

Chapter 16 Planning and land use

The relevant planning policies at regional and local levels are discussed in this chapter. The local and regional land use patterns within the study area are also discussed. The effects on land uses along the road corridor extending from Moorland to Herons Creek are assessed.

16.1 Planning policies and controls

Regional and local planning policies and controls of relevance to the Proposal are summarised below. The interaction of these policies and controls helps to define the role of the Pacific Highway and the townships within the study area. The policies also help to define the issues requiring consideration to appropriately assess impacts of the Proposal on existing and future land use. Relevant Commonwealth and NSW Government legislation and State Environmental Protection Policies (SEPPs) applicable to the Proposal are discussed in Chapter 2.

Land zoning and Local Government Area (LGA) boundaries along the Proposal route are illustrated on Figure 16-1.

16.1.1 Regional planning policies

Regional planning in NSW is the responsibility of DIPNR. For planning purposes, the study area falls within the Hunter and North Coast Regions. Regional Environmental Planning Instruments (EPis) and policies relevant to the Proposal are:

- *Hunter Regional Environmental Plan 1989* (HREP)
- *North Coast Regional Environmental Plan 1988* (NCREP)
- *North Coast Urban Planning Strategy 1995* (NCUPS)

Hunter Regional Environmental Plan No. 1 1989

The Hunter Region extends from the Lake Macquarie LGA in the south to the Greater Taree LGA in the north. The southernmost 6.5 km of the proposed highway upgrade is situated in the northern extremity of this Region. The HREP provides a regional planning framework for development in the Hunter Region over a twenty-year period. It consolidates various planning policies relating to the Region with the aim of protecting its diverse natural environment and regulating future population growth and economic development through sound planning.

Part 5, Division 1 of the HREP addresses regional objectives for roads, railways and public transport. These objectives are generally to maximise accessibility and facilitate the movement of people and goods throughout the Region with regard to social, environmental, economic and safety considerations. Under clause 32, objective (c) is particularly relevant to the Proposal:

- (c) to ensure that new or upgraded roads and railways are constructed to meet identified demands including provision of bicycle facilities, and that their impact on the natural environment is minimised.

The Proposal conforms to this objective and has incorporated a detailed traffic analysis to assess future transport demands (see Working Paper No. 1).

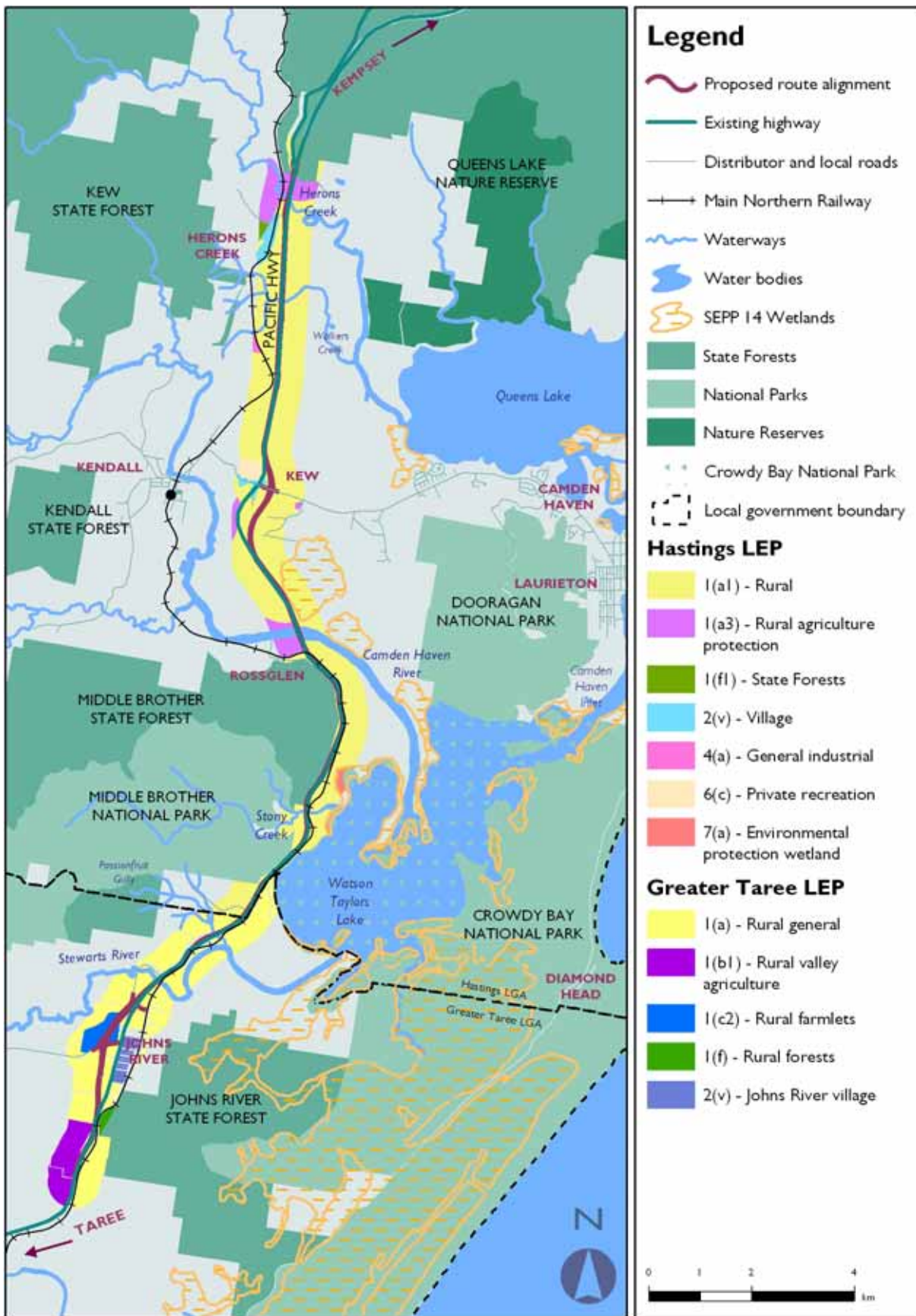


Figure 16-1 Land zoning

A number of references are also made to the effect of traffic on local communities. The HREP suggests the segregation of through and local traffic in existing developed areas and minimisation of loss of amenity due to heavy vehicle traffic passing through employment centres. The Proposal includes bypasses of Kew and Johns River and, therefore, conforms with this objective.

The HREP details a number of environmental issues relevant to the Proposal such as conservation of the natural environment and the minimisation of environmental hazards. These objectives are addressed by the Proposal through its integrated design, the preparation of this EIS and the RTA's commitment to implementation of appropriate mitigation measures during construction and operation of the Proposal.

The Proposal would contribute to the achievement of a number of objectives contained in the HREP such as improving accessibility, safety and movement of traffic through the region, reducing the accident potential of the highway, and accommodating peak traffic demands (see Working Paper No. 1). No approvals or licences are required under the HREP.

North Coast Regional Environmental Plan 1988

The North Coast Region extends from the Hastings LGA in the south to and including the Tweed LGA on the NSW/Queensland border. As a result, the NCREP applies to approximately 15.5 km of the northern part of the study area. Several Plan objectives relate to the Proposal.

Part 5, Division 1 of the NCREP addresses objectives for regional infrastructure and transport. The objectives included under clause 52 are:

- (a) to safeguard the role and efficiency of the main road system of the region, particularly by recognising the importance of primary arterial roads, and
- (b) to facilitate maintenance and improvement of transport in the region.

Clause 28 under Part 3 (Conservation and the Environment) states the objectives of the NCREP in relation to the natural environment as follows:

- (a) to protect areas of natural vegetation and wildlife from destruction and to provide corridors between significant areas;
- (b) to protect the scenic quality of the region, including natural areas, attractive rural areas and areas adjacent to water bodies, headlands, skylines and escarpments; and
- (c) to protect water quality, particularly within water catchment areas.

The Proposal conforms to the NCREP's aim to ensure the continual maintenance and improvement of regional transport. Undertaking the environmental assessment for the Proposal and incorporating the identification of suitable mitigation measures to be implemented during construction and operation would assist in fulfilling the natural environment objectives of the NCREP.

No approvals or licences are required under the NCREP for the Proposal.

North Coast Urban Planning Strategy 1995

The NCUPS applies to the same North Coast region covered by the NCREP. The NCUPS aims to ensure that any development on the North Coast proceeds in an orderly, efficient and environmentally sensitive manner. It nominates specific centres that are best able to accommodate future urban growth. Inter and intra regional transport has been identified as a major issue in conjunction with the nomination of regional growth centres. The NCUPS states that the current dispersed settlement pattern increases the need for travel by road for all users.

Action 14 under the NCUPS states that the RTA is responsible for the improvement of the road link from Port Macquarie to the Hunter Region. Consequently, the Proposal would assist in the fulfilment of the improvement of this section of road and transport between urban centres in the North Coast region.

No approvals or licences are required under NCUPS for the Proposal.

16.1.2 Local planning controls

The Proposal traverses land in both the Greater Taree and Hastings LGAs, with the boundary between the LGAs occurring in the vicinity of Passionfruit Gully (see Figure 16-1). The development of land along the Proposal route is regulated by the *Greater Taree Local Environmental Plan 1995* (GTLEP) and *Hastings Local Environmental Plan 2001* (HLEP).

The two LEPs applicable to the study area both state that the Proposal is permissible with development consent from the Greater Taree City and Hastings Shire Councils. Nevertheless, in each LGA, SEPP 4 (Development Without Consent) applies. Clause 11C of SEPP 4 (Development Without Consent and Miscellaneous Exempt and Complying Development) states:

- (1) If, in the absence of this clause, development for the purposes of a classified road or proposed classified road may be carried out only with development consent, that development may be carried out without that consent.
- (2) In this clause, *classified road* has the same meaning as it has in the *Roads Act 1993*.

The Proposal would constitute a 'classified road' under the *Roads Act 1993* and, therefore, it is being determined under Part 5 of the EP&A Act (rather than under Part 4 of the Act which applies to development with consent). The authority deemed to determine and administer approval or otherwise for this Proposal is the RTA with approval required from the Minister for Infrastructure and Planning.

16.1.2.1 Greater Taree Local Environmental Plan 1995

The GTLEP applies to the southern portion of the study area between Camp Obadiah and Passionfruit Gully. The provisions of the GTLEP regulate land use and development for approximately 6.5 km (30%) of the route. Table 16–1 lists the land use zones applicable to the Proposal.

Table 16–1 Zones applying to the Proposal within Greater Taree LGA

Section of the Proposal	Zones
Johns River township	Rural 1(a), 1(b1), 1(c2)
Lake section south of Passionfruit Gully	Rural 1(a)

The general objectives of the Rural zones 1(a), 1(b1) and 1(c2) are to protect and provide for agricultural land, land with agricultural potential and their natural resources. Specific objectives and provisions for road development in each zone follow.

Zone 1(a) Rural General

The specific objectives of this zone include the promotion of rural tourism facilities and industries requiring certain environmental conditions (such as remote sites and service or access requirements).

Roads are neither listed as prohibited nor listed as permissible without consent. Therefore development consent is required for the development of roads within Zone 1(a).

Zone 1(b1) Rural Valley Agriculture

Specific objectives of this zone include the conservation of prime crop and pasture land in appropriate holdings, to regulate development to avoid the fragmentation of holdings so they are not commercially viable for farming, the regulation of development to ensure appropriate type and intensity of development, and to incorporate proper consideration of flooding issues in flood prone land.

Roads are permissible with development consent within this zone.

Zone 1(c2) Rural Farmlets

Specific objectives of this zone include identifying land that supports the subdivision of small rural lots without compromising agricultural production locally, provide opportunities for rural living, preserve the rural amenity of the area and regulate development to ensure efficient use of community facilities.

Roads are permissible with development consent within this zone.

16.1.2.2 Hastings Local Environmental Plan 2001

The HLEP covers the northern section of the study area from Passionfruit Gully in the south to the existing dual carriageway north of Herons Creek. The provisions of the HLEP regulate land use and development for approximately 15.5 km (70%) of the route. Table 16–2 lists the land use zones applicable to the Proposal in this portion of the study area. The Proposal would require some alterations to current road access conditions. Therefore zoning provisions still apply and are listed below.

Table 16–2 Zones applying to the Proposal within Hastings LGA

Section of the Proposal	Zone
Lake section south to Passionfruit Gully	Rural 1(a1)
Lake section north	Rural 1(a1), 1(a3), 1(f)
Kew	Rural 1(a1), 1(a3)
Kew to Herons Creek	Rural 1(a1)

Zone 1(a1) Rural

The objectives of this zone are to protect and encourage the use of productive agricultural, extractive and mineral resources in rural areas, to protect rural residential amenity, to prevent inappropriate fragmentation of rural land, and to enable (with consent) development that is considered appropriate.

The development of roads is neither prohibited nor allowed development without consent under the provisions of Zone 1(a1). Therefore roads are permissible with development consent within this zone.

Zone 1(a3) Rural – Agricultural Production

This zone aims to protect and encourage the use of productive resources located in rural areas such as high agricultural quality land, to prevent inappropriate fragmentation of rural land and ensure reasonable economic demands in the provision of public services, and to enable development that is considered appropriate with consent.

Roads are listed as development that is permissible with consent within this zone.

Zone 1(f) State Forests

The purpose of Zone 1(f) is to identify designated State Forest areas and to allow appropriate development with Council's consent.

Roads are permissible without development consent within this zone.

Subdivision

The relevant requirements for the granting of consent under Part 4 of the HLEP would need to be satisfied for subdivisions with allotment sizes of at least 40 ha in zones 1(a1), 1(a3), 1(a4), 1(1), 7(a) or 7(d).

16.2 Existing and proposed land use

16.2.1 Regional context

The Pacific Highway is the most important land transport route between Sydney and Brisbane. The Main Northern Railway line also passes through both the Hunter and North Coast regions and, within the study area, it runs adjacent to the eastern side of the highway for most of the alignment south of Rossglen. The existing highway passes over the rail line just south of the Camden Haven River. Duplication of the existing highway would occur for much of the route south of Rossglen and the second carriageway would be constructed to the west of the highway so that railway assets or operation are not affected.

Land use within the study area is characterised by rural holdings, residential developments, and commercial and tourism operations. The residential properties comprise small rural residential estates, larger rural properties and small towns. As a result of their location on the highway, the townships of Johns River and Kew have evolved as highway service centres, but have not developed a tourism role to date. However, Kew does serve as the gateway for the popular Camden Haven tourism region and is the location of a visitor information centre.

16.2.2 Johns River township and surrounds

Johns River is a small township that is bisected by the highway at its junction with Stewarts River Road. Businesses in the township that are largely reliant on highway trade are:

- general store (and takeaway food outlet)
- service station
- motor vehicle repairs
- tavern.

The majority of dwellings in the township are located on the eastern side of the highway. Community facilities include the Johns River Public School (with 19 enrolments in 2005), the community hall and the adjacent recreation reserve that is used for activities including monthly community markets and an annual garden show. There are no community facilities that directly abut the proposed highway bypass of Johns River.

Camp Obadiah is a former youth camp and lies at the southern extremity of the study area, on the eastern side of the highway.

The Boral Quarry is located just to the north of Johns River, west of the existing highway, and supplies hard rock quarry products to customers both north and south of Johns River.

16.2.3 Kew township and surrounds

The existing highway also passes through the centre of Kew and, consequently, many of its businesses rely to varying degrees on highway trade. Businesses located on the highway in Kew include:

- Ampol Service Station and NRMA Depot
- First National Real Estate.
- Kew Court Motel
- Kew Newsagency and Supermarket
- Kew Take-Away
- BP Service Station and Legends Café
- Mobil Service Station and Café
- Royal Hotel
- Steaks on Kew Restaurant.

Community facilities in Kew include the Camden Haven Golf Club and the Seventh Day Adventist Church. There are no schools in Kew itself and most primary school children attend either the Kendall or the Laurieton Public Schools. The Camden Haven High School is located 500 m east of Kew along Ocean Drive and caters for secondary school students, as do private schools in Port Macquarie and Taree accessed by school bus. The Camden Haven High School opened in 1999 and in 2005 had 840 enrolments.

The Camden Haven Golf Club had approximately 800 members in 2005 and is a major regional recreation and social facility with around 200 people per day visiting facilities. It is the only golf course in the Camden Haven region and has an 18-hole golf layout, lawn bowling green, restaurant, bar and gaming facilities.

The Kew/Kendall Sewerage Treatment Plant (STP) commenced operation in 2002 and provides treatment for both Kew and Kendall. A eucalypt plantation screens the STP from the highway.

Businesses located to the south of Kew are:

- Bushwood Furniture
- Kennels on Kew
- Bethesda Nursery.

16.2.4 Other settlements

Several other settlements are either located on or in proximity to the existing highway and may potentially be affected by the Proposal:

- Rossglen lies approximately 4 km south of Kew and 0.7 km west of the highway. It is a small residential settlement with approximately 20 residences on the south bank of the Camden Haven River. Ross Glen Road connects this settlement with the highway just to the south of the Camden Haven River bridge. The property on which the Camden Haven airfield is located abuts the Main Northern Railway line on the east side of the highway reserve, just south of the Camden Haven River. The airfield has a 1 km long grass landing strip and runs almost parallel to and approximately 300 m to the northeast of the existing highway alignment.
- Kendall is a township of around 730 people located directly west of Kew and is approximately 2 km from the existing highway. It is known as the arts and crafts centre of the region, with regular markets attracting visitors.
- Herons Creek is a residential settlement of 14 dwellings located approximately 0.3 km west of the existing highway in the north of the study area. The Herons Creek Public School had 10 enrolments in 2005. In the vicinity of Herons Creek are the Egbert Egg Farm, 1.7 km south of Herons Creek and to the west of the existing highway, and the Boral Timber mill, situated between the highway and the railway line at Herons Creek. The mill supplies timber products for the construction industry throughout Australia. Boral owns 10 dwellings at Herons Creek.
- There are two approved large lot residential estates near the township of Kew as shown in Figures 6-1J and 6-1K. They are the substantially developed Glen Haven estate, located southeast of the existing highway and Ocean Drive intersection, and Lake Ridge estate, located northeast of the same intersection. The Glen Haven estate has approximately 29 properties developed ranging from 1 to 2 ha in size. Lake Ridge estate allotments also range from 1 to 2 ha in size, with many of the 42 allotments currently being developed. The final stage release of this subdivision is now available for sale.

16.2.5 Proposed developments

A number of proposed and/or approved developments and subdivisions are located in the study area. An approved rural residential subdivision exists to the west of Johns River and is accessed from Stewarts River Road as shown in Figure 6-1B. There are 17 lots ranging from 1.2 to 2.5 ha in size with the lots fronting Stewarts River Road already created and the remainder yet to be developed. The subdivision includes an existing house on a residual area of the property and three residential dwellings exist within 200 m of the Proposal.

A potential development is that of the former Taylors Quarry. The quarry is located 800 m east of the existing highway along Ocean Drive. It is no longer used as a quarry and Hastings Council has identified the site as being suitable for possible future use as a waste transfer station accessed by small vehicles only. Hastings Council has Ministerial consent to initiate compulsory acquisition and this process is expected to commence in early 2005. The proposed waste transfer station is expected to be operational in late 2007/early 2008.

16.2.6 Agriculture and fisheries

Agriculture

Agriculture is the most widespread land use bordering the existing highway and the Proposal. There is a mixture of rural land uses including dairying, beef cattle grazing, a small orchard, a plant nursery and turf farming. Most rural areas abutting the proposal are used for non-intensive commercial or semi-commercial beef production or agistment of dairy or beef cattle. Soils to the north and southeast of Kew are heavy, unproductive clays and commercial dairying is confined to the more fertile river flats. Even then some of these river flat soils are flood prone and classified as PASS or ASS.

Four rural holdings would be affected by the Proposal. All are family owned and only one is a fully commercial operation. The commercial farm is a dairying and milking operation with stud cattle and is based on intensively irrigated pastures on the Stewarts River flats. Another holding is used to raise dairy calves, and the other two carry small numbers of beef cattle with a small citrus and stone fruit orchard on one of these properties.

NSW DPI (formerly NSW Agriculture) has mapped the Greater Taree LGA for Agricultural Suitability while DIPNR has mapped the Rural Capability in the Hastings LGA. The land affected by the Proposal in the Greater Taree LGA is classified as Class 3 (suitable for intensive pasture in rotation with cropping) or Class 4 (only suitable for grazing native or improved pasture established with minimal till techniques). The land within the Hastings LGA relevant to the Proposal includes a small area of Class 1, a small area of Class 2, and the remainder is Class 4 land. The agricultural land capability along the Proposal route is shown on Figure 16-2.

Fisheries

The Camden Haven estuary is an important commercial fishery, and based on data for the period 1993-1999 supplied by the NSW DPI, the estuary ranked tenth in NSW in terms of value of finfish landed. Commercially important species fished in the estuary include:

- fish – sea mullet, luderick, dusky flathead, bream, sand whiting and eels
- prawns – school prawns and eastern king prawns
- crabs – mud crabs and blue swimmer crabs.

Commercial fishing activities occur in the Camden Haven River from the weir at Kendall downstream to Watson Taylors Lake, and further beyond to the mouth of the Camden Haven Inlet at North Haven. In the vicinity of the highway crossing of the Camden Haven River, the following fishing activities occur:

- trapping for mud crab along the river banks
- mesh netting for mullet
- trawling for prawns.

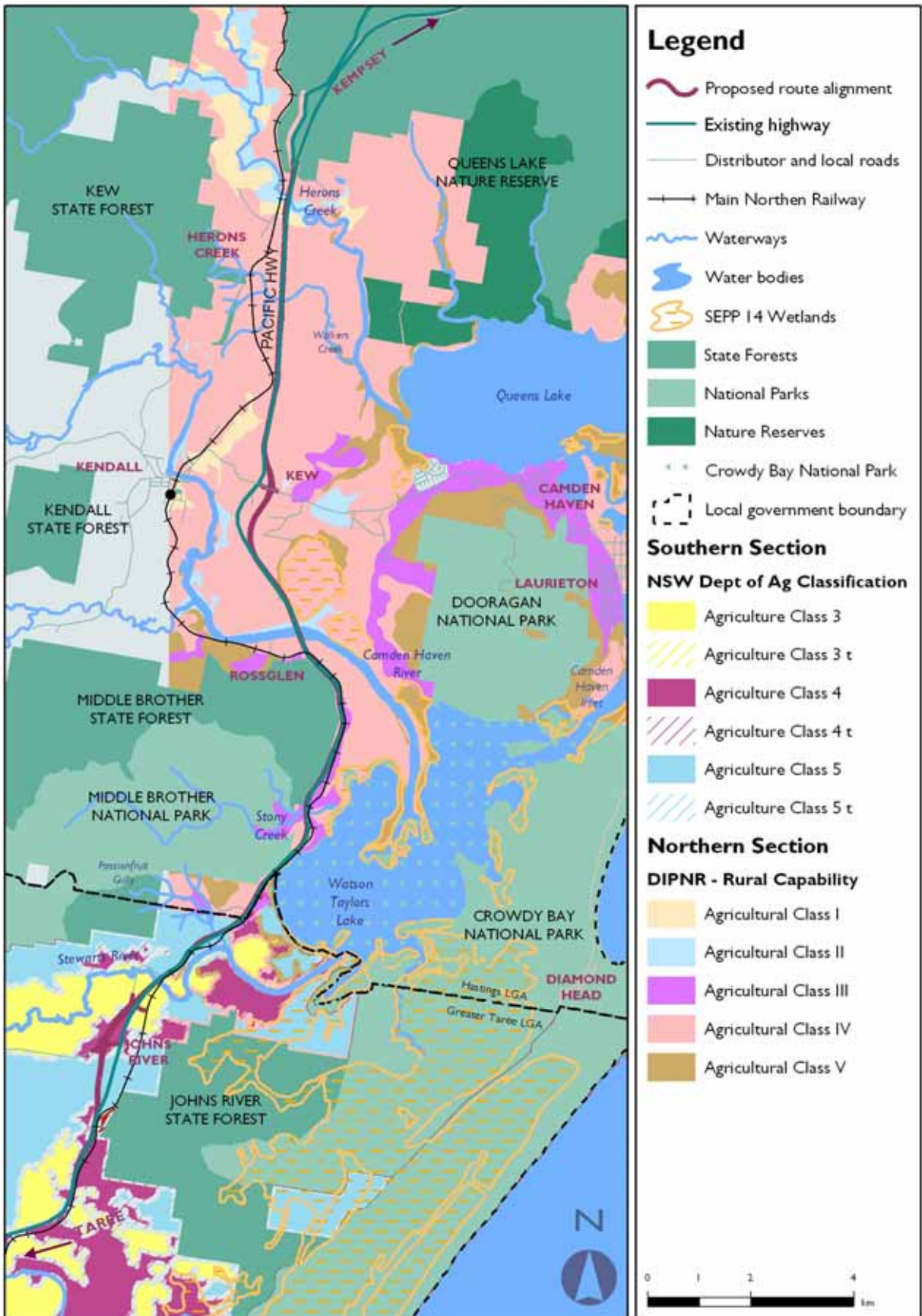


Figure 16-2 Agricultural land use zones

There are over 50 oyster leases within the Camden Haven estuary, mainly concentrated in the lower reaches of the river, Stingray Creek and around the southern shoreline of Queens Lake.

Commercial fishing in the Stewarts River and Herons Creek occurs downstream of the existing highway corridor. Prawn trawling occurs in the Stewarts River up to the confluence with Passionfruit Gully approximately 500 m downstream of the existing highway crossing. Mesh netting for mullet is confirmed in the lower reaches of Herons Creek near Queens Lake.

Recreational fishing in the Camden Haven estuary is popular all year round. It tends to be concentrated on the lower reaches of the Camden Haven River where good fishing locations are easily accessible by both boat and on the ground.

16.2.7 National Parks, State Forests and SEPP 14 wetlands

As shown in Figure 16-1, the study area includes the following recognised areas of conservation significance:

- National Parks and Nature Reserves - Middle Brother National Park, Crowdy Bay National Park and Dooragan National Park, and Queens Lake Nature Reserve
- State Forests - Johns River State Forest, Middle Brother State Forest, Kendall State Forest and Kew State Forest
- SEPP 14 wetlands - No. 544a Sunnyvale Swamp and No. 544c Kew Swamp.

16.2.7.1 National Parks

Middle Brother National Park

Middle Brother National Park lies on the western side of the highway and is located to the northwest of Johns River. A section of the National Park abuts the existing highway corridor. The Park covers an area of 1,868 ha and includes Middle Brother Mountain (the central mountain in the Three Brothers Mountain chain). The National Park was established to protect and preserve Aboriginal and non-Aboriginal sites and values, scenic and natural features, wildlife, and to provide a range of day use activities for recreational purposes. Middle Brother Mountain is identified as an important part of the east-west corridor between other coastal reserves east of the Comboyne Plateau.

Crowdy Bay National Park

Watson Taylors Lake forms part of the Crowdy Bay National Park and lies northeast of Johns River and directly east of the Pacific Highway. This area is not directly affected by the Proposal as the Main Northern Railway line and private properties prevent the highway from abutting the Park.

The Crowdy Bay National Park encompasses 7,412 ha of land that extends eastwards to the coast. It includes Diamond Head and is backed by heath plains and the southern foreshores of Watson Taylors Lake (NSW DEC 1987). This National Park has a wide variety of natural attributes and accommodates a range of conservation and recreational uses.

Other National Parks and Nature Reserves

The Dooragan National Park is the only other National Park within the study area. It is located at least 3 km east of the existing Pacific Highway and is 1,042 ha in size. It encompasses North Brother Mountain (part of Three Brother Mountains chain) and has the only facilities for disabled people to access rainforest in the Camden Haven region. It also provides an internationally recognised hang gliding launch facility.

The Queens Lake Nature Reserve lies approximately 4 km to the east of the existing highway.

16.2.7.2 State Forests

Various sections of all State Forests listed below are used for the following purposes:

- logging including heavy logging
- bee keeping and livestock grazing on occupation permits
- telecommunications lines and their maintenance for federal and private telecommunication providers
- recreational uses such as hiking, horse riding and nature appreciation.

Some 'old growth' forests do exist in the State Forests below although none are located in or within the vicinity of the study area.

Johns River State Forest

The Johns River State Forest is located to the southeast of Johns River and to the east of the existing highway and Main Northern Railway line.

Middle Brother State Forest

The Middle Brother State Forest is located to the north of Johns River and native bushland abuts the alignment of the Proposal for approximately 7.25 km between the Stony Creek crossing to just south of the Camden Haven River crossing.

Other State Forests

Other State Forests exist near the study area and include Kendall State Forest and Kew State Forest approximately 2 km and 1 km respectively to the west of the existing highway.

16.2.7.3 SEPP 14 wetlands

Two SEPP 14 wetlands, No. 544c and No. 544a, are located in the study area to the northeast of the Camden Haven River. Wetland No. 544c is located adjacent to the route of the Proposal and Wetland No. 544a is located approximately 500 m to the east of the Proposal (see Figure 16-1).

16.3 Impact assessment

16.3.1 Regional context

At a regional level, the planning and land use impacts of the Proposal between Moorland and Herons Creek are expected to be largely positive. An improved highway is likely to transport more travellers safely to and through the region. Provided appropriate mitigation measures are implemented, it is expected that tourism to the Camden Haven region would increase as the travel distances and times are reduced between Newcastle/Sydney and the Camden Haven region. As a result, the townships that the existing highway passes through (Johns River and Kew) and other nearby centres may be able to develop niche tourism markets, tapping the proposed increase in travellers to and through the region.

There would be minor impacts on operation of the Main Northern Railway line during the construction period in several locations (see Chapter 7). Minor land acquisition would be required from the rail reserve in several locations (see Chapter 6).

16.3.2 Local context

The Proposal would require the RTA to acquire about 70 ha of land from a total of 89 land holdings and several government agencies. The Proposal would also result in the loss of four dwellings. Chapter 6 provides a list of affected landholdings and Figures 6-5A and 6-5B show the existing property boundaries in the vicinity of the Proposal route.

16.3.3 Johns River township and surrounds

The grade-separated interchange proposed on the Johns River bypass at Stewarts River Road would require acquisition of land from 15 lots but no dwellings would be lost.

Positive impacts on residential amenity within the township would occur as environmental factors associated with the existing highway such as noise and air pollution would improve due to the bypass of the township. This may improve the local visual setting and lead to an expansion of residential allotments within the township.

No business properties within the township would be directly affected by the Proposal. However, businesses with a high reliance on highway trade are likely to be affected by a loss of direct exposure to highway traffic at the Johns River township. Commercial land use impacts are closely linked to economic impacts, which are discussed in Chapter 17.

The Johns River Public School would experience positive impacts from the Proposal due to reduced exposure to traffic noise and vehicle emissions, an improved visual setting, and increased safety. This is especially important for local school access by children and for those children who wait at the pick-up point for school buses on the southwest corner of the existing highway and Stewarts River Road. School children from the west of the Proposal would also benefit from the improved safety provided by the grade-separated interchange proposed at Stewarts River Road. These improvements, resulting from reduced traffic volumes and noise, are also expected at the monthly community markets and other activities held on the recreation reserve, or in the Community Hall.

It is not expected that there would be any direct impact on the Boral Quarry north of Johns River. If construction material is to be sourced from the quarry for the construction of the Proposal, an expansion of the quarry may result. The quarry operators would need to obtain approvals for any quarry expansion.

The Camp Obadiah property would not be affected by acquisition for the Proposal as the highway would be duplicated on the opposite side to this property but right turns to and from the property would no longer be possible.

Immediately to the north of Johns River, 14 land holdings to the west of the Proposal would be marginally reduced in size. Minimal impact is expected due to the generally large size of these properties. Dwelling impacts are limited to a slightly reduced setback from the highway for some dwellings. In the northern area of the Lake Section of the Proposal route, acquisitions would be required from eight properties and this acquisition is generally expected to be minor in relation to property size. A bridge over the Main Northern Railway line, 400 m to the south of the Camden Haven River, would be constructed and require minor acquisition of land in the rail reserve.

16.3.4 Kew township and surrounds

Residential land use within Kew would be affected through the loss of two dwellings and the acquisition of land from 25 properties. This includes the loss of a recently constructed house, severance of one property and partial acquisition from four allotments in the Glen Haven estate. The other house to be acquired is located in Bellbird Close at Glen Haven estate.

Properties fronting the existing highway within the township of Kew would experience an improvement in amenity due to a reduction in noise and air pollution associated with the bypass of the township. This may possibly enhance the visual setting within and surrounding Kew, increasing its attractiveness for future residential development.

There are no expected direct impacts on commercial land holdings in Kew. Some businesses would be affected by the loss of direct exposure to highway through traffic. As with Johns River, the commercial viability of some businesses may therefore be affected (see Chapter 17).

The properties on which the businesses Bushwood Furniture and Bethesda Nursery are located to the south of Kew would both experience a minor loss of land. The new carriageway would be located closer to the property boundary of Bushwood Furniture than the existing highway, and, whilst the new carriageway would be constructed within the existing road reserve, acquisition of 0.8 ha from the southern portion would be required for an access road and a sedimentation basin. The close proximity of the Proposal is likely to result in visual and noise impacts (see Chapters 13 and 19). Access to the property would be a left-in/left-out only arrangement (see Chapter 6).

A very small portion of land on the northeast corner of the Bethesda Nursery would be acquired. Local access to the nursery would be available from the proposed roundabout on the existing highway.

Selection of the Proposal route ensured that the community facilities of Kew would not be adversely affected. Neither the Camden Haven Golf Club, the Seventh Day Adventist Church nor the Camden Haven High School would be affected by land acquisition or access changes. All three community facilities would benefit from better and safer access to the highway and improved local traffic conditions, especially along Ocean Drive.

To the north of Kew, the Kew/Kendall STP would be impacted by minor land acquisition for widening of the road reserve for the proposed southbound carriageway. This would not affect the operation of the STP but would involve 2.7 ha area of the 120 ha landholding used for eucalypt plantation.

16.3.5 Other urban settlements

Rossglen would not be directly affected, but improvements to access arrangements to the highway are proposed. The entry to Rossglen would be relocated 0.3 km to the south with an exit to Ross Glen Road from the northbound lane. A median break at this point would also allow all turning movements.

Kendall is located approximately 1.5 km to the west of the Proposal and no direct impacts would be experienced. Positive impacts are likely to be experienced by residents and visitors as the interchange between Ocean Drive and the Pacific Highway would be improved, thereby improving access to the town. This would also contribute to a safer local road system.

Land acquisition for the Proposal would be required from 24 properties in and around Herons Creek. Two dwellings would be acquired near Herons Creek, one to the south of Herons Creek Road and the other to the north and on the western side of the highway. Acquisition would also be required from the Herons Creek Public School and the upgraded highway would be about 10m closer to the school.

Acquisition from the Eggbert Egg Farm to the south of Herons Creek would amount to a loss of approximately 0.5 ha of land, but no dwellings or other buildings would be directly affected. This acquisition is to enable the widening of the road reserve to accommodate the upgraded highway with allowance for the possible future addition of a frontage road. A median break would be provided on the upgraded highway to allow for all turning movements into the farm. The Boral Timber mill would not be affected by the Proposal, which is also unlikely to affect any development that may occur on the site in future.

16.3.6 Proposed and approved developments

A 17 lot rural residential estate has been approved just to the north of Johns River township on Stewarts River Road (see Figure 6-1B). This subdivision would be bisected by the Proposal with two existing and eight future lots being severed or directly impacted and the remainder of the subdivision layout likely to require modification.

The Lake Ridge estate to the northeast of Kew and north of Ocean Drive would have five residential lots impacted (see Figure 6-1K). Amenity impacts are likely on those properties where land is acquired for the Proposal.

The Proposal would impact land on the western side of the Taylors Quarry property that is situated to the east of Kew on Ocean Drive. Current land uses would not be affected as the quarry no longer operates, and the Proposal is also unlikely to impact land identified for possible future use as a waste transfer station development proposed by Hastings Council.

16.3.7 Agriculture and fisheries

Agriculture

The current property size, the amount of land proposed to be acquired, and the owner's current and intended use for that property dictates the severity of Proposal impacts on agriculture. The study area does not include land classified as high agricultural value in either the Hastings or Greater Taree LGAs. Land within the study area in the Greater Taree LGA is identified as Class 3 and 4 agricultural, while land within the Hastings LGA has a small area of Class 1 and Class 2 but is mostly Class 4 agricultural land.

The Proposal involves construction of a new carriageway alongside the existing highway carriageway for the entire Proposal length apart from the bypasses of the Johns River and Kew townships. Consequently, it has been possible to restrict impact to four agricultural holdings, and only one of these is a fully commercial business (dairying on irrigated pastures). All agricultural holdings are sensitive to loss of land. As a consequence, the design of the Proposal has been undertaken so that only 4 ha of land in total would be acquired from these holdings (see Chapter 6). The land acquired would be limited to the edges of the existing holdings and is not expected to result in production or economic losses.

The affected holdings are described in Section 16.2.6 and the anticipated impacts on each of these holdings are as follows:

- Commercial dairy property (Stewarts River flats, west and east of highway) – a small area of land would be lost, adjacent to a dwelling, that is used to provide ready access for supervised calving of stud dairy cows. Calving operations would not be affected by the acquisition. Depending on construction techniques and phasing, access under the existing bridge to grazing land on the eastern side of the property may be restricted during the construction period. Once the highway upgrade and bridge construction are complete, stock access under the bridges would be as currently exists except for the location of a sedimentation basin at the southern end of the bridge (see Figure 6-1C).
- Dairy calving property (Camden Haven River flats, north of river) – a narrow strip of land belonging to the property on the eastern side of the highway would be lost for highway widening and for a sedimentation basin to be installed. On the west side of the highway no acquisition would be required however drainage modifications are proposed which would assist in alleviating an existing drainage problem on the west side adjacent to the existing culvert at Station 13060. Changes to the natural drainage paths to the west appear to have resulted in the expansion of swamp and the loss of productive agricultural land. Construction of an open drain within the existing road reserve from Station 13050 to the sedimentation basin adjacent to the Camden Haven River at Station 12800 is proposed. The proposed drain would improve drainage on the west side and help to alleviate the swamp land encroachment which has occurred.
- Rural residential, beef, and citrus orchard (south of Kew, east of highway) – a small portion of this property (approximately 0.9 ha) would need to be acquired.

It is possible that impacts to rural amenity may result from the introduction of a new major road in locations where no such road previously existed (bypasses of Johns River and Kew). Such impacts could include changes to rural views and the 'peace and quiet' of the rural environment. Design elements to reduce traffic noise would be important to mitigate amenity impacts. The visual and noise implications are addressed in Chapters 13 and 19 respectively.

The only loss to farming infrastructure on all agricultural properties would be fences and these would be replaced both during construction and permanently in accordance with RTA's replacement policy (see Appendix B). All impacts to farms would be insignificant in terms of regional agricultural production.

Fisheries

The proposed construction of waterway crossings is unlikely to have any effect on commercial and recreational fishing activities providing mitigation measures are implemented. This also applies to oyster leases downstream of the crossing points in the lower reaches of Watson Taylors Lake and Queens Lake. All leases are in excess of 7 km downstream of the highway, and while turbid and low quality waters resulting from Proposal activities may flow to these points and disrupt the feeding cycles of oysters, the probability of this occurring is negligible.

Commercial and recreational fishing are unlikely to be impacted if mitigation measures are implemented to protect aquatic habitat and biota. The impacts on aquatic ecology and relevant mitigation measures are discussed in Chapter 11.

16.3.8 National Parks, State Forests and SEPP 14 wetlands

16.3.8.1 National Parks and Nature Reserves

Middle Brother National Park

The design of the Proposal where it abuts the Middle Brother National Park has been refined so that there is no encroachment into the gazetted Park area and, as a result, no change to the Park's boundaries would be required. Consequently no land use impacts would occur.

Crowdy Bay National Park

This National Park is not directly affected by the proposal as the Main Northern Railway line and private properties prevent the highway from abutting the Crowdy Bay National Park, which includes Watson Taylors Lake. Possible impacts may result from construction and operational highway runoff entering the lake system. However, design measures have been included so that these effects will be prevented (see Chapters 7 and 9).

Other National Parks and Nature Reserves

The Dooragan National Park is the only other park within the vicinity of the study area. The Park is located approximately 3 km to the east of the highway and therefore the potential for impacts to occur is considered negligible. Queens Lake Nature Reserve is situated a sufficient distance (i.e. 4 km) away from the Proposal route for it not to be subject to any land use impacts.

16.3.8.2 State Forests

Johns River State Forest

The Johns River State Forest would not be affected by the Proposal. The Proposal would duplicate the current alignment to the south of Johns River and the bypass of Johns River would deviate the alignment further west and away from Johns River State Forest.

Middle Brother State Forest

Minor acquisition of 2.5 ha along the eastern edge of Middle Brother State Forest would be required for the Proposal. This acquisition represents 0.1% of the total area of Middle Brother State Forest. It is unavoidable as the current route is constrained to the east by the Main Northern Railway line. Most of the second carriageway would be constructed within the current road reserve, but additional land is still required for the reserve of the second carriageway and the relocation of the Ross Glen Road junction to improve safety.

A positive impact is that NSW State Forests had initially planned to move the junction of Charles Yard Road with the Pacific Highway to a point 0.9 km to the south. This junction is now an integral part of the Proposal and can be implemented with a reduction in impact on the State Forest land.

The Proposal would not affect any existing or proposed land uses within the Middle Brother State Forest.

Other State Forests

The Kendall and Kew State Forests are located sufficiently distant from the Proposal so that there would be no land use or other impacts.

16.3.8.3 SEPP 14 wetlands

The Proposal route was selected so that SEPP 14 wetlands No. 544c and No. 544a would not be directly affected during either construction or operational phases. There is the unlikely possibility that stormwater runoff during either of these phases may flow to the wetlands. Drainage design measures incorporated for prevention of highway runoff to the SEPP 14 wetlands are described in Chapter 9.

16.4 Mitigation measures

16.4.1 Johns River and Kew townships

Mitigation measures for impacts on the approved residential subdivision at Johns River are discussed below (Section 16.4.3). The acquisition of the two required residential properties at Kew would be undertaken in accordance with the acquisition provisions discussed below (see Section 16.4.6). Mitigation measures in relation to impacts on highway-related businesses in both Johns River and Kew are presented in Section 17.4.

16.4.2 Other urban settlements

Land use in Rossglen, Kendall and Herons Creek settlements would not be directly or adversely affected by the Proposal as the number of access points to and from the highway would not change (although the locations of some access points may shift) and no land acquisition is required in these areas.

16.4.3 Proposed developments

The redesign of the approved rural residential subdivision at Johns River subdivision (subject to appropriate approvals from Greater Taree Council) would be required as a result of its bisection by the Proposal. The provision of the Bulleys Road access road on the western side of the Proposal could provide a new access for the redesigned lots. Mitigation measures for other potential impacts on lots within this subdivision are addressed in other chapters and include visual impact reduction and urban landscaping (see Chapter 13), and appropriate drainage infrastructure (see Chapter 9).

16.4.4 Agriculture and fisheries

Minimal agricultural impacts are likely. Land acquisition needed for the Proposal would be undertaken in accordance with the RTA's *Land Acquisitions Policy Statement* (refer to Appendix B). Loss of farming assets such as fences would be made good both temporarily during construction and permanently in the operational phase as per RTA policy.

Positive impacts are likely for some land holdings through the improvement of highway drainage as detailed in Chapter 9.

The Proposal is not expected to impact on commercial or recreational fishing if appropriate mitigation measures to prevent impacts on aquatic ecology are implemented (see Chapter 11). Measures to mitigate obstructions to vessels in navigable waterways would also be implemented such as planning the construction of bridge duplication to allow a navigable path through the construction corridor at all times and the bridges are designed such that new pier locations match the existing.

16.4.5 State Forests, National Parks and SEPP 14 wetlands

Apart from minimal acquisition of land from Middle Brother State Forest, land uses would not be affected in State Forests, National Parks or SEPP 14 wetlands. Possible terrestrial ecological impacts and related mitigation measures are discussed in Chapter 10. Effects from the change to drainage as a result of the Proposal and mitigation measures are discussed in Chapter 9.

16.4.6 Land acquisition

The *Roads Act 1993* authorises the RTA to acquire land affected by its proposals, while payment for such acquisition is assessed in accordance with the provisions of the *Land Acquisition (Just Terms Compensation) Act 1991*. All property acquisition would be undertaken in accordance with the RTA's *Land Acquisition Policy Statement*, which is included as Appendix B.

16.5 Implications for ESD

16.5.1 Precautionary principle

Land use in the study area is regulated and guided by a number of local plans, relevant regional plans and state planning policies. The LEPs contain zoning provisions and do not allow development without environmental assessment and Council consent in ecologically sensitive areas such as SEPP 14 wetlands. The route of the Proposal was selected after the examination and assessment of a number of possible routes and was considered to be the most appropriate in terms of avoiding National Parks and SEPP 14 wetlands or, where direct impact would unavoidably occur, reducing impacts on State Forests, urban areas, agricultural enterprises and cultural heritage (Aboriginal and non-Aboriginal) features. Future development along the Proposal route would be regulated by the planning regulations of the two Councils.

16.5.2 Intergenerational equity

The planning of the Proposal is consistent with local and regional planning policies, which govern development within specified objectives for desired future outcomes. The mitigation measures proposed would assist in maintaining the ecological values of the study area. The Proposal would not result in the degradation of land use resources for future generations.

16.5.3 Conservation of biological diversity

The selection of the preferred route and the proposed route design have been undertaken to avoid disturbance to National Parks and SEPP 14 wetlands and to minimise impacts on State Forests. A primary reason for this is to conserve the high biological diversity identified within these areas. This is discussed in detail in Chapters 10 and 11.

16.5.4 Improved valuation and pricing of environmental resources

The value of environmental resources such as the SEPP 14 wetlands, Middle Brother and Crowdy Bay National Parks and Middle Brother and Johns River State Forests in the vicinity of the Proposal have been recognised in the location of the proposed upgrade, its concept design, and mitigation measures proposed.