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Phase II of the “Systematic Pipefish and Seahorse Survey”

Between July and December 2011, the Ecological Education and Resource Centre and Green Power cooperated in conducting Hong Kong’s first systematic study on the population and distribution of pipefish and seahorses. This showed that the waters near the Tung Chung River estuary, Lantau, and Tap Mun, Sai Kung, are the main breeding locations for pipefish and seahorses in Hong Kong. To gain a further understanding of the distribution of pipefish and seahorses in Hong Kong waters, the Ecological Education and Resource Centre and Green Power conducted Phase II of the Systematic Pipefish and Seahorse Survey, which lasted for 18 months between March 2012 and October 2013. The study covered 33 locations in Eastern and Western Hong Kong to locate pipefish and seahorses. This study further confirms that waters near estuaries are important breeding sites for pipefish and seahorses.

Based on information from the Agriculture, Fisheries and Conservation Department, there are 9 species of pipefish and 3 species of seahorse in Hong Kong waters, but there is no data on their populations and distributions. Pipefish and seahorses swim rather slow and rely on shallow waters to breed, so can be readily affected by human activity. Meanwhile, pipefish and seahorse face the problem of over-catching for medicinal and aquarium purposes. Presently, all trading activities for live seahorse are under the regulation of the "Convention on International Trade in Endangered Species of Wild Fauna and Flora" (CITES), yet there are no regulations that protect local seahorse and pipefish in Hong Kong.

Compared with data from Phase I of the survey, which in eastern Hong Kong concentrated on Tolo Harbour, the study area of the latest survey was expanded to cover the eastern waters of Hong Kong. The study area was divided into east and west. The waters in the east were further subdivided into 3 areas: Port Shelter, Tolo Harbour and Tolo Channel, and Mirs Bay. The western waters were mainly the coastal areas of Lantau. In the past 18 months, a total of 36 surveys were conducted. Of these, 24 of these surveys were conducted during daytime, while 12 of the surveys were conducted during nighttime. The findings are as follows:

- In the waters near Port Shelter, between Sharp Island, Kau Sai Chau, the coast of The Hong Kong University of Science & Technology, Pak Ma Tsui and Little Palm Beach, there were isolated sightings of Spotted Seahorse (*Hippocampus kuda*). All of these Spotted Seahorses occurred individually.
- There have been records of the Spotted Seahorse in Tolo Harbour and Tolo Channel: at Lung Mei, Yeung Chau, Three Fathoms Cove, Lo Fu Wat, Fung Wong Wat, Hoi Ha Wan and Tap Mun; with the most records at Lung Mei, Lo Fu Wat, Hoi Ha Wan and Tap Mun. There were records from these locations in more than half the surveys conducted. The Spotted Seahorses

ranged from 8cm to 23 cm in length. These discoveries included young and mature seahorses, which suggests that Tolo Harbour and Tolo Channel are important breeding locations for the Spotted Seahorse.

- In Mirs Bay, Spotted Seahorses were recorded at Ngo Mei Chau, Kat O and Tung Ping Chau. There were also the first records for the Seaweed Pipefish (*Syngnathus schlegeli*) at Kat O.
- Along the coast of Lantau, there were records of Seaweed Pipefish at Tung Chung Bay, Hau Hok Wan, Sha Lo Wan and Shui Hau. The second survey produced the first records of this species at Hau Hok Wan and Shui Hau. Young pipefish were discovered in Tung Chung Bay and Hau Hok Wan, there were young Pipefish discovered, proving that these are important breeding sites for Seaweed Pipefish.

In summary, compared to the phase I of the survey, which in eastern Hong Kong focused on Tolo Harbour, Phase II confirmed that the seahorses are widely distributed in eastern waters of Hong Kong. This further confirms that Tolo Harbour and Tolo Channel area is an important breeding location for Spotted Seahorse. The study also showed that pipefish and seahorses are found in shallow waters, less than 7m deep. They occur at sites where the seabed is naturally less disturbed with a substrate of sand, mud, rock or coral, and with water quality little affected by urban water pollution. During the survey, it was discovered that seahorses not only favour areas with or near coral, but also occur near an inflow of freshwater. Examples are Lung Mei, Lo Fu Wat, Hoi Ha Wan, Kat O and Tap Mun, with the most consistent seahorse records. Tung Chung Bay, Hau Hok Wan and Shui Hau are all breeding locations for the Seaweed Pipefish; here too there are inflows of freshwater. This proves that estuaries are important habitats for both pipefish and seahorses.

Compared with other countries such as the Philippines, the density of seahorses in Hong Kong is comparatively low. This may be due to regional differences, but may also reflect the impacts of human activity on the habitats and numbers of seahorse in Hong Kong. Pipefish and seahorses are very sensitive to environmental pollution and changes, which is why they are often used as indicator species. The presence of seahorses and pipefish also reflects habitat integrity, and in the Phase II of the survey, the records showed they occurred alongside a variety of fish and crustaceans. During the studies, we were also noticed development pressures on various survey locations. To protect the important habitats of seahorses and pipefish, we suggest a reduction in the destruction of the natural coastline and land reclamation. Further, we should protect our invaluable marine life by strengthening the conservation of rivers in Hong Kong.

Remark:

This is a joint press release issued by Green Power and the Eco-Education & Resources Centre.