MEEF2021011

Project Title:	**Save Our Shells: Repurposing Shells to Reduce Landfill Waste and Restore Marine Habitats**
Name of Project Leader:	**Anniqa Law**
Name of Applicant Organisation:	**The Nature Conservancy Hong Kong Foundation Limited**

Executive Summary

Overharvesting and coastal development have destroyed much of Hong Kong's natural shellfish reefs, degrading local marine environments, and jeopardizing coastal community livelihoods. Leaning on expertise gained from TNC's successful oyster recycling and reef restoration projects around the world, TNC has been working to bring back the once-abundant shellfish reefs in Hong Kong and the Greater Bay Area. Our strategy provides a solution for the food and beverage (F&B) industry and local oyster aquaculture farmers to recycle discarded shells. Recycling shells from the aquaculture industry reduces the negative environmental impacts discarded shells have when left in piles on the shoreline and recycling shells from restaurants diverts food waste from landfill. The shells collected are repurposed as the foundations for living shellfish reefs. An additional benefit of the project is that it engages the wider HK public with the recycling process, shares conservation messages, and creates abundant opportunities for hands-on volunteer engagement. Through the project, we also aim to reduce polluting debris on Deep Bay's coastlines in order to improve the environment for native species such as seagrasses, endangered horseshoe crabs, and shorebirds.

Reef-building bivalves naturally select shells as a settlement substrate in the wild — this explains the structured appearance of reef formations—because they build on each other. For this reason, recycled shell is a commonly used substrate in restoration projects around the world and was successfully trialled by TNC HK in Tolo Harbor in 2019 (zu Ermgassen et al., 2016; Levine et al., 2017). After demonstrating that shellfish reefs can be restored in various parts of Hong Kong, our goal is now to restore these habitats at scale. With higher volumes of recycled shells available to be repurposed into reef building substrate, this project facilitated the scaling up of reef restoration efforts in Tolo Harbor and North Lantau and established a successful model to provide shells for future restoration projects.

Starting from August 2020, we partnered with the F&B industry, seafood wholesalers, and local aquaculture communities in Deep Bay to recycle their discarded shells. Through **Save Our Shells: Repurposing Shells to Reduce Landfill Waste and Restore Marine Habitats**, we further collected 14.64 tons of discarded shells from 10 F&B industry outlets and 5 oyster farmers. We also engaged 216 volunteers in Pak Nai to clear and collect shell debris produced by the local oyster aquaculture industry that would otherwise degrade the nursing grounds for endangered Horseshoe crab species (Kwan et al., 2017). After we collect the shells, volunteers helped process them at our shell recycling site in Ha Pak Nai Village. Here newly collected shells are laid out in the sun for at least 6 months to kill off any pests or diseases. Nearly 10 tons of processed shells and aquaculture debris were bagged up by more than 100 volunteers and deployed as foundations to grow new, living reefs at pilot reef restoration sites on the seawall of the Airport 3RS and Yung Shue O in June 2021 & June 2022 respectively.

The "Save Our Shells" shell recycling program is also an opportunity to educate local communities and the general public on the importance of estuarine ecosystems and the need to reduce landfill waste. We achieve this by engaging the public in hands-on volunteer activities such as shell collecting and mudflat rehabilitation. Throughout the project, we have promoted the importance of oyster reefs through shell recycling volunteer events, public sharings, social media posts, and news clippings generated by TNC

and our partners. We continuously receive inquiries from potential restaurant partners and are keen to learn more and participate in further scaling up the shell recycling project. Looking forward, with the support from MEEF during the 2nd phase of this project, TNC will continue to monitor the growth of the oyster reef we built in Yung Shue O in June 2022, and work closely with the project partners to enhance the cost-effectiveness of the shell recycling project.

Project Description

As Hong Kong's first shell recycling program, our "Save Our Shells" initiative has an important role to play in bringing back Hong Kong's lost shellfish reefs by creating a pipeline of shell waste to be repurposed into new reef substrate. TNC HK aims to recycle discarded shellfish shells from the local aquaculture and food industry—shells that are typically destined for landfill or discarded like trash along the shoreline—and repurpose them into the substrate for new, living reefs in Hong Kong waters. These reefs will provide a boon of benefits, serving as a habitat for juvenile fish and other marine life and as natural filter feeders that improve local water quality and stabilise shorelines. We will also increase public awareness of the importance of shellfish reefs and estuarine ecology by engaging volunteers and organising activities to help collect and prepare shells for reef deployment.

Progress summary:

Phase 1 Activity (including Planning, Recruitment)	**Date**	**Time**	**Venue**	**Content**	**Anticipated no. of participants**	**Progress remarks**
Hiring of new staff	Jun 2021	N/A	N/A	- Recruitment e.g., advertising, interview, etc	N/A	**Done** New staff hired in Sep
Scoping and baseline research	Prior to Jun 2021	N/A	N/A	- Scoping with restaurants, oyster farmers, and villagers to understand their operations - Sourcing of tools especially suitable containers	N/A	**Done** Continuous communication with partners to understand their actual needs and difficulties, especially during COVID.
Recycling site setup and renovation	Jul - Aug 2021	N/A	Ha Pak Nai	- Seek quotations and vendors - Renovation work	N/A	**Done** On-going site maintenance (e.g., weeding, manpower to handle on-site tasks, etc)
Preparation with restaurants	Jul – Aug 2021	N/A	N/A	- Set up collection protocol with restaurants e.g. frequency, storage, tools needed - Briefing or workshops delivered to restaurant staff if needed	5 restaurants *5 restaurants joined our project already	**Done** Reached out to 6 restaurants in total, 5 restaurants agreed to join the program, and 4 have started shell collection.
Collection with restaurants	Jul 2021 – June 2022	N/A	N/A	- Discussions with partners to fine-tune collection logistics for different restaurants and learn from their experiences in food waste collection	10 restaurants	**Achieved** TNC successfully recruited 10 restaurants to participate in the project
Preparation with oyster farmers	Oct, Nov 2021	N/A	Lau Fau Shan, Ha Pak Nai, Tsim Bei Tsui	- Scope for collection station & develop collection protocol with the farmers - Sourcing of suitable containers/tools that facilitate the collection of shells	8	**Done** Meetings with oyster farming association to understand the actual cost implications and their operation in order to set up plans with them.

Collection with oyster farmers	Jan, Feb 2022	N/A	Lau Fau Shan, Ha Pak Nai, Tsim Bei Tsui	- Collection and transportation of shells to the recycling site	8	**Not achieved** Starting from Nov 2021, we have engaged the 3 oyster farming associations' representatives to set up a work plan. But due to COVID, mainland workers cannot cross the border to work for the HK oyster farmers. In the past months, we have been working closely with the oyster farmers to see if there are other options. But they reflected that the shells cannot be transported from the rafts to land without the mainland workers. Therefore we could not collect the shells as planned before the end of this project. TNC has further worked with the oyster farmers to hire local workers at a higher cost to transport a lower volume of shells. It is expected another trial will be carried out in July 2022 (2nd phase of this project – MEEF2021011A).
Volunteer activities	Monthly	N/A	Ha Pak Nai	- Collect shell debris, sort, and bag the weathered shells into mesh bags	Estimated to organize 20 trips for 400 people in total in 2 years (200 volunteers in 1 year)	**Achieved** 11 events were organized for aquaculture debris removal on the Pak Nai mudflat, during which 171 volunteers joined. 91 volunteers from five events helped sort and bag the recycled shells for oyster reef deployment in June 2022. Another three abandoned oyster farm reconfiguration events were arranged for 65 Cordis Hotel staff as CSR and staff engagement activities. A total of 307 people were engaged through all these educational volunteer field trips.
Transportation of shells to recycling site	3 times per year	N/A	Ha Pak Nai	- Transport the collected shells from the mudflat to the shell recycling site	N/A	**Done**
Reef deployment preparation	Mar, Apr 2022	N/A	N/A	- Tools procurement & logistics arrangement e.g., transportation	N/A	**Done**
Oyster artificial reef building and baseline measurements	May 2022	N/A	Tolo Harbour	- Deployment of bagged shells	N/A	**Done** We successfully transported and deployed 8.43 tons of shells and 150 tons of limestone (i.e. a total of 94 m3 substrates) as a new reef under a fish farm at Yung Shue O, Tolo Harbour. In early June 2022.
Local communities and partner engagement	On-going	N/A	N/A	- Site visits, meetings, and workshops with partners	N/A	**On track** Continuous communication with partners. Supported/ organised outreach events e.g. talks and field trips with partners.
TNC website update and social media	On-going	N/A	N/A	- Soft marketing on TNC channels	N/A	**On track** Our partners and TNC have been sharing news and social media posts about the project. TNC website has been updated.
Media opportunity (PR)	Apr, May 2022	N/A	Ha Pak Nai / Tolo	- 1 media exposure (press release/media event/feature stories)	2 farmers/ restaurants/ local communities	**Done** 3 media pieces were released related to this project. TNC is also producing a video to promote our oyster program as a whole (covered by other funding, to be finished in Q3 2022)

Evaluation of project effectiveness in achieving the proposed objectives:

1. Establish partnerships with 10 F&B companies and set up a pilot collection protocol for their shells
    a. During the project, we have set up partnerships with ten partners. Between 1 July 2021 to 30 June 2022, we collected 14.64 tons of shells from 10 restaurants. We have summarised the collection operations from each of the partners. For more information, please see appendix 1.
    b. Upon the launch of this project, we connected with existing partners and TNC prospects and used our network to get valuable introductions and engage with new potential partners. Starting from March, the project was hit by the 5th wave of COVID, and most partners had to cut back their operations because of the dine-in ban. Therefore, the shell collection was also suspended and we were not able to collect as many shells as planned. Throughout this, we communicated closely with partners to understand their needs. Most collections were resumed in mid-June.
    c. Besides the hospitality sector and clubhouses, we were able to test collection from a supermarket (City'super). We are also ready to start collecting shells from the Hong Kong Jockey Club in the 2nd phase of the project.

2. Collections from oyster farmers
    a. TNC has had discussions with the oyster farmers to understand their situation and changes to farming operations under COVID. Concern was raised about the limited manpower from the mainland to carry out the shucking work. The oyster farmers tend to prioritise shucking more oysters for better revenue instead of sparing time and labour to transport the shells for our project.
    b. In January 2022, we engaged with the oyster farming associations about this logistics concern and secured support from three of them. The associations agreed to transport the shells after peak season in March 2022 with extra manpower. This also serves as an alternative income source for oyster farmers during the low season and the pandemic.
    c. However, starting from March 2022, the oyster farmers were hit by COVID and the mainland workers cannot come to Hong Kong to work. The Deep Bay oyster farmers rely on their mainland workers to carry out farming operations, including transporting unused shells from the rafts to shore. This meant oyster farmers were deeply impacted when the mainland government officials didn't grant permits for their workers to work in Hong Kong. The oyster farmers suggested waiting until the COVID is over to see if there could be any options to arrange more manpower to carry out the shell recycling tasks. To hear the feedback from oyster farmers, please listen to the voice recordings in appendix 2.
    d. TNC has been talking to the oyster farmers to understand the COVID situation and manpower problems. In May/June 2022, the oyster farmers suggested not to recycle the shells as planned but to wait and see if we can resume the plan later in the year.
    e. TNC arranged collection from two oyster farmers in July 2022 (which falls within MEEF2021011A cycle).

3. Organise approximately 20 events to engage at least 400 volunteers in two years to help in the clean-up, collection, processing, and transportation of collected shells.
    a. 11 events were organised to remove aquaculture debris from the Pak Nai mudflat, during which 171 volunteers joined. The material collected was transferred to the shell recycling site for processing and then to our Tolo project site in June 2022.

b. We had worked with corporates to organize five events to sort and bag the recycled shells for oyster reef deployment in June 2022. 91 people participated in the bagging events.
c. In November 2021, another three abandoned oyster farm reconfiguration events were arranged for 65 Cordis Hotel staff as CSR and staff engagement activities. A total of 307 people were engaged through these educational volunteer field trips. We found that it is important to engage the front-line staff from our partners, so that they know why they are putting extra effort recycle shells. The feedback from Cordis Hotel was very positive and they are thinking to arrange similar field trips in September 2022.
d. A total of 307 people were engaged through these educational field trips. For more information about the activities, please see appendix 3.

4. Reef deployment
    a. TNC had successfully deployed 8.43 tons of shells and aquaculture debris to build an oyster reef at Yung Shue O, Tolo Harbour. The site is in a fishing cultivation zone. We work with Alex Lam Tsz Lung, the owner of the fish farm, also our partner in previous reef pilot project.
    b. We also work with AFCD (Fisheries Team) very closely on this project as they are interested in the bio-filtering effect from the reef. We will closely monitor the reef structure, as well as the biodiversity benefits provided by the new oyster reef (falls within MEEF2021011A).
    c. With the support from vendors, we arranged various transportation to transfer the materials from our shell recycling site to the fishing raft and arranged for TNC staff to help deploy the shell in the water. We also worked with commercial divers who rearranged the bags of shells to refine the substrate structure.

5. Manage a site for storing and processing the collected shells and establish a management plan
    a. We worked closely with the Ha Pak Nai local communities for the overall management of the site. We understand that the communities would like to keep the site simple without large-scale structures. After these discussions and reviewing our needs, we plan to use mobile tools and furniture for volunteer events, shell sorting, and bagging at the site starting in March.
    b. With the scaled-up and more frequent collections from our restaurant partners, we encountered the need for more manpower to transport and unload the shells. We, therefore, reached out to the local communities and van vendors about this loading job. We trialled several van services during the pilot stage and realised that hiring a van and driver willing to transport foul-smelling shells is challenging. We also tried to talk to some food waste companies about the transportation job, but they have strict requirements on minimum quantity and container size. Considering the cost and scale of our project, we have only been able to hire one driver (KM Company). Their driver is willing to help pick up the shells without face-to-face supervision from TNC and to help weigh and monitor the condition of the shells. During the weekly operations, they make timely reports and sometimes even give suggestions to the partners on how to improve the logistics. Therefore, we sought the sole supplier approval to KM Company, to appoint this company as the official driver in April 2022. The service of the driver includes unloading the shells and clearing rubbish from the site weekly, which is a cost-effective arrangement.

6. Build visibility of the program to the general public through online and offline media exposure and publicity such as stories, promotional videos, and project updates
    a. The project has received significant media attention and was mentioned in several media interviews.
    b. Besides the ReTHINK HK 2021 Ocean Economy Summit - Protecting Hong Kong Waters: The Need for Collaboration on 5 Oct 2021, and the collaboration with The Mills Centre of Heritage Arts & Textile (CHAT) (both were reported in 1st progress report), we had another outreach opportunity in late June 2022: Ideas to Wake up to – a sharing event for sustainability topics within the hospitality industry. Hosted by EAST Hong Kong, one of the restaurant partners, we were able to share the project with other stakeholders in the hospitality industry.
    c. For media clippings and event photos, please refer to appendix 4 & appendix 5

Summary and Way Forward

1. In late June, when the COVID situation was more settled, we received lots of inquiries from the F&B sector seeking to participate in the shell recycling project. TNC started collecting from two of them in July 2022.
2. As we explore scale-up opportunities for the project, we discussed internally having these partners bear some logistics costs like Cordis Hotel. Cordis Hotel has absorbed part of the logistics cost for the increased collection frequency. The pandemic has been a tough time for the hospitality sector. Still, Cordis Hotel is very supportive of the project and agreed to pay for one collection ride per week to divert more shells away from the landfill. This commitment from Cordis Hotel sets an excellent example for the industry. We will communicate this to other new partners and hope more partners will follow. At the same time, we are reviewing the cost-effectiveness of the partners by comparing the amount of shells versus collection frequency to develop a strategic plan for the shell recycling project.
3. We also encourage our partners to recycle their other waste. We worked with one of the oyster farming associations to recycle the canvas bags they use on their oyster rafts and turn them into containers for the shells. Another example is the Peninsula Hotel, which recycles unwanted canvas rice bags to keep their shells.
4. We see the project has outreach potential to raise public awareness via different channels, including leveraging the resources and network of the participating partners.
5. As the shellfish restoration momentum continues to grow in Hong Kong, another oyster reef restoration practitioner has approached us regarding the supply of recycled shells. We see huge potential in increasing the supply for such projects in the future.

Appendices

Appendix 1: Collection statistics

Collection statistics are not disclosed due to confidentiality reasons.

Appendix 2: Feedback from oyster farmers

Feedback from oyster farmers are not disclosed due to confidentiality reasons.

Appendix 3: Record of volunteer events

Record of volunteer events are not disclosed due to confidentiality reasons.

Appendix 4: Additional information e.g. event photos, etc

Appendix 5: Media clippings

Appendix 6: Financial table

Financial table are not disclosed due to confidentiality reasons.

Appendix 7: Audited Statement of Account

Details of financial statement are not disclosed due to confidentiality reasons.

Appendix 8: Staff attendance record

Staff attendance record are not disclosed due to confidentiality reasons.

Appendix 9: Receipts and relevant documents

Receipts and relevant documents are not disclosed due to confidentiality reasons.

List of all project assets:

N/A. All purchased items are consumables, we did not acquire assets under MEEF funding.

Appendix 4

Save Our Shells

Oyster Shell Recycling Project

「殼」海無涯蠔殼回收計劃

Shell recycling restaurant collection portfolio

The Nature Conservancy

大 自 然 保 護 協 會

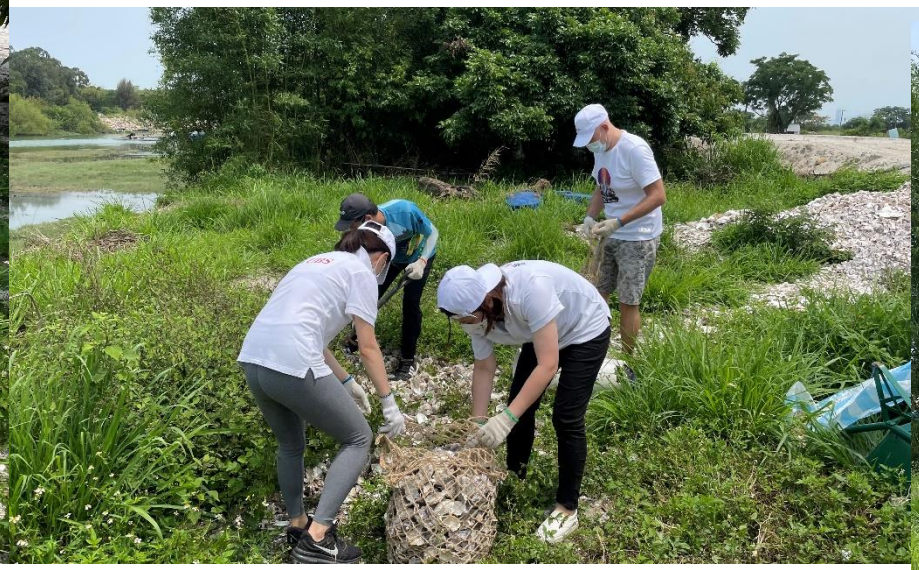
General info about the collection

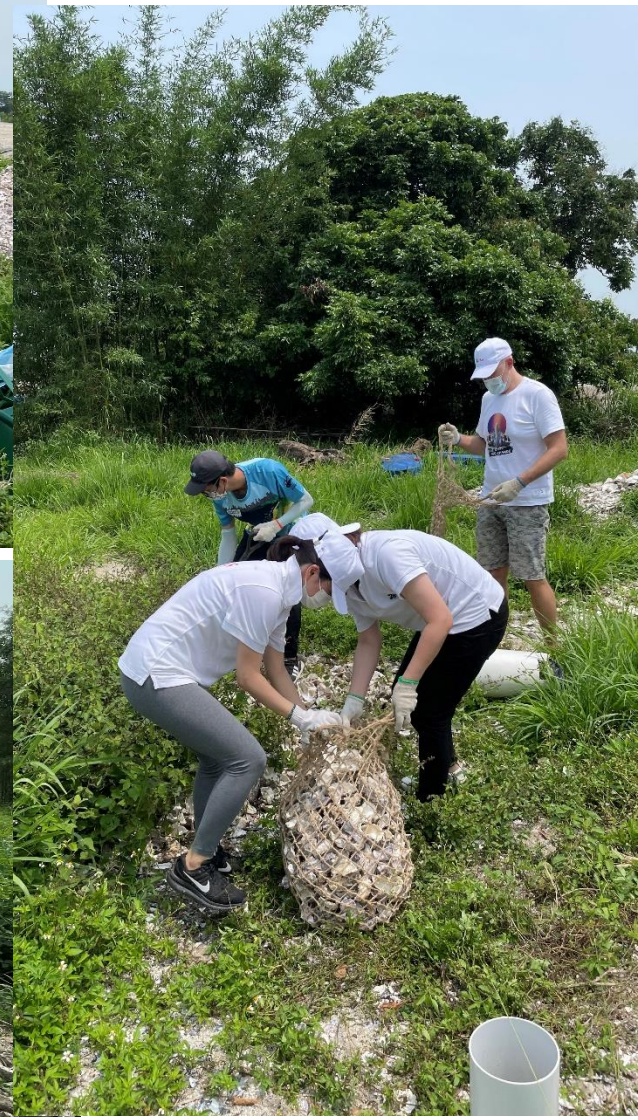
	Partners/collection location	Address
1	Royal Hong Kong Yacht Club	Kellett Island, Causeway Bay, Hong Kong
2	Oyster Station - Tsuen Wan	Shop UG41, UG/F, Citywalk 1, 1 Yeung Uk Road, Tsuen Wan
3	Oyster Station - Tsim Sha Tsui	7/F, 1 Knutsford Terrace, Tsim Sha Tsui, Hong Kong
4	Cordis Hotel	555 Shanghai Street, Mongkok, Kowloon, Hong Kong
5	Verandah, The Repulse Bay	109 Repulse Bay Rd, Hong Kong
6	City Super, Times Square, Causeway Bay	B/F, Times Square, 1 Matheson St, Hongkong
7	Sheraton Hong Kong Hotel & Towers	20 Nathan Road, Tsim Sha Tsui
8	The Peninsula, Hong Kong	Salisbury Road, Kowloon, Hong Kong
9	EAST Hong Kong	29 Taikoo Shing Road, Hong Kong, Hong Kong
10	The Upper House	Pacific Place, 88 Queensway, Hong Kong

Collection schedule		
Every Monday	Oyster Station Tsuen Wan, Oyster Station Tsim Sha Tsui, Cordis Hotel	4 stops
Every Wednesday	Verandah Repulse Bay, City Super Causeway Bay, Royal Hong Kong Yacht Club, The Upper House	4 stops
Every Thursday	Cordis Hotel, Sheraton Hong Kong Hotel & Tower, The Peninsula, Hong Kong	3 stops

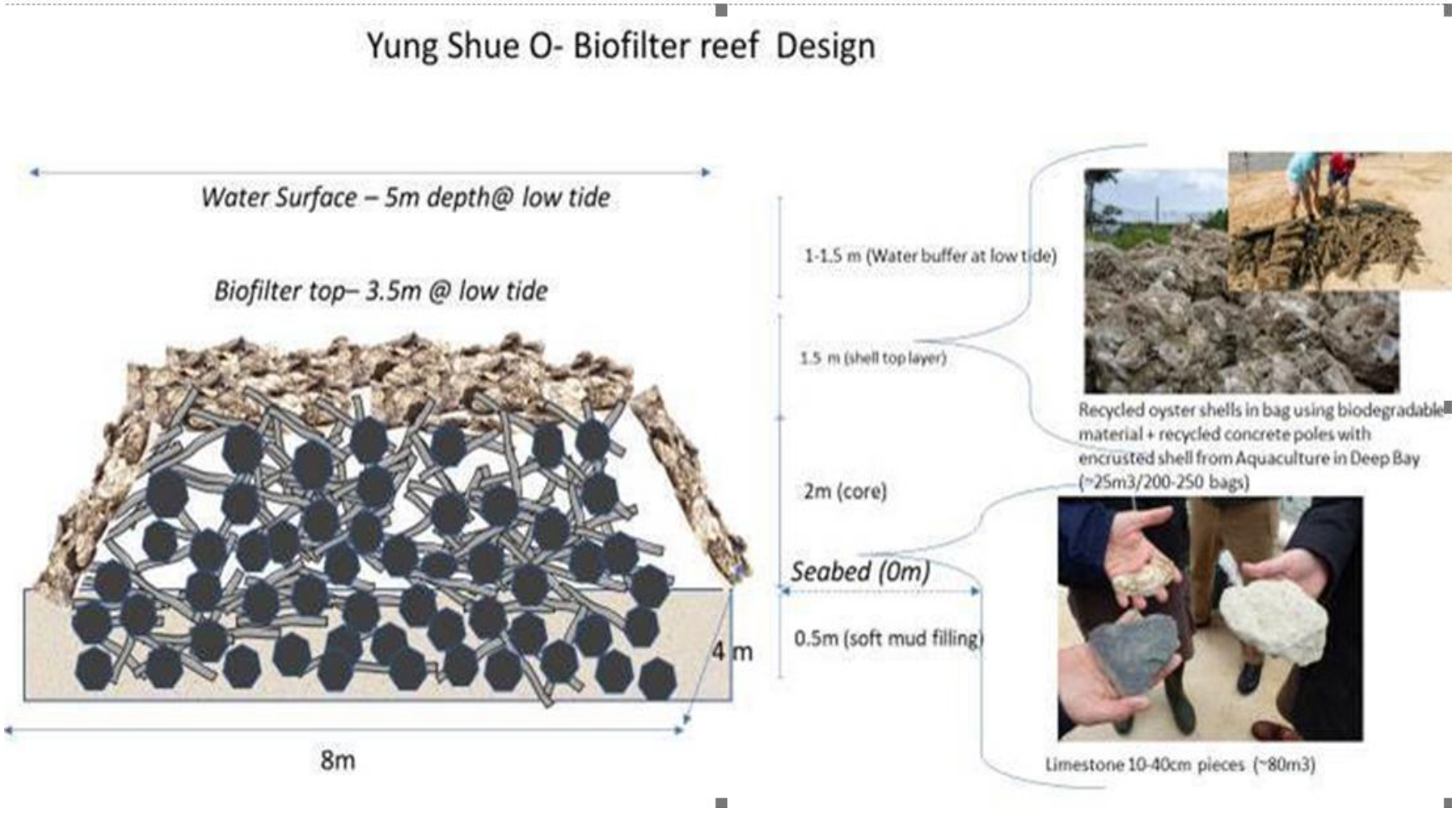
Community Outreach – field trips

Community Outreach – field trips

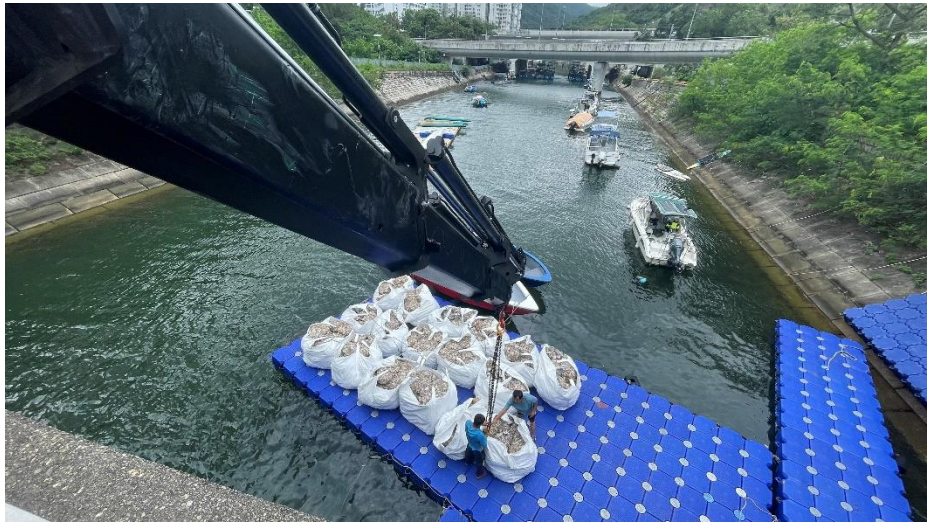




Reef deployment (design of the reef)



Reef deployment - logistics



Other outreach and engagement

ReTHINK HK 2021 Ocean Economy Summit
Protecting Hong Kong Waters: The Need for Collaboration on 5 Oct 2021

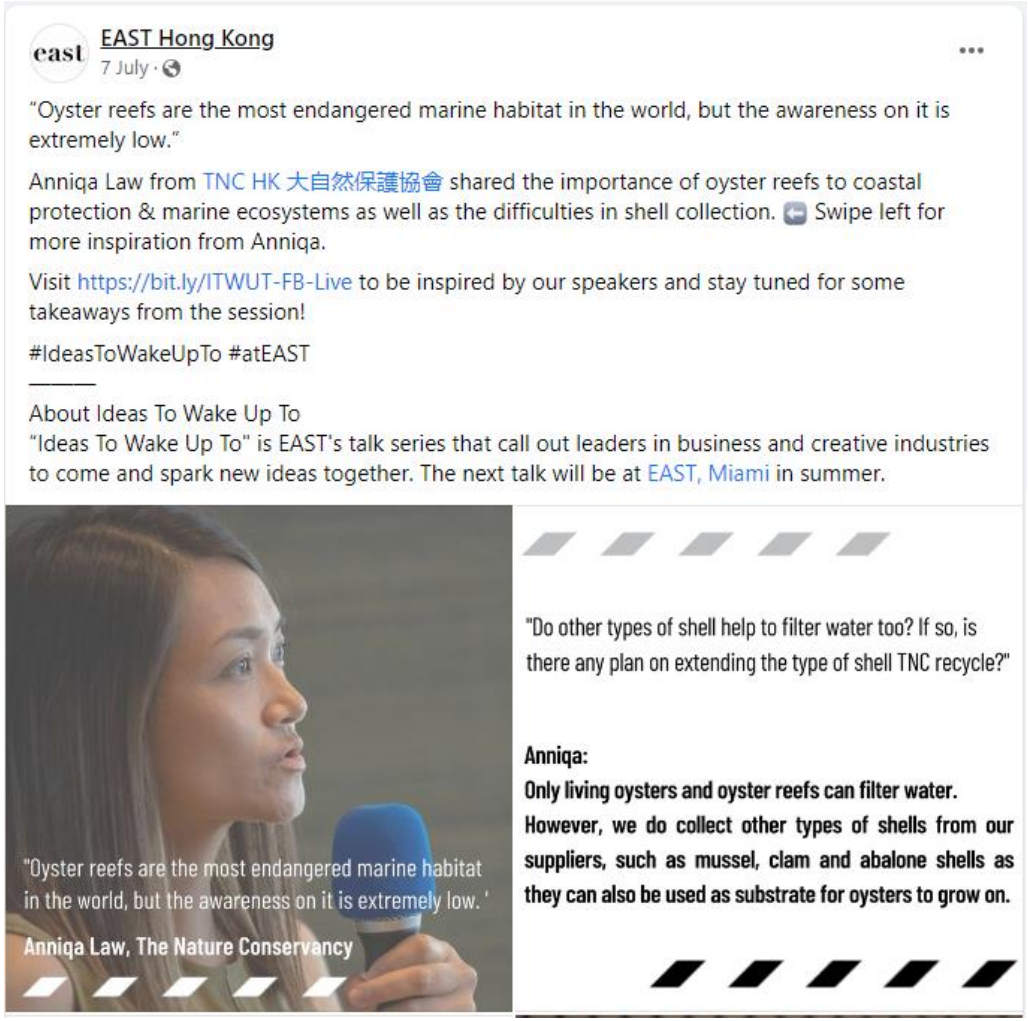
Panel discussion having Marine Thomas from TNCHK and Joshua Wong from The Hongkong and Shanghai Hotels, Limited (mother group of Verandah, Repulse Bay).

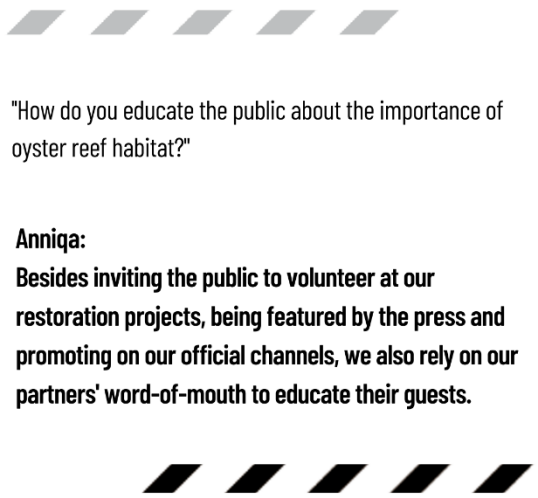
Dip-and-Dye Experience
11.09.2021
03.10.2021

Dye with CHAT Homemade Indigo
11.09.2021
03.10.2021

In Sep and Oct 2021, there was a case study with The Mills Centre of Heritage Arts& Textile (CHAT) on the usage of lime powder produced by recycled oyster shells. The CHAT had showcase their indigo extraction project using recycled shell powder to the general public.

Other outreach and engagement





- Ideas to Wake Up to by EAST Hong Kong
- Live video: https://fb.watch/fdzQ9Jnexi/

Appendix 5

Date: 07/19/2021
Outlet: Echelon
Headline: The Nature Conservancy Launches Oyster Shell Recycling Programme
Link: https://echelon.com.hk/the-nature-conservancy-launches-oyster-shell-recycling-programme/

The Nature Conservancy Launches Oyster Shell Recycling Programme

Restaurants around Hong Kong partake in the environmental organisation's project in order to give Hong Kong's oyster reefs a second chance.

By Natasha Tang
July 19, 2021

Whether it's getting rid of plastic straws, recycling glass, using compostable packaging or using coffee grounds for composting, the F&B industry has been implementing more and more sustainable methods to minimise waste in restaurants. But what more can be done? Recycling oyster shells may be the next thing to turn to.

Hong Kong was once home to thriving oyster reefs, which were unfortunately destroyed due to overexploitation and pollution. The Nature Conservancy is looking to bring those reefs back by introducing the Save Our Shells programme, which recycles discarded oyster shells to rebuild oyster reefs.

The environmental organisation developed the pilot programme based on similar projects it had previously launched in Australia and the United States. It collects discarded shells from both oyster farmers in Deep Bay and restaurants around Hong Kong. Outlets such as the Royal Hong Kong Yacht Club and The Verandah at The Repulse Bay are active partners in the programme.

The process is simple. Restaurants clean the discarded oyster shells and store them in a recycling bin that is then collected and transported to Ha Pak Nai in Yuen Long, where the oyster shells are left to weather naturally in the sun for three to four months to eliminate leftover bacteria. The shells are then taken to the restoration sites in Lau Fau Shan and Tolo Harbour and placed in a hand mesh bag that divers will place under water, in the form of a pyramid. This will build a solid foundation for juvenile oysters to latch on and grow, as oyster shells consist of calcium carbonate and make the ideal material to build reefs from.

So far, the Nature Conservancy has managed to accumulate six tonnes of oyster shells. Nine tonnes is needed to build a 5m x 5m pyramid. The Nature Conservancy's goal is to have 20 tonnes of discarded shells to develop oyster reefs in Lantau and Deep Bay by the end of the year.

The Nature Conservancy is looking to recruit more restaurants and clubs in Hong Kong to participate in the programme in the hopes that maybe one day, Hong Kong's oyster reefs will thrive once again.

tnc.org.hk

Date: 10/02/2021
Outlet: RTHK TV 31 – Hong Kong Ecologists II
Headline: 蠔礁生境 Oyster Reef Habitats
Link: https://www.rthk.hk/tv/dtt31/programme/hongkongecologists2/episode/763837

RTHK 31

LIVE

All Episodes

大自然 生態人 2

蠔礁生境

02/10/2021

內容 CONTENT

Executive Producer: 夏桂昌

02/10/2021

Photo Album

Date: 11/01/2021
Outlet: MP Weekly
Headline: Oyster shells are not waste! They could help cleanse the ocean. With the support of a local hotel, next time, remember to "save our shells" after
eating the oysters
蠔殼不是廢物！原來它們深具海水淨化功能 難得有本地酒店支持環保 下次大啖生蠔後記得 save our shells
Link: https://www.mpweekly.com/culture/%e8%a0%94%e7%a4%81-%e5%8d%81%e5%84%84%e8%a0%94%e8%a8%88%e7%95%ab-%e9%a6%99%e6%b8%af%e8%a0%94-192461

飲食

蠔殼不是廢物！原來它們深具海水淨化功能 難得有本地酒店支持環保 下次大啖生蠔後記得 save our shells

01.11.2021 文 黃柏穎 攝 李浩賢，受訪者提供 分享 留言

在旺角康得思酒店食自助餐時，就發現桌上有個「save our shells」小鐵桶，鼓勵食客把生蠔蠔殼放入其中，並避免混雜其他餘料骨碎，幫忙分類回收。根據桌上圖示，蠔殼其後會經過人手清洗、高溫消毒，再交到國際自然保護組織大自然保護協會（The Nature Conservancy, TNC）手上。蠔殼回收後會先在戶外攤放，透過風化曝曬而消毒，然後投放入海洋，為蠔建立可依附的生存空間，以試圖建立蠔礁。

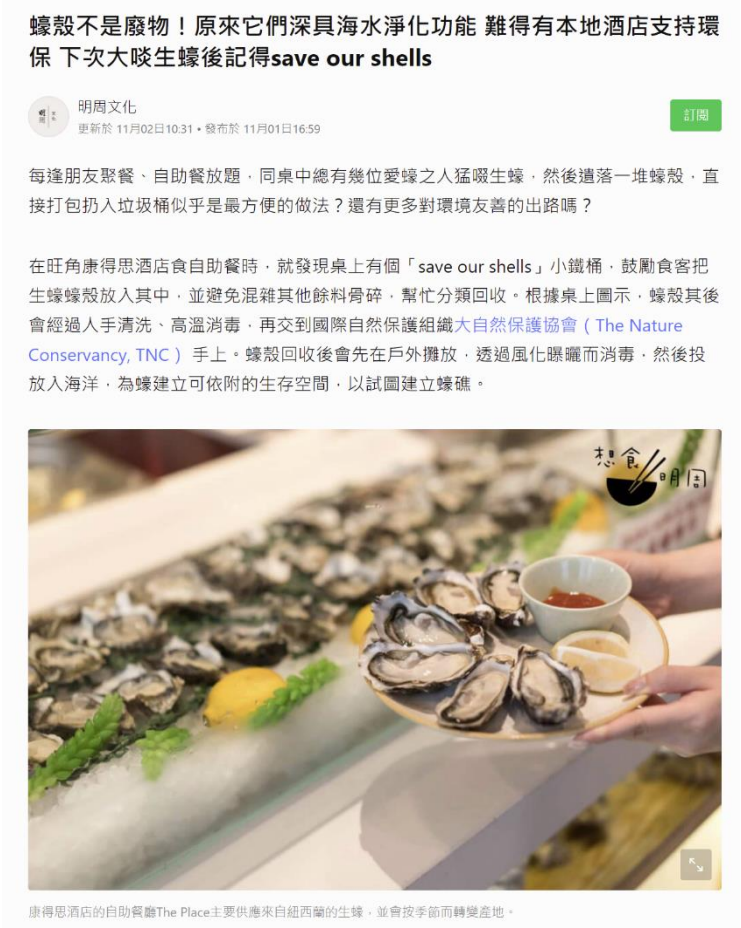
蠔礁有何用？

大自然保護協會項目外展助理經理羅頌翹(Anniqa)形容，「蠔礁及珊瑚礁過去都為稱為ecosystem engineer，生態工程師」，除了可以為海洋增加生物多樣性，另外亦具有與紅樹林相似的防波功能，減低風浪為內陸生景帶來的侵蝕。過去珊瑚保育一直較受重視，但蠔礁同樣是世上最瀕危的海洋生態之一，估計全球八成半的蠔礁已經消失，迫切性高。

不能忽視的還有其海水淨化功能！由於蠔是濾食性動物，會食用海水內過多的營養，從而改善水質。根擬TNC與太古海洋科學研究所及香港大學理學院聯合進行、年初在科學期刊《Restoration Ecology》內發表的研究報告顯示，「單一隻香港蠔 (Crassostrea hongkongensis) 在夏季的溫度下，可以每小時過濾高達 30 公斤的水，其過濾率在所有蠔類當中是最高的品種之一。」僅僅7平方米的香港蠔礁，便可以過濾相等於一個奧運標準泳池的水。

Date: 11/01/2021

Outlet: Line Today
Headline: Oyster shells are not waste! They could help cleanse the ocean. With the support of a local hotel, next time, remember to "save our shells" after
eating the oysters
蠔殼不是廢物！原來它們深具海水淨化功能 難得有本地酒店支持環保 下次大啖生蠔後記得save our shells
Link: https://today.line.me/hk/v2/article/Kww33eg



蠔殼不是廢物！原來它們深具海水淨化功能 難得有本地酒店支持環保 下次大啖生蠔後記得save our shells

明周文化
更新於 11月02日10:31 • 發布於 11月01日16:59

訂閱

每逢朋友聚餐、自助餐放題，同桌中總有幾位愛蠔之人猛啜生蠔，然後遺落一堆蠔殼，直接打包扔入垃圾桶似乎是最方便的做法？還有更多對環境友善的出路嗎？

在旺角康得思酒店食自助餐時，就發現桌上有個「save our shells」小鐵桶，鼓勵食客把生蠔蠔殼放入其中，並避免混雜其他餘料骨碎，幫忙分類回收。根據桌上圖示，蠔殼其後會經過人手清洗、高溫消毒，再交到國際自然保護組織大自然保護協會（The Nature Conservancy, TNC）手上。蠔殼回收後會先在戶外攤放，透過風化曝曬而消毒，然後投放入海洋，為蠔建立可依附的生存空間，以試圖建立蠔礁。

康得思酒店的自助餐廳The Place主要供應來自紐西蘭的生蠔，並會按季節而轉變產地。

Date: 11/11/2021
Outlet: Ming Pao Daily News
Headline: The Airport Authority recovered 500 kilograms of old oyster shells and injected live oyster seedlings into the northern vertical seawall near the third
runway to set up oyster reefs
機管局回收 500 公斤舊蠔殼　注入活蠔苗三跑海堤設蠔礁
Link:
https://news.mingpao.com/ins/%e6%b8%af%e8%81%9e/article/20211111/s00001/1636627549662/%e6%a9%9f%e7%ae%a1%e5%b1%80%e5%9b%9e%e6%94%b6500%e5%85%ac%e6%96%a4%e8%88%8a%e8%a0%94%e6%ae%bc-%e6%b3%a8%e5%85%a5%e6%b4%bb%e8%a0%94%e8%8b%97%e4%b8%89%e8%b7%91%e6%b5%b7%e5%a0%a4%e8%a8%ad%e8%a0%94%e7%a4%81

機管局回收500公斤舊蠔殼　注入活蠔苗三跑海堤設蠔礁 (18:37)

圖5之1.舊蠔殼敷設在三跑道系統北面約500平方米的人工海堤範圍。（機管局提供）

為推動廢物回收及海岸保育，機管局推出蠔礁敷設先導計劃，於今年6月回收約500公斤舊蠔殼，由潛水員分批敷設在三跑道系統北面約600平方米的人工海堤範圍，並移植約3000隻活蠔苗。團隊2個月後發現蠔礁生長情況穩定，更有不少海洋生物在該處棲息，機管局1年後會再檢視成效。

Date: 11/11/2021
Outlet: Sing Tao Daily
Headline: The Airport Authority cooperated with environmental groups to build oyster reefs at the northern vertical seawall near the third runway to enrich
biodiversity
機管局與環團合作 三跑海堤建蠔礁豐富生物多樣性
Link: https://std.stheadline.com/realtime/article/1774034/%E5%8D%B3%E6%99%82-%E6%B8%AF%E8%81%9E-%E6%A9%9F%E7%AE%A1%E5%B1%80%E8%88%87%E7%92%B0%E5%9C%98%E5%90%88%E4%BD%9C-%E4%B8%89%E8%B7%91%E6%B5%B7%E5%A0%A4%E5%BB%BA%E8%A0%94%E7%A4%81%E8%B1%90%E5%AF%8C%E7%94%9F%E7%89%A9%E5%A4%9A%E6%A8%A3%E6%80%A7

機管局與環團合作 三跑海堤建蠔礁豐富生物多樣性

2021-11-11 18:15

蠔殼接受天然風化，去除任何剩餘的有機物質。機管局圖片

機管局在採納了環境諮詢委員會及綠色團體等持分者意見後，進行一項為期一年的先導計劃，利用回收蠔殼、石灰岩及活蠔苗，在三跑道系統項目新建海堤上建造蠔礁，以提升機場附近水域的生物多樣性及漁業資源。

Date: 11/11/2021
Outlet: Line Today
Headline: The Airport Authority cooperated with environmental groups to build oyster reefs at the northern vertical seawall near the third runway to enrich
biodiversity
機管局與環團合作 三跑海堤建蠔礁豐富生物多樣性
Link: https://today.line.me/hk/v2/article/1Dm3GM2

Date: 11/11/2021
Outlet: Yahoo! News Hong Kong
Headline: The Airport Authority cooperated with environmental groups to build oyster reefs at the northern vertical seawall near the third runway to enrich
biodiversity
機管局與環團合作 三跑海堤建蠔礁豐富生物多樣性
Link:
https://hk.news.yahoo.com/%E6%A9%9F%E7%AE%A1%E5%B1%80%E8%88%87%E7%92%B0%E5%9C%98%E5%90%88%E4%BD%9C-%E4%B8%89%E8%B7%91%E6%B5%B7%E5%A0%A4%E5%BB%BA%E8%A0%94%E7%A4%81%E8%B1%90%E5%AF%8C%E7%94%9F%E7%89%A9%E5%A4%9A%E6%A8%A3%E6%80%A7-101500223.html

機管局與環團合作 三跑海堤建蠔礁豐富生物多樣性

2021年11月11日 · 1 分鐘文章

蠔殼接受天然風化，去除任何剩餘的有機物質。機管局圖片

Date: 11/11/2021
Outlet: Headline Daily
Headline: The Airport Authority cooperated with environmental groups to build oyster reefs at the northern vertical seawall near the third runway to enrich
biodiversity
機管局與環團合作 三跑海堤建蠔礁豐富生物多樣性
Link: https://hd.stheadline.com/news/realtime/hk/2274034/%E5%8D%B3%E6%99%82-%E6%B8%AF%E8%81%9E-%E6%A9%9F%E7%AE%A1%E5%B1%80%E8%88%87%E7%92%B0%E5%9C%98%E5%90%88%E4%BD%9C-%E4%B8%89%E8%B7%91%E6%B5%B7%E5%A0%A4%E5%BB%BA%E8%A0%94%E7%A4%81%E8%B1%90%E5%AF%8C%E7%94%9F%E7%89%A9%E5%A4%9A%E6%A8%A3%E6%80%A7

機管局與環團合作 三跑海堤建蠔礁豐富生物多樣性

2021-11-11 18:15 列印 文字大小

蠔殼接受天然風化，去除任何剩餘的有機物質。機管局圖片

機管局在採納了環境諮詢委員會及綠色團體等持分者意見後，進行一項為期一年的先導計劃，利用回收蠔殼、石灰岩及活蠔苗，在三跑道系統項目新建海堤上建造蠔礁，以提升機場附近水域的生物多樣性及漁業資源。

計劃由機管局、大自然保護協會及香港大學合作，研究團隊分別於流浮山養殖場、酒店、餐廳等地，收集舊蠔殼、青口和扇貝等500公斤外殼，其後於回收場分類及天然風化，去除任何剩餘的有機物質，以免在海中傳播病原或寄生蟲。

Date: 11/11/2021
Outlet: Bastille Post
Headline: The Airport Authority cooperated with environmental groups to build oyster reefs at the northern vertical seawall near the third runway to enrich
biodiversity
機管局與環團合作 三跑海堤建蠔礁豐富生物多樣性
Link: https://www.bastillepost.com/hongkong/article/9601102-%e6%a9%9f%e7%ae%a1%e5%b1%80%e8%88%87%e7%92%b0%e5%9c%98%e5%90%88%e4%bd%9c-%e4%b8%89%e8%b7%91%e6%b5%b7%e5%a0%a4%e5%bb%ba%e8%a0%94%e7%a4%81%e8%b1%90%e5%af%8c%e7%94%9f%e7%89%a9%e5%a4%9a%e6%a8%a3%e6%80%a7?current_cat=3

機管局與環團合作 三跑海堤建蠔礁豐富生物多樣性

2021年11月11日19:00 最後更新: 12月03日17:42

機管局在採納了環境諮詢委員會及綠色團體等持分者意見後，進行一項為期一年的先導計劃，利用回收蠔殼、石灰岩及活蠔苗，在三跑道系統項目新建海堤上建造蠔礁，以提升機場附近水域的生物多樣性及漁業資源。

https://youtu.be/3nHaYlbfaRM

Date: 11/11/2021
Outlet: Sky Post
Headline: The Airport Authority built artificial oyster reefs at the third runway, Hong Kong's giant oyster shell restoration showed great results
循環再生｜機管局第 3 跑建人工蠔礁　香港巨牡蠣殼修復成效最好
Link:
https://skypost.ulifestyle.com.hk/article/3104674/%E5%BE%AA%E7%92%B0%E5%86%8D%E7%94%9F%EF%BD%9C%E6%A9%9F%E7%AE%A1%E5%B1%80%E7%AC%AC3%E8%B7%91%E5%BB%BA%E4%BA%BA%E5%B7%A5%E8%A0%94%E7%A4%81%20%C2%A0%20%E9%A6%99%E6%B8%AF%E5%B7%A8%E7%89%A1%E8%A0%A3%E6%AE%BC%E4%BF%AE%E5%BE%A9%E6%88%90%E6%95%88%E6%9C%80%E5%A5%BD

循環再生｜機管局第3跑建人工蠔礁　香港巨牡蠣殼修復成效最好

時事

機場第三跑道將於明年啟用，機管局與大自然保護協會及港大合作，開展全港首個在人工海堤數設蠔礁的先導計劃，為期1年，將回收到的500公斤蠔殼，分批數設在三跑道系統北面海堤，現時已有不同海洋生物，如蟹、海星、蠔、青口、魚卵及魚類等依附於蠔礁繁殖棲息。

機管局及港大聯手

研究團隊將於滾浮山養殖場、酒店、餐廳等收集得來的500公斤舊蠔殼，以及青口及扇貝等外殼，進行分類及天然風化，去除任何剩餘的有機物質，以免在海中傳播病原或寄生蟲。潛水員分批敷設舊蠔殼在三跑道系統北面約600平方米海堤範圍，並移植約3,000隻活蠔苗。約2個月後，團隊抽取36個樣本作分析，初步發現蠔礁生長情況穩定，亦有不同海洋生物，如蟹、海星、蠔、青口、魚卵及魚類等依附於蠔礁繁殖棲息。

最新文章

網絡熱搜｜港人今年最愛Google消費券　登記「世一」登頭號榜首 MIRROR成熱搜名人

卡舒吉案｜沙特前王室侍衛被法官拘捕　涉記者卡舒吉3年前被殺案

Date: 11/11/2021
Outlet: Topick
Headline: The Airport Authority built oyster reefs on the northern vertical seawall near the third runway, hoping to reduce waste and preserve coastal
environment
【環保措施】機管局在三跑新建海堤上建造蠔礁　冀既可減廢亦可保育海岸環境
Link:
https://topick.hket.com/article/3104720/%E3%80%90%E7%92%B0%E4%BF%9D%E6%8E%AA%E6%96%BD%E3%80%91%E6%A9%9F%E7%AE%A1%E5%B1%80%E5%9C%A8%E4%B8%89%E8%B7%91%E6%96%B0%E5%BB%BA%E6%B5%B7%E5%A0%A4%E4%B8%8A%E5%BB%BA%E9%80%A0%E8%A0%94%E7%A4%81%E3%80%80%E5%86%80%E6%97%A2%E5%8F%AF%E6%B8%9B%E5%BB%A2%E4%BA%A6%E5%8F%AF%E4%BF%9D%E8%82%B2%E6%B5%B7%E5%B2%B8%E7%92%B0%E5%A2%83?mtc=20023


【環保措施】機管局在三跑新建海堤上建造蠔礁　冀既可減廢亦可保育海岸環境

社會 16:15 2021/11/11 讚好 0

關注文章 儲存文章 分享:

熱門 聖誕2021 梅艷芳 親太安樂窩 全民造星IV 校長專欄 炎明熹 兒童健康 MIRROR星踪 超市大搜查 新冠疫苗

▲ 三跑道新建海堤。（機管局提供）

機管局指採納了環境諮詢委員會及綠色團體等持分者意見，進行一項為期一年的先導計劃，利用回收蠔殼、石灰岩及活蠔苗在三跑道系統項目新建海堤上建造蠔礁，將於敷設蠔礁一年後總結成果，機管局會評估計劃成效。

有關計劃由機管局與大自然保護協會及香港大學合作。研究團隊分別於流浮山養殖場、酒店、餐廳等收集舊蠔殼、青口和扇貝等外殼，於回收場進行分類及天然風化，去除任何剩餘的有機物質，以免在海中傳播病原或寄生蟲。

研究團隊將利用回收的蠔殼作為基質，讓活蠔苗於其上依附成長，繁殖成蠔礁，提供棲息地予各類海洋生物繁殖生活。而在眾多貝類殼中，土生土長的香港巨牡蠣的蠔殼對修復蠔礁最有幫助。

Date: 11/12/2021
Outlet: Sky Post
Headline: The team recovered 500 kilograms of oyster shells by building an oyster reef at the northern vertical seawall near the third runway
三跑北海堤建蠔礁 團隊回收 500 公斤蠔殼
Link:
https://skypost.ulifestyle.com.hk/article/3105113/%E4%B8%89%E8%B7%91%E5%8C%97%E6%B5%B7%E5%A0%A4%E5%BB%BA%E8%A0%94%E7%A4%81%20%E5%9C%98%E9%9A%8A%E5%9B%9E%E6%94%B6500%E5%85%AC%E6%96%A4%E8%A0%94%E6%AE%BC

三跑北海堤建蠔礁 團隊回收500公斤蠔殼

港聞

發佈時間: 2021/11/12

機場第三跑道將於明年中啓用，機管局與大自然保護協會及港大合作，展開全港首個在人工海堤敷設蠔礁的先導計劃，從各個地方回收500公斤蠔殼、青口及扇貝等外殼，經清潔及風乾後，敷設在三跑道系統北面海堤，其中以本港巨牡蠣的蠔殼修復力最強，目前蠔礁生長穩定，更有不同海洋生物依附繁殖。

為提升機場附近水域的生物多樣性及漁業資源，機管局採納環諮會及綠色團體等持分者意見，利用回收蠔殼、石灰岩及活蠔苗，在三跑新建海堤上建造蠔礁，為期1年。研究團隊分別於流浮山養殖場、酒店、餐廳等收集舊蠔殼、青口及扇貝等外殼，在回收場進行分類及天然風化，去除剩餘有機物質，以免在海中傳播病原或寄生蟲。

供海洋生物繁殖棲息

今年6月，團隊將回收得來的500公斤蠔殼，由潛水員分批敷設在三跑道系統北面約600平方米海堤範圍，並移植約3,000隻活蠔苗，讓蠔苗於蠔殼上依附成長，繁殖成蠔礁，提供棲息地予各類海洋生物繁殖生活。在眾多貝類殼中，香港土生土長的巨牡蠣蠔殼，對修復蠔礁最有幫助。

移植約2個月後，團隊抽取36個樣本作分析，初步發現蠔礁生長情況穩定，不同海洋生物如蟹、海星、蠔、青口及魚類等依附於蠔礁繁殖棲息。

大自然保護協會（香港）高級環境保育經理湯詠霖解釋，香港本地物種的蠔，外殼大而厚，可更快重建複雜的礁類結構。港大理學院生物科學學院副教授Bayden Russell亦對蠔及貝類短時間內的繁殖量感驚訝，且發現其他海洋生物也開始在此棲息，包括魚類種群、產卵亦正增加。

記者：謝雅賓

美術：顏玉玲

Date: 01/26/2022
Outlet: HK01
Headline: Oyster farming | Combining scientific innovation and indigenous knowledge to help local oyster farmers overcome hardships: Mouth-watering dried
oyster and golden oyster harvested this year
養蠔｜科研結合傳統知識　助本地蠔民打破困境：今年蠔豉金蠔肥美
Link:
https://www.hk01.com/%E7%A4%BE%E5%8D%80%E5%B0%88%E9%A1%8C/726311/%E9%A4%8A%E8%A0%94-%E7%A7%91%E7%A0%94%E7%B5%90%E5%90%88%E5%82%B3%E7%B5%B1%E7%9F%A5%E8%AD%98-%E5%8A%A9%E6%9C%AC%E5%9C%B0%E8%A0%94%E6%B0%91%E6%89%93%E7%A0%B4%E5%9B%B0%E5%A2%83-%E4%BB%8A%E5%B9%B4%E8%A0%94%E8%B1%89%E9%87%91%E8%A0%94%E8%82%A5%E7%BE%8E

新年將至，各家各戶都開始購入應節食材，團年飯請求寓意，象徵「發財好市」的髮菜蠔豉可謂是過年必吃的菜式，但原來本地養蠔業正面對幾重困境，養蠔老字號陳祥記負責人祥嫂和她的女兒陳秀霞接受專訪時表示，隨着近年氣候變化無常，蠔類的收成也受到影響，蠔民亦作出相對應的措施，結果今年收割的蠔豉和金蠔十分肥美。蠔民靠海維生，近年為保育海洋生態與大自然保護協會（The Nature Conservancy, 下稱 TNC）合作，兩者結合知識來修復蠔礁以提升海洋生物多樣性。

環團助修復蠔礁　保持生態平衡

大眾市民一般對蠔類的印象大多圍繞在食用、買賣上，忽略了蠔類對海洋的眾多益處，大自然保護協會項目外展助理經理Anniqa表示，「養蠔如果有一個妥善嘅管理，喺可以對成個自然環境有修復性，因為佢有好多生態功能」，Anniqa解釋蠔為一種類食性動物，可透過食用水中過多的營養來避免滋生藻類誘發紅潮，從而避免海洋生物缺氧而死，除了可平衡水質外，修復蠔礁對生物多樣性、魚獲及擋浪均有正面作用，她舉例指如果同一片海域中有太多蠔便會出現僧多粥少的情況，整個海灣的蠔都會因搶食而變瘦，或需要更長時間才會生長至一個合適的肥度，因此要留意蠔排的密度與數量。

從酒店餐廳回收貝類殼　蠔民借地支持

有見及此，TNC將推行一項名為「『殼』海無涯」的項目，TNC會從本港的酒店及餐廳收集被丟棄的貝類殼，進行回收並重建成新的活蠔礁，這些蠔礁有多種益處，例如為幼魚及其他海洋生物提供棲息地，另作為天然的海水過濾器，可有效改善本地水質及穩定海岸線，蠔殼也可化身為蠔排的肥料。

Anniqa表示，蠔民依賴海洋資源維生，在保育上也不遺餘力，過去一直運用養蠔的傳統知識令蠔類得以在香港存活，協會得以成功推行計劃，有賴一眾蠔民的鼎力支持，早在4至5年前開始做蠔礁修復的行動時，當時大家對養蠔的認識不深，項目很快便遇上樽頸位，與蠔民溝通後他們十分讚成為海洋、蠔類做一些保育工作，因此借出了以前用來種蠔的一個地方讓他們作試點，令他們快速可以收集更多數據來修復蠔礁。兩者合作互惠互利，TNC從科研的角度分析蠔類生長，例如計算海灣的承載力可以容納多少隻蠔，蠔民便可以依日後的數據來安排投資多寡，在維持健康海洋生態下，「養最肥美嘅蠔，達至最高嘅經濟效益。」

Date: 02/28/2022

Outlet: Headline Daily
Headline: The Airport Authority helps improve marine resources 機管局助提升海洋資源
Link: https://hd.stheadline.com/news/columns/504/20220228/972902/%E5%B0%88%E6%AC%84-%E6%9C%88%E7%90%86%E8%90%AC%E6%A9%9F-%E6%A9%9F%E7%AE%A1%E5%B1%80%E5%8A%A9%E6%8F%90%E5%8D%87%E6%B5%B7%E6%B4%8B%E8%B3%87%E6%BA%90-%E6%9C%88%E7%90%86%E8%90%AC%E6%A9%9F

月理萬機｜機管局助提升海洋資源 - 月理萬機

月理萬機 - 月理萬機 2022-02-28 列印 文字大小

1/1 ■機管局正積極實行「改善海洋生態及漁業提升策略」，當中包括在機場西面水域進行「敷設人工魚礁先導計劃」，共敷設100座模擬天然珊瑚礁的人工魚礁。

香港機場管理局正積極實行「改善海洋生態及漁業提升策略」，其中包括近期推行敷設人工魚礁和蠔礁先導計劃，藉此提升香港國際機場附近水域的生物多樣性及漁業資源。

敷設人工魚礁和蠔礁

研究團隊在機場西面水域進行「敷設人工魚礁先導計劃」，共敷設100座模擬天然珊瑚礁的人工魚礁。這些表面粗糙的魚礁，可吸引更多海洋生物依附生長，其放置位置亦經過精心規劃，考慮了水流、海牀環境及惡劣天氣下的穩定性等，能為多種海洋生物提供棲息地。

我們亦與大自然保護協會及香港大學合作推行「蠔礁敷設先導計劃」。研究團隊利用石灰岩及回收的蠔殼作為基質，並移植約3000隻活蠔苗，敷設在三跑道系統項目新建的海堤範圍，讓活蠔苗依附成長，繁殖成蠔礁，提供棲息地予各類海洋生物繁殖生活。在敷設蠔礁約兩個月後，團隊觀察到蠔礁生長情況穩定，並發現有蟹、海星及魚類等附於蠔礁繁殖棲息。

機管局會持續監察研究，評估這兩個項目的成果。從項目收集所得的相關數據及經驗，有助我們評估在未來北大嶼海岸公園或其附近水域敷設人工魚礁或蠔礁的可行性。

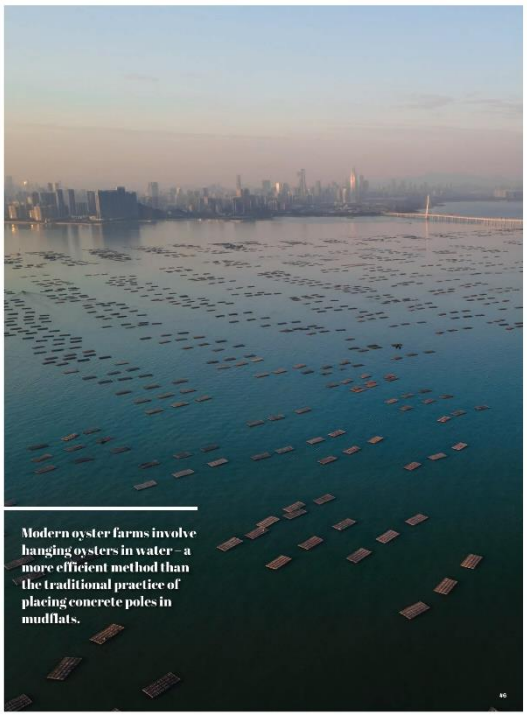
隨着三跑道系統項目的海事工程陸續竣工，我們會繼續履行在可持續發展方面的承諾，提升大嶼山水域的海洋生態及促進漁業資源。

香港機場管理局可持續發展總經理李仲騰

Date: March 2022
Outlet: Hong Kong Echo by French Chamber Hong Kong
Headline: The Oyster Odyssey
Link: https://en.calameo.com/read/004601149aba0a0f5fc5c?page=23

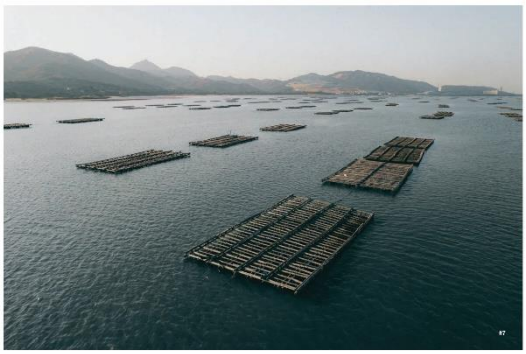
In the mud flats of Deep Bay, near Yuen Long, The Nature Conservancy Hong Kong works with the University of Hong Kong to build pilot oyster reefs and study the biodiversity of the local marine habitat.

#5



Modern oyster farms involve hanging oysters in water – a more efficient method than the traditional practice of placing concrete poles in mudflats.

#6



#7

Discarded shells from the aquaculture and restaurant industry are recycled to create the foundations of new natural reefs.

#8

Date: 25 Apr 2022

Outlet: Hong Kong Economic Times

Headline: 香港東隅積極推動實施 可持續發展概念

Link: https://ps.hket.com/article/3237366/%E9%A6%99%E6%B8%AF%E6%9D%B1%E9%9A%85%E7%A9%8D%E6%A5%B5%E6%8E%A8%E5%8B%95%E5%AF%A6%E6%96%BD%20%E5%8F%AF%E6%8C%81%E7%BA%8C%E7%99%BC%E5%B1%95%E6%A6%82%E5%BF%B5?mtc=60082

Date: 30/4/2022

Outlet: RTHK 31 大自然逐樣解

Headline: 蠔的價值

Link: 香港電台網站 : 電視|大自然逐樣解|蠔的價值 RTHK: TV | Biodiversity in Magazine | The Value of Oysters

Date: 17/6/2022

Outlet: Homemory

Headline: 默默修復蠔礁 義工盼還海潔淨

Link: http://homemory.hk/%E6%96%B0%E7%95%8C%E4%BA%BA%E5%AE%B6/1732

Date: 23 May 2022

Headline: 興建天然海水過濾器

Outlet: CIBS 節目：山野事務所 (Office of Nature)

Link: https://www.rthk.hk/radio/pth/programme/p1332_office_of_nature/episode/805258

Declaration

I hereby irrevocably declare to the MEEF Management Committee and the Steering Committee of the relevant Funds including the Top-up Fund, that all the dataset and information included in the completion report has been properly referenced, and necessary authorisation has been obtained in respect of information owned by third parties.

I hereby irrevocably declare, warrant and undertake to the MEEF Management Committee and the Steering Committee of the relevant Funds including the Top-up Fund, that I myself, and the Organisation:-

1. do not deal with, and are not in any way associated with, any country or organisation or activity which is or may potentially be relevant to, or targeted by, sanctions administered by the United Nations Security Council, the European Union, Her Majesty's Treasury-United Kingdom, the United States Department of the Treasury's Office of Foreign Assets Control, or the Hong Kong Monetary Authority, or any sanctions law applicable;

2. have not used any money obtained from the Marine Ecology Enhancement Fund or the related Top-up Fund (and any derived surplus), in any unlawful manner, whether involving bribery, money-laundering, terrorism or infringement of any international or local law; and

3. have used the funds received (and any derived surplus) solely for the studies or projects which further the MEEF Objectives and have not distributed any portion of such funds (including any derived surplus) to members of the Recipient Organisation or the public.

_____

Signed by authorised representative as the duly authorised representative

For and on behalf of the Applicant Organisation

Name of authorised representative: Anniqa Law

Date: 5 August, 2022 Official Chop:

Any opinions, findings, conclusions or recommendations expressed in this report do not necessarily reflect the views of the Marine Ecology Enhancement Fund or the Trustee.