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Release of Butterfly Survey Results of Ho Sheung Heung, Long Valley & Lok Ma Chau

Green Power released the results of butterfly surveys recently carried out at Ho Sheung Heung, Long Valley and Lok Ma Chau, and officially included the three sites into the Butterfly Surveyor Scheme for long term monitoring. Ho Sheung Heung and Long Valley are at the core of the North East New Territories New Development Areas, while Lok Ma Chau is a former Frontier Closed Area which is now opened up with all kinds of planned developments particularly around the "Loop" area. By gaining a fuller picture of butterfly diversity and more ecological data at the three sites ahead of the developments, we can monitor and assess the impacts of these future developments on butterflies.

One-fifth of HK butterfly species found at Ho Sheung Heung, Long Valley and Lok Ma Chau

The 6-km survey route starts from Ho Sheung Heung, crossing Sheung Yue River to reach the centre of Long Valley, and extending to Liu Pok via Tai Shek Mo. Preliminary data (Note 1) showed that a total of 50 butterfly species were found at the three sites, accounting for 19% of the Hong Kong total, including four rare species such as a Swallowtail (*Papilio xuthus*), Cornelian (*Deudorix epijarbas*) and Grass Demon (*Udaspes folus*). According to records by butterfly lovers, some rare species such as Comma (*Polygonia c-aureum*) have also been spotted at Ho Sheung Heung and Long Valley.

Ho Sheung Heung and Long Valley, which are covered in the Butterfly Survey route, are part of the North East New Territories New Development Areas. According to the planning details announced in July 2013 by the Planning Department and Civil Engineering and Development Department, there will be three new development areas: Kwu Tung North, Fanling North and Ping Che/Ta Kwu Ling. Kwu Tung North New Development Area, totalling some 450 hectares (about 23 times the size of Victoria Park), includes Ho Sheung Heung, Long Valley, Kwu Tung and Pak Shek Au. Of these, the southern part of Ho Sheung Heung and Long Valley are green belts, and hence become the subject of controversy. They are also sites of high value for butterflies.

The planning study indicated that in Kwu Tung North New Development Area, land by Fanling Highway will be used for Commercial, Research and Development Purposes. As for Long Valley, the central area is in general of high ecological value. The government planned to create a 37-hectare Nature Park there. It will function as the green lung of the new development areas. There will be a visitor centre, and the public can also participate in

wetland farming. The north and south sides of the park will be used for "agriculture".

From an ecological conservation point of view, the land next to Fanling Highway was already developed in the 1960s and 1970s. Hence, further and limited development may not pose too much impact on the natural ecology. We welcomed the government's concern regarding conservation of Long Valley. However, it would be most important to maintain the existing wetlands - and the agricultural activities - at Long Valley, when converting the central area into Nature Park. The high ecological value of Long Valley has resulted from previous agricultural work. Once the agriculture is interrupted, damage to the ecological value will be hard to recover.

In fact, the government has previously damaged the habitat of Dark Brown Ace (*Halpe porus*) due to the building of a cycling track at Long Valley North. The species is very rare and there are only a few places with records in Hong Kong. Ho Sheung Heung is the one with the largest and most stable population. Earlier, the government built a cycling track through a bamboo grove at Long Valley North. Although only some of the bamboo was damaged, Dark Brown Ace (*Halpe porus*) has since disappeared. We failed to spot this butterfly during recent visits to the site. The incident is frustrating, as the cycling track project was carried out with a passed environmental impact assessment but we still lost the precious habitat. The incident reflected the problem that the government and the consultant responsible for the environmental impact assessment lacked information on butterfly ecology, and there is an urgent need to conduct baseline surveys of butterfly ecology at the site.

More butterflies to be found at Lok Ma Chau

As for Lok Ma Chau, the former Frontier Closed Area was opened up in June 2013. As much as 710 hectares (37 times the size of Victoria Park) were opened up. Apart from fishponds, abandoned farmlands and low density village houses, almost all is undeveloped land. Up to now there is no clear development project. However, Lok Ma Chau Loop was among the 10 Major Infrastructure Projects in the Policy Address of 2007. In fact, the government has commissioned a Planning and Engineering Study on Development of Lok Ma Chau Loop, and announced potential development of a tertiary education institute and high-tech research facilities. So we will likely see development in the near future.

We expect that the future development at Lok Ma Chau will centre around the Loop. After the implementation of the North East New Territories Development Project, economic activities at Lok Ma Chau will become more active and development pressure will increase. As the area was formerly a Frontier Closed Area, it was not easily accessible, so there are few

ecological records. We hope to fill up the gap of butterfly record as soon as possible by conducting surveys. It is likely that we will find more butterfly species. This will provide ecological data to protect local butterflies when land use planning is carried out in future.

The three sites - Ho Sheung Heung, Long Valley and Lok Ma Chau – are ecologically connected. Therefore, for conservation, we must take the three together into consideration. Ho Sheung Heung and Long Valley are mostly fish ponds or under conventional farming which may not be home to many butterfly species. But Tai Shek Mo, and the nearby old villages with their woodlands and burial grounds, provide a high diversity of vegetation which boosts butterfly diversity at Ho Sheung Heung and Long Valley. On the other side of Tai Shek Mo is Lok Ma Chau. The linking up of the three sites helps the butterflies to survive and reproduce in a larger and more holistic environment.

Note 1: Four preliminary surveys were conducted from May to June, 2015.