

1. INTRODUCTION

1.1 Background

Marine fish culture has been an important activity for fisheries production in Hong Kong over decades. Mariculture activities are required to operate under licence in designated Fish Culture Zones (FCZs) under the *Marine Fish Culture Ordinance (MFCO) (Cap. 353)*. In view of the environmental impact resulting from mariculture, there has been a moratorium on the issue of new marine fish culture licences (MFCLs) and licensed raft area extensions in the existing FCZs since 1990, as well as on the designation of new FCZs, except for a limited number of forced re-siting necessitated by public works. Given the technical advancement in mariculture techniques and strengthening of regulatory measures, together with the changes in the operation of the sector over the years, the environment of FCZs and marine environment in the vicinity have improved significantly in the past two decades.

In 2010, the Committee on Sustainable Fisheries (CSF), which was established by the Government to study the long-term goals, direction and feasible options for the sustainable development of local fisheries industry, recommended a review of the moratorium to facilitate fishermen to switch from capture fisheries to mariculture. Mariculture is considered a practical alternative for capture fishermen to make a living as their knowledge on marine environment and fish would be useful in farming marine fish.

To pave the way for facilitating the sustainable development of the local mariculture sector, the Agriculture, Fisheries and Conservation Department (AFCD) proposed to lift the moratorium by designating new FCZs and issuing new MFCLs. In 2014, the AFCD commissioned a consultancy study to explore suitable sites as new FCZs on the basis of a list of social and environmental criteria with reference to the latest international fish culture practices ⁽¹⁾. Relevant stakeholders, including Government bureaux / departments and mariculture representatives, have been consulted to gauge their views on site selection. The mariculture sector in general supported the designation of new FCZs and agreed that the sector should be modernised. Four locations have been shortlisted as potential sites for the designation of new FCZs, including Wong Chuk Kok Hoi FCZ, Outer Tap Mun FCZ, Mirs Bay FCZ and Po Toi (Southeast) FCZ. The Chief Executive announced in the 2018 Policy Address that the Government would recommend designating new FCZs at suitable locations, which would create room for the mariculture sector to grow further, including allowing capture fishermen to switch to this sustainable mode of operation, making it possible for the development of newer type of deep-water mariculture in the open sea, and attracting new entrants.

This Environmental Impact Assessment (EIA) report studies one of the proposed FCZ sites, i.e. Mirs Bay FCZ (hereafter referred to as “the Project”). The location plan of the Project is shown in **Figure 1.1**.

1.2 Nature of the Project

The Project aims to establish a new FCZ at Mirs Bay to facilitate the sustainable development of the local mariculture sector. The scope of the Project includes:

- Assembly and anchorage of fish farm structures which are manufactured off-site, including fish rafts / cages, auxiliary facilities and mooring system, within the Project site; and
- Marine fish culture activities within the Project site regulated under the *Marine Fish Culture Ordinance (Cap. 353)*.

No land-based works, structures and activities will be involved in the Project.

(1) ERM (2018) Consultancy Ref. AFCD/FIS/01/14 Consultancy Services for Identification of New Fish Culture Zones in Hong Kong – Feasibility Study

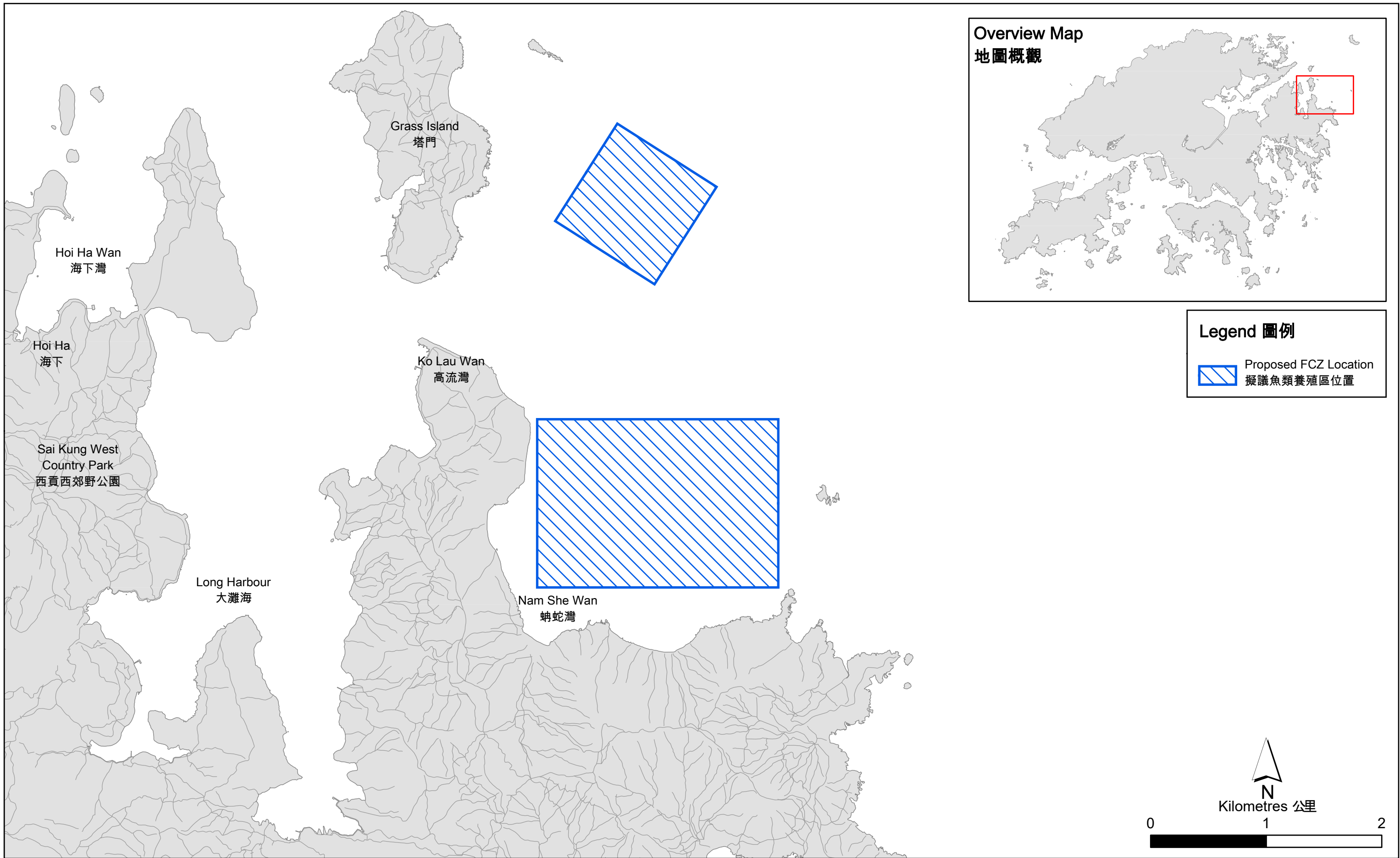


Figure 1.1
圖 1.1

Location Plan for the Establishment of Fish Culture Zone (FCZ) at Mirs Bay
在大鵬灣設立魚類養殖區的位置圖

1.3 Designated Project

The Project is a designated project by virtue of Item M.1(a) of Part I of Schedule 2 of the *EIAO*, which specifies “A fish culture zone more than 5 ha in size” and requires an Environmental Permit (EP) under the *EIAO* for its construction and operation.

In accordance with the requirements of Section 5(1)(a) of the *EIAO*, an application for an EIA Study Brief for the Project was submitted on 15 October 2019 under *EIAO* with a Project Profile (PP) (No. PP-592/2019). An EIA Study Brief (No.ESB-326/2019) for the Project (hereafter referred to as “the Study Brief”) was issued on 27 November 2019 in accordance with Section 5(7)(a) of the *EIAO*.

1.4 Purpose and Objectives of this EIA Study

The purpose of this EIA study is to provide information on the nature and extent of environmental impacts arising from the construction and operation of the Project and associated works that will take place concurrently. This information will contribute to decisions by the Director of Environmental Protection on:

- the overall acceptability of any adverse environmental consequences that are likely to arise as a result of the Project;
- the conditions and requirements for the detailed design, construction and operation of the Project to mitigate against adverse environmental consequences wherever practicable; and
- the acceptability of residual impacts after the proposed mitigation measures are implemented.

In more detail, the specific objectives of this EIA study defined in the Study Brief are as follows:

- (i) to describe the Project and associated works together with the requirements and environmental benefits for carrying out the proposed project;
- (ii) to identify and describe the elements of the community and environment likely to be affected by the Project and/or likely to cause adverse impacts to the Project, including both the natural and man-made environment and the associated environmental constraints;
- (iii) to identify and quantify emission sources and determine the significance of impacts on sensitive receivers and potential affected uses;
- (iv) to identify and quantify any potential losses or damage to flora, fauna and natural habitats;
- (v) to identify and quantify any potential water quality, marine ecological and fisheries impacts arising from the construction and operation of the Project and to propose measures to mitigate these impacts;
- (vi) to identify any landscape and visual impacts and to propose measures to mitigate these impacts;
- (vii) to identify any negative impacts on sites of cultural heritage and to propose measures to mitigate these impacts;
- (viii) to propose the provision of infrastructure or mitigation measures so as to minimise pollution, environmental disturbance and nuisance during construction and operation of the Project;
- (ix) to investigate the feasibility, effectiveness and implications of the proposed mitigation measures;
- (x) to identify, predict and evaluate the residual environmental impacts (i.e. after practicable mitigation) and the cumulative effects expected to arise during the construction and operation phases of the Project in relation to the sensitive receivers and potential affected uses;
- (xi) to identify, assess and specify methods, measures and standards, to be included in the detailed design, construction and operation of the Project which are necessary to mitigate these residual environmental impacts and cumulative effects and reduce them to acceptable levels;
- (xii) to design and specify the environmental monitoring and audit requirements; and

(xiii) to identify any additional studies necessary to implement the mitigation measures of monitoring and proposals recommended in this EIA report.

This EIA Report has been prepared in accordance with the requirements in the EIA Study Brief (No. ESB-326/2019) and the *Technical Memorandum on Environmental Impact Assessment Process* issued under the EIAO (*EIAO-TM*) for the Project, the aim being to obtain an EP under the EIAO. The description of the Project presented in this EIA Report has been based on the best available information from AFCD that describes the relevant construction activities, operational details, and baseline information describing the conditions relating to the Project and its surrounding environment.

1.5 Public Engagement

Project Profile No. PP-592/2019 was exhibited to the public for comments on 16 October 2019. Public offered their views during the 14-day public inspection period of the Project Profile. The key comments received from the public and responses are summarised in **Appendix 1A**.

During the course of this EIA Study for the Project, AFCD have been reaching out to potential stakeholders to explain the Project, and seek their views and opinions. Stakeholder engagement activities, which commenced in June 2021, included briefings and meetings with interest groups including members of the Legislation Council, fishermen groups, mariculturists, environmental bodies etc. Details of the stakeholder engagement activities undertaken and the feedback received are presented in **Appendix 1A**. The feedback and opinions obtained from the stakeholders have been fully considered and incorporated, where applicable, as part of the technical assessments undertaken in this EIA Study.

1.6 Structure of this Report

Following this introductory section, the remainder of this EIA Report is arranged as follows:

- **Section 2** presents the description of the Project and need for the new FCZ and site selection;
- **Section 3** presents the water quality impact assessment;
- **Section 4** presents the marine ecological impact assessment;
- **Section 5** presents the fisheries impact assessment;
- **Section 6** presents the assessment of the waste management implications;
- **Section 7** presents the visual impact assessment;
- **Section 8** presents the air quality impact assessment;
- **Section 9** presents the noise impact assessment;
- **Section 10** presents the assessment of cultural heritage impact including marine archaeological impact;
- **Section 11** presents the Environmental Monitoring and Audit Requirements; and
- **Section 12** provides a summary of the conclusions and environmental outcomes.