Project Summary

The project will assess the likely or potential severity of environmental impacts caused by Acid Sulfate Soil (ASS) disturbance within the Kwinana Peel Region. ASS contain sulfides which, when exposed to air, oxidise and can generate large amounts of sulphuric acid. Key processes affecting ASS in the Region include rapid urban development, rural pursuits and drainage, groundwater abstraction and estuarine dredging. It is considered likely that ASS issues are closely intertwined with other water quality issues such as eutrophication, algal blooms, fish kills and scumming events.

The purpose of the assessment is to:

• Review and assess the Region’s management of ASS issues;
• Identify knowledge gaps and areas of scientific or management uncertainty;
• Identify research and development needs for improved ASS management in the region; and,
• Assist in identifying a program to address scientific, policy, and technology deficiencies identified within the Region.

• Results of field investigations demonstrated that ASS disturbance in the Peel Inlet region has caused a number of environmental hazards of great extent and severity:
• Dredged spoil from housing and canal developments around the Peel-Harvey Estuary was highly acidic in some areas;
• The lowering of the water table associated with dewatering can lead to the formation of ASS, affecting soils in a large area around the dewatering site;
• The western side of the Estuary has the capacity to self-neutralise ASS;
• The presence of Monosulfidic Black Ooze (MBO) in the soil profile is not necessarily a precursor to ASS. However, its presence can lead to increased acidity and salinity in areas where water is stagnant; and,
• High selenium concentrations were detected in the sediment, ground water and pore water. High selenium concentrations in aquatic environments can be detrimental to fish life. Further investigations are required to confirm these results.