

9. Fisheries Impact Assessment

9.1 Introduction

This section presents an assessment of the potential fisheries impact associated with the construction and operation phases of the Project, in accordance with the technical requirements stated in section 3.4.9 of the EIA Study Brief (ESB-226/2011).

Aquaculture resources and pond culture activities have been assessed in this section. Prediction of potential impact on any active or abandoned fishponds has been addressed.

9.2 Environmental Legislation, Standards and Guidelines

The following legislation and guidelines are applicable to the fisheries impact assessment in Hong Kong:

- Environmental Impact Assessment Ordinance (Cap. 499) – Technical Memorandum on Environmental Impact Assessment Process (EIAO-TM), Annexes 9 and 17.
- Fisheries Protection Ordinance (Cap. 171).

9.3 Assessment Methodology

The fisheries impact assessment was undertaken following the criteria and guidelines as specified in Annexes 9 and 17 of the EIAO-TM, section 3.4.9 and Appendix G of the EIA Study Brief.

The Study Area for the assessment includes all areas within 500m of the boundaries of the Project, both active and abandoned fish ponds present in these areas and any other areas with fish ponds and associated water system likely to be impacted by the construction or operation of the Project, as stipulated in section 3.4.9 of the EIA Study Brief and shown in **Figure 9.1**.

Available literature regarding the activities and production of pond fish culture within the Study Area including both published and unpublished materials was reviewed. Ground truthing on the status of any fish ponds was conducted in March 2012 along with the habitat surveys for ecological impact assessment purposes. The status of fish ponds was evaluated based upon the management conditions of the ponds such as presence of commercial fishes, evidence of recently used pond culture equipment, presence of fish-rearing paraphernalia and evidence of trimming of vegetation growing on pond bund.

9.4 Description of the Existing Environment

In Hong Kong, pond fish culture resources and activities are mainly located in the north-west New Territories (NWNT) area, with freshwater and brackish fishponds. Pond fish species are reared for commercial purpose. According to the latest available information from Agriculture, Fisheries and Conservation Department (AFCD) on aquaculture activities in Hong Kong in 2012, the local inland ponds covered an area of approximately 1,150 ha and produced 2,306 tonnes of freshwater fishes. About 98% of the fish farms are engaged in polyculture (bighead carp, grass carp, common carp and silver carp in combination with tilapia or grey mullet). The remaining 2% practise monoculture of carnivorous species such as giant groupers, seabreams and spotted scat in brackish fishponds near to the coastline.

Within the Study Area, there is no indication of the presence of any commercial fish culture activities. Neither commercial-scale fish ponds nor adjoining fish ponds are observed within the Study Area. Instead of pond culture fisheries, the central-north area of New Territories where the Project locates is used for village and agricultural purposes.

9.5 Description and Quantification of existing pond culture activities and fisheries resources

It has been initially identified by ground truthing that only four ponds can be found within the Study Area, as indicated in **Figure 9.1**. By interviewing the residents and workers, the uses of the identified ponds are described as follow:

- Pond PD1 was abandoned and currently used for recreational purpose by site workers nearby.
- Pond PD2 is an abandoned irrigation pond formerly used for cultivation.
- Pond PD3 is privately used for recreational purpose by the residents.
- Pond PD4 is used as fung shui pond for keeping ornamental fish species.

No active or abandoned commercial fish pond has been identified within the Study Area. There is no indication of any commercial pond fish culture resources or activities within the Study Area.

9.6 Identification, Prediction and Evaluation of Environmental Impact

As indicated in **Figure 9.1**, there is no active or abandoned pond within the Project Area. The Project will be constructed and operated within the defined Project Area. Therefore, no direct impact (such as permanent resumption or temporary occupation) on any active or abandoned pond is identified.

The Project site will be accessed from a connection with Kong Nga Po Road without passing any area surrounding the identified ponds. Both construction and operation activities will be localised within the defined Project Area. Any indirect impact on the identified ponds regarding blockage of access to the ponds is not anticipated.

Indirect impacts including seepage of surface run-off and sewage discharged during construction and operation phase of the Project may occur on the identified ponds, which are located at the downhill side of the Project Area. However, with proper implementation of good site practice and appropriate mitigation measures to minimise impact on water quality (see Section 6), significant indirect impacts arising from the Project on the identified ponds are not anticipated.

9.7 Mitigation of Adverse Environmental Impact

With water quality control measures in place (see Section 6), the Project is unlikely to have any indirect impact on the pond fish culture resources or activities in the Study Area. Therefore, no fisheries-specific mitigation measure is considered necessary.

9.8 Evaluation of Residual Impact

Commercial pond fish culture resources or activities were not identified within the Study Area. With water quality control measures in place (see Section 6), any indirect impact on the pond fish culture resources or

activities in the Study Area due to the Project is unlikely. Therefore, no residual fisheries impact is anticipated.

9.9 Environmental Monitoring and Audit Requirement

Commercial pond fish culture resources or activities were not identified within the Study Area. With water quality control measures in place (see Section 6), the Project is unlikely to cause any direct or indirect impacts on the pond fish culture resources or activities in the Study Area. Therefore, no monitoring and audit programme or requirement for fisheries impact is considered necessary.

9.10 Conclusion

Baseline review and ground truthing conducted for fisheries impact assessment have identified no commercial pond fish culture resources or activities within the Study Area. With recommended water quality control measures and good site practice in place (see Section 6), the Project is unlikely to have any direct or indirect impacts on the existing ponds or related activities within the Study Area. Therefore, no fisheries impact arising from construction and operation of the Project is anticipated and no fisheries-specific mitigation measures are required.

9.11 References

AFCD. (2013). Marine fish culture, pond fish culture and oyster culture. Retrieved August 22, 2013, from http://www.afcd.gov.hk/english/fisheries/fish_aqu/fish_aqu_mpo/fish_aqu_mpo.html