

## Skudai River Rehabilitation Programme, Malaysia

### Developing an integrated rehabilitation action plan

#### Map:



#### Background:

The practical experiences with river rehabilitation and Integrated River Basin Management (IRBM) are limited in Malaysia, and in relation to the development strategy highlighted in the 8th and 9<sup>th</sup> Malaysian Plan, it is a top priority that Johor State Government commences the rehabilitation of Sungai Skudai, one of the most polluted rivers in Malaysia. It is evident that rehabilitation and subsequent sustainable river basin management will have a positive impact on the usefulness and recreational value of the river, and indeed will increase the development and tourism potential in the region.

Rehabilitation of Sungai Skudai, having various causes and sources of pollution e.g. urban/industrial waste, squatters and farming, may be used to develop and demonstrate the concept of Integrated River Basin Management. Hence, it is judged that rehabilitation of Sungai Skudai will not only benefit Danga Bay Development and Johor State, but also serve as a valuable inspiration for the other states in their endeavour to rehabilitate the rivers throughout Malaysia.

#### Project partners:

Asia Water & Environment S/B  
ViSKon Ltd.  
Water Consult Ltd.

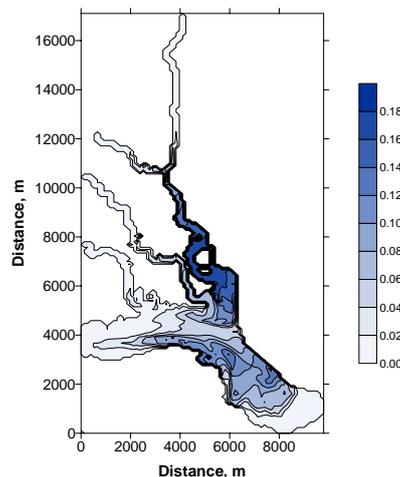
#### Client:

Danga Bay Development and  
Danida

The action plan for the rehabilitation of Sungai Skudai was designed based on the IRBM concept. During the baseline study and the stakeholder workshops, a large number of prospective rehabilitation activities have been identified. These activities were organised in components and associated with load reduction properties and costs. Assessment and selection of the most cost-effective activities have been made in two tempi: (i) An overall optimisation (selection and quantification of activities) by minimising the costs to achieve the required load reduction capacity; and (ii) A subsequent detailed cost-effectiveness assessment and budgeting of the selected optimal rehabilitation scheme.



The Rehabilitation Programme is planned to take place over a period of 5 years. After rehabilitation, the pollution load of e.g. BOD to Sungai Skudai is expected to be reduced to 50% of the present load after the Immediate Term and to 35% after completion of the rehabilitation programme. Based on model simulations, a level of 35% of the present pollution load is



estimated to be sufficient to fulfil the project objectives. Completion of the public awareness, institutional and enforcement components will institute a solid foundation for the long-term sustainability beyond the time frame of the rehabilitation programme itself.

The overall rehabilitation approach is to commence the physical works with a selection of immediate refurbishment activities in the three major technical components: wastewater treatment; solid waste management; and (iii) squatter relocation. These activities will be used to jump-start the rehabilitation process and illustrate to the public as well as the authorities that conditions can be changed to the better. Introduction of wetlands, buffer zones and securing flood protection will be part of the integrating measures, all supported continuously by public awareness activities and modernisation of the legal and institutional framework.