners' Association, the Norwegian Shipowners' Association, and the Japanese Shipowners' Association.

MAAP conducts shipboard training aboard T/S Kapitán Felix Oca, a 5020 DWT dedicated training ship capable of accommodating 180 midshipmen and 9 instructors in 30 air-conditioned cabins and six berths.

MAAP students are all scholars who are entitled to free tuition, board and lodging. They receive a comprehensive, up-to-date and well-rounded education that fully complies with the requirements of STCW 95 and the Commission on Higher Education (CHED). To ensure the highest standards of quality, MAAP adheres to a Quality Standards System that has been certified to comply with ISO 9001 version 2008, the Det Norske Veritas (DNV) Rules for Maritime Academies, and the Productivity and Standard Board (PSB) of Singapore.

The Academy offers three main programs: the Bachelor of Science in Marine Transportation (BSMT), Bachelor of Science in Marine Engineering (BSMarE) and the Bachelor of Science in Marine Transportation and Engineering (BSMTE). The curricula for the three courses were designed with the help of the United States Merchant Marine Academy at Kings Point, New York. Courses are four-year courses with sea phases scheduled in the third year. The BSMT curriculum requires a total of 192 units: 152 at MAAP, 40 practicum/shipboard units on board T/S Kapitán Felix Oca and/or a shipping company sponsorship. The BSMarE curriculum requires a total of 193 units: 153 at MAAP, 40 practicum/shipboard units on board T/S Kapitán Felix Oca and/or a shipping company sponsorship.



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