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Press Release

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Butterflies Abound at Lung Kwu Tan, a Potential Reclamation Site
10 Primary Schools Launch STEM x Butterfly Gardens

Shell Nature Watch – Butterfly Explorer, a partnership between **Green Power** and **Shell Hong Kong,** organized the **Butterfly x STEM Exhibition** in Kowloon Park Piazza today. The latest findings of the Butterfly Survey at Lung Kwu Tan were also announced on the occassion. Earlier, Green Power conducted butterfly surveys at Lung Kwu Tan. A total of 68 species of butterflies were recorded, which accounted for approximately 30% of the total in Hong Kong. Among these species were 1 very rare and 3 rare species, including Tiny Glass Blue (*Zizula hyrax*) and Magpie Flat (*Abraximorpha davidii*). The survey route covers a distance of 4.5 km, from Pak Long to Nam Long to Lung Tsai, spanning the whole of Lung Kwu Tan Village.

Lung Kwu Tan is one of the most important butterfly hotspots in the west New Territories. Green Power started its butterfly surveys here as early as in 2004. From 2004 to 2007, a total of 128 species were recorded, including 4 very rare and 12 rare buttery species.

Matthew Sin, Senior Environmental Affairs Manager of Green Power, remarked that Orange Emigrant (*Catopsilia scylla*) was recorded in Hong Kong for the first time in 2004 and was never spotted again; and that Redspot Sawtooth (*Prioneris philonome*) observed in 2006 was a very rare species only found at Lung Kwu Tan and a small number of other places in Hong Kong, but was hardly ever spotted in recent years.

Mr. Sin commented that in the past decade, there have been many large-scale infrastructure construction projects near Lung Kwu Tan. These include: the Tuen Mun - Chek Lap Kok Link that connects the Boundary Crossing Facilities of Hong Kong-Zhuhai-Macao Bridge, which is expected to be in use this year; the West New Territories (WENT) Landfill Extension at Nim Wan; and the forthcoming construction of crematoria and columbaria at Tsang Tsui. In the Cumulative Environmental Impact Assessment Study released by the Civil Engineering and Development Department in 2015, it was stated that the burden of environmental pollution at Tuen Mun District and Lung Kwu Tan would increase significantly.

In April this year, the Task Force on Land Supply commenced the public engagement exercise commonly known as “Land Debate” on land supply. Among the proposed medium-to-long term land supply options is near-coast reclamation. Of the 5 potential reclamation sites, Lung Kwu Tan is the largest and is expected to provide 220 to 250 hectares of developable land, equivalent to a third of the Yau Tsim Mong District in area.

Mr. Sin stressed that reclamation at Lung Kwu Tan would not only impact the celebrated Chinese White Dolphins; the impact on the local butterflies should not be underestimated. The shortlisted reclamation site is less than 50 metres away from butterfly habitats. Worse still, the proposal by the government is to turn the reclamation site into an industrial area. The increase in traffic and industrial activities would definitely worsen the environment. “Past experience has shown us that whenever industrial activities increase in a rural area, abandoned farmlands in the nearby villages would soon be transformed into environmentally damaging facilities such as container yards, depots and recycling yards.” Mr. Sin remarked that presently there are still plenty of shrubs and abandoned agricultural lands at Lung Kwu Tan where butterflies feed and breed. It is also the main habitat of the rare Red Lacewing (*Cethosia biblis*) butterflies. The reclamation would greatly threaten the local ecosystem.

Mr. Sin criticised the government for only focusing on development while neglecting conservation, which has resulted in development and conservation conflicting with each other more than necessary. For instance, since the monitoring of butterflies at Lung Kwu Tan started in 2004, numerous environmentally damaging activities have taken place, such as rubble tipping, building of golf courses and kart tracks. The Planning Department has so far failed to make any statuary plans for these lands to stop development activities that are not in harmony with the rural environment from the aspect of land use, thereby allowing the environment to be damaged ad infinitum. When the various infrastructure projects near Lung Kwu Tan are completed, or if the reclamation goes ahead, the environment will only “get worse until it is utterly damaged.”

Mr. Sin called on the government to show its determination in conservation by taking care of sensitive ecosystems in the area during development projects. In the case of Lung Kwu Tan, the Development Permission Area Plans complying with conservation principles should be issued as soon as possible. These plans should be made with consideration of declaring the remaining butterfly habitats in the area as Conservation Area or incorporate other environmentally sound land plans. In addition, he suggested expanding the existing Site of Special Scientific Interest (SSSI) at Lung Kwu Tan Valley to Lung Kwu Tan Village area, protecting the butterfly ecosystems with legislation and in the long term.

Mr. Sin remarked that from now on about 30 Butterfly Surveyors will regularly carry out the butterfly surveys at Lung Kwu Tan, in order to collect more data to lobby for stronger conservation efforts in the area.

Butterfly x STEM Exhibition showcased learning experience in 10 primary schools

Guests presenting at the event included Mr. Wong Kam-sing, G.B.S., J.P., the Secretary for the Environment, Mr. Daniel Ng, Director of Shell Hong Kong Limited, Dr. Eric Tsang, Chairman of Green Power and Butterfly Ambassadors artists Stephy Tang and Neo Yau.

"Shell Nature Watch – Butterfly Explorer has stepped into the 15th year. We are happy that the butterfly conservation programme has received wide support and recognition from the community. This year, we incorporate the elements of STEM education, which is a worldwide trend that equip students to face up to global changes and challenges. With butterfly as the theme of STEM studies, and through cross-disciplinary and multiple approaches of learning experiences, students are inspired to care for butterflies in Hong Kong." Mr. Daniel Ng said in the opening.

Mr. Wong Kam-sing, G.B.S., J.P., remarked, "Hong Kong is prized for its rich biodiversity on its small area. The government has been pushing for stronger protective measures of the ecology. The first city-level Biodiversity Strategy and Action Plan has been published in recent years. The Hong Kong Biodiversity Festival is also held every year from October to December with a range of innovative activities organized by the Agriculture, Fishery and Conservation Department with collaboration from government departments and different groups and institutions. There are about 240 species of butterflies in Hong Kong, which is an ecology treasure indeed. I am as excited as the young students who rear their own butterflies on campus and learn to protect the species in the STEM programme."

Ten primary schools participated in the Butterfly x STEM programme which integrated science, technology, engineering and mathematics. Activities included designing and building butterfly gardens, rearing butterflies from larvae to adults, taking records and analysis in the process to continuously improve the design of butterfly gardens and butterfly rearing methods. Experiments were carried out using numerous scientific propositions to achieve the best results in butterfly conservation. The students participated in the programme over the whole academic year, the fruits of their efforts were showcased to the public today.

Yuen Long Long Ping Estate Tung Koon Primary School was one of the participating schools. The project was titled “Butterflies in the Black Box”. Students installed two experimental settings—one of which under complete darkness and the other under normal environment—to find out the impact of light on the growth of butterfly. It was found that butterfly larvae grew faster in a dark environment, however, their pupal stage was longer. Furthermore, as the butterflies emerged from pupation, the ones in dark would keep flapping their wings when they were first exposed to light. Mr. Cheung Wai-shing, the teacher in charge of the project, commented that the experiment findings showed that the amount of light did have some impacts on the growth of butterflies, nevertheless, the impacts were insignificant.

Mr. Cheung said that the most valuable lesson for the students was not the findings, but the problem solving in the process. For example, while their butterfly garden successfully attracted butterflies to lay eggs, birds also came forward to prey on the larvae. The students tried different ways to tackle the problem. In the end they used some mesh nets to cover the pot plants with butterfly eggs and larvae, in order not to inhibit plant growth nor harm the butterflies and birds. “Butterflies are living things. Many unexpected issues would happen during the rearing process. STEM education facilitates students to develop their problem-solving ability.” Mr. Cheung explained.

Students from another participating school S.K.H. Tseung Kwan O Kei Tak Primary School put their lens on Swallowtail larvae. They fed the larvae with leaves of lemon, kumquat, pomelo and orange to find out their food preference. They recorded the feeding behaviour and found that among the four food plants, the larvae favoured lemon leaves, followed by kumquat and orange leaves. Pomelo leaves were the last option when there was no other choice.

Primary Four participant Yung Wai-hin expressed his excitement about the investigative project. He looked forward to the growth of larvae every day and was deeply impressed when he found the first butterfly egg in the garden, “I was completely thrilled!” But later when some of the eggs failed to hatch, “I almost cried out in disappointment!” At the end he and his schoolmates released the butterflies successfully completed the eclosion into the wild. It was a memorable experience. The teacher in charge, Ms Ching Chor-kiu, added that apart from learning butterfly and STEM knowledge, the uncertainty in living cycle of the butterflies also provided a valuable life education for the students.

A variety of STEM activities were staged at the Butterfly x STEM Exhibition. For example, the public could observe the scale patterns of butterfly wings with the help of a 500X microscope in "I Am Biologist". There were also STEM Plus+ Workshops that let participants make their own small paper microscopes and butterfly wing scale samples, telescopes for butterfly watching, and butterfly kaleidoscopes. The most popular activity was the "butterfly watch". Unlike ordinary butterfly watching, the activity actually took participants into the sensory world of butterfly. Participants need to identify plants by imitating the sense of touch and smell of the butterflies. A handy microscope was deployed to search for plants from the perspective of butterflies. A young participant So Pak-yin expressed her appreciation, "This is the first time I look at nature from the eyes of the butterfly. In fact, butterflies do not rely on vision to distinguish the plants! It is amazing!"

Shell Nature Watch – Butterfly Explorer

Launched in 2004, the scheme is the first large-scale education programme on the theme of butterflies in Hong Kong. The aim is to raise public awareness on butterfly ecology and conservation through a diverse range of activities. To date, our activities have reached over 1 million participating counts.

Green Power recruits and trains members of the public to become Butterfly Surveyors every year to collect data on local butterfly ecology and monitor butterfly hotspots. In 2018, there are 322 Butterfly Surveyors who monitor a total of 12 local butterfly hotspots: San Tau on Lantau; Luk Keng in Fanling; Wu Kau Tang in Tai Po; Lam Tsuen (She Shan and Ng Tung Chai) in Tai Po; Yuen Tun Ha in Tai Po; Sham Chung and Yung Shue O in Sai Kung; Sha Tau Kok; Pak Sha O and Lai Chi Chong in Sai Kung; Mui Wo on Lantau; Lok Ma Chau/Long Valley/Ho Sheung Heung; Tai Lam Country Park (Kam Tin); and Lung Kwu Tan in Tuen Mun. The Butterfly Survey starts in June each year and ends in May the following year.

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