3.2 Habitat Assessment

3.2.1 Hays Inlet Fish Habitat Area

The study zone intersects the declared Fish Habitat Area of Hays Inlet under the Fisheries Act 1994 and Regulation 2008 (Figure 4). Developments involving the disturbance of a declared Fish Habitat Area are severely restricted, limited only to those with minimal impact to ecological processes, and considered appropriate with the original intent of the Fish Habitat Areas declaration. Where works or related activities are considered appropriate, a specific permit may be issued under s 76L of the Fisheries Act for the removal of marine plants.

3.2.2 Moreton Bay

Moreton Bay supports over 355 species of marine invertebrates, 43 species of shorebirds, 55 species of algae associated with mangroves, seven species of mangrove and seven species of seagrass. Moreton Bay supports significant numbers of the endangered loggerhead turtle and vulnerable green and hawksbill turtles. The Bay also has the most significant concentration of young and mature loggerhead turtles in Australia. It provides excellent feeding/breeding ground for dugong, and therefore is ranked among the top ten dugong habitats in Queensland. Moreton Bay supports more than 50,000 wintering and staging shorebirds during the non-breeding season, with many using intertidal habitats, including 30 migratory species listed by JAMBA and CAMBA. The Bay is particularly significant for the population of wintering eastern curlews (3,000 to 5,000) and the grey-tailed tattler (more than 10,000), both substantially more than 1% of the known Flyway population.

3.2.3 Hays Inlet Ramsar Wetland

Hays Inlet, as part of Moreton Bay, has been identified as Ramsar wetland (Figure 2). Ramsar wetlands are sites that are recognised under the Convention on Wetlands of International Importance (Ramsar Convention) as being of international significance in terms of ecology, botany, zoology, limnology or hydrology. In relation to Moreton Bay, and the declared Ramsar wetland area, Hays Inlet represents only 0.01% of the area. The proposed railway would directly impact a small part of the upper reaches of Hays Inlet, which is on the margins of the Moreton Bay Ramsar wetland.

The EPBC Act regulates actions that will have, or are likely to have a significant impact on any MNES, which includes the ecological character of a Ramsar wetland. This includes actions that occur outside the boundaries of a Ramsar wetland that could impact on the MNES. A self-assessment was required to determine whether the proposed works is likely to have a significant impact on Hays Inlet. Actions that are likely to have significant impacts on a MNES cannot be undertaken without approval under the Act.

3.2.4 Essential Habitat

Essential Habitat is vegetation in which an endangered, vulnerable, rare or near threatened species has been recorded. The essential habitat of species was mapped by the EPA at the time of the assessment. The study zone intersects with six areas mapped as Essential Habitat, with specific reference to koala and wallum froglet (Figure 5). These areas include Freshwater Creek south of the Bruce Highway, Saltwater Creek at the southern end of McKillop Street, three small areas between Gyntner Drive and Bremner Road and a larger area east of Coventry Street to Hercules Road and extending south towards Hays Inlet. These patches of Essential Habitat form part of a wider mosaic across the study zone region, in particular linking the Essential Habitat at the eastern end of the corridor (near Kippa-Ring) further north following Saltwater Creek to its intersection with the Bruce Highway.

3.2.5 Koala Habitat

The alignment up to Hays Inlet has been declared as Priority Koala Assessable Development Area (PKADA) as part of the SEQ Koala Conservation State Planning Regulatory Provision (Figure 6). Much of the study zone east of the Bruce Highway demonstrates similar koala habitat values to those recognised in the western part of the study area. In particular, the remnant and regrowth eucalypt-dominated forests (REs 12.3.11, 12.3.6, 12.5.2) from Saltwater Creek east to Arunc Avenue at Kippa-Ring contain high koala habitat values and high koala population densities. Sixteen koalas were observed during field surveys in January 2007. The study zone provides a strong link between habitat patches within the wider urban environment and is likely to be providing essential core habitat in itself. These findings are based on the koala habitat assessment conducted by Maunsell (now AECOM) for this report. There will be an offset requirement triggered by the clearing of koala habitat in accordance with the Memorandum of Understanding between DERM and DTMR.

3.2.6 Potential Compensatory Habitat

Where areas of vegetation have been cleared for the purposes of a development, for example the study zone, potential opportunities exist for compensatory planting to support habitat of a variety of threatened species. To assist in the selection of suitable compensatory planting areas, the koala was used as an indicator species, representing the habitat requirements generally for the significant species known or likely to occur in the study area. Potential sites for compensatory planting were established through GIS analysis (Figure 8 – 8C). Pre-clearing extent RE mapping was used to establish areas potentially suitable for particular vegetation communities and compensatory habitat based on their respective geologies. Currently developed areas, those identified for future development and other locations that preclude future use for environmental purpose were excluded. Further information on compensatory planting is discussed in the mitigation section of this report. It should also be noted that one option for compensatory habitat could be the removal of pines currently infesting riparian zones and replanting with native species.