



前進東沙環礁國家公園特別報導 造訪 南海明珠

The Pearl on South China Sea

A Special Report on Dongsha Atoll National Park



美麗的東沙島，一景一物都值得人們珍惜 / 戴進元攝
object and every scene on the primitive beautiful Dongsha Islands is definitely worth people's cherishing. /by Jin-yuan Dai

「是誰打開了宇宙的珠寶盒，在南海上遺落了一顆明珠，在日升日落裡，盈盈釋放光芒。」
—摘自《東沙記憶》—

“I wonder who had opened the jewelry box of the universe, and dropped on South China Sea this bright pearl emitting its glory in every sunset and sunrise ever since.” – excerpted from Dongsha Reminiscences.





由空中鳥瞰，東沙島美麗有如指環上的溫潤玉石 / 海管處提供，李國維攝
Overlooked from the sky, Dongsha Island looks like a jade on a ring. / Photo provided by Marine National Park Headquarters, taken by Guo-wei Li

大多數人對「東沙島」一詞的認知，除了是地理課本中所述的南海四沙之一（編按：南海四沙為東沙、西沙、中沙、南沙），也是座結合軍事管制與神秘色彩的熱帶島嶼。豐富多樣的自然資源、繽紛的珊瑚礁生態以及特殊的環礁地形，讓東沙島有著「南海明珠」的美稱，也因為難以親訪，讓這座落在湛藍南海中的美麗之島，更增添了份想像的空間。

國土最邊陲 保育不馬虎

從台灣到東沙島，主要的交通是靠空運，除了每月一次由屏東空軍基地起飛的空軍運輸機，每週往返高雄小港機場與東沙機場的國內民航機目前只有一個航線，往返交通全倚賴航空。當季刊採訪團隊歷經航行一個多小時，飛機逐漸自白色的雲海下降，從空中鳥瞰，位在東沙環礁西方的東沙島，外型有如螃蟹的大前螯，白色的島嶼躺在晶瑩剔透的碧藍海面，美麗得有如指環上的溫潤玉石。

Dongsha Island is known to most people as one of the four islands on the South China Sea (Note: the other three are Paracel Islands, Macclesfield Bank, and Spratly Islands), as well as a military-controlled, mysterious tropical island. Rich in natural resources and coral reef landscapes, Dongsha Island is also touted as the “Bright Pearl on the South China Sea.” While the island is not open to visitors, it's also mysteriously veiled in the blue ocean.

Faraway but Well-conserved

The major form of transportation to and from Dongsha Island is by air. Apart from the Air Force freighter that departs once a month from Ping Tung Air Base, there is only one flight per week between Kaohsiung Int'l Airport and Dongsha Airport. After over an hour's flight, as the plane descended from the sky, the Quarterly staff overlooked the island shaped like a pincer of a crab, and the whitish island lies in the shiny blue ocean, resembling a jade on a ring.

As the plane landed on the simple runway of the island, the staff were greeted by the red-and-white flags at the Dongsha Airport blowing in the wind and sending a warm welcome.

飛機終於在精簡的跑道上停歇，紅白相間的旗幟在「東沙機場」立牌旁飄揚著，隨著颯颯的風聲，登島採訪的一行人彷彿感受了東沙島的呼喚，歡迎著我們的造訪。

曾因戰爭與人為影響，加上漁業資源過度利用而導致資源面臨威脅的東沙島，近年來在台灣海洋保育政策的努力下，才有休養生息的機會。2008年東沙管理站成立後，駐島研究人員進行資源調查、保育、復育及環境監測等工作的執行下，逐漸展現如今所見及之秀麗景致。

島上建築物不多，且多為高雄市政府或軍方舊有建物。國家公園成立後將原有建築物妥善利用。值得一提的是，興建於1987年的東沙漁民服務站，這兒的門牌號碼竟寫著「高雄市旗津區東沙31號」。

門牌高雄市 離家千萬里

距台灣450公里之遙的東沙島，居然算高雄市？！

原來，東沙島的行政管轄權已在1990年時交由高雄市政府負責，掛上了這塊屬於高雄市的門牌。所以，如果想從高雄火車站跳上計程車到這個地址，再怎樣神通廣大的司機可是一輩子也繞不到的喔！

Once faced with a shrinkage in resources due to wars and human exploitation, Dongsha Island has finally had a chance to prosper under Taiwan's protective marine policies. Since the establishment of Dongsha Management Station in 2008, the island has been well conserved and restored by the staff and researchers to show its exquisite beauty as seen today.

The island's only a few old buildings that mostly belong to Kaohsiung City Government and the R.O.C. military have been much utilized. What's intriguing among them is an address plate written "No.31, Qijin Dist., Dongsha Island" that is hung the Dongsha Fishermen's Service Station built in 1987.

A Kaohsiung Jurisdiction Hundreds Mile Away

How is Dongsha Island, 450 km away from Taiwan, still part of Kaohsiung City?

In fact, the island has been designated as part of the jurisdiction of Kaohsiung City Government and assigned this address plate since 1990. But it certainly doesn't mean that one can hop on a taxi at Kaohsiung Railway Station and ask the cabbie to take him to Dongsha Island!



東沙環礁國家公園環境分布示意圖 / 海管處提供
The map of Dongsha Atoll National Park. /Photo provided by Marine National Park





掛上門牌是東沙行政管轄權的象徵，而進一步的保育研究工作，則在2007年海洋國家公園成立後，逐步落實。

綿延東沙島海岸線8,000公尺的沙灘，無論是觸目所及的生物或是隨手拾來的貝殼，每位海管處的保育人員都可如數家珍地講出其特性，若非全心投入，絕非能成就如此熟稔的專業知識。

東沙的改變，對長期在東沙服務的工作人員而言，感觸最深。曬得黝黑的皮膚、開朗的笑容與親切的指引，幾乎是島上人員的一大特色。在本次採訪計畫中，有位身形高挑、總是帶著熱情笑容的陳慧如技士，帶領團隊領略東沙的特色，更提供採訪團隊許多寶貴的知識。

陳慧如自2008年7月便派駐海洋國家公園轄下之東沙環礁國家公園，東沙島對她來說，有如第二個家鄉。在島上許多事都得親力親為，就連扛重物、協助運補，無論男女都得幫忙。

While the plate symbolized the start of Dongsha's administration, conservation and research work has begun since the founding of Marine National Park (MNP) in 2007.

The coastline of Dongsha Island features sandy beaches stretching over 8,000 m, and every MNP staff here could easily elaborate on the characteristics of each creature or even a seashell. Such high level of familiarity and professional knowledge has suggested their full dedication to the job.

The changes of the island are dearly felt by all the long-time serving staff, each of whom is characterized by a dark tan, hearty smiles and a readily helping hand. Among them, Technical Specialist Ms. Hui-ru Chen, tall, slender, and always smiley, had been a great guide to the Quarterly staff by offering plenty of professional knowledge.

To Chen, who has stationed on the island since July, 2008, Dongsha Island is just like her second home. Everything here, whether it's carrying heavy loads or helping with the logistics, must be shared by all men and women on the island.

海岸巡查是研究人員的重要工作事項之一 / 陳慧如攝
Coastal patrol is one of the important duties of the researchers. / by Hui-ru Chen

從小就對海洋生物有著濃厚興趣的陳慧如，自海洋大學水產養殖研究所畢業後，在海生館學習珊瑚的保育及復育技術，之後來到海管處，將自己的所長貢獻於東沙。

排除萬般難 任務放第一

現在看海管處人員在東沙島上任務分工完善，井然有序，但其實先遣人員剛登島時，可說是萬事起頭難。

除了陳慧如以外，第一批上島的人員包含擅長鳥類研究的洪登富，還有海洋博士吳瑞賢及擁有耶魯學歷的賴瑋倩約聘研究員。

東沙環礁國家公園剛成立的第一年，尚未有船隻協助，無法進行海域研究，先以陸域外來種清除為主。銀合歡的清除是十分吃力的，因須將銀合歡連根拔起才能真正有效。但因為人力不足，即便有海巡署的協助，滿島的銀合歡怎麼清都清不完。而由於島上人力資源有限，即使是女生，鋸樹木、碎枯

With a long-time interest in marine creatures and a Master's degree in aquaculture at National Taiwan Ocean University, Chen had been learning techniques related to coral restoration and conservation at National Museum of Marine Biology & Aquarium before working here for MNP.

Difficulties Overcome Tasks Come First

While tasks on the island are now well assigned and organized, everything had to be started from scratch at the initial stage when the MNP staff first arrived.

Besides Chen, the first-comers included Mr. Deng-fu Hong, an bird expert; Dr. Jui-hsien Wu, who specializes in ocean and water resources; contract research fellow Ms. Wei-chien Lai, a Yale graduate.

In the first year of the establishment of Dongsha Atoll National Park, the absence of research vessels had limited the staff's tasks to researching the Ocean. So their first job was to rid the island of the alien species white leadtrees (*Leucaena leucocephala*).

But the white leadtrees were too much and too tough to be cleaned up, not even with the help from Coast



圖右為陳慧如，左為賴瑋倩，辛苦的島上工作一點也難不倒她們。圖為正進行潛水訓練 / 陳慧如提供
Left: Wei-chien Lai, right: Hui-ru Chen. The demanding jobs on the island can't stump the MNP staff at all. This picture was taken during the process of a diving training. /Photo provided by Hui-ru Chen



保育、栽培、復育是研究人員在島上的重要職責 / 賴瑋倩提供
Conservation, cultivation and restoration are the important duties of the researchers on the island. /Photo provided by Wei-chien Lai



東沙島外的潟湖口，晴朗的天氣讓潟湖水面如鏡。然而，東沙之美是許多人用心維護的成果。/ 陳慧如攝
The lagoon mouth of Dongsha Island. In sunny days, the water surface of the lagoon shines like a mirror. The beauty of Dongsha is achieved by many people's full efforts. / by Hui-ru Chen

樹、除銀合歡等須揹起沉重機器的粗重工作一樣要進行。

而可別認為將銀合歡連根拔除後事情就可到此結束，原生植物的培育及復育、定期拔除長出的銀合歡新苗，或以遮光方式抑制銀合歡小苗萌發等等，也是非常重要而繁重的後續工作。

上島約半年後海管處總算擁有了專屬的研究船——環礁一號。島上同仁預想未來東沙環礁國家公園開放後的情況，開始著手島邊珊瑚礁資源調查。經過一年鉅細靡遺的調查，東沙的海洋生態觀測區終於有了雛形。

Guard Administration. Also, due to the lack of manpower, every staff member must do all the heavy work of sawing and chopping the plant.

But the job doesn't end here. Subsequent work such as conserving and restoring native plants, uprooting the leadtree's sprouts regularly, blocking the sunlight to keep the sprouts from growing, etc. are also important and demanding.

After MNP's first research vessel Atoll No. 1 joined force six months later, the staff had been conducting thorough investigations about the coral reefs around the island for a year and given an initial form to Dongsha's ecological observatory area.

絢爛深海底 危機處處現

海管處的先遣團隊有了船隻協助後，研究範圍立刻延伸到海域，以往研究人員潛水時，光是淺水區豐富的海底生態就令人讚嘆不已，更難想像深水處會是多麼讓人驚豔。

曾到過東沙島西側知名的沉船點研究探測的吳瑞賢，有次令他難忘的死裡逃生經驗。「船的位置就在環礁最西邊，是海床突然變深的地方，也是大浪沖擊之處。天氣好就可見到白浪沖擊，天氣不好時浪高更可達到2、3層樓，我們常想，沉船會掛在那，跟浪大絕對脫離不了關係。」

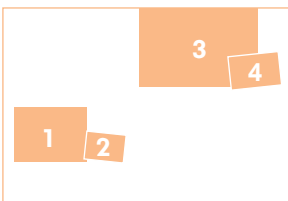
吳瑞賢憶起那段故事，仍心有餘悸。「前幾次經過時我們運氣好，都能平安無事地回來，但是到了第三次繞過水淺的地方時，突然大浪打來，因地勢所逼，船身與巨浪平行到幾乎翻船，現在想起來我還是一身冷汗。」

Beautiful but Dangerous Underwater World

With the help of vessels, MNP's research has extended to and under the sea. Researchers diving into the water could see amazing ecological abundance in shallow waters, not to mention the unimaginable surprises awaiting in the deeper waters

But the beauty also comes with danger. Wu had an unforgettable, near-death experience when researching the wreckage of a ship in the west coast. "The ship was located in the western tip of the atoll, where the seabed suddenly deepens and the currents hit. Waves there could rise up to three stories high in bad weather. No wonder why ships would be wrecked at the spot."

Wu's heart thumped as he recalled the incident. "Luck favored us the first two times. But when we passed by the shallow waters a third time, a large wave came right at us. The wave almost became parallel with the ship, and we nearly capsized. I was terrified."



1. 環礁一號上島照。環礁一號是海管處研究人員在島上重要的出海工具，對他們來說別具重要的意義 / 陳慧如攝
Atoll No. 1, shown craned up onto the island, bears great significance for it is an important means for the MNP researchers to go out to the sea. /by Hui-ru Chen
2. 商船運補是東沙島上的重要物資來源，每到此時皆全島總動員 / 吳瑞賢攝
Logistics from ships is crucial to Dongsha Island; everyone on the island would participate in carrying goods when the shipments arrive. /by Jui-hsienWu
- 3-4. 沉船之地是洋流的洶湧之處，危險的地形反而造就無干擾的海洋生態後花園 / 邱怡詮攝
The shipwreck under the sea is the place where the currents are turbulent, and the dangerous landscape has formed an undisturbed garden of marine ecology. /by Yi-chuan Chiu



只是，事情都有一體兩面，危險的洋流讓企圖捕撈的外來漁民無法到達，於是，這處被人類視為危險的禁地，反而成為了魚群最安全的庇護所，構成東沙海域生態最不被干擾的後花園，繽紛熱鬧的海中景致，不輸知名潛點澳洲大堡礁。

目前東沙島上的研究調查工作是自主性的，由海管處同仁主動提出研究計畫，定時巡岸並做生態資源的記錄，再將最新的資訊上傳海管處的網站，雖然傳上網前自己都已先查過圖鑑與資料，還是希望能由專家再做審訂，才能給民眾享有最正確的訊息，這些也都是在台灣研究時較不會面臨的考驗。

距離的遙遠、物資的短缺，在在加深島上第一線保育人員做研究的難度，而東沙島上的天然資源再利用，讓採訪團隊印象深刻。

島上生活現代化設施上較欠缺，比方說每日使用的洗澡水，即使經由海水淡化廠淡化過濾，但還是會有一定的鹹味存在。難得有無鹹味的淡水像是除濕機水、冷氣水，大家都會很珍惜，甚至會拿來洗臉漱口。

海管處邱怡詮技士親切說明，有農業政策推動執行經驗的他，在島上的服務時間雖不長，卻適應的很快，亦更認同國家公園對生態保育的付出與尊重。經由他的解說更能體會，在台灣一般人能將除濕機水用來澆花、洗車就算是一種節約的舉措了，沒想到來東沙後才發現珍惜水資源的真正奧義。

But, there are always two sides to everything. The combined danger of currents and landforms has effectively kept foreign fishermen off. And poof! You get a fish haven and least disturbed paradise in the Dongsha seas, with a marine ecology no less abundant than that of Great Barrier Reef in Australia.

Research and surveys on the island are conducted voluntarily by the MNP staff, who would propose research projects, patrol the coast and keep records of ecological resources before posting the latest data to the MNP's website. While confirmation is carried out before each data release, experts' revisions are still welcome in order to provide the public most accurate information.

A long distance away from Taiwan and a lack of resources and supplies have made the research and conservation on the island truly challenging. But how the MNP staff reuse the natural resources is just as impressive.

With limited modern facilities on the island, the water used for shower baths still retains some salinity even after desalination and filtering. Pure water such as water dripping from air conditioners and dehumidifiers would be well cherished and used for brushing teeth and washing face.

So explained Technical Specialist Mr. Yi-chuan Chiu, whose experience in the execution of agriculture policies helped him quickly adapt to the environment and relate to the idea of ecological conservation. And you think saving dehumidifier's water for watering flowers and washing cars is called thrifty? Wait until you spend a few days on Dongsha Island!

此外，東沙島上交通工具以腳踏車為主，負責載送物資則有電動車。海管處安排進行島上硬體維修的技工高紀邦，常常得扮演萬能的水電工、機電工、修車師傅等各種角色，畢竟與台灣相隔遙遠，設備故障若是只能倚仗台灣派員維護，緩不濟急，因此高紀邦練就一身絕活，責任心重的他每次回台前，必定要把島上的機器檢查一遍，查看是否所有油箱都保持油滿狀態後，才安心回台。

海天一色間 與飛羽相遇

東沙島的研究範圍不侷限於海域，陸域也有極其豐富的生態資源，尤其是漫天飛舞的鳥兒。

東沙島是東亞候鳥遷徙路線中的重要中繼站，島上常見的鳥類有黃頭鷺、小白鷺、金斑鴉、翻石鷗、家燕等，其中翻石鷗是最優勢的鳥種。東沙島上的潟湖、海域和潮間帶是鳥類聚集的重要棲地，沙洲和灘地更是東沙鳥類最重要的覓食場所，牠們飛越重洋，在茫茫大海中尋覓到了這顆海中明珠，找到絕佳的棲身之所。

因此，在東沙常見到有趣的現象，班次稀少的機場跑道，變成水鳥「起降頻繁」的專屬跑道，這畫面對島上的人來說，早已見怪不怪。

東沙環礁國家公園的登島前鋒之一洪登富技士對東沙的生物如數家珍，上島以來，他便專心記錄東沙島

The major form of transportation on the island is the bicycle, while electric cars are also used for carrying supplies. The maintenance of all the machinery has been the responsibility of Technical Worker Mr. Ji-bang Gao, who must serve as the plumber, engineer, and mechanic all by himself because help from Taiwan would be too faraway for urgent needs. Gao would make numerous checks and make sure everything is fine before he goes back to Taiwan for a leave.

An Encounter with Feathered Friends

Research at Dongsha is by no means limited to the sea. Much can also be explored on land, especially the feathery flocks at dance.

Dongsha Island is a key stopover site for migratory birds in east Asia. Its lagoons, seas, intertidal zones, sandbars, and shoals crown it a choice place for temporal rest and foraging before moving on. These birds cross many a seas to find this shimmering pearl in the vast ocean. Frequent visitors include the Cattle Egret (*Bubulcus ibis*), Little Egret (*Egretta garzetta*), Golden Plover (*Pluvialis fulva*), Ruddy Turnstone (*Arenaria interpres*), and the Barn Swallow (*Hirundo rustica*), though the Ruddy Turnstone predominates the island.

Thus an interesting sight to behold on Dongsha is the "busy" runway, not for planes, but nearly exclusively for birds. The rarity of plane flights has made this a normal scene, though the spectacle would certainly have induced fright elsewhere.

日落時分的潟湖最是美麗，夕陽與飛羽相互輝映，十分動人 / 戴進元攝
The lagoon at the sunset shows its most stunning beauty; it is touching to see the sunset and the birds' feathers shine and reflect each other. / by Jin-yuan Dai





上的一草一木。洪登富常將沉重的長鏡頭扛上肩，匍匐在草地中拍鳥；有時也鑽進水底，把環礁內的珊瑚礁生物、魚群統統拍照存證，資料傳回台灣，皆具珍貴的研究價值。

採訪團隊登島時，洪登富雖返台休假，但腦海中仍念念不忘他離開東沙那天，有隻體力不濟的灰面鵟鷹留在島上，不知牠的體力恢復了沒有？遠在台灣的他依然心繫著東沙，精神宛如他鏡頭紀錄下的各種豐富生態，真誠而又動人。

海草不渺小 是東沙的寶

如果說，湛藍的大海是東沙島的「主題曲」，而繽紛的飛羽是親近東沙後所感受的美妙「副歌」，那麼，看似平凡無奇的海草，則是東沙最最教人驚艷的「神秘安可曲」。

海草，在東沙島鋪天蓋地繁衍蔓延著。或許讀者會質疑，海草這麼「常見而普通」的玩意兒，值得研究與保育嗎？

Technical Specialist Mr. Deng-fu Hong, one of the first Dongsha pioneers, knows the fauna and flora here like the back of his hand, having dedicated himself to recording Dongsha's life forms since his arrival. He'd take along a hefty long lens and creep into the tall grasses to capture images of birds or dive into the atolls for pictures of creatures among the reefs.

Though on vacation in Taiwan during the Quarterly staff's visit, Hong expressed concerns about the fragile Gray-faced Buzzard Hawk (*Butastur indicus*) left behind by its companions. Hong's sincere attachment to Dongsha is clearly visible in richness of his photography, as though transfused onto the images themselves through his lenses.

Seagrass, a Secret Treasure

If the azure seas are Dongsha's "theme song," the fluttering feathers its "refrain," audible in close proximity with the island, then the seemingly humdrum seagrasses would be its most amazing "encore," one that pampers the ears.

Seagrasses are outright rampant on Dongsha. And undoubtedly one would question all the fuss made over such an ordinary "weed." Why all the research and preservation efforts invested?

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1. 東沙機場跑道因飛機班次稀疏，成群水鳥徜徉於跑道上的情景甚為有趣 / 洪登富攝
Dongsha Airport's runways are often empty due to few flights, and it is entertaining to see flocks of water birds wander on the runways. / by Deng-fu Hong
2. 落難至東沙的灰面鵟鷹，在研究人員細心的照料下，目前恢復狀況良好 / 編輯部攝
A Gray-faced Buzzard (*Butastur indicus*) had been left stranded on Dongsha Island. Due to the attentive care of the researchers, it has gradually recovered. / by Editorial Depi

東沙島擁有全國最大的海草床(面積初步估計有1,185公頃以上),是台灣本島海草床面積的10倍之多,且種類也最多樣化,初步估計東沙島周邊海域的海草,每天吸納二氧化碳的能力可達30公噸,對於孕育周邊海域豐富海洋生物資源,具有非常重要的地位。目前,海管處委託國立中興大學生命科學系林幸助教授於東沙環礁國家公園進行海草床監測計畫,期望透過國家公園的保護與管理,讓這大自然所賜與的珍貴資源能永遠生生不息。

海草為東沙潟湖構築出海洋生物最營養、最舒適的產房,孕育出生生不息的海洋資源,像是海龜,就會選擇有海草的地方上岸產卵。乾枯的海草經浪拍打上岸後堆積在沙灘上,乍看像是一條條褐色的廢棄物,但其實乾涸的海草下仍然潮濕溫潤,是許多生物喜歡的環境,為東沙島上的生物脈動增添更多豐沛的元素。

Dongsha boasts of the largest seagrass coverage and variety in the nation. The roughly over 1,185 hectares of seagrass is about ten times that on the Taiwan proper. Capable of absorbing 30 tons of carbon dioxide each day, the plants are pivotal for maintaining the park's rich marine ecology. In an effort to sustainably guard the valuable natural assets, a monitoring study on the seagrass beds at Dongsha Atoll National Park is now underway, conducted by Prof. Hsing-juh Lin of the Department of Life Sciences, National Chung Hsing University, as commissioned by MNP.

Seagrasses make up the best breeding ground for marine lives. Sea turtles, for example, trust their eggs to the land where seagrasses grow underwater. And while dried seagrass washed ashore by the waves could be mistaken as maroon strips of waste lining the beach, under the parched surfaces are moist cavities that harbor and add to the diversity of creatures on Dongsha Island.

潔白海灣上乾枯的海草乍看像是一條條褐色的廢棄物,然其實底下仍然潮濕溫潤,是許多生物喜歡的環境 / 戴進元攝

The dried seagrasses on the white beach look like strips of brown litters from a distance, but the areas under the seagrasses are moist and warm and offer a pleasant environment for many creatures. /by Jin-yuan Dai





擔任東沙海域巡視的東沙分隊，守護海上安全責無旁貸 / 戴進元攝
The Dongsha patrol team of CGA is responsible for patrolling Dongsha's sea area. It is their unshirkable responsibility to safeguard the ocean around the island. / by Jin-yuan Dai

海巡署協助 保育好拍檔

若非採訪團隊親臨東沙貼身報導，光從報端、網站上得到的東沙訊息，往往是碧海藍天、魚群悠游的美麗景致，島上人員的甘苦還真無從得知。

的確，從2007年東沙環礁國家公園成立至今，島上工作人員陸續克服許多挑戰，逐漸展現出豐碩的研究成果。不過，這些並非海管處獨力可完成的，靠的是跨部會力量的整合。

海管處楊模麟處長曾說：「海巡署是東沙島上的另一批守護者，只是，他們守護的是島區與海上的安全。對國家公園的保育與復育工作來說，有了這層的防護管制，實為極珍貴又重要的助力。」言談間表達了對海巡署南巡局東沙巡防指揮部的謝意。

Partnership with Coast Guard in Conservation

Were it not for a personal visit and interview with the stationed staff, one would never have imagined the hard fight involved in maintaining Dongsha's beauty, what we so matter-of-factly sees on the press and media.

Since the establishment of Dongsha Atoll National Park in 2007, its staff have overcome many a challenges. Its research efforts have also been flowering gradually. Yet this achievement is not attainable without joint efforts of various departments and institutions.

MNP Director Mo-lin Yang once said, "CGA keeps a sharp eye on the island's security. Preservation and restoration projects at the national park are definitely more effective under their protection and control. They are indispensable." Yang gladly expressed his gratitude to the Dongsha Command Center of CGA.



海草為東沙潟湖構築海洋生物最營養、最舒適的產房，孕育出生生不息的海洋資源 / 海管處提供

Seagrasses can form the most nutritious and comfortable "delivery room" for marine creatures in Dongsha lagoon and thus help breed sustainable marine resources. / Photo provided by Marine National Park Headquarters

海巡署南巡局東沙巡防指揮部王嘉遜指揮官，看似嚴肅，實則在威嚴的外表下有的是對海洋保育與同袍的無盡關心。每至用餐時間，總可見他匆匆用完餐，接著便至各桌巡視官兵們有無吃飽，逢年過節時也自掏腰包加菜，只為一解留在島上官兵的思鄉情愁。

給予海管處許多協助的王指揮官，切實將國家公園的生態保育概念融入其帶軍領導與訓練之中，不僅每月都安排生態教育，對於每個新報到的士兵都親自面談，輔導正確的保育觀念。

「以每年世界地球日為例，總能看到王指揮官精神抖擻地站在第一線指揮，甚至親自下場撿拾垃圾，讓我們看了都覺得不能輸他。」一位士官曾如此談到，在王指揮官身上，我們看到了真正上行下效的實踐精神。由於海巡署的戮力協助，海管處人員方能無後顧之憂的從事研究。

來自不同國家的各種廢棄物隨著海流，停泊在潔白的沙灘上，淨灘成為最重要的保育執行工作。然而，對海管處保育人員而言，淨灘的實質成效，並不只是持續不斷地撿拾、打包般的重複工作。他們會去記錄漂流過來的垃圾是屬於哪個國家，把相關的數據統計起來，待世界地球日等國際關注的重要場合時，將統計資料公布，籲請各國呼籲國人重視環保，只有如此，才能達到淨灘真正的目的與價值意義。

Stern-looking Commander Chia-lin Wang of the CGA Dongsha Command Center holds no reservation in showing his concerns for marine preservation and his soldiers. Wang is in the habit of hastily finishing his meals to make rounds and see that his soldiers are well fed. On special occasions, he would treat them to delicacies at his own expense, so as to ease their home-sickness.

In addition to providing substantial assistance to MNP, Wang instills ecological protection into military training. His soldiers attend monthly education programs, and are required to hold individual meetings with him to ensure they have a correct understanding of environmental preservation.

"Take Earth Day for instance, he would always set an example, even if it means picking up trash himself. With his example set before us, how can we do less?" recounted a sergeant. Wang's way of leading by example has won him respect and inspired subordinates to follow suite.

CGA not only fully supports MNP to focus on research, but additionally lends its hand to cleaning up the coast. Brought in by currents and waves, all sorts of waste from different countries line Dongsha's white gulf, making coast-cleaning a major preservation task.

Yet instead of abandoning itself to a passive cycle of waste collection and disposal, MNP records the sources of the waste, and seeks to promulgate the statistics on international occasions, like Earth Day. MNP believes that only by appealing to the nations through their respective delegations will a clean coast eventually be achieved, and its value truly appreciated.



海巡指揮部進行經常性的淨灘活動 / 陳慧如攝
The soldiers of the coast guard are engaging in the regular beach-cleaning activity. / by Hui-ru Chen



正因為島上人員不分你我投入淨灘，才讓東沙的沙灘如此純淨自然 / 編輯部攝

The beach on Dongsha Island cannot be in this pure and natural state without the devotion of every staff member on the island to cleaning the beach. / by National Park Quarterly Editorial Department.

島上人員無私貢獻海洋保育專長，讓東沙保有秀麗的景致 / 戴進元攝
The MNP staff selflessly devote their special skills of marine conservation to Dongsha land, and thus the beautiful scenes on the island can be preserved. / by Jin-yuan Dai



2010年5月7日，東沙分隊與東沙管理站研究人員共同解救受困於魚網上的兩隻小海龜，為非常成功的保育行動典範。

The Dongsha patrol team of CGA and the researchers of Dongsha management station worked together to save two little sea turtles trapped in the fishnet on May 7, 2010, which served as a successful example of conservation work.

距台太遙遠 返家變數多

自古以來，東沙有許多美稱，原以為在天涯海角工作的島上人員，日子愜意得可媲美前些日子讓世人羨慕的「大堡礁島主」一職，然而直到親自登島採訪，工作團隊才深深體會到，要保留一片淨土，需要眾人無私的付出才能達成，當中的辛勞，真的不是身在繁華台灣的你我可以體會。

此次季刊團隊結束原訂5天的工作準備返台，卻遇上機場設備故障飛機停飛的突發事件，而這一等就是3天。想回台灣的季刊團隊未能如願，急著前往東沙的海管處東沙站張仲佐主任也心急如焚，只能不斷地以電話聯繫。在此瞬間，季刊採訪團隊更深刻體會到，東沙工作萬事皆辛苦的感受。

A Long and Unpredictable Way Home

Dongsha has long been hailed with names that evoke association with the Great Barrier Reef. But working here is not quite "the best job in the world." The pains and toils required for protecting a land from contamination and depletion of ocean resources takes much more than what meets the eye. It takes more than a handful of people giving selflessly to the cause. Each man is bound with responsibility.

The Quarterly team's five-day stay was prolonged by facility failure at the airport. And the wait of three more days for the resumed flight far exceeded the team's expectations. Not only was the staff's return to Taiwan prevented, Dongsha Marine Station Chief Zhong-zuo Zhang was likewise compiled to give instructions via phone connection from Taiwan.



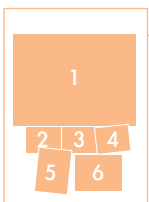


有別於最先登島的先鋒部隊，張仲在肩上的任務多半是行政與管理。即使休假在台灣，仍時時致電關心島上狀況，並適時給予指導與協助。身為東沙站主任，他常與海巡單位溝通保育觀念，畢竟在東沙島上海巡署與海管處是兩個重要單位，雖然彼此的任務不同，但卻互為依存與支援。

3天後，季刊團隊終於結束了「意外由5天延長為8天」的採訪行程，當飛機終於順利地飛離了東沙跑道，由空中俯瞰著這方棲息在湛藍大海中的美麗島嶼，想像著在島上繼續奮鬥的海管處及海巡署同仁們，心中滿滿的感佩及感謝。回到台灣，繁華富裕的城市等著我們，和炎熱、克難、缺水的東沙島有著天壤之別，但東沙島上的點點滴滴盛滿心頭。希望藉由這篇報導，道出心中滿溢的感謝，謝謝島上的人們願意為了海洋保育奉獻一己之力，甘願站上離台450公里之遙的第一線。📷

Unlike the pioneering staff, Zhang is mostly engaged in administration and management, and stays in close contact with the island while on leave in Taiwan. Zhang emphasizes maintaining sound communication with the patrol team on views concerning environmental protection, for although the MNP and CGA differ in functions, the two often work in mutual support.

The unexpectedly prolonged interview finally did come to an end. The plane lifted off from the runway. Gazing at this patch of beautiful island nestling against the blue sea invoked a surge of appreciation and gratitude for the MNP and CGA staff. They are there to continue the fight. A prosperous city of abundance awaits us in Taiwan, a stark contrast with hot and water-deficient Dongsha. But the Dongsha memories are here to stay. May this report voice our gratitude for their cheerful giving to marine conservation, their willingness to step up to the frontier, 450 km away from Taiwan. 📷



1. 環礁海草碎屑下的條紋豆娘魚 / 陳慧如攝
Indo-Pacific sergeant (Abudefduf vaigiensis) under the atoll seaweed's scraps. /by Hui-ru Chen
2. 環礁海域中的宛如草地般的活珊瑚群 / 陳慧如攝
Live coral in the atoll's seas looks like grasslands. /by Hui-ru Chen
- 3-4. 黃金鱒喜歡跟在鯊魚的前後出沒(為食取鯊魚嚼下的碎屑)，其群體出沒時會捲起一片沙土，在海中碰到此魚群時可要提高警覺 / 陳慧如攝
黃金鱒 likes to swim around the sharks (to eat the scraps of shark's chew), and the sandy soil would be raised when the group of 黃金鱒 appears. Anyone encounters the 黃金鱒 in the sea should be on the alert. /by Hui-ru Chen
5. 小丑魚媽媽和卵。只能在動畫片或海生館中看到的景象，在東沙海底就能親眼見及 / 陳慧如攝
The picture shows mother of the clown fish (Amphiprioninae) and its eggs, which is a scene can only be spotted in animation or aquarium for most people, one can see it with one's own eyes in Dongsha's ocean. /by Hui-ru Chen
6. 魷魚的危險攻擊性並不亞於鯊魚，亦須保持一定的安全距離 / 陳慧如攝
A ray is no less aggressive than a shark; one must keep a distance from it. /by Hui-ru Chen

藉由幾張精采圖片，帶您欣賞東沙海域豐富的海底生態

By these excellent pictures, we can introduce you the abundant marine ecology of Dongsha's seas.

