BY EMAIL AND FAX

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Dear Sir / Madam,

Habitat Enhancement and Translocation Plan for Amphibian Species of Conservation Importance for Tung Chung New Town Extension (West) (Submission for EP No. EP-519/2016)

1. Green Power, as a charitable local green group, would like to enquire about the rationale(s) of approval, as well as comment on the details listed in the above document (referred hereafter as "the Plan"), which was submitted according to condition 2.20 of the environmental permit and made available to the public in December 2021.

2. The condition was listed in the environmental permit to mitigate impacts of Tung Chung New Town Extension on amphibians inhabiting areas to be developed in Tung Chung Valley, with emphasis on two species of conservation concern, including the state-protected Chinese Bullfrog (*Hoplobatrachus rugulosus*) and the "Endangered" and locally endemic Romer's Tree Frog (*Liuixalus romeri*). We opine that the methodology stated in the Plan is ineffective in mitigating such impacts, and are highly concerned that this Plan, once approved, would set an undesirable example for future public and private project proponents to follow, especially when it "*provide(s) a framework for the assigned contractors/specialists to prepare a translocation proposal that includes the methodology and other necessary procedures to be implemented for the capture-and translocation exercise of each development area*" (section 1.3.4).

Implementation Period

3. Capture-and-translocation exercise should be conducted when target species are active or could be readily observed and located, so that more individuals of the population can be rescued. Breeding seasonalities of local anurans have been well studied, with most species, including the above two species concerned, mainly breed during the wet season (i.e. between March and August, Lau 1998 & Chan et al. 2005) as they require favourable environmental conditions, including relatively warm temperature and high humidity, to be active and breed. The Plan also states clearly that "*Capture-and-translocation exercise shall be conducted at seasons when both Romer's Tree Frog and Chinese Bullfrog breed and adult male frogs can be easily located by their calls*" (section 3.1.3) and that "*Both Romer's Tree Frog and Chinese Bullfrog breed between March and September in Hong Kong*" (section 5.1.3).

4. However, an implementation period of such exercise from March to November (section 6.1.1), which includes drier and cooler months unfavourable for detection of the species, has been proposed. Moreover, there are no requirements on the weather conditions under which the exercise should be conducted. Such relaxed framework would be ineffective in controlling the quality and effectiveness of the exercise.

Capturing Procedures and Programs

5. Lau (1998) stated that active search of the tiny-sized Romer's Tree Frog was difficult, and mentioned "*pronounced male-biased sex ratio was observed in the breeding aggregations*". This means that conducting rescue operations through acoustic surveys and active searches with insufficient effort would allow low number of overall and female frogs being captured, and in turn render the rescued population unsustainable.

6. However, the Plan does not mention the frequency of capturing exercise to be executed, but only states that "*If no individual of both species of conservation interest is found from a particular capture area for three consecutive surveys conducted in three evenings, the capture-and-translocation exercise for that capture area can be ceased*" (section 3.1.3), meaning any project proponents can fulfil the requirements set out in the Plan by conducting capturing exercise with a minimum of three consecutive survey evenings. This low survey effort, together with the possibly unfavourable survey conditions mentioned above, would highly increase the risk of translocation failure.

Habitat Enhancement of Receptor Sites

7. The Plan lists three receptor sites for Romer's Tree Frog (section 4.2), and states that "*no immediate need to implement habitat enhancement measures in these receptor sites is identified*" as these sites are in good conditions (section 4.3.4). Although fishless pools of low-ordered and well-shaded streams could also be utilized by the Romer's Tree Frog as breeding sites (Lau 1998), provision of artificial water bodies which provide extra breeding habitats with no risk of fish predation would increase the capacity of the receptor sites and chance of translocation success. This is of particular importance as the Plan also admits the possibility of having existing frog populations in the receptor sites (section 5.1.2). Any further release of individuals at locations with existing population of the species may have adverse impacts on the translocated and original populations through competition, and thus lower the chance of success of the translocation exercise (Lau 1998).

General Remarks and Recommendations

8. Although uncertainty in natural systems exists and there is no guarantee in the success of conservation measures, any conservation plans should be designed based on the best available knowledge and implemented prudently, with conservation being upheld as the primary objective rather than a compromisable element for fulfilling statutory procedures. Green Power is gravely concerned about the irreversible impacts on the amphibian populations of Tung Chung Valley arise from the mega-scale new town development and ineffective mitigation resulting from inadequately-designed and implemented conservation plans. We thus strongly recommend:

    i. restricting the implementation period of the capture-and-translocation exercise of each development area within wet seasons (March – September), with additional requirements on suitable weather conditions under which detection and capture of the target anurans can be reasonably performed (e.g. imposing minimum requirements on temperature and humidity, avoidance of extreme weather conditions etc.);
    ii. increasing the required effort and frequency of the capture-and-translocation exercise, which should be performed in phases rather than by a single round of survey. The increase in survey effort, coupled with means to attract females (see Lau 1998), may increase the number of overall and female frogs captured;
    iii. carrying out habitat enhancement in the Romer's Tree Frog receptor sites by providing artificial water bodies even when the selected sites appeared to be suitable during the preliminary site visits, so as to increase the carrying capacity of the receptor sites for the species, and thus the chance for successful translocation.

9. The Administration has the responsibility as gate keepers to ensure all conservation-related measures, especially those required by statutory procedures, are planned and implemented with due diligence. We sincerely hope the above recommendations could be considered. Thank you for your kind attention and we look forward to your favourable reply.

Yours sincerely,

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References

Chan S.K.F., Cheung K., Ho C., Lam F. & Tang W. 2005. A Field Guide to the Amphibians of Hong Kong. Agriculture, Fisheries and Conservation Department, HK.

Lau W.N.M. 1998. Habitat use by Hong Kong amphibians, with special reference to the ecology and conservation of *Philautus romeri*. PhD Thesis. University of Hong Kong, HK.