

For discussion
on 22 May 2017

**LEGISLATIVE COUNCIL
PANEL ON ENVIRONMENTAL AFFAIRS**

Tackling Marine Refuse

PURPOSE

This paper briefs Members on the progress of the Government's efforts in tackling marine refuse over the past two years and the way forward.

BACKGROUND

2. To co-ordinate and enhance efforts among the relevant government departments in tackling the marine refuse problem, the Government set up an Inter-departmental Working Group on Clean Shorelines (the Working Group) in November 2012. In 2013-14, the Environmental Protection Department (EPD) conducted a Marine Refuse Study (the Study) to investigate the sources, distribution and movement of marine refuse, and to suggest measures to further improve the cleanliness of our waters and shorelines. Findings of the Study were released and uploaded to the thematic website¹ named "Clean Shorelines" in April 2015. The Panel on Environmental Affairs of the Legislative Council was briefed in June 2015 on the Study's key findings and recommendations, with details set out in LC Paper No. CB(1)995/14-15(04).

IMPLEMENTATION PROGRESS OF IMPROVEMENT MEASURES

3. Having considered the recommendations made under the Study, member departments under the Working Group have been taking forward a series of specific actions since April 2015. They include enhancing efforts to remove refuse from the marine environment; providing support measures and facilities to reduce the amount of refuse entering the marine environment; launching publicity and educational campaigns; and conducting regulatory and enforcement actions. The progress of these efforts is summarised below.

¹ The dedicated website "Clean Shorelines" can be accessed at: http://www.epd.gov.hk/epd/clean_shorelines/

Enhanced Cleaning Efforts

4. For the removal of marine refuse, the Marine Department (MD), the Agriculture, Fisheries and Conservation Department (AFCD), the Food and Environmental Hygiene Department (FEHD) and the Leisure and Cultural Services Department (LCSD) continue collecting and cleaning up marine refuse (including floating refuse and shoreline refuse washed ashore) under their respective purviews. These departments have allocated additional resources to enhance their cleaning efforts, which included strategically increasing the cleaning frequencies at 27 priority sites², and arranging for more frequent clean-up operations during summers as recommended in the report of the Study. As indicated by the results of the 252 site inspections undertaken by the EPD at the 27 priority sites in the past two years, as at end of March this year, the average cleanliness gradings for 3 sites were Level 1 - Clean³, while the cleanliness conditions of 21 sites were at Level 2 - Satisfactory or Level 3 - Fair. Notwithstanding that two sites were graded Level 4 - Unsatisfactory and one site graded Level 5 - Poor, the measures implemented and the enhanced cleaning efforts had generally delivering positive results. We will continue to improve the cleaning capacity.

5. Apart from increasing the cleaning frequencies, the relevant departments have also increased their equipment and manpower to improve the cleaning capacity. Since the summer of 2016, the MD has deployed an additional refuse scavenging vessel fitted with motor scooper for its enhanced patrols and cleaning services in the coastal waters of the Southern District and Islands District. The MD has also engaged helicopters in its monthly aerial monitoring of the latest situations of the sea surface with a view to re-deploying resources for efficient cleaning up of marine refuse. The FEHD deployed additional cleansing

² The 27 priority sites are: along Tsuen Wan Bay and Tsing Yi northshore; Ap Lei Chau/Ap Lei Pai; beach behind Ocean Park, below Dolphin University; Cape D' Aguilar, beach next to the Swire Institute of Marine Science; Fan Lau, Lantau Island; Lap Sap Wan, Shek O; Lung Kwu Tan; Nam Wai (near Au Tsai Tsuen); Ngau Kwu Wan, Chi Ma Wan, Lantau Island; Nim Shue Wan, Discovery Bay, Lantau Island; Rocky Bay Beach (ungazetted area); Sam Mun Tsai/Yim Tin Tsai; Sam Pak Wan, Discovery Bay, Lantau Island; Sha Chau and Lung Kwu Chau Marine Park; Sha Ha, Sai Kung; Sha Lan Beach; Shek Pai Wan, Lamma Island; Shek Tsai Po, Tai O (stilted house areas); Shui Hau Mangrove; Sok Kwu Wan, Lamma Island; Tai Wan To Beach; unallocated coastal area near Gemini Beaches; ungazetted beach (near Shan Liu Road) of Ting Kok Road; Wu Kai Sai, Shatin; Hoi Mei Wan Beach, Tsuen Wan; Hung Shing Yeh Beach, Lamma Island; and Pui O Beach, Lantau Island.

³ The five-level Shoreline Cleanliness Gradings are: 1 - Clean; 2 - Satisfactory; 3 - Fair; 4 - Unsatisfactory; and 5 - Poor.

manpower for swift clean-up operations at affected locations in July 2016. Depending on actual situations such as after typhoons and when there is a sudden surge of floating refuse, the LCSD arranges for its contractor to clear refuse attached on marker buoys, shark prevention nets and their floating pipes at beaches in addition to the daily cleansing work, as well as its mobile cleansing team to assist in the cleansing work at the gazetted beaches. The AFCD arranges for its contractor to deploy small boats to assist in cleaning up refuse at marine parks and marine reserve. Marine refuse collected by the above-mentioned departments amounted to 15 510 tonnes and 16 484 tonnes in 2015 and 2016 respectively.

Providing Support and Facilities to Reduce the Amount of Refuse Entering the Sea

6. In addition to enhancing cleaning efforts, the relevant government departments also offer other support and facilities to reduce the amount of refuse entering the sea. Waste recycling bins are provided at various coastal areas including piers and promenades to promote waste recycling and raise public awareness of waste separation and recycling. Apart from placing 72 sets of waste recycling bins at 40 gazetted beaches for use by swimmers, the LCSD has also provided 182 drinking fountains at locations such as beaches, water sports centres, promenades and waterfront parks to encourage members of the public to bring their own reusable water bottles to avoid purchasing and consuming one-off plastic-bottled beverages, thereby lowering the chance of waste plastics entering the sea.

7. To assess the situation of land-based refuse entering the sea via storm water drains, the Drainage Services Department (DSD) installed floating booms at the outfalls of several large-scale drainage channels on Hong Kong Island and in Kowloon (e.g. Hong Kong West Drainage Tunnel, Lai Chi Kok Drainage Tunnel and Cherry Street Box Culvert) to try trapping refuse. Noting that minimal debris had been collected by floating booms during the trials, the DSD would gradually discontinue the installation of floating booms at the aforesaid areas. Given the situation in different districts may vary, the DSD would continue to identify appropriate large-scale drainage channels for trial installation of floating booms to test their effectiveness in intercepting refuse subject to the needs of individual districts (e.g. near the Aberdeen Typhoon Shelter (ATS)).

8. To reduce the possibility of foam boxes and other refuse falling into the waters of the ATS due to the operations of the Aberdeen Wholesale Fish Market (AFM), the AFCD and the Fish Marketing Organisation (FMO), which operates

the AFM, have implemented a number of improvement measures since July 2016 from the perspectives of controlling waste at source and preventing refuse from falling into the ATS. Measures included urging the fish traders and other market users to fasten their foam boxes properly by ropes or nets, increasing the foam box collection points and refuse collection bins inside the market, and fitting the railings along the promenade with mesh to prevent refuse from blowing off the sea, etc.. Market staff has also stepped up inspections and cleaning efforts along the seafront and over the landing steps, and removed floating refuse at sea. In addition, FMO has collaborated with a recycler in turning abandoned foam boxes into reusable material on a trial basis. Such improvement measures are gradually delivering results. FMO is also planning to provide a foam box compactor to enhance the recycling rate of used foam boxes.

9. Moreover, the relevant departments will provide support for various community groups to organise shorelines clean-up activities, such as sending representatives to explain the causes of and solutions to marine refuse, providing tools and resources for clean-up activities, and assisting in the transportation and disposal of the refuse collected in the clean-up activities.

Launching Publicity and Educational Campaigns

10. In addition to co-ordinating cleaning efforts among the departments, the EPD has also endeavoured to conduct publicity and educational activities to enhance public awareness of keeping the shorelines clean. The EPD has been working on, among others, producing announcements of public interest and organising various campaigns such as shorelines clean-up activities, roving exhibitions and design competitions, etc. with a view to encouraging members of the public to change their habits. A total of 17 shorelines clean-up activities were organised in conjunction with non-governmental organisations or community groups between April 2015 and March 2017. The EPD introduced the “Marine Conservation, Cleaner and Greener Shorelines” in collaboration with the Environmental Campaign Committee (ECC) under the Student Environmental Protection Ambassador (SEPA) Scheme to educate our younger generations on keeping our shorelines clean. The programme has attracted the participation of 64 schools and more than 500 students over the past two school years. On the other hand, publicity and educational activities organised by other government departments are set out at Annex. For instance, the AFCD took the opportunity to promulgate the messages of “Take Your Litter Home” and “Leave No Trace” in its various events for celebrating the 40th anniversary of country parks. The FEHD

broadcast TV and radio announcements of public interest on “Keep Hong Kong Clean We Can Do It!” to promote waste reduction thereby lowering the chance of refuse entering the sea.

Conducting Regulatory and Enforcement Actions

11. Marine littering control is mainly enforced by the MD, AFCD, FEHD and LCSD under the relevant legislation. The enforcement departments have stepped up patrols and conducted special inspections at black spots such as promenades, wholesale fish markets and typhoon shelters to take enforcement actions under which fixed penalty notices are issued. The MD has also arranged for conducting special operations at odd hours in early mornings and late evenings to target marine activities that took place during different hours of the day. Figures on the relevant prosecutions taken in recent years are tabulated below.

Enforcement actions for marine littering control

| | Number of Cases | | |
|-------------------------|-----------------|------|------|
| | 2014 | 2015 | 2016 |
| AFCD⁺ | 1 | 0 | 0 |
| FEHD | 6 | 2 | 3 |
| MD | 11 | 15 | 15 |
| LCSD | 0 | 0 | 0 |

Note: ⁺ The figures relate only to those taken in marine parks and marine reserve in Hong Kong.

12. The MD has conducted enforcement operations against marine littering at the ATS promenade from time to time and joint enforcement operations with the AFCD at the AFM. The FMO has also stepped up its patrols at the AFM and implemented punitive measures. Market users found littering the AFM or the sea were prohibited from entering the AFM. FMO also took actions under the de-merit point system against those seafood stall operators breaching their licence conditions and operations of those who breached their licence conditions repeatedly were suspended temporarily. As at 1 May 2017, the FMO has issued 37 verbal warnings and 33 written warnings; taken 21 actions under the de-merit point system and 22 actions of prohibiting individuals from entering the AFM.

REGIONAL CO-OPERATION

13. Hong Kong and Guangdong set up the Hong Kong-Guangdong Marine Environmental Management Special Panel (the Special Panel) under the framework of the Hong Kong-Guangdong Joint Working Group on Sustainable Development and Environmental Protection in October 2016 to enhance exchange and communication on various regional marine environmental matters. These include, among other things, setting up a notification and alert system on marine refuse issues, performing real-time monitoring of the rainfall data in Pearl River catchment and combating illegal marine dumping activities, etc.. The EPD immediately began to develop the notification and alert system on marine refuse in November 2016. The information allows relevant departments to make staff deployment in advance to clean up marine refuse. The EPD is conducting final testing of the system.

14. After a series of preparatory work, Hong Kong and Guangdong held the first meeting of the Special Panel in April 2017. The Hong Kong side reported on the efforts of the relevant departments in tackling marine refuse and the progress of the development of the notification and alert system. The Guangdong side advised that all municipalities in Guangdong Province and the relevant government departments have stepped up efforts to address the marine refuse problem. These included enhancing efforts to co-ordinate communication among the departments, conducting inter-departmental joint inspections at sea and centralised clean-up operations to avoid secondary pollution, and imposing strict penalties on illegal acts, etc.. Since Guangdong authorities commenced activities in combating marine refuse, six cases on illegal marine dumping by operation vessels were caught, eight prosecution cases on environmental pollution were established, over 30 suspects were identified and over 2 200 tonnes of refuse were disposed of. The illegal marine dumping had been brought under control. Both sides will continue to work together under the notification mechanism to enhance the mutual responsiveness to the issue.

WAY FORWARD

15. The government departments concerned will continue to implement various improvement measures and further the co-operation with non-governmental organisations or community and environmental groups to raise the public awareness, and promote collaboration with private sectors to keep the

shorelines clean. The EPD will also continue to enhance exchange and communication with the relevant Mainland authorities on various regional marine environmental matters through the Special Panel. Under the theme of “Protect our coast Leave no trace”, the Working Group will continue to launch a variety of publicity and educational activities such as shorelines clean-up day, underwater clean-up events, as well as school and public talks. Besides, the EPD will continue to promote “Marine Conservation, Cleaner and Greener Shorelines” and develop teaching materials with the ECC to enhance awareness of keeping the shorelines clean among the younger generation. The EPD will allocate \$10 million from the Environment and Conservation Fund for non-profit-making organisations to organise environmental education and community engagement projects for facilitating education and publicity activities, surveys and researches, innovative ideas and pilot schemes on cleaning shorelines.

Reviewing the List of Priority Sites

16. In view of the significant improvements in cleanliness conditions in some of the priority sites mentioned in paragraph 4 above in the past two years, the EPD has commenced a review and analysis on the past two years’ data on various coastal areas since April 2017 with a view to conducting a comprehensive assessment of the marine refuse sites in various districts and their priorities. A new list of priority sites is anticipated to be available by July this year to better redeploy resources for enhanced cleaning efforts.

ADVICE SOUGHT

17. Members are invited to note the progress of the government’s efforts in tackling marine refuse and comment on the way forward.

Environmental Protection Department
May 2017

**List of Publicity/Education Activities
Organised by Departments under the Working Group
in 2015 and 2016**

| Department | Key Actions |
|---|---|
| Environmental Protection Department (EPD) | <ul style="list-style-type: none"> • Arranged 17 Shorelines Clean-up activities by partnering with NGOs/community groups with assistance from relevant departments. • Broadcast TV and radio APIs on “Protect our coast Leave no trace”. • Organised a poster design competition with the theme “Protect our coast Leave no trace” in schools with nearly 200 entries from 29 schools being received in total. The award presentation ceremony was held in July 2016. • Organised roving exhibitions in 18 districts to share the clean shorelines message and the findings of the Marine Refuse Study. • Organised the “Marine Conservation, Greener and Cleaner Shorelines Programme” under the Environmental Campaign Committee’s Student Environmental Protection Ambassador Scheme. • Co-ordinated the participation of member departments of the Working Group in the annual International Coastal Clean-up events. |
| Agriculture, Fisheries and Conservation Department (AFCD) | <ul style="list-style-type: none"> • Arranged Country Parks Nature Ambassadors to deliver green tips to hikers and promote “Bring Your Own Water Bottle” Reward Scheme in hiking trails, picnic sites and barbecue sites in country parks on Saturdays, Sundays and public holidays (until 31 December 2017). • Jointly organised seabed clean-up campaigns with the Hong Kong Underwater Association at Sharp Island on International Coastal Clean-up Day in 2015 and 2016 to spread the message of protecting our marine environment and marine conservation. • Jointly organised “The Ocean’s New Clothes” T-shirt Graphic Design Competition 2016 with Hong Kong Society for |

| Department | Key Actions |
|-------------------|--|
| | <p>Education in Art and the Education University of Hong Kong to promote the message of protecting our marine environment and keeping it clean.</p> <ul style="list-style-type: none"> • Liaised with the Fish Marketing Organisation (FMO) and Vegetable Marketing Organisation to put up posters and distribute notices to disseminate the message on keeping the markets clean. The FMO has also arranged regular “Market Clean Day” in each wholesale fish market. • Solicited support from major seafood and fish traders associations with the FMO in keeping the cleanliness of the Aberdeen Wholesale Fish Market. Collaborated with other departments such as FEHD and MD to distribute leaflets to market users and road users at the Aberdeen Wholesale Fish Market to promote sea surface, market and road cleanliness. • Emphasised messages on clean shorelines, anti-littering and penalty for marine littering in their regular seminars/talks with fisherman groups near Chinese New Year and before the fish moratorium period together with the MD; and conducted visits to fish culture zones. • Worked together with local green groups and hiking groups to launch a publicity campaign on the theme of “Take Your Litter Home” with effect from September 2015 to promulgate waste reduction and encourage the public to nurture a good habit of taking litter away from country parks after hiking. • Organised public lecture on “Leave No Trace” to enhance public awareness of the importance of waste reduction and environmental protection. |

| Department | Key Actions |
|--|---|
| Food and Environmental Hygiene Department (FEHD) | <ul style="list-style-type: none"> • Broadcast TV and radio APIs on “Keep Hong Kong Clean We Can Do It!”. • Distributed posters and leaflets on “Littering Fixed Penalty” to government departments, schools and residential associations. • Conducted school and public talks and activities with keep clean messages through the Health Education Exhibition and Resource Centre. • Supported the monthly clean-up events organised by the EPD at the priority sites in collaboration with the community groups. |
| Leisure and Cultural Services Department (LCSD) | <ul style="list-style-type: none"> • Promoted clean shorelines messages at the annual sand sculpture competition and beach carnival. • Displayed more posters and notices to educate visitors not to smoke in non-smoking areas at gazetted beaches. |
| Marine Department (MD) | <ul style="list-style-type: none"> • Provided garbage bags printed with telephone numbers calling for domestic refuse collection services to vessels in typhoon shelters. • Emphasised messages on clean shorelines, anti-littering and penalty for marine littering in their regular meetings with fisherman groups near Chinese New Year and before the fish moratorium period. • Conducted visits to typhoon shelters, wholesale fish markets, mariculture zones, marinas, piers, marine work sites, etc., to ensure that proper refuse-handling arrangements were in place and no marine littering. • Produced specific leaflets for distribution to the public to explain to them the key information required when reporting illegal marine littering from vessels to facilitate follow-up investigation. |
| All | <ul style="list-style-type: none"> • Displayed signage/posters/stickers to encourage the public to report marine littering/refuse pollution via the 1823 hotline service. |