

Ecology

Chapter 10



CHAPTER TEN ECOLOGY

1. One of the six principal objectives of the TDS is to "conserve and enhance significant landscape and ecological attributes, and important heritage features". These aspects were covered, in detail, by the Planning Evaluation of the Initial Options, the sectoral studies on landscape, conservation, rural land and recreation and during the generation of the Hybrid Options. For the assessment of the Preferred Options, the intention was to further identify areas where development proposals could be at variance with the TDS objectives with respect to ecology. Baseline ecology studies were carried out when the TDS Review was initiated and although these have not been updated as the study has progressed they do provide a foundation for the evaluation of the Preferred Options.
2. Many land use plans offer protection to sites of special ecological interest through statutory zonings such as Country Park or SSSI. Although these are effective planning mechanisms, they protect relatively confined areas and do not consider the conservation role in strategic or regional terms. It is apparent that with all the development proposals, both private and through Government initiatives, there exists the need to consider natural resource conservation on a broader scale in terms of, for example, an ecological strategy. If developed in a rational manner this could provide mutual benefit to the natural environment as well as to economic development.
3. The ecological baseline upon which the TDSR was founded is illustrated in Figure 10.1 which shows the locations of the SSSIs, Country Parks and Special Areas. Although the NWNT is relatively impoverished in terms of areal extent of Country Park land, it is a particularly important area with respect to the protection of Deep Bay and the SSSI's which are designated therein. In the NENT the areal extent of the Country Park land is quite extensive and in addition to which there are a considerable number of SSSIs in the vicinity. The problems associated with the protection of both Deep Bay and Mirs Bay are relatively similar and span over the territorial boundaries thereby emphasising the fact that environmental control in Hong Kong does not terminate at the border.

Depletion of Wetland

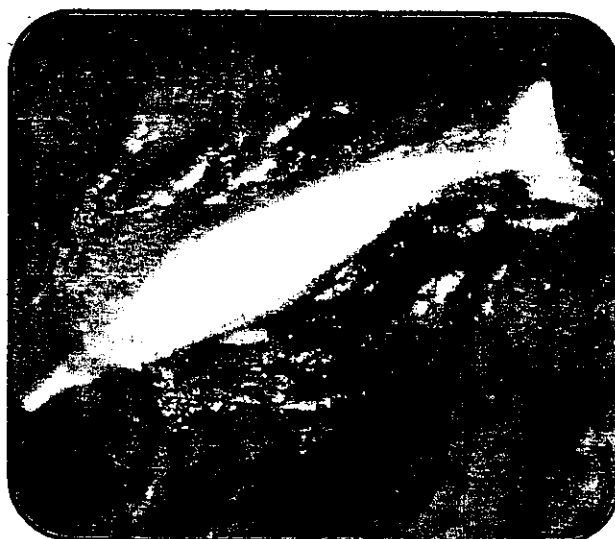
4. One of the key issues to be considered in connection with the development proposals is the extent of wetland which could be lost through reclamation or other development proposals and which could adversely affect the regime particularly in Deep Bay. On the basis of the assessment, none of the developments proposed under the Preferred Options would directly result in the loss of coastal wetlands although the potential extent of loss of fishponds needs to be carefully reviewed. However, the proposed long term transport link across Deep Bay (Route Y) the port back up land in San Tin/Lok Ma Chau and residential development in rural NWNT could affect the fragile ecosystem within this area both during and following construction. The extent of the impacts relate to the proposed methods of construction, the extent of the disturbance to the natural habitats and the changes in the tidal regime and flushing capacity of both the inner and outer Bays.
5. As there are no details to substantiate the type of crossing adopted for the Route Y connection (which would only be environmentally acceptable in terms of water quality if it were a completely submerged tube and which could then have noise and air pollution problems at the portals), it must be assumed that Scenario B performs very poorly compared to Scenario A in the medium and long term.



Ecologically sensitive areas need to be protected



Mangroves serve as breeding sites for a variety of fauna and habitat



The Indopacific Humpbacked dolphin is affected by the airport works at Chek Lap Kok



Mai Po Nature Reserve

Dredging and Disposal of Marine Mud

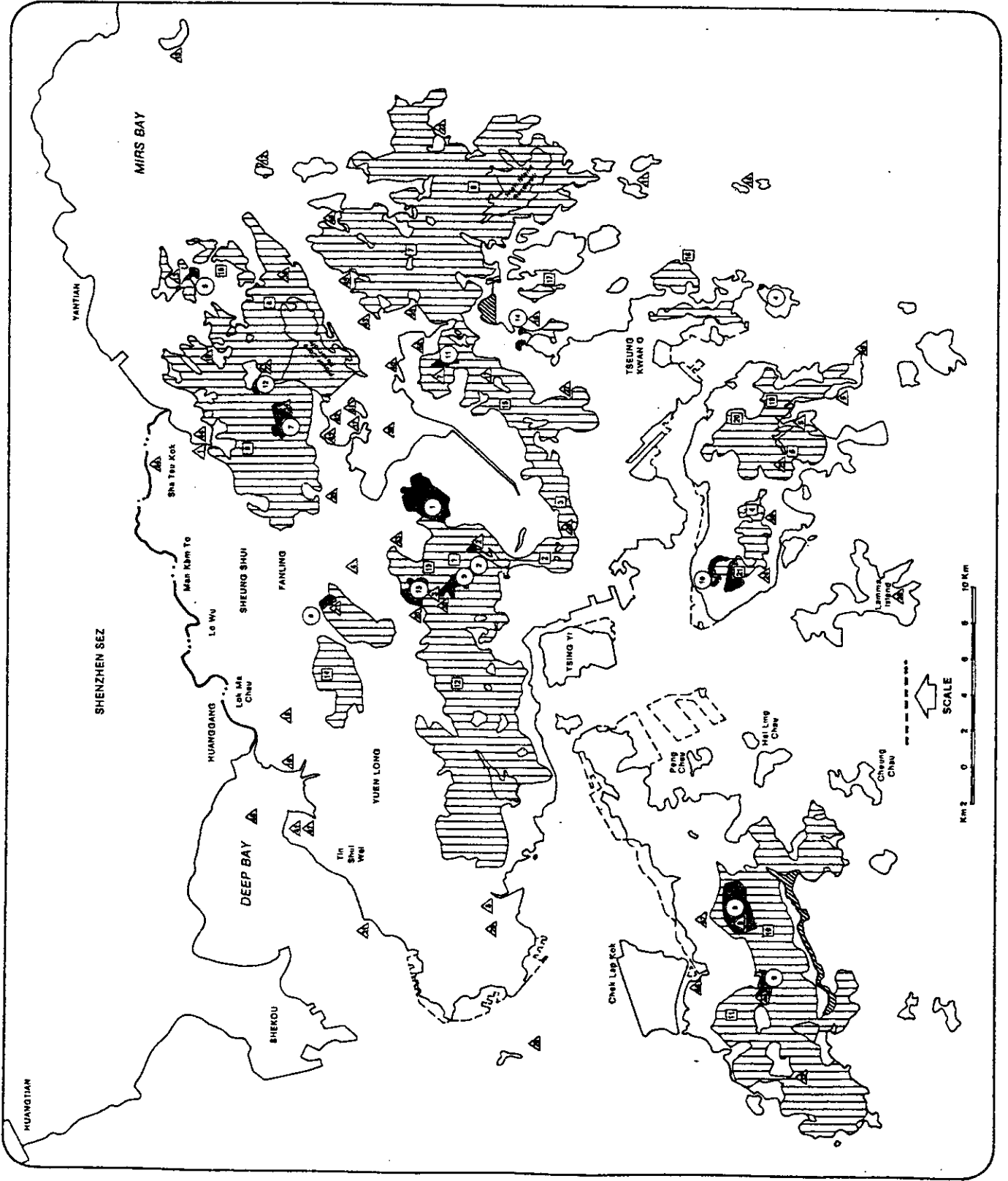
6. The effects of the dredging and disposal of marine mud on ecology, especially if it is found to be contaminated, are the key concerns. In accordance with the EPD Technical Circulars the degree of contamination is defined for any proposed dredging which will determine the method of dredging. Options to minimise the disposal requirements for any project which involves the dredging of contaminated mud could include partial dredging, fully drained reclamation or deep chemical mixing. All options should be considered to minimise disposal quantities (note this could however result in substantial increase in fill requirements).
7. There is an ongoing study which includes monitoring of the effects of disposing of contaminated mud at the East Sha Chau Mud Pits with particular reference to the effects on marine ecology. Furthermore the ecological impacts associated with the winning of marine sources of fill also need to be comprehensively addressed as these can have similarly devastating impacts on the marine life in the area. The paper on "A Review of the Environmental Impact Assessment for Marine Borrow Areas in Hong Kong" in particular identified the fact that if the significance of a community is not established the effects of sacrificing such communities either in total or partially is difficult to determine.

Development Close to Sensitive Uses

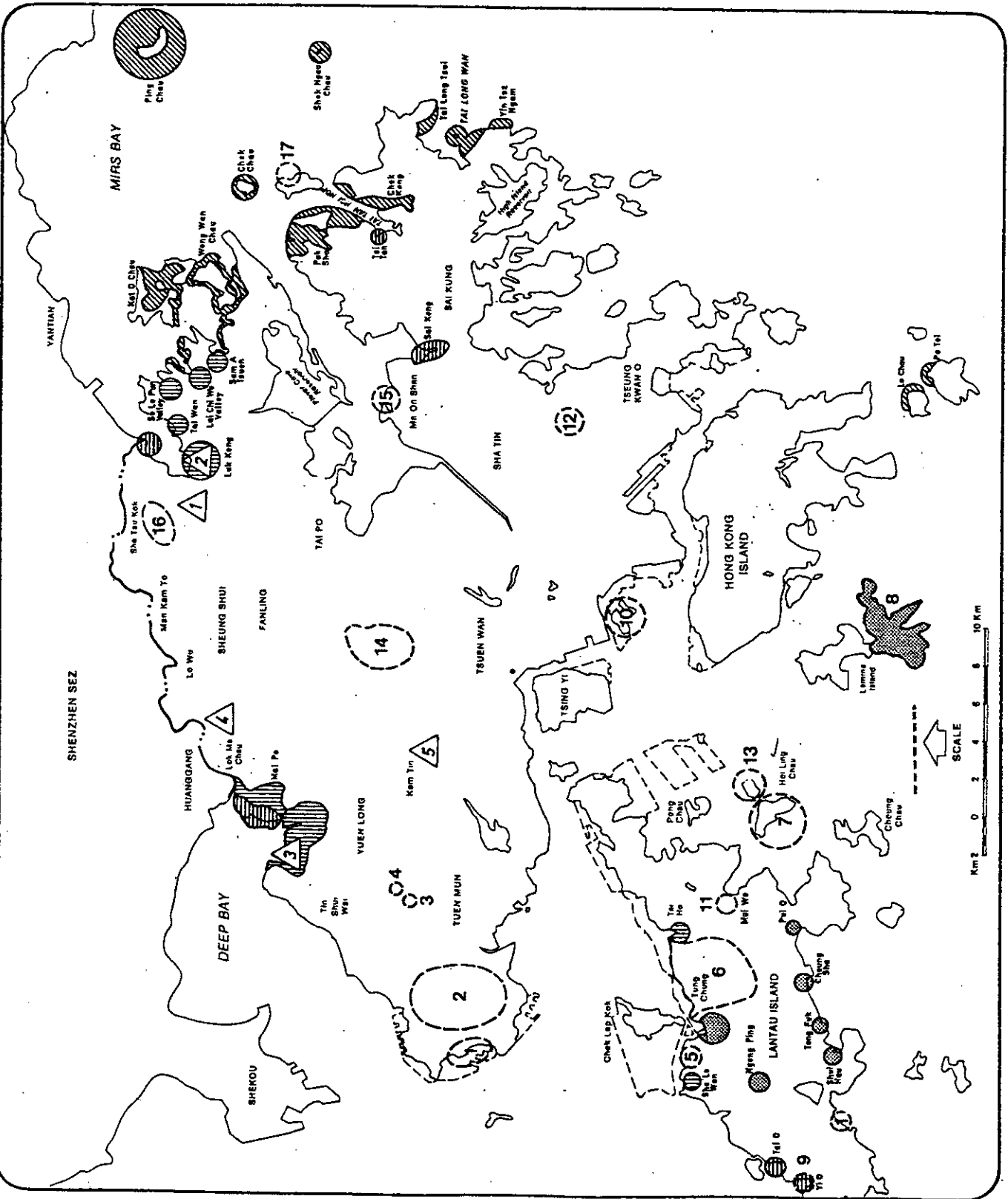
8. Another performance measure which was promulgated in the early stages of the review process was the extent of development in close proximity to sensitive receivers which were identified as Country Parks, SSSIs, Conservation Areas, Deep Bay Buffer Zone I and Deep Bay Buffer Zone II. Proposed developments in or adjacent to the aforementioned zones include residential, industrial, and port back up areas. Reference to Appendix H provides the details of the assessments carried out, however it is apparent if the development proposals are considered in the context of the ecology baseline (Figure 10.2) that the potential to create interfaces between development areas and sensitive land uses clearly exists. The minimisation of such interfaces will need to be considered at the feasibility study stage.

Conservation Strategy




9. In conclusion it has been observed that the existing planning mechanism provides varying degrees of protection for ecology and conservation sites. However there also exists a need to develop a comprehensive ecology baseline and conservation strategy which will identify the extent and significance of each of the locations identified. The relative importance of each location could then be evaluated. An examination of the effects of development in these areas would need to take full account of the reversibility of the impacts and the sustainability of the developments. It may be possible that the habitat could be relocated to another suitable area (which would be identified in the baseline data).
10. The foregoing comments support the view that a conservation strategy should be developed for the territory with particular emphasis on defining the relative significance of individual communities and their place in the hierarchy of protection. The concept of off-site compensation and compensatory/sacrificial development could, for example, enable developments to be implemented with any sensitive habitats which could be transferred to an alternative suitable location.
11. The creation of marine parks or reserves, possible creation of artificial rocky shorelines and wetlands or marshes for wintering birds also need to be further considered.
12. In view of the developments taking place in Shenzhen and in Yantian port (and back up area), there is an urgent need for further cooperation and a concerted approach to the problem of conservation in these areas between the Governments of the PRC and Hong Kong.





NO.	NAME	AREA (SQ. KM)	DATE OF ESTABLISHMENT
1	SHU TAO KOK CP	1.2	1985
2	MAN KAM TO CP	1.5	1985
3	SHU TAO KOK CP	1.2	1985
4	SHU TAO KOK CP	1.2	1985
5	SHU TAO KOK CP	1.2	1985
6	SHU TAO KOK CP	1.2	1985
7	SHU TAO KOK CP	1.2	1985
8	SHU TAO KOK CP	1.2	1985
9	SHU TAO KOK CP	1.2	1985
10	SHU TAO KOK CP	1.2	1985
11	SHU TAO KOK CP	1.2	1985
12	SHU TAO KOK CP	1.2	1985
13	SHU TAO KOK CP	1.2	1985
14	SHU TAO KOK CP	1.2	1985
15	SHU TAO KOK CP	1.2	1985
16	SHU TAO KOK CP	1.2	1985
17	SHU TAO KOK CP	1.2	1985
18	SHU TAO KOK CP	1.2	1985
19	SHU TAO KOK CP	1.2	1985
20	SHU TAO KOK CP	1.2	1985
21	SHU TAO KOK CP	1.2	1985
22	SHU TAO KOK CP	1.2	1985
23	SHU TAO KOK CP	1.2	1985
24	SHU TAO KOK CP	1.2	1985
25	SHU TAO KOK CP	1.2	1985
26	SHU TAO KOK CP	1.2	1985
27	SHU TAO KOK CP	1.2	1985
28	SHU TAO KOK CP	1.2	1985
29	SHU TAO KOK CP	1.2	1985
30	SHU TAO KOK CP	1.2	1985
31	SHU TAO KOK CP	1.2	1985
32	SHU TAO KOK CP	1.2	1985
33	SHU TAO KOK CP	1.2	1985
34	SHU TAO KOK CP	1.2	1985
35	SHU TAO KOK CP	1.2	1985
36	SHU TAO KOK CP	1.2	1985
37	SHU TAO KOK CP	1.2	1985
38	SHU TAO KOK CP	1.2	1985
39	SHU TAO KOK CP	1.2	1985
40	SHU TAO KOK CP	1.2	1985
41	SHU TAO KOK CP	1.2	1985
42	SHU TAO KOK CP	1.2	1985
43	SHU TAO KOK CP	1.2	1985
44	SHU TAO KOK CP	1.2	1985
45	SHU TAO KOK CP	1.2	1985
46	SHU TAO KOK CP	1.2	1985
47	SHU TAO KOK CP	1.2	1985
48	SHU TAO KOK CP	1.2	1985



LEGEND

-  Coral Areas
-  Mangroves - Tai O, Yi O, Sha Tau Kok, Deep Bay and Mei Po, dwarf mangroves at Tai Tan and Sai Keng
-  Marsh - Tai Wan, So Lo Pun Valley, Lai Chi Wo Valley, Deep Bay, Mei Po, Sam A Tsuen and freshwater marsh at Sha Lo Wan

-  Breeding Sites of Romer's Tree Frog
-  Proposed SSSI

1. Sheung Wo Hang Wood
2. Luk Keng Marsh
3. Tsim Bei Tsui Egretty (new)
4. Lok Ma Chau Egretty
5. Ho Pui Tsuen Egretty

(3) Other Areas of Interest

1. King Crab breeding site
2. Botanical & landscape interest
3. Habitat for Hong Kong Newt
4. Habitat for Hong Kong Newt
5. Biological diversity
6. Botanical importance
7. Dibamus Habitat
8. Romer's Tree Frog breeding site, botanical interest & Green Turtle nesting site
9. Stream of ecological importance
10. Stonecutter's Island, last remaining natural habitat of non-reclaimed shores in Victoria Harbour; kite colony
11. Stream & interesting vegetation and birds
12. Upper Ho Chung Valley; Stream & Woodland
13. Sunshine Island - possible relief site for Romer's Tree Frog
14. Birds, Vegetation diversity, Hong Kong Newt
15. Starfish Bay sandy beach
16. Botanical diversity
17. Readily accessible exposed, natural rocky shore