Appendix I- Significant Fauna Species Analysis

Scheduled Species

Literature Review								Results	
Species	**NCA Status**	**EPBC Status**	**Database**	**Habitat (foraging and resting) Preferences Breeding/nesting and Seasonal influences**	**Species Distribution**	**SEWPAC Survey Requirements**	**Likelihood of Occurrence (as per literature review)**	**Assessment to Date**	**Results and Likely Presence Based on Field Survey**
Accipiter novae-hollandiae Grey Goshawk	NT		Wildlife Online	Forests, woodlands, well timbered landscapes, may hunt over open country (Flegg, 2003). Grey Goshawks form permanent pairs that defend a home territory year round. Both sexes constructs a stick nest lined with leaves high in a tree fork, and often re-use the same nest. Breeding season in the north is between January and May (Birds Australia, 2010).	The Grey Goshawk is found in coastal areas in northern and eastern Australia. The white morph is predominant in the more open forests of north-western Australia and coastal Victoria and is the only form found in Tasmania. The grey morph is more common in the thicker, sub-tropical forests of the east coast (Birds Australia, 2010). The Grey Goshawk is sedentary with juveniles moving in search of new territories (Birds Australia, 2010).	No specific guidelines available. General survey guidelines for birds (SEWPAC, 2011) include: ▪ Area searches (typically 1-3ha for 10-20mins); ▪ Transect surveys (record birds while travelling between two fixed points of known distance); ▪ Transect surveys by boat are well suited to detecting birds that occur on rocky shores and cliffs of islands and ▪ Point surveys (usually 5-20mins) sampling points are usually predetermined and selected either randomly or systematically through the area.	Possible	Chenoweth EPLA undertook an 8 day fauna survey of the proposed disturbance area in September 2010 and a further 8 days survey in February 2011. The Chenoweth Surveys were undertaken as follows: ▪ Dedicated bird watching was undertaken for 20 minutes per area (Figure 12) every morning in the early morning and late afternoon on each day of the survey. During this time, two observers walked quietly over selected areas (point surveys) of the site to detect birds present both through direct observation and through calls. ▪ Birds were also recorded when opportunistically observed during other survey activities. ▪ Nocturnal birds were searched for as part of spotlighting and call playback activities on site ▪ Migratory shorebird searches were undertaken along the beach-front and tidal creeks. Point surveys of these areas were undertaken on foot for 20 minutes and sampled across a range of tide heights. ▪ A survey from a boat of the beaches at low tide was undertaken for a total of 2.5 hours during the dry season survey on 26 September 2010 between 2:00pm – 04:30pm. ▪ Leeke's Estuary (Figure 1) was walked during the wet season survey on 21 February 2011 at low tide (incoming) between 06:20am – 09:30am. ▪ A portion of the Estuary from the mouth to the shed was surveyed over a period of 3 hours to actively search for feeding and roosting waders. ▪ Detailed habitat assessments were also undertaken throughout GKI. Central Queensland University (CQE) undertook bird surveys on GKI between 6 – 8 October 2010 and 21-25 March 2011. CQU bird surveys involved the traversing of the main	Not recorded during survey. Possible foraging habitat. It is unclear how far over open ocean juveniles may move in search of new territories.

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								development footprint by foot and electric vehicle with regular stops made to look and listen for the presence of birds (point searches). Opportunistic sightings between stop points were also recorded. All beaches and rocky headlands were surveyed for birds during a full circuit of the island by boat on Thursday 7th October.	
Actitis hypoleucos Common Sandpiper		Marine, Migratory	Wildlife Online Birds Australia	Fresh and salt marshes, beside lakes, dams, streams, sheltered coasts, rocky shores (Flegg, 2003). In Australia, the Common Sandpiper is found in coastal or inland wetlands, both saline or fresh. It is found mainly on muddy edges or rocky shores. During the breeding season in the northern hemisphere, it prefers freshwater lakes and shallow rivers (Birds Australia, 2010)	In Australasia the common sandpiper visits New Guinea and Australia, mainly in the north and west. It is migratory, breeding in Eurasia. Most of the western breeding populations winter in Africa and eastern breeding populations winter in Australia and south Asia to Melanesia. Some birds do not return to Eurasia to breed, but remain in the north of Australia throughout the Australian winter (Birds Australia, 2010). In Queensland it occurs mainly in the north: South-eastern Gulf of Carpentaria, Queensland and Cairns Foreshore, Queensland	Surveys for migratory shorebirds (SEWPAC, 2010) should be conducted at sites where either: ■ No suitable survey records exist or ■ Records are too old to be considered reliable; or ■ The site characteristics have changed. The majority of shorebirds are present during the non-breeding season (October to march) and this is when count surveys to establish the presence, number , habitat characteristics and the context of the site (ie how many other similar sites occur and are these used by shorebirds). Survey recommendations are as follows: ■ At a minimum cover all the habitat thought to be used by the same population of shorebirds and the entire contiguous habitat where shorebirds occur. ■ Surveys should be conducted during the period when the majority of migratory birds are present in the area and the during the northern hemisphere breeding season to obtain non-breeding, non-migratory immature populations. ■ Surveys for roosting birds are to be conducted as close to high tide as possible (max 2 hours either side). Surveys for foraging birds as close to low tide as possible (no more than 2hours either side). Surveys should not be undertaken during high rainfall or strong winds. ■ Survey effort should be a minimum of 4 surveys for roosting shorebirds during the period when most are present in the area (eg 1 in dec, 2 in Jan and 1 in Feb). A minimum of 4 surveys for foraging shorebirds including 2 at spring low tide and 2 at neap low tide. For large sites or sites where large numbers are expected it is recommended that at least two people undertake the counts. Data requirements are: ■ Roosting sites – total abundance, species richness, species abundance. ■ Shorebird behaviour – activity at site (roosting, foraging, both), foraging location (mapping of foraging habitat). ■ Survey conditions – date, time of day, tide height, weather conditions (temperature, precipitation, wind speed, wind direction). ■ Number of observers and experience level. ■ Habitat characteristics (dominant landform type, site hydrology, dominant vegetation types, inter-tidal substrate, invasive species, disturbance regime, presence of suitable nocturnal roost sites). ■ Methodology used to conduct survey. Where it is not possible to conduct surveys within the manner recommended a thorough habitat assessment must be done. The characteristics of the site (landform, hydrology, flood levels) should be assessed.	Possible	Chenoweth EPLA undertook an 8 day fauna survey of the proposed disturbance area in September 2010 and a further 8 days survey in February 2011. The Chenoweth Surveys were undertaken as follows: ■ Dedicated bird watching was undertaken for 20 minutes per area (Figure 12) every morning in the early morning and late afternoon on each day of the survey. During this time, two observers walked quietly over selected areas (point surveys) of the site to detect birds present both through direct observation and through calls. ■ Birds were also recorded when opportunistically observed during other survey activities. ■ Nocturnal birds were searched for as part of spotlighting and call playback activities on site ■ Migratory shorebird searches were undertaken along the beach-front and tidal creeks. Point surveys of these areas were undertaken on foot for 20 minutes and sampled across a range of tide heights. ■ A survey from a boat of the beaches at low tide was undertaken for a total of 2.5 hours during the dry season survey on 26 September 2010 between 2:00pm – 04:30pm. ■ Leeke's Estuary (Figure 1) was walked during the wet season survey on 21 February 2011 at low tide (incoming) between 06:20am – 09:30am. ■ A portion of the Estuary from the mouth to the shed was surveyed over a period of 3 hours to actively search for feeding and roosting waders. ■ Detailed habitat assessments were also	Not recorded during field survey. Unlikely that Great Keppel Island is a significant part of its habitat as it's main distribution is from north and western Australia as far south as Cairns. However it is possible that this species may occasionally be present on GKI.

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								undertaken throughout GKI. Central Queensland University (CQE) undertook bird surveys on GKI between 6 – 8 October 2010 and 21-25 March 2011. CQU bird surveys involved the traversing of the main development footprint by foot and electric vehicle with regular stops made to look and listen for the presence of birds (point searches). Opportunistic sightings between stop points were also recorded. All beaches and rocky headlands were surveyed for birds during a full circuit of the island by boat on Thursday 7th October.	
Apus pacificus Fork-tailed Swift		Marine, Migratory	EPBC Protected Matters Wildlife Online Birds Australia	Mostly occur over inland plains but sometimes above foothills or in coastal areas. They often occur over cliffs and beaches and also over islands. They mostly occur over dry or open habitats, including riparian woodland and tea-tree swamps, low scrub, heathland or saltmarsh. They are also found at treeless grassland and sandplains covered with spinifex, open farmland and inland and coastal sand-dunes. Forage aerially, up to hundreds of metres above ground, but also less then 1m above open areas or over water (DEWHA, 2010). The Fork-tailed Swift usually arrives in Australia around October; some arrive early in September, however, this is rare. The Fork-tailed Swift leaves southern Australia from mid-April and departs the Darwin area by the end of April. The birds also depart via north-east Queensland, with sightings common from February–March and most birds having departed by May (SEWPAC, 2010).	The Fork-tailed Swift is a non-breeding visitor to all states and territories of Australia. In Queensland there are scattered records of the Fork-tailed Swift in the Gulf Country, and a few records on Cape York Peninsula. In the north-east region there are many records east of the Great Divide from near Cooktown and south to Townsville. They are also widespread but scattered in coastal areas from 20° S, south to Brisbane and in much of the south south-eastern region. They are more widespread west of the Great Divide, and are commonly found west of the line joining Chinchilla and Hughenden. They are found to the west between Richmond and Winton, Longreach, Gowan Range, Maraila National Park and Dirranbandi. They are rarely found further west to Windorah and Thargomindah (SEWPAC, 2010).	As above	Known	Chenoweth EPLA undertook an 8 day fauna survey of the proposed disturbance area in September 2010 and a further 8 days survey in February 2011. The Chenoweth Surveys were undertaken as follows: ▪ Dedicated bird watching was undertaken for 20 minutes per area (Figure 12) every morning in the early morning and late afternoon on each day of the survey. During this time, two observers walked quietly over selected areas (point surveys) of the site to detect birds present both through direct observation and through calls. ▪ Birds were also recorded when opportunistically observed during other survey activities. ▪ Nocturnal birds were searched for as part of spotlighting and call playback activities on site ▪ Migratory shorebird searches were undertaken along the beach-front and tidal creeks. Point surveys of these areas were undertaken on foot for 20 minutes and sampled across a range of tide heights. ▪ A survey from a boat of the beaches at low tide was undertaken for a total of 2.5 hours during the dry season survey on 26 September 2010 between 2:00pm – 04:30pm. ▪ Leeke's Estuary (Figure 1) was walked during the wet season survey on 21 February 2011 at low tide (incoming) between 06:20am – 09:30am.	Not recorded by CEPLA during field survey. CQE recorded a total of 25 birds during the March 2011 survey within the Clam Bay Precinct and Resort Precinct (Refer to (Black and Houston, 2011) for further detail). Possible that Great Keppel Island is a significant part of its habitat as the coastal environment may provide foraging habitat for this species. Breeding habitat – Absent. Does not breed in Australia.

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								▪ A portion of the Estuary from the mouth to the shed was surveyed over a period of 3 hours to actively search for feeding and roosting waders. ▪ Detailed habitat assessments were also undertaken throughout GKI. Central Queensland University (CQE) undertook bird surveys on GKI between 6 – 8 October 2010 and 21-25 March 2011. CQU bird surveys involved the traversing of the main development footprint by foot and electric vehicle with regular stops made to look and listen for the presence of birds (point searches). Opportunistic sightings between stop points were also recorded. All beaches and rocky headlands were surveyed for birds during a full circuit of the island by boat on Thursday 7th October.	
Ardea ibis Cattle Egret		Marine, Migratory	EPBC Protected Matters Wildlife Online Birds Australia	The Cattle Egret occurs in tropical and temperate grasslands, wooded lands and terrestrial wetlands. It has occasionally been seen in arid and semi-arid regions however this is extremely rare. High numbers have been observed in moist, low-lying poorly drained pastures with an abundance of high grass; it avoids low grass pastures. It has been recorded on earthen dam walls and ploughed fields. It is commonly associated with the habitats of farm animals, particularly cattle, but also pigs, sheep, horses and deer. The Cattle Egret is known to follow earth-moving machinery and has been located at rubbish tips. It uses predominately shallow, open and fresh wetlands including meadows and swamps with low emergent vegetation and abundant aquatic flora. They have sometimes been observed in swamps with tall emergent vegetation (SEWPAC, 2010). The Cattle Egret breeds in colonies, either mono-specific or with other Egrets/Herons. In Australia the principal breeding sites are the central east coast from about Newcastle to Bundaberg. East coast colonies operate in a well defined period from October to January, occasionally extending by a month either side. In the Northern Territory, Top End colonies operate mainly November to February with smaller numbers breeding at other times	The Cattle Egret is widespread and common according to migration movements and breeding localities surveys. Two major distributions have been located; from north-east Western Australia to the Top End of the Northern Territory and around south-east Australia. In Western Australia and the Northern Territory, the Cattle Egret is located from Wyndham to Arnhem Land. In south-east Australia it is found from Bundaberg, inland to Roma, Thargominda, and then down through Inverell, Walgett, Nyngan, Cobar, Ivanhoe, Balranald to Swan Hill, and then west to Pinnaroo and Port Augusta (SEWPAC, 2010) In Australia the Cattle Egret is a partial migrant; some of the population migrates to New Zealand, while the remainder migrates locally. The birds migrate from breeding colonies in south-east Queensland and north-east NSW to spend winter in either south-east Australia or New Zealand. In north and west Australia the movement is not as well known as that of the east and south. The birds are recorded during all months in the Northern Territory; however, they are less abundant from February to May, immediately after breeding. Some are believed to migrate to south-west Western Australia, arriving from April. Surveys indicate the Cattle Egret is a migrant to New Guinea during the dry season. It is believed to depart from both the Northern Territory and north-east Queensland. The bird is also known to move east from the Northern Territory to Queensland (SEWPAC, 2010).	As above	Possible	Chenoweth EPLA undertook an 8 day fauna survey of the proposed disturbance area in September 2010 and a further 8 days survey in February 2011. The Chenoweth Surveys were undertaken as follows: ▪ Dedicated bird watching was undertaken for 20 minutes per area (Figure 12) every morning in the early morning and late afternoon on each day of the survey. During this time, two observers walked quietly over selected areas (point surveys) of the site to detect birds present both through direct observation and through calls. ▪ Birds were also recorded when opportunistically observed during other survey activities. ▪ Nocturnal birds were searched for as part of spotlighting and call playback activities on site ▪ Migratory shorebird searches were undertaken along the beach-front and tidal creeks. Point surveys of these areas were undertaken on foot for 20 minutes and sampled across a range of tide heights. ▪ A survey from a boat of the beaches at low tide was undertaken for a total of 2.5 hours during the dry season survey on 26 September	Not recorded during field survey. Unlikely to breed on Great Keppel Island as the breeding distribution reaches its northern extent at Bundaberg. Possible foraging habitat in restricted parts of GKI. Most wetland areas on the island have tidal influences and the Cattle Egret prefers fresh water.

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Ardea modesta Eastern Great Egret		Marine, Migratory	Wildnet Online	The Eastern Great Egret has been reported in a wide range of wetland habitats (for example inland and coastal, freshwater and saline, permanent and ephemeral, open and vegetated, large and small, natural and artificial). These include swamps and marshes; margins of rivers and lakes; damp or flooded grasslands, pastures or agricultural lands; reservoirs; sewage treatment ponds; drainage channels; salt pans and salt lakes; salt marshes; estuarine mudflats, tidal streams; mangrove swamps; coastal lagoons; and offshore reefs. The species usually frequents shallow waters. The Eastern Great Egret may retreat to permanent wetlands or coastal areas when other wetlands are dry (for example, during drought). This may occur annually in some regions with regular wet and dry seasons or erratically where the availability of wetland habitat is also erratic. In Australia, the largest breeding colonies, and greatest concentrations of breeding colonies, are located in near-coastal regions of the Top End of the Northern Territory (SEWPAC, 2011).	Eastern Great Egrets are widespread in Australia. They occur in all states/territories of mainland Australia and in Tasmania. They have also been recorded as vagrants on Lord Howe, Norfolk and Macquarie Islands. The Great Egret is dispersive and, in parts of its range, migratory. In Australia, multi-directional post-breeding movements of up to 280 km have been recorded in south-western Western Australia, and similar patterns of movement have been recorded in eastern Australia. The species undertakes some regular seasonal movements, mostly to and from breeding colonies, and towards the coast in the dry season. There is circumstantial evidence of long-distance migration, with regional differences in reporting rates suggesting that individuals migrate north to winter in tropical northern Australia, consistent with changes in the availability of suitable wetland habitat. Regular migration to locations outside of Australia is suspected but not confirmed. There are records of irruptive movements of individuals from Australia to New Zealand and individuals banded in Australia have been recovered in Papua New Guinea, with regular passage likely to occur across Torres Strait (SEWPAC, 2011).	Eastern Great Egret numbers may be counted or estimated by area search or by transect-point survey. Surveys can be conducted on foot or from light aircraft (SEWPAC, 2011).	Possible	Chenoweth EPLA undertook an 8 day fauna survey of the proposed disturbance area in September 2010 and a further 8 days survey in February 2011. The Chenoweth Surveys were undertaken as follows: ▪ Dedicated bird watching was undertaken for 20 minutes per area (Figure 12) every morning in the early morning and late afternoon on each day of the survey. During this time, two observers walked quietly over selected areas (point surveys) of the site to detect birds present both through direct observation and through calls. ▪ Birds were also recorded when opportunistically observed during other survey activities. ▪ Nocturnal birds were searched for as part of spotlighting and call playback activities on site ▪ Migratory shorebird searches were undertaken along the beach-front and tidal creeks. Point surveys of these areas were	Not recorded during field survey. Breeding habitat absent from GKI as breeding occurs in the Northern Territory in Australia. Possible foraging and roosting habitat occurs on GKI.

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Arenaria interpres Ruddy Turnstone		Marine, Migratory	EPBC Protected Matters Birds Australia	Found singly or in small groups along the coastline and only occasionally inland. Mainly found on exposed rocks or reefs, often with shallow pools, and on beaches. In the north, they are found in a wider range of habitats, including mudflats (Birds in Backyards, 2010). The Ruddy Turnstone mainly forages between lower supralittoral and lower littoral zones of foreshores, from strand-line to wave-zone. They often forage among banks of stranded seaweed or other tide-wrack. They are also known to forage on exposed rocky platforms, coral reefs and mudflats. The Ruddy Turnstone roosts on beaches, above the tideline, among rocks, shells, beachcast seaweed or other debris. They have also been observed roosting on rocky islets among grassy tussocks, and on mudflats and sandflats (SEWPAC, 2010).	The Ruddy Turnstone is widespread within Australia during its non-breeding period of the year, including from Tasmania in the south to Darwin in the north and many coastal areas in between. It is found in most coastal regions, with occasional records of inland populations (SEWPAC, 2010). In Australia, the birds leave sites in the south from mid-March. At some sites the population remains high into April with most departing during the first three weeks of April The Ruddy Turnstone breeds on the coasts of Europe, Asia and North America, generally north of 60° latitude and lays eggs from mid-May to early July. Common breeding coasts include Norway, Denmark, the Baltic coasts of Sweden, Finland, Spitsbergen and Estonia (SEWPAC, 2010). The birds mostly leave from mid-August to early September.	Surveys for migratory shorebirds (SEWPAC, 2010) should be conducted at sites where either: ▪ No suitable survey records exist or ▪ Records are too old to be considered reliable; or ▪ The site characteristics have changed. The majority of shorebirds are present during the non-breeding season (October to march) and this is when count surveys to establish the presence, number , habitat characteristics and the context of the site (ie how many other similar sites occur and are these used by shorebirds). Survey recommendations are as follows: ▪ At a minimum cover all the habitat thought to be used by the same population of shorebirds and the entire contiguous habitat where shorebirds occur. ▪ Surveys should be conducted during the period when the majority of migratory birds are present in the area and the during the northern hemisphere breeding season to obtain non-breeding, non-migratory immature populations. ▪ Surveys for roosting birds are to be conducted as close to high tide as possible (max 2 hours either side). Surveys for foraging birds as close to low tide as possible (no more than 2hours either side). Surveys should not be undertaken during high rainfall or strong winds.	Possible	Chenoweth EPLA undertook an 8 day fauna survey of the proposed disturbance area in September 2010 and a further 8 days survey in February 2011. The Chenoweth Surveys were undertaken as follows: ▪ Dedicated bird watching was undertaken for 20 minutes per area (Figure 12) every morning in the early morning and late afternoon on each day of the survey. During this time, two observers walked quietly over selected areas (point surveys) of the site to detect birds present both through direct observation and through calls. ▪ Birds were also recorded when opportunistically observed during other survey activities. ▪ Nocturnal birds were	Not recorded during field survey. Breeding habitat absent as breeding does not occur in Australia. Possible foraging and roosting habitat occurs on Great Keppel Island.

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Burhinus grallarius Bush Stone Curlew		Migratory	Birds Australia	Nest a scrape or small clearing on bare ground, usually near bush or tree, or beside a fallen dead limb (Readers Digest Complete Book of Australian Birds, 1986).	Found throughout most of Australia and on offshore islands.	As above	Known	Chenoweth EPLA undertook an 8 day fauna survey of the proposed disturbance area in September 2010 and a further 8 days survey in February 2011. The Chenoweth Surveys were undertaken as follows: ▪ Dedicated bird watching was undertaken for 20 minutes per area (Figure 12) every morning in the early morning and late afternoon on each day of the survey. During this time, two observers walked quietly over selected areas (point surveys) of the site to detect birds present	Recorded in a range of habitats across GKI by Chenoweth during the dry and wet season surveys (Sept 2010 and Feb 2011). Counts of this species were not undertaken.

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Charadrius bicinctus Double-banded Plover		Marine, Migratory	EPBC Protected Matters Birds Australia	Found on littoral, estuarine and fresh or saline terrestrial wetlands and also saltmarsh, grasslands and pasture. Occurs on muddy, sandy, shingled or sometimes rocky beaches, bays and inlets, harbours and margins of fresh or saline terrestrial wetlands such as lakes, lagoons and swamps, shallow estuaries and rivers. Sometimes associated with coastal lagoons, seagrass beds. Sometimes found on	During the non-breeding season, it is common in eastern and southern Australia, mainly between the Tropic of Capricorn and western Eyre Peninsula, with occasional records in northern Queensland and Western Australia. The Double-banded Plover breeds only in New Zealand, where it is widespread (SEWPAC, 2010). Depending on the region in New Zealand, birds begin to leave territories during October and November,	As above	Likely	Chenoweth EPLA undertook an 8 day fauna survey of the proposed disturbance area in September 2010 and a further 8 days survey in February 2011. The Chenoweth Surveys were undertaken as follows: ▪ Dedicated bird watching was	Not recorded during field survey. Breeding habitat absent as breeding does not occur in Australia. Foraging and roosting habitat occurs on Great Keppel Island.

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				exposed reefs and rock platforms with shallow rock pools and also on coastal sand dunes. In coastal regions, the species breeds on sandy, shelly or shingly beaches, spits and backing dunes, especially around estuaries (SEWPAC, 2010).	peaking in December, and join local flocks. Local flocking peaks during December and January. In inland areas of the southern South Island, these flocks persist until March and April with most departures occurring in February and March. Birds in both New Zealand and Australia return direct to breeding grounds from July, but mostly in August and early September.			undertaken for 20 minutes per area (Figure 12) every morning in the early morning and late afternoon on each day of the survey. During this time, two observers walked quietly over selected areas (point surveys) of the site to detect birds present both through direct observation and through calls. ▪ Birds were also recorded when opportunistically observed during other survey activities. ▪ Nocturnal birds were searched for as part of spotlighting and call playback activities on site ▪ Migratory shorebird searches were undertaken along the beach-front and tidal creeks. Point surveys of these areas were undertaken on foot for 20 minutes and sampled across a range of tide heights. ▪ A survey from a boat of the beaches at low tide was undertaken for a total of 2.5 hours during the dry season survey on 26 September 2010 between 2:00pm – 04:30pm. ▪ Leeke's Estuary (Figure 1) was walked during the wet season survey on 21 February 2011 at low tide (incoming) between 06:20am – 09:30am. ▪ A portion of the Estuary from the mouth to the shed was surveyed over a period of 3 hours to actively search for feeding and roosting waders. ▪ Detailed habitat assessments were also undertaken throughout GKI. Central Queensland University (CQE) undertook bird surveys on GKI between 6 – 8 October 2010 and 21-25 March 2011. CQU bird surveys involved the traversing of the main development footprint by foot and electric vehicle with regular stops made to look and listen for the presence of birds (point searches). Opportunistic sightings between stop points were also recorded. All beaches and rocky headlands were surveyed for birds during a full circuit of the island by boat on Thursday 7th October.	
Charadrius		Marine,	EPBC Protected	Bare sandy or dry mud areas, usually on	Very large distribution range including	As above	Possible	Chenoweth EPLA undertook an	Not recorded during field

Literature Review								Results	
Species	**NCA Status**	**EPBC Status**	**Database**	**Habitat (foraging and resting) Preferences Breeding/nesting and Seasonal influences**	**Species Distribution**	**SEWPAC Survey Requirements**	**Likelihood of Occurrence (as per literature review)**	**Assessment to Date**	**Results and Likely Presence Based on Field Survey**
ruficapillus Red-capped Plover		Migratory	Matters Wildlife Online Birds Australia	coast. (Flegg, 2003). Widespread on salt lakes and in coastal areas of southern Australia with foraging habitat largely the littoral fringe (Abensperg-Traun and Dickman, 1989).	Australia, Indonesia, Timor-leste and vagrant to New Zealand (Birdlife International, 2009).			8 day fauna survey of the proposed disturbance area in September 2010 and a further 8 days survey in February 2011. The Chenoweth Surveys were undertaken as follows: ▪ Dedicated bird watching was undertaken for 20 minutes per area (Figure 12) every morning in the early morning and late afternoon on each day of the survey. During this time, two observers walked quietly over selected areas (point surveys) of the site to detect birds present both through direct observation and through calls. ▪ Birds were also recorded when opportunistically observed during other survey activities. ▪ Nocturnal birds were searched for as part of spotlighting and call playback activities on site ▪ Migratory shorebird searches were undertaken along the beach-front and tidal creeks. Point surveys of these areas were undertaken on foot for 20 minutes and sampled across a range of tide heights. ▪ A survey from a boat of the beaches at low tide was undertaken for a total of 2.5 hours during the dry season survey on 26 September 2010 between 2:00pm – 04:30pm. ▪ Leeke's Estuary (Figure 1) was walked during the wet season survey on 21 February 2011 at low tide (incoming) between 06:20am – 09:30am. ▪ A portion of the Estuary from the mouth to the shed was surveyed over a period of 3 hours to actively search for feeding and roosting waders. ▪ Detailed habitat assessments were also undertaken throughout GKI. Central Queensland University (CQE) undertook bird surveys on GKI between 6 – 8 October 2010 and 21-25 March 2011. CQU bird surveys involved the traversing of the main development footprint by foot and electric vehicle with regular stops made to look and listen for the presence of birds (point searches). Opportunistic	survey. Possible foraging and roosting habitat occurs on Great Keppel Island.

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Species	**NCA Status**	**EPBC Status**	**Database**	**Habitat (foraging and resting) Preferences Breeding/nesting and Seasonal influences**	**Species Distribution**	**SEWPAC Survey Requirements**	**Likelihood of Occurrence (as per literature review)**	**Assessment to Date**	**Results and Likely Presence Based on Field Survey**
								sightings between stop points were also recorded. All beaches and rocky headlands were surveyed for birds during a full circuit of the island by boat on Thursday 7th October.	
Esacus magnirostris Beach-stone Curlew	V	Marine	Essential Habitat Mapping Wildlife Online Birds Australia	Open sand beaches, mudflats, reefs, mangroves (Flegg, 2003). Prefers beaches with estuaries or mangroves nearby, however also frequents river mouths, offshore sandbars associated with coral atolls, reefs and rock platforms and coastal lagoons (NSW NPWS,1999). They are mainly active at dawn, dusk and at night, but birds are often seen when they shift or move about sedately during the day. Call at night, breeding birds give a harsh, wailing *weer-loo* call, which is slightly higher pitched and more shrill than that of the related Bush Stone-curlew *Burhinus grallarius* (NSW DECC, 2005) The breeding season in temperate Australia lasts from September to November. Nests may be located on sandbanks, sandspits or islands in estuaries, coral ridges, among mangroves or in the sand surrounded by short grass and scattered casuarinas (NSW DECC, 2005).	In Australia, the Beach Stone-curlew occupies coastlines from about Point Cloates in Western Australia, across northern and north-eastern Australia south to north-eastern NSW, with occasional vagrants to south-eastern NSW and Victoria. In NSW, the species occurs regularly to about the Manning River, and the small population of north-eastern NSW is at the limit of the normal range of the species in Australia. (NSW DECC, 2005). An Island wide Wildnet search returned 99 records of this species.	No specific guidelines available. General survey guidelines for birds (SEWPAC, 2011) include: ▪ Area searches (typically 1-3ha for 10-20mins); ▪ Transect surveys (record birds while travelling between tow fixed points of known distance); ▪ Transect surveys by boat are well suited to detecting birds that occur on rocky shores and cliffs of islands and ▪ Point surveys (usually 5-20mins) sampling points are usually predetermined and selected either randomly or systematically through the area.	Known	Chenoweth EPLA undertook an 8 day fauna survey of the proposed disturbance area in September 2010 and a further 8 days survey in February 2011. The Chenoweth Surveys were undertaken as follows: ▪ Dedicated bird watching was undertaken for 20 minutes per area (Figure 12) every morning in the early morning and late afternoon on each day of the survey. During this time, two observers walked quietly over selected areas (point surveys) of the site to detect birds present both through direct observation and through calls. ▪ Birds were also recorded when opportunistically observed during other survey activities. ▪ Nocturnal birds were searched for as part of spotlighting and call playback activities on site ▪ Migratory shorebird searches were undertaken along the beach-front and tidal creeks. Point surveys of these areas were undertaken on foot for 20 minutes and sampled across a range of tide heights. ▪ A survey from a boat of the beaches at low tide was undertaken for a total of 2.5 hours during the dry season survey on 26 September 2010 between 2:00pm – 04:30pm. ▪ Leeke's Estuary (Figure 1) was walked during the wet season survey on 21 February 2011 at low tide (incoming) between 06:20am – 09:30am. ▪ A portion of the Estuary from the mouth to the shed was surveyed over a period of 3 hours to actively search for feeding and roosting waders. ▪ Detailed habitat assessments were also undertaken throughout GKI. Central Queensland University (CQE) undertook bird surveys on GKI between 6 – 8 October	Recorded at Leeks Creek (tidal inlet) by Chenoweth during the dry season survey (Sept 2010). Recorded at Leeks creek, beach and Putney Creek in Feb 2011. CEPLA recorded a total of 5 observations of this species over both the Dry and Wet season surveys. CQE recorded 1 specimen in the Resort Precinct in March 2011.

Literature Review								Results	
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								2010 and 21-25 March 2011. CQU bird surveys involved the traversing of the main development footprint by foot and electric vehicle with regular stops made to look and listen for the presence of birds (point searches). Opportunistic sightings between stop points were also recorded. All beaches and rocky headlands were surveyed for birds during a full circuit of the island by boat on Thursday 7th October.	
Falco cenchroides Nankeen Kestrel		Marine, Migratory	Birds Australia	Mostly avoids forests or dense woodlands, often breeding in cities (Flegg, 2003). Requires open grassy area for hunting, therefore commonly observed in open woodland. Also common on cultivated land where house mice and insects are abundant (Readers Digest Complete Book of Australian Birds, 1986).	Nankeen Kestrels are found in most areas of Australia and are also found on islands along Australia's coastline, as well as New Guinea and Indonesia (Birds Australia, 2010). An Island wide Wildnet search returned 8 records of this species.	General survey guidelines for birds (SEWPAC, 2011) include: ▪ Area searches (typically 1-3ha for 10-20mins); ▪ Transect surveys (record birds while travelling between tow fixed points of known distance); ▪ Transect surveys by boat are well suited to detecting birds that occur on rocky shores and cliffs of islands and ▪ Point surveys (usually 5-20mins) sampling points are usually predetermined and selected either randomly or systematically through the area;	Known	Chenoweth EPLA undertook an 8 day fauna survey of the proposed disturbance area in September 2010 and a further 8 days survey in February 2011. The Chenoweth Surveys were undertaken as follows: ▪ Dedicated bird watching was undertaken for 20 minutes per area (Figure 12) every morning in the early morning and late afternoon on each day of the survey. During this time, two observers walked quietly over selected areas (point surveys) of the site to detect birds present both through direct observation and through calls. ▪ Birds were also recorded when opportunistically observed during other survey activities. ▪ Nocturnal birds were searched for as part of spotlighting and call playback activities on site ▪ Migratory shorebird searches were undertaken along the beach-front and tidal creeks. Point surveys of these areas were undertaken on foot for 20 minutes and sampled across a range of tide heights. ▪ A survey from a boat of the beaches at low tide was undertaken for a total of 2.5 hours during the dry season survey on 26 September 2010 between 2:00pm – 04:30pm. ▪ Leeke's Estuary (Figure 1) was walked during the wet season survey on 21 February 2011 at low tide (incoming) between 06:20am – 09:30am. ▪ A portion of the Estuary from the mouth to the shed was surveyed over a period of 3 hours to actively search for feeding and roosting	Not recorded during CEPLA field survey. Recorded by Black and Houston (2011) at Leeks Beach, Putney Beach and Resort Precinct. Black and Houston recorded this species a total of 2 times in 2010 survey and 3 during the 2011 survey. Limited foraging habitat on Great Keppel Island as there are few open grassland areas.

Literature Review								Results	
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								waders. ▪ Detailed habitat assessments were also undertaken throughout GKI. Central Queensland University (CQE) undertook bird surveys on GKI between 6 – 8 October 2010 and 21-25 March 2011. CQU bird surveys involved the traversing of the main development footprint by foot and electric vehicle with regular stops made to look and listen for the presence of birds (point searches). Opportunistic sightings between stop points were also recorded. All beaches and rocky headlands were surveyed for birds during a full circuit of the island by boat on Thursday 7th October.	
Falco peregrinus Peregrine Falcon		Migratory	Birds Australia	The Peregrine Falcon is found in most habitats, from rainforests to the arid zone, and at most altitudes, from the coast to alpine areas. It requires abundant prey and secure nest sites, and prefers coastal and inland cliffs or open woodlands near water, and may even be found nesting on high city buildings (Birds in Backyards, 2010). Does not build nests, instead laying eggs in recesses in cliffs, hollows in large trees, or abandoned large nests of other birds such as hawks, eagles and ravens (Readers Digest Complete Book of Australian Birds, 1986).	The Peregrine Falcon is found across Australia, but is not common anywhere. It is also found in Europe, Asia, Africa and the Americas (Birds in Backyards, 2010). It is largely resident within large home ranges of 20-30 square kilometres. Young birds roam until ready to breed (Birds in Backyards, 2010).	NO specific guidelines. General survey guidelines for birds (SEWPAC, 2011) include: ▪ Area searches (typically 1-3ha for 10-20mins); ▪ Transect surveys (record birds while travelling between tow fixed points of known distance); ▪ Transect surveys by boat are well suited to detecting birds that occur on rocky shores and cliffs of islands and ▪ Point surveys (usually 5-20mins) sampling points are usually predetermined and selected either randomly or systematically through the area.	Possible	Chenoweth EPLA undertook an 8 day fauna survey of the proposed disturbance area in September 2010 and a further 8 days survey in February 2011. The Chenoweth Surveys were undertaken as follows: ▪ Dedicated bird watching was undertaken for 20 minutes per area (Figure 12) every morning in the early morning and late afternoon on each day of the survey. During this time, two observers walked quietly over selected areas (point surveys) of the site to detect birds present both through direct observation and through calls. ▪ Birds were also recorded when opportunistically observed during other survey activities. ▪ Nocturnal birds were searched for as part of spotlighting and call playback activities on site ▪ Migratory shorebird searches were undertaken along the beach-front and tidal creeks. Point surveys of these areas were undertaken on foot for 20 minutes and sampled across a range of tide heights. ▪ A survey from a boat of the beaches at low tide was undertaken for a total of 2.5 hours during the dry season survey on 26 September 2010 between 2:00pm – 04:30pm. ▪ Leeke's Estuary (Figure 1) was walked during the wet season survey on 21	Not recorded during field survey. Possible foraging and breeding habitat occur on Great Keppel Island.

Literature Review								Results	
Species	**NCA Status**	**EPBC Status**	**Database**	**Habitat (foraging and resting) Preferences Breeding/nesting and Seasonal influences**	**Species Distribution**	**SEWPAC Survey Requirements**	**Likelihood of Occurrence (as per literature review)**	**Assessment to Date**	**Results and Likely Presence Based on Field Survey**
								February 2011 at low tide (incoming) between 06:20am – 09:30am. ▪ A portion of the Estuary from the mouth to the shed was surveyed over a period of 3 hours to actively search for feeding and roosting waders. ▪ Detailed habitat assessments were also undertaken throughout GKI. Central Queensland University (CQE) undertook bird surveys on GKI between 6 – 8 October 2010 and 21-25 March 2011. CQU bird surveys involved the traversing of the main development footprint by foot and electric vehicle with regular stops made to look and listen for the presence of birds (point searches). Opportunistic sightings between stop points were also recorded. All beaches and rocky headlands were surveyed for birds during a full circuit of the island by boat on Thursday 7th October.	
Fregata minor Great Frigatebird		Marine, Migratory	Birds Australia	Wholly adapted to living in the air, Frigatebirds drink while skimming low over fresh or salt water and feed on flying fish and other prey which they pick up from the sea without landing. Frigatebirds nest on offshore islands in tall trees and bushes, constructing a nest with sticks and vines (Readers Digest Complete Book of Australian Birds, 1986). Oceanic habitat, breeding on tropical islands including outer Great Barrier Reef (Flegg, 2003).	This species is considered native in a wide range of countries including Australia. Specifically these countries are American Samoa; Australia; Brazil; British Indian Ocean Territory; Brunei Darussalam; Chile; China; Christmas Island; Cocos (Keeling) Islands; Colombia; Comoros; Costa Rica; Ecuador; Fiji; French Polynesia; Guam; India; Indonesia; Japan; Kenya; Madagascar; Malaysia; Maldives; Marshall Islands; Mayotte; Mexico; Micronesia, Federated States of; Mozambique; Nauru; New Caledonia; Northern Mariana Islands; Palau; Philippines; Réunion; Russian Federation; Seychelles; Solomon Islands; Somalia; South Africa; Sri Lanka; Taiwan, Province of China; Tanzania, United Republic of; Thailand; Timor-Leste; United States; United States Minor Outlying Islands; Vanuatu; Wallis and Futuna. This species is considered a vagrant in the following countries Mauritius; New Zealand; Oman; Singapore; Zimbabwe (Birdlife International, 2009).	Surveys for migratory shorebirds (SEWPAC, 2010) should be conducted at sites where either: ▪ No suitable survey records exis;t or ▪ Records are too old to be considered reliable; or ▪ The site characteristics have changed. The majority of shorebirds are present during the non-breeding season (October to march) and this is when count surveys to establish the presence, number , habitat characteristics and the context of the site (ie how many other similar sites occur and are these used by shorebirds). Survey recommendations are as follows: ▪ At a minimum cover all the habitat thought to be used by the same population of shorebirds and the entire contiguous habitat where shorebirds occur. ▪ Surveys should be conducted during the period when the majority of migratory birds are present in the area and the during the northern hemisphere breeding season to obtain non-breeding, non-migratory immature populations. ▪ Surveys for roosting birds are to be conducted as close to high tide as possible (max 2 hours either side). Surveys for foraging birds as close to low tide as possible (no more than 2hours either side). Surveys should not be undertaken during high rainfall or strong winds. ▪ Survey effort should be a minimum of 4 surveys for roosting shorebirds during the period when most are present in the area (eg 1 in dec, 2 in Jan and 1 in Feb). A minimum of 4 surveys for foraging shorebirds including 2 at spring low tide and 2 at neap low tide. For large sites or sites where large numbers are expected it is recommended that at least two people undertake the counts. Data requirements are: ▪ Roosting sites – total abundance, species richness, species abundance. ▪ Shorebird behaviour – activity at site (roosting, foraging, both), foraging location (mapping of foraging habitat). ▪ Survey conditions – date, time of day, tide height, weather conditions (temperature, precipitation, wind speed, wind direction).	Possible	Chenoweth EPLA undertook an 8 day fauna survey of the proposed disturbance area in September 2010 and a further 8 days survey in February 2011. The Chenoweth Surveys were undertaken as follows: ▪ Dedicated bird watching was undertaken for 20 minutes per area (Figure 12) every morning in the early morning and late afternoon on each day of the survey. During this time, two observers walked quietly over selected areas (point surveys) of the site to detect birds present both through direct observation and through calls. ▪ Birds were also recorded when opportunistically observed during other survey activities. ▪ Nocturnal birds were searched for as part of spotlighting and call playback activities on site ▪ Migratory shorebird searches were undertaken along the beach-front and tidal creeks. Point surveys of these areas were undertaken on foot for 20 minutes and sampled across a range of tide heights. ▪ A survey from a boat of the beaches at low tide was	Not recorded during field survey. Possible breeding habitat on Great Keppel Island as some parts of the island does support taller trees.

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						▪ Number of observers and experience level. ▪ Habitat characteristics (dominant landform type, site hydrology, dominant vegetation types, inter-tidal substrate, invasive species, disturbance regime, presence of suitable nocturnal roost sites). ▪ Methodology used to conduct survey. Where it is not possible to conduct surveys within the manner recommended a thorough habitat assessment must be done. The characteristics of the site (landform, hydrology, flood levels) should be assessed.		undertaken for a total of 2.5 hours during the dry season survey on 26 September 2010 between 2:00pm – 04:30pm. ▪ Leeke's Estuary (Figure 1) was walked during the wet season survey on 21 February 2011 at low tide (incoming) between 06:20am – 09:30am. ▪ A portion of the Estuary from the mouth to the shed was surveyed over a period of 3 hours to actively search for feeding and roosting waders. ▪ Detailed habitat assessments were also undertaken throughout GKI. Central Queensland University (CQE) undertook bird surveys on GKI between 6 – 8 October 2010 and 21-25 March 2011. CQU bird surveys involved the traversing of the main development footprint by foot and electric vehicle with regular stops made to look and listen for the presence of birds (point searches). Opportunistic sightings between stop points were also recorded. All beaches and rocky headlands were surveyed for birds during a full circuit of the island by boat on Thursday 7th October.	
Gallinago hardwickii Japanese Snipe		Marine, Migratory	EPBC Protected Matters	Permanent and ephemeral wetlands that have some form of shelter. Usually inhabit open, freshwater wetlands with low, dense vegetation (e.g. swamps, flooded grasslands or heathlands, around bogs and other water bodies), however can also occur in habitats with saline or brackish water (saltmarsh, mangrove creeks, around bays and beaches, and at tidal rivers), in modified or artificial habitats, and in habitats located close to humans or human activity. Foraging habitats characterized by areas of mud (either exposed or beneath a very shallow covering of water) and some form of cover (e.g. low, dense vegetation) Roost on the ground near (or sometimes in) their foraging areas, usually in sites that provide some degree of shelter, e.g. beside or under clumps of vegetation, among dense tea-tree, in forests, in drainage ditches or plough marks, among boulders, or in shallow water if cover is unavailable (SEWPAC, 2010) They are mostly active under the cover of darkness (i.e. during the night, or in the morning before sunrise).	Latham's Snipe is a non-breeding visitor to south-eastern Australia, and is a passage migrant through northern Australia. Latham's Snipe breed in Japan and far eastern Russia during the northern hemisphere summer. They arrive in northern Australia from July to November. They then move slowly southward, passing along the coastline and through regions near the coast. They arrive in south-eastern Australia between August and January, and it is here that most snipe spend the non-breeding period (SEWPAC, 2010).	Populations of Latham's Snipe can be surveyed by performing area searches or line transects in suitable habitat (i.e. wetlands or other waterbodies and their surrounding vegetation). The surveys should be conducted on foot). To maximise the chances of detecting all birds present, a number of observers should arrange themselves into a line and then advance in unison, preferably whilst accompanied by bird dogs. Another potential technique is to drag a length of rope over an area of suitable habitat (SEWPAC, 2010). In Australia, surveys should be conducted between October and February, which is the period between the species' arrival and departure in Australia. Surveys are best conducted during the day, as the snipe appears to disperse from roosting areas at dusk and then return before or at dawn (SEWPAC, 2010)	Possible	Chenoweth EPLA undertook an 8 day fauna survey of the proposed disturbance area in September 2010 and a further 8 days survey in February 2011. The Chenoweth Surveys were undertaken as follows: ▪ Dedicated bird watching was undertaken for 20 minutes per area (Figure 12) every morning in the early morning and late afternoon on each day of the survey. During this time, two observers walked quietly over selected areas (point surveys) of the site to detect birds present both through direct observation and through calls. ▪ Birds were also recorded when opportunistically observed during other survey activities. ▪ Nocturnal birds were searched for as part of spotlighting and call playback activities on site ▪ Migratory shorebird searches were undertaken along the beach-front and	Not recorded during field survey. Breeding habitat absent as Latham's Snipe does not breed in Australia. Possibly occurs on Great Keppel Island as there is suitable foraging and roosting habitat available.

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								tidal creeks. Point surveys of these areas were undertaken on foot for 20 minutes and sampled across a range of tide heights. ▪ A survey from a boat of the beaches at low tide was undertaken for a total of 2.5 hours during the dry season survey on 26 September 2010 between 2:00pm – 04:30pm. ▪ Leeke's Estuary (Figure 1) was walked during the wet season survey on 21 February 2011 at low tide (incoming) between 06:20am – 09:30am. ▪ A portion of the Estuary from the mouth to the shed was surveyed over a period of 3 hours to actively search for feeding and roosting waders. ▪ Detailed habitat assessments were also undertaken throughout GKI. Central Queensland University (CQE) undertook bird surveys on GKI between 6 – 8 October 2010 and 21-25 March 2011. CQU bird surveys involved the traversing of the main development footprint by foot and electric vehicle with regular stops made to look and listen for the presence of birds (point searches). Opportunistic sightings between stop points were also recorded. All beaches and rocky headlands were surveyed for birds during a full circuit of the island by boat on Thursday 7th October.	
Gallinago megala Swinhoe's Snipe		Marine, Migratory	EPBC Protected Matters	During the non-breeding season Swinhoe's Snipe occurs at the edges of wetlands, such as wet paddy fields, swamps and freshwater streams. The species is also known to occur in grasslands, drier cultivated areas (including crops of rapeseed and wheat) and market gardens (SEWPAC, 2010). Habitat specific to Australia includes the dense clumps of grass and rushes round the edges of fresh and brackish wetlands. This includes swamps, billabongs, river pools, small streams and sewage ponds. They are also found in drying claypans and inundated plains pitted with crab holes (SEWPAC, 2010).	The species has been recorded in the north between the Kimberley Divide and Cape York Peninsula. In Western Australia the species has been recorded in Pilbara, the Kimberley region, Mount Goldsworthy, Mount Blaize and in the north-west regions around the Mitchell Plateau. In the Northern Territory the species is believed to be common and widespread in the Top End. Definite records exist from Darwin, Melville Island, Cannon Hill, Red Lily Lagoon and Mount Brockman. In Queensland specimens have been taken at Normanton. The species has also been sighted at Mount Isa (SEWPAC, 2010). Swinhoe's Snipe breeds in central and southern Siberia. Swinhoe's Snipe is recorded in north Australia, particularly the Kimberley region, from October–April. The species may occur in Pilbara from October–March. It is believed to be a common visitor to subcoastal Northern Territory during the wet season. It has been recorded in northern Queensland in November, March and April. The species leaves Australia in April (SEWPAC, 2010).	As above	Unlikely	Chenoweth EPLA undertook an 8 day fauna survey of the proposed disturbance area in September 2010 and a further 8 days survey in February 2011. The Chenoweth Surveys were undertaken as follows: ▪ Dedicated bird watching was undertaken for 20 minutes per area (Figure 12) every morning in the early morning and late afternoon on each day of the survey. During this time, two observers walked quietly over selected areas (point surveys) of the site to detect birds present both through direct observation and through calls. ▪ Birds were also recorded when opportunistically observed during other survey activities.	Not recorded during field survey. Unlikely that Great Keppel Island is a significant part of its habitat due to distribution restricted to far north Queensland.

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								▪ Nocturnal birds were searched for as part of spotlighting and call playback activities on site ▪ Migratory shorebird searches were undertaken along the beach-front and tidal creeks. Point surveys of these areas were undertaken on foot for 20 minutes and sampled across a range of tide heights. ▪ A survey from a boat of the beaches at low tide was undertaken for a total of 2.5 hours during the dry season survey on 26 September 2010 between 2:00pm – 04:30pm. ▪ Leeke's Estuary (Figure 1) was walked during the wet season survey on 21 February 2011 at low tide (incoming) between 06:20am – 09:30am. ▪ A portion of the Estuary from the mouth to the shed was surveyed over a period of 3 hours to actively search for feeding and roosting waders. ▪ Detailed habitat assessments were also undertaken throughout GKI. Central Queensland University (CQE) undertook bird surveys on GKI between 6 – 8 October 2010 and 21-25 March 2011. CQU bird surveys involved the traversing of the main development footprint by foot and electric vehicle with regular stops made to look and listen for the presence of birds (point searches). Opportunistic sightings between stop points were also recorded. All beaches and rocky headlands were surveyed for birds during a full circuit of the island by boat on Thursday 7th October.	
Gallinago stenura Pin-tailed Snipe		Marine, Migratory	EPBC Protected Matters	During non-breeding period the Pin-tailed Snipe occurs most often in or at the edges of shallow freshwater swamps, ponds and lakes with emergent, sparse to dense cover of grass/sedge or other vegetation. The species is also found in drier, more open wetlands such as claypans in more arid parts of species' range. It is also commonly seen at sewage ponds; not normally in saline or inter-tidal wetlands. The Pin-tailed Snipe arrives in Australia, at Pilburra, mainly from late September to the end of March. It has been recorded in south-west Western Australia in late March. There are no winter records in Australia (SEWPAC, 2010).	Breeds in Arctic Tundra. Mainly seen in North West Western Australia. The species distribution within Australia is not well understood. There are confirmed records from NSW, south-west Western Australia, Pilbara and the Top End. In NSW a single banded bird was reported near West Wyalong. In Western Australia the species was reported at Pilbara, Port Headland, Myaree Pool, Maitland River and near Karratha. In Pilbarra the distribution is believed to be bound by Pardoo (Banningarra Spring) and the lower Maitland River and Shay Gap. The Pin-tailed Snipe has also been reported on the Cocos-Keeling Islands as well as Christmas Island (SEWPAC, 2010).	As above	Unlikely	Chenoweth EPLA undertook an 8 day fauna survey of the proposed disturbance area in September 2010 and a further 8 days survey in February 2011. The Chenoweth Surveys were undertaken as follows: ▪ Dedicated bird watching was undertaken for 20 minutes per area (Figure 12) every morning in the early morning and late afternoon on each day of the survey. During this time, two observers walked quietly over selected areas (point surveys) of the site to detect birds present	Not recorded during field survey. Unlikely that Great Keppel Island is a significant part of its habitat due to distribution mainly in Western Australia.

Literature Review								Results	
Species	**NCA Status**	**EPBC Status**	**Database**	**Habitat (foraging and resting) Preferences Breeding/nesting and Seasonal influences**	**Species Distribution**	**SEWPAC Survey Requirements**	**Likelihood of Occurrence (as per literature review)**	**Assessment to Date**	**Results and Likely Presence Based on Field Survey**
								both through direct observation and through calls. ▪ Birds were also recorded when opportunistically observed during other survey activities. ▪ Nocturnal birds were searched for as part of spotlighting and call playback activities on site ▪ Migratory shorebird searches were undertaken along the beach-front and tidal creeks. Point surveys of these areas were undertaken on foot for 20 minutes and sampled across a range of tide heights. ▪ A survey from a boat of the beaches at low tide was undertaken for a total of 2.5 hours during the dry season survey on 26 September 2010 between 2:00pm – 04:30pm. ▪ Leeke's Estuary (Figure 1) was walked during the wet season survey on 21 February 2011 at low tide (incoming) between 06:20am – 09:30am. ▪ A portion of the Estuary from the mouth to the shed was surveyed over a period of 3 hours to actively search for feeding and roosting waders. ▪ Detailed habitat assessments were also undertaken throughout GKI. Central Queensland University (CQE) undertook bird surveys on GKI between 6 – 8 October 2010 and 21-25 March 2011. CQU bird surveys involved the traversing of the main development footprint by foot and electric vehicle with regular stops made to look and listen for the presence of birds (point searches). Opportunistic sightings between stop points were also recorded. All beaches and rocky headlands were surveyed for birds during a full circuit of the island by boat on Thursday 7th October.	
Haematopus fuliginosus Sooty Oystercatcher	NT		Wildlife Online	Prefers rocky coasts but may be recorded on coral reefs or sandy beaches near mudflats. Breeds on offshore islands and isolated rocky headlands between October to January (Birds in Backyards, 2010). The Sooty Oystercatcher feeds on molluscs, crabs and other crustaceans, marine worms, starfish and sea urchins, and small fish. Breeds in spring and summer, almost exclusively on offshore islands, and	Endemic to Australia and is widespread in coastal eastern, southern and western Australia. (Birds in Backyards, 2010). An Island wide Wildnet search returned 47 records of this species.	No specific guidelines available. General survey guidelines for birds (SEWPAC, 2011) include: ▪ Area searches (typically 1-3ha for 10-20mins); ▪ Transect surveys (record birds while travelling between tow fixed points of known distance); ▪ Transect surveys by boat are well suited to detecting birds that occur on rocky shores and cliffs of islands and ▪ Point surveys (usually 5-20mins) sampling points are usually predetermined and selected either randomly or systematically through the area.	Known	Chenoweth EPLA undertook an 8 day fauna survey of the proposed disturbance area in September 2010 and a further 8 days survey in February 2011. The Chenoweth Surveys were undertaken as follows: ▪ Dedicated bird watching was undertaken for 20 minutes	Recorded by Chenoweth during the dry season survey (Sept 2010). A total of 2 Sooty Oystercatchers were recorded on Wreck Beach during the boat survey in September.

Literature Review								Results	
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				occasionally on isolated promontories. The nest is a shallow scrape on the ground, or small mounds of pebbles, shells or seaweed when nesting among rocks (NSW DECC, 2005).				per area (Figure 12) every morning in the early morning and late afternoon on each day of the survey. During this time, two observers walked quietly over selected areas (point surveys) of the site to detect birds present both through direct observation and through calls. ▪ Birds were also recorded when opportunistically observed during other survey activities. ▪ Nocturnal birds were searched for as part of spotlighting and call playback activities on site ▪ Migratory shorebird searches were undertaken along the beach-front and tidal creeks. Point surveys of these areas were undertaken on foot for 20 minutes and sampled across a range of tide heights. ▪ A survey from a boat of the beaches at low tide was undertaken for a total of 2.5 hours during the dry season survey on 26 September 2010 between 2:00pm – 04:30pm. ▪ Leeke's Estuary (Figure 1) was walked during the wet season survey on 21 February 2011 at low tide (incoming) between 06:20am – 09:30am. ▪ A portion of the Estuary from the mouth to the shed was surveyed over a period of 3 hours to actively search for feeding and roosting waders. ▪ Detailed habitat assessments were also undertaken throughout GKI. Central Queensland University (CQE) undertook bird surveys on GKI between 6 – 8 October 2010 and 21-25 March 2011. CQU bird surveys involved the traversing of the main development footprint by foot and electric vehicle with regular stops made to look and listen for the presence of birds (point searches). Opportunistic sightings between stop points were also recorded. All beaches and rocky headlands were surveyed for birds during a full circuit of the island by boat on Thursday 7th October.	
Haliaeetus leucogaster		Migratory	EPBC Protected Matters	The White-bellied Sea-Eagle is found in coastal habitats (especially those close to	The White-bellied Sea-Eagle is distributed along the coastline (including offshore	Populations of the White-bellied Sea-Eagle can be surveyed by performing systematic searches (area searches, line transects)	Known	Chenoweth EPLA undertook an 8 day fauna survey of the	Recorded by Chenoweth during the dry season

Literature Review								Results	
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White-bellied Sea-Eagle			Wildlife online Birds Australia	the sea-shore) and around terrestrial wetlands in tropical and temperate regions of mainland Australia and its offshore islands. The habitats occupied by the sea-eagle are characterised by the presence of large areas of open water (larger rivers, swamps, lakes, the sea). Birds have been recorded in (or flying over) a variety of terrestrial habitats. The species is mostly recorded in coastal lowlands, but can occupy habitats up to 1400 m above sea level on the Northern Tablelands of NSW and up to 800 m above sea level in Tasmania and South Australia. Birds have been recorded at or in the vicinity of freshwater swamps, lakes, reservoirs, billabongs, saltmarsh and sewage ponds. They also occur at sites near the sea or sea-shore, such as around bays and inlets, beaches, reefs, lagoons, estuaries and mangroves. Terrestrial habitats include coastal dunes, tidal flats, grassland, heathland, woodland, forest (including rainforest) and even urban areas. Breeding has been recorded on the coast, at inland sites, and on offshore islands. Breeding territories are located close to water, and mainly in tall open forest or woodland, although nests are sometimes located in other habitats such as dense forest (including rainforest), closed scrub or in remnant trees on cleared land. Pairs usually return to the same breeding territory each year, and often the same nest, although territories tend to contain one or two additional, less developed nests. The breeding season extends from June to January (or sometimes February) in southern Australia, but begins one or two months earlier in northern Australia, for example, eggs are laid from June to September (or sometimes later) in southern Australia, and from May to August in northern Australia The White-bellied Sea-Eagle generally forages over large expanses of open water; this is particularly true of birds that occur in coastal environments close to the sea-shore, where they forage over in-shore waters. However, the White-bellied Sea-Eagle will also forage over open terrestrial habitats (such as grasslands). Birds may move to and congregate in favourable sites during drought or food shortage) (SEWPAC, 2010).	islands) of mainland Australia and Tasmania. It also extends inland along some of the larger waterways, especially in eastern Australia. The inland limits of the species are most restricted in south-central and south-western Australia, where it is confined to a narrow band along the coast. Recent analysis indicates that the distribution of the sea-eagle may shift in response to climatic conditions, with an apparent decreased occupancy of inland sites (and increased occupancy of coastal sites) during drought conditions. Breeding has been recorded from only a relatively small area of the total distribution. Breeding records are patchily distributed, mainly along the coastline, and especially the eastern coast, extending from Queensland to Victoria, and to Tasmania. Breeding has also been recorded at some sites further inland, e.g. around the Murray, Murrumbidgee and Lachlan Rivers in northern Victoria and south-west NSW, and at other large drainage systems and water storages (SEWPAC, 2010).	for birds or nests. Searches can be conducted from the ground or air, or from a boat (SEWPAC, 2010).		proposed disturbance area in September 2010 and a further 8 days survey in February 2011. The Chenoweth Surveys were undertaken as follows: ■ Dedicated bird watching was undertaken for 20 minutes per area (Figure 12) every morning in the early morning and late afternoon on each day of the survey. During this time, two observers walked quietly over selected areas (point surveys) of the site to detect birds present both through direct observation and through calls. ■ Birds were also recorded when opportunistically observed during other survey activities. ■ Nocturnal birds were searched for as part of spotlighting and call playback activities on site ■ Migratory shorebird searches were undertaken along the beach-front and tidal creeks. Point surveys of these areas were undertaken on foot for 20 minutes and sampled across a range of tide heights. ■ A survey from a boat of the beaches at low tide was undertaken for a total of 2.5 hours during the dry season survey on 26 September 2010 between 2:00pm – 04:30pm. ■ Leeke's Estuary (Figure 1) was walked during the wet season survey on 21 February 2011 at low tide (incoming) between 06:20am – 09:30am. ■ A portion of the Estuary from the mouth to the shed was surveyed over a period of 3 hours to actively search for feeding and roosting waders. ■ Detailed habitat assessments were also undertaken throughout GKI. Central Queensland University (CQE) undertook bird surveys on GKI between 6 – 8 October 2010 and 21-25 March 2011. CQU bird surveys involved the traversing of the main development footprint by foot and electric vehicle with regular stops made to look and listen for the presence of birds (point searches). Opportunistic sightings between stop points	survey (Sept 2010). No nests were identified. The bird was identified during point searches and during the boat survey. CQE recorded a total of 3 Eagles in 2010 and 2 at Leeke's Beach in 2011.

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								were also recorded. All beaches and rocky headlands were surveyed for birds during a full circuit of the island by boat on Thursday 7th October.	
Heteroscelus brevipes Grey-tailed tattler		Migratory Marine	EPBC Protected Matters Wildlife Online Birds Australia	Found on sheltered coasts with reefs and rock platforms or with intertidal mudflats. Also at intertidal rocky, coral or stony reefs as well as platforms and islets that are exposed at low tide. It has been found around shores of rock, shingle, gravel or shells and also on intertidal mudflats in embayments, estuaries and coastal lagoons, especially fringed with mangroves. Less often on open flat sandy beaches or sandbanks, especially around accumulated seaweed or isolated clumps of dead coral. It is occasionally found around near-coastal wetlands, such as lagoons and lakes. Forages in shallow water, on hard intertidal substrates, such as reefs and rock platforms, in rock pools and among rocks and coral rubble, over which water may surge. It has also been recorded foraging on exposed intertidal mudflats, especially with mangroves and possibly seagrass nearby. Occasionally it forages on intertidal sandflats, around banks of seaweed or protruding rocks or lumps of coral. Roosts in the branches of mangroves or, rarely, in dense stands of other shrubs, or on snags or driftwood. Where mangroves are not present, it roosts on rocks that are sometimes partly submerged. It is also known to roost on beaches and reefs; however, it is rarely reported roosting on bare sandy beaches or sandbanks (SEWPAC, 2010).	The Grey-tailed Tattler is found along the entire Queensland coast, with small numbers located in the Gulf of Carpentaria. It is widespread along the east coast and the Torres Strait. There is a continuous population along the entire east coast of Cape York Peninsula. Inland records include Burdekin Weir, Charters Towers and Mount Isa; however these are rare, with the species preferring coastal locations. The species breeds in north Siberia within the period from late May–August. The Grey-tailed Tattler arrives in Australia mostly in August, however, they sometimes appear south of the breeding range as early as July. Some are known to remain on breeding grounds as late as September or October. Adults arrive at the north Australian coast from late August and early September, with first-year birds apparently arriving four weeks later.	Surveys for migratory shorebirds (SEWPC, 2010) should be conducted at sites where either: ▪ No suitable survey records exist or ▪ Records are too old to be considered reliable; or ▪ The site characteristics have changed. The majority of shorebirds are present during the non-breeding season (October to march) and this is when count surveys to establish the presence, number , habitat characteristics and the context of the site (ie how many other similar sites occur and are these used by shorebirds). Survey recommendations are as follows: ▪ At a minimum cover all the habitat thought to be used by the same population of shorebirds and the entire contiguous habitat where shorebirds occur. ▪ Surveys should be conducted during the period when the majority of migratory birds are present in the area and the during the northern hemisphere breeding season to obtain non-breeding, non-migratory immature populations. ▪ Surveys for roosting birds are to be conducted as close to high tide as possible (max 2 hours either side). Surveys for foraging birds as close to low tide as possible (no more than 2hours either side). Surveys should not be undertaken during high rainfall or strong winds. ▪ Survey effort should be a minimum of 4 surveys for roosting shorebirds during the period when most are present in the area (eg 1 in dec, 2 in Jan and 1 in Feb). A minimum of 4 surveys for foraging shorebirds including 2 at spring low tide and 2 at neap low tide. For large sites or sites where large numbers are expected it is recommended that at least two people undertake the counts. Data requirements are: ▪ Roosting sites – total abundance, species richness, species abundance. ▪ Shorebird behaviour – activity at site (roosting, foraging, both), foraging location (mapping of foraging habitat). ▪ Survey conditions – date, time of day, tide height, weather conditions (temperature, precipitation, wind speed, wind direction). ▪ Number of observers and experience level. ▪ Habitat characteristics (dominant landform type, site hydrology, dominant vegetation types, inter-tidal substrate, invasive species, disturbance regime, presence of suitable nocturnal roost sites). ▪ Methodology used to conduct survey. Where it is not possible to conduct surveys within the manner recommended a thorough habitat assessment must be done. The characteristics of the site (landform, hydrology, flood levels) should be assessed.	Known	Chenoweth EPLA undertook an 8 day fauna survey of the proposed disturbance area in September 2010 and a further 8 days survey in February 2011. The Chenoweth Surveys were undertaken as follows: ▪ Dedicated bird watching was undertaken for 20 minutes per area (Figure 12) every morning in the early morning and late afternoon on each day of the survey. During this time, two observers walked quietly over selected areas (point surveys) of the site to detect birds present both through direct observation and through calls. ▪ Birds were also recorded when opportunistically observed during other survey activities. ▪ Nocturnal birds were searched for as part of spotlighting and call playback activities on site ▪ Migratory shorebird searches were undertaken along the beach-front and tidal creeks. Point surveys of these areas were undertaken on foot for 20 minutes and sampled across a range of tide heights. ▪ A survey from a boat of the beaches at low tide was undertaken for a total of 2.5 hours during the dry season survey on 26 September 2010 between 2:00pm – 04:30pm. ▪ Leeke's Estuary (Figure 1) was walked during the wet season survey on 21 February 2011 at low tide (incoming) between 06:20am – 09:30am. ▪ A portion of the Estuary from the mouth to the shed was surveyed over a period of 3 hours to actively search for feeding and roosting waders. ▪ Detailed habitat assessments were also undertaken throughout GKI. Central Queensland University (CQE) undertook bird surveys on GKI between 6 – 8 October 2010 and 21-25 March 2011.	Not recorded during CEPLA field survey. Two Grey Tattlers were recorded by CQE (Black and Houston, 2011) from Leeke's Estuary. Breeding habitat absent as the species does not breed in Australia. Foraging and roosting habitat occur on Great Keppel Island.

Literature Review								Results	
Species	**NCA Status**	**EPBC Status**	**Database**	**Habitat (foraging and resting) Preferences Breeding/nesting and Seasonal influences**	**Species Distribution**	**SEWPAC Survey Requirements**	**Likelihood of Occurrence (as per literature review)**	**Assessment to Date**	**Results and Likely Presence Based on Field Survey**
								CQU bird surveys involved the traversing of the main development footprint by foot and electric vehicle with regular stops made to look and listen for the presence of birds (point searches). Opportunistic sightings between stop points were also recorded. All beaches and rocky headlands were surveyed for birds during a full circuit of the island by boat on Thursday 7th October.	
Himantopus himantopus Black-winged Stilt		Marine, Migratory	EPBC Protected Matters Birds Australia	Black-winged Stilts prefer freshwater and saltwater marshes, mudflats, and the shallow edges of lakes and rivers (Birds Australia, 2010). Also Lakes, saltpans, coastal lagoons and marshes (Flegg, 2003). The breeding season is highly variable but usually between August and December. The nest may be anything from a simple shallow scrape on the ground to a mound of vegetation placed in or near the water (Birds Australia, 2010).	The Black-winged Stilt has a wide range, including Australia, Central and South America, Africa, southern and south-eastern Asia and parts of North America and Eurasia. More locally it also occurs through Indonesia, New Guinea, the Solomon Islands, the Philippines and New Zealand. Although widespread on the Australian mainland, it is an uncommon visitor to Tasmania (Birds Australia, 2010).	As above	Possible	Chenoweth EPLA undertook an 8 day fauna survey of the proposed disturbance area in September 2010 and a further 8 days survey in February 2011. The Chenoweth Surveys were undertaken as follows: ■ Dedicated bird watching was undertaken for 20 minutes per area (Figure 12) every morning in the early morning and late afternoon on each day of the survey. During this time, two observers walked quietly over selected areas (point surveys) of the site to detect birds present both through direct observation and through calls. ■ Birds were also recorded when opportunistically observed during other survey activities. ■ Nocturnal birds were searched for as part of spotlighting and call playback activities on site ■ Migratory shorebird searches were undertaken along the beach-front and tidal creeks. Point surveys of these areas were undertaken on foot for 20 minutes and sampled across a range of tide heights. ■ A survey from a boat of the beaches at low tide was undertaken for a total of 2.5 hours during the dry season survey on 26 September 2010 between 2:00pm – 04:30pm. ■ Leeke's Estuary (Figure 1) was walked during the wet season survey on 21 February 2011 at low tide (incoming) between 06:20am – 09:30am. ■ A portion of the Estuary from the mouth to the shed was surveyed over a period of 3 hours to actively search for feeding and roosting waders.	Not recorded during field survey. Possible foraging, breeding and roosting habitat occur on Great Keppel Island.

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Species	**NCA Status**	**EPBC Status**	**Database**	**Habitat (foraging and resting) Preferences Breeding/nesting and Seasonal influences**	**Species Distribution**	**SEWPAC Survey Requirements**	**Likelihood of Occurrence (as per literature review)**	**Assessment to Date**	**Results and Likely Presence Based on Field Survey**
								▪ Detailed habitat assessments were also undertaken throughout GKI. Central Queensland University (CQE) undertook bird surveys on GKI between 6 – 8 October 2010 and 21-25 March 2011. CQU bird surveys involved the traversing of the main development footprint by foot and electric vehicle with regular stops made to look and listen for the presence of birds (point searches). Opportunistic sightings between stop points were also recorded. All beaches and rocky headlands were surveyed for birds during a full circuit of the island by boat on Thursday 7th October.	
Hirundapus caudacutus White-throated Needletail		Migratory	EPBC Protected Matters	In Australia, the White-throated Needletail is almost exclusively aerial, from heights of less than 1 m up to more than 1000 m above the ground. This species does not breed in Australia. In Australia, White-throated Needletails almost always forage aerially, at heights up to 'cloud level', above a wide variety of habitats ranging from heavily treed forests to open habitats, such as farmland, heathland or mudflats. The species has been recorded roosting in trees in forests and woodlands, both among dense foliage in the canopy or in hollows (SEWPAC, 2010).	The White-throated Needletail is widespread in eastern and south-eastern Australia. In eastern Australia, it is recorded in all coastal regions of Queensland and NSW, extending inland to the western slopes of the Great Divide and occasionally onto the adjacent inland plains. Further south on the mainland, it is widespread in Victoria, though more so on and south of the Great Divide, and there are few records in western Victoria outside the Grampians and the South West. When wintering in eastern and south-eastern Australia, the species is widespread and numerous at many sites. The nominate subspecies caudacutus of the White-throated Needletail is a trans-equatorial migrant, breeding in the Northern Hemisphere and flying south for the boreal winter (SEWPAC, 2010).	Any surveys must be conducted between October and April in northern and eastern Australia and between December and March in south-eastern Australia, when numbers of White-throated Needletails are highest (SEWPAC, 2010).	Possible	Chenoweth EPLA undertook an 8 day fauna survey of the proposed disturbance area in September 2010 and a further 8 days survey in February 2011. The Chenoweth Surveys were undertaken as follows: ▪ Dedicated bird watching was undertaken for 20 minutes per area (Figure 12) every morning in the early morning and late afternoon on each day of the survey. During this time, two observers walked quietly over selected areas (point surveys) of the site to detect birds present both through direct observation and through calls. ▪ Birds were also recorded when opportunistically observed during other survey activities. ▪ Nocturnal birds were searched for as part of spotlighting and call playback activities on site ▪ Migratory shorebird searches were undertaken along the beach-front and tidal creeks. Point surveys of these areas were undertaken on foot for 20 minutes and sampled across a range of tide heights. ▪ A survey from a boat of the beaches at low tide was undertaken for a total of 2.5 hours during the dry season survey on 26 September 2010 between 2:00pm – 04:30pm. ▪ Leeke's Estuary (Figure 1) was walked during the wet season survey on 21 February 2011 at low tide (incoming) between	Not recorded during field survey. Breeding habitat absent as the species does not breed in Australia. Possible foraging and roosting habitat occur on Great Keppel Island.

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								06:20am – 09:30am. ▪ A portion of the Estuary from the mouth to the shed was surveyed over a period of 3 hours to actively search for feeding and roosting waders. ▪ Detailed habitat assessments were also undertaken throughout GKI. Central Queensland University (CQE) undertook bird surveys on GKI between 6 – 8 October 2010 and 21-25 March 2011. CQU bird surveys involved the traversing of the main development footprint by foot and electric vehicle with regular stops made to look and listen for the presence of birds (point searches). Opportunistic sightings between stop points were also recorded. All beaches and rocky headlands were surveyed for birds during a full circuit of the island by boat on Thursday 7th October.	
Hirundo rustica Barn Swallow		Marine, Migratory	EPBC Protected Matters	Coastal, wetland and urban areas, feeds over most habitats (Flegg, 2003). The Barn Swallow uses a range of habitat types including canals, drainage ditches, arable land, urban areas, grassland, davanna, shrubland, marshes, swamps, freshwater lakes at an altitude of 0-3000m (Birdlife International, 2011). The Barn Swallow does not breed in Australia.	Within Australia this species occurs across northern coastal Australia south to around Gladstone in Queensland and Carnarvon in Western Australia (SEWPAC, 2011).		Possible	Chenoweth EPLA undertook an 8 day fauna survey of the proposed disturbance area in September 2010 and a further 8 days survey in February 2011. The Chenoweth Surveys were undertaken as follows: ▪ Dedicated bird watching was undertaken for 20 minutes per area (Figure 12) every morning in the early morning and late afternoon on each day of the survey. During this time, two observers walked quietly over selected areas (point surveys) of the site to detect birds present both through direct observation and through calls. ▪ Birds were also recorded when opportunistically observed during other survey activities. ▪ Nocturnal birds were searched for as part of spotlighting and call playback activities on site ▪ Migratory shorebird searches were undertaken along the beach-front and tidal creeks. Point surveys of these areas were undertaken on foot for 20 minutes and sampled across a range of tide heights. ▪ A survey from a boat of the beaches at low tide was undertaken for a total of 2.5 hours during the dry season survey on 26 September	Not recorded during field survey. Breeding habitat absent as the species does not breed in Australia. Possible foraging and roosting habitat occur on Great Keppel Island.

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Species	**NCA Status**	**EPBC Status**	**Database**	**Habitat (foraging and resting) Preferences Breeding/nesting and Seasonal influences**	**Species Distribution**	**SEWPAC Survey Requirements**	**Likelihood of Occurrence (as per literature review)**	**Assessment to Date**	**Results and Likely Presence Based on Field Survey**
								2010 between 2:00pm – 04:30pm. ▪ Leeke's Estuary (Figure 1) was walked during the wet season survey on 21 February 2011 at low tide (incoming) between 06:20am – 09:30am. ▪ A portion of the Estuary from the mouth to the shed was surveyed over a period of 3 hours to actively search for feeding and roosting waders. ▪ Detailed habitat assessments were also undertaken throughout GKI. Central Queensland University (CQE) undertook bird surveys on GKI between 6 – 8 October 2010 and 21-25 March 2011. CQU bird surveys involved the traversing of the main development footprint by foot and electric vehicle with regular stops made to look and listen for the presence of birds (point searches). Opportunistic sightings between stop points were also recorded. All beaches and rocky headlands were surveyed for birds during a full circuit of the island by boat on Thursday 7th October.	
Macronectes giganteus Southern Giant Petrel		E Marine, Migratory	EPBC Protected Matters	The Southern Giant-Petrel is marine bird that occurs in Antarctic to subtropical waters. In summer, it mainly occurs over Antarctic waters, and it is widespread south as far as the pack-ice and onto the Antarctic continent. In the Ross Sea, the Southern Giant-Petrel ranges from the Antarctic continent to the 3° C sea surface temperature isotherm. In early summer, it is most abundant over the continental slope, and in late summer, it has a uniform distribution from the continental slope north to the Antarctic Polar Front. It also occurs south to the Ross Ice Shelf at low densities. It has no preference for pack-ice of a particular density, but it may avoid crossing extensive ice sheets, which dampen sea swell and inhibit soaring. The Southern Giant-Petrel is abundant over the pack-ice near penguin colonies. In summer, it also occurs over subantarctic waters near its breeding islands in the Atlantic and Indian Oceans, in subantarctic to southern subtropical waters on the Argentinean continental shelf and off New Zealand and the cold eastern boundary current off South America. It possibly concentrates north of 50° S in winter, as it is rare in waters of the southern Indian Ocean, but common off South America, South Africa, Australia and New Zealand. It occurs in both pelagic and inshore waters. It is attracted to land at sewage outfalls. It	The Southern Giant-Petrel is widespread throughout the Southern Ocean. The Southern Giant-Petrel breeds on six subantarctic and Antarctic islands in Australian territory; Macquarie Island, Heard Island and McDonald Island in the Southern Ocean, and Giganteus Island, Hawker Island, and Frazier Island in the Australian Antarctic Territories. Throughout the colder months, immatures and most adults disperse widely, with Antarctic colonies becoming completely deserted during winter. The winter dispersal is circumpolar, extending north from 50° south to the Tropic of Capricorn (23° south) and sometimes beyond these latitudes. Thus, in winter they are rare in the southern waters of the Indian Ocean, and more common off South America, South Africa, Australia and New Zealand. The waters off southeastern Australia may be particularly important wintering grounds. In southeastern Australia, birds (mostly immatures) were recorded in all months except February, but most were recorded between June and December (SEWPAC, Population and Communities, 2010).	To avoid disturbance at breeding colonies, population surveys should be undertaken with minimal disturbance at three to five year intervals (Department of Sustainability, Environment, Water, Population and Communities, 2010). On land area searches or transect surveys (in areas up to 10ha) and observation from onshore vantage points (using telescopes). Land-based sea observations recommended survey effort is 8 hours /4 days and land-based area searches or transects recommended survey effort is 12 hours/4 days (SEWPAC, 2010)	Unlikely	Chenoweth EPLA undertook an 8 day fauna survey of the proposed disturbance area in September 2010 and a further 8 days survey in February 2011. The Chenoweth Surveys were undertaken as follows: ▪ Dedicated bird watching was undertaken for 20 minutes per area (Figure 12) every morning in the early morning and late afternoon on each day of the survey. During this time, two observers walked quietly over selected areas (point surveys) of the site to detect birds present both through direct observation and through calls. ▪ Birds were also recorded when opportunistically observed during other survey activities. ▪ Nocturnal birds were searched for as part of spotlighting and call playback activities on site ▪ Migratory shorebird searches were undertaken along the beach-front and tidal creeks. Point surveys of these areas were	Not recorded during field survey. Breeding habitat Absent. Unlikely that Great Keppel Island is a significant part of its habitat as the Tropic of Capricorn is the northern extent of migration.

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				scavenges ashore, so at Iles Crozet, its distribution shifts towards land in summer, when birds frequent penguin and seal colonies (SEWPAC, 2010)				undertaken on foot for 20 minutes and sampled across a range of tide heights. ▪ A survey from a boat of the beaches at low tide was undertaken for a total of 2.5 hours during the dry season survey on 26 September 2010 between 2:00pm – 04:30pm. ▪ Leeke's Estuary (Figure 1) was walked during the wet season survey on 21 February 2011 at low tide (incoming) between 06:20am – 09:30am. ▪ A portion of the Estuary from the mouth to the shed was surveyed over a period of 3 hours to actively search for feeding and roosting waders. ▪ Detailed habitat assessments were also undertaken throughout GKI. Central Queensland University (CQE) undertook bird surveys on GKI between 6 – 8 October 2010 and 21-25 March 2011. CQU bird surveys involved the traversing of the main development footprint by foot and electric vehicle with regular stops made to look and listen for the presence of birds (point searches). Opportunistic sightings between stop points were also recorded. All beaches and rocky headlands were surveyed for birds during a full circuit of the island by boat on Thursday 7th October.	
Merops ornatus Rainbow Bee-eater		Migratory	Wildlife Online Birds Australia	Widespread in open country. Excavates burrows in sandy banks or cuttings (Flegg, 2003). The Rainbow Bee-eater occurs mainly in open forests and woodlands, shrublands, and in various cleared or semi-cleared habitats, including farmland and areas of human habitation. It usually occurs in open, cleared or lightly-timbered areas that are often, but not always, located in close proximity to permanent water. It also occurs in inland and coastal sand dune systems, and in mangroves in northern Australia, and has been recorded in various other habitat types including heathland, sedgeland, vine forest and vine thicket, and on beaches. The Rainbow Bee-eater occurs in open woodlands and shrublands, including mallee, and in open forests that are usually dominated by eucalypts. It also occurs in grasslands and, especially in arid or semi-arid areas, in riparian, floodplain or wetland vegetation assemblages	The Rainbow Bee-eater is distributed across much of mainland Australia, and occurs on several near-shore islands. It is not found in Tasmania, and is thinly distributed in the most arid regions of central and Western Australia. majority of the global population breeds in Australia (including on Rottnest Island and islands in the south-west Torres Strait) (SEWPAC, 2010).	The southern populations of the Rainbow Bee-eater migrate northward from February to April, and return to their breeding grounds in September and October (SEWPAC, 2010).	Likely	Chenoweth EPLA undertook an 8 day fauna survey of the proposed disturbance area in September 2010 and a further 8 days survey in February 2011. The Chenoweth Surveys were undertaken as follows: ▪ Dedicated bird watching was undertaken for 20 minutes per area (Figure 12) every morning in the early morning and late afternoon on each day of the survey. During this time, two observers walked quietly over selected areas (point surveys) of the site to detect birds present both through direct observation and through calls. ▪ Birds were also recorded when opportunistically observed during other survey activities. ▪ Nocturnal birds were	Recorded by Chenoweth during the dry season survey (Sept 2010). No nests were recorded during surveys, however due to the timing of the survey (September which is when the species returns to the breeding grounds) it is possible that this species does breed on GKI. CQE recorded a total of 6 Rainbow Bee-eaters during 2010 survey.

Literature Review								Results	
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								searched for as part of spotlighting and call playback activities on site ▪ Migratory shorebird searches were undertaken along the beach-front and tidal creeks. Point surveys of these areas were undertaken on foot for 20 minutes and sampled across a range of tide heights. ▪ A survey from a boat of the beaches at low tide was undertaken for a total of 2.5 hours during the dry season survey on 26 September 2010 between 2:00pm – 04:30pm. ▪ Leeke's Estuary (Figure 1) was walked during the wet season survey on 21 February 2011 at low tide (incoming) between 06:20am – 09:30am. ▪ A portion of the Estuary from the mouth to the shed was surveyed over a period of 3 hours to actively search for feeding and roosting waders. ▪ Detailed habitat assessments were also undertaken throughout GKI. Central Queensland University (CQE) undertook bird surveys on GKI between 6 – 8 October 2010 and 21-25 March 2011. CQU bird surveys involved the traversing of the main development footprint by foot and electric vehicle with regular stops made to look and listen for the presence of birds (point searches). Opportunistic sightings between stop points were also recorded. All beaches and rocky headlands were surveyed for birds during a full circuit of the island by boat on Thursday 7th October.	
Monarcha melanopsis Black-faced Monarch		Migratory	Wildlife Online	When breeding inhabits forest and woodlands, often damp. At other times inhabits open forest and woodland. The nest is located in an enlarged chamber at the end of long burrow or tunnel that is excavated, by both sexes, in flat or sloping ground, in the banks of rivers, creeks or dams, in roadside cuttings, in the walls of gravel pits or quarries, in mounds of gravel, or in cliff-faces. Nesting areas are often re-used, and banding studies indicate that at least some migrant birds return to the same nesting area each year (SEWPAC, 2010).	The Black-faced Monarch is found along the coast of eastern Australia, becoming less common further south (Birds Australia, 2010).	In Australia, the breeding season extends from August to January (SEWPAC, 2010).	Possible	Chenoweth EPLA undertook an 8 day fauna survey of the proposed disturbance area in September 2010 and a further 8 days survey in February 2011. The Chenoweth Surveys were undertaken as follows: ▪ Dedicated bird watching was undertaken for 20 minutes per area (Figure 12) every morning in the early morning and late afternoon on each day of the survey. During this time, two observers walked quietly over selected areas (point surveys) of the site to detect birds present both through direct	Recorded by Chenoweth during the dry season survey (Sept 2010). No breeding or nesting records were made.

Literature Review								Results	
Species	**NCA Status**	**EPBC Status**	**Database**	**Habitat (foraging and resting) Preferences Breeding/nesting and Seasonal influences**	**Species Distribution**	**SEWPAC Survey Requirements**	**Likelihood of Occurrence (as per literature review)**	**Assessment to Date**	**Results and Likely Presence Based on Field Survey**
								observation and through calls. ▪ Birds were also recorded when opportunistically observed during other survey activities. ▪ Nocturnal birds were searched for as part of spotlighting and call playback activities on site ▪ Migratory shorebird searches were undertaken along the beach-front and tidal creeks. Point surveys of these areas were undertaken on foot for 20 minutes and sampled across a range of tide heights. ▪ A survey from a boat of the beaches at low tide was undertaken for a total of 2.5 hours during the dry season survey on 26 September 2010 between 2:00pm – 04:30pm. ▪ Leeke's Estuary (Figure 1) was walked during the wet season survey on 21 February 2011 at low tide (incoming) between 06:20am – 09:30am. ▪ A portion of the Estuary from the mouth to the shed was surveyed over a period of 3 hours to actively search for feeding and roosting waders. ▪ Detailed habitat assessments were also undertaken throughout GKI. Central Queensland University (CQE) undertook bird surveys on GKI between 6 – 8 October 2010 and 21-25 March 2011. CQU bird surveys involved the traversing of the main development footprint by foot and electric vehicle with regular stops made to look and listen for the presence of birds (point searches). Opportunistic sightings between stop points were also recorded. All beaches and rocky headlands were surveyed for birds during a full circuit of the island by boat on Thursday 7th October.	
Monarcha trivirgatus Spectacled Monarch		Migratory, Marine	Wildlife ONline	The Spectacled Monarch prefers thick understorey in rainforests, wet gullies and waterside vegetation, as well as mangroves. Resident in Queensland to Rockhampton, summer breeding migrant further south (Birds Australia, 2010). The Spectacled Monarch builds a small cup nest of fine bark, plant fibres, moss and spider web in a tree fork or in hanging vines, 1 m - 6 m above the ground, often near water (Birds Australia, 2010).	The Spectacled Monarch is found in coastal north-eastern and eastern Australia, including coastal islands, from Cape York, Queensland to Port Stephens, New South Wales. It is much less common in the south. It is also found in Papua New Guinea, the Moluccas and Timor (Birds Australia, 2010).		Possible	Chenoweth EPLA undertook an 8 day fauna survey of the proposed disturbance area in September 2010 and a further 8 days survey in February 2011. The Chenoweth Surveys were undertaken as follows: ▪ Dedicated bird watching was undertaken for 20 minutes per area (Figure 12) every	Recorded by CEPLA during the wet season survey (Feb, 2011). No records of breeding or nesting were made.

Literature Review								Results	
Species	**NCA Status**	**EPBC Status**	**Database**	**Habitat (foraging and resting) Preferences Breeding/nesting and Seasonal influences**	**Species Distribution**	**SEWPAC Survey Requirements**	**Likelihood of Occurrence (as per literature review)**	**Assessment to Date**	**Results and Likely Presence Based on Field Survey**
								morning in the early morning and late afternoon on each day of the survey. During this time, two observers walked quietly over selected areas (point surveys) of the site to detect birds present both through direct observation and through calls. ▪ Birds were also recorded when opportunistically observed during other survey activities. ▪ Nocturnal birds were searched for as part of spotlighting and call playback activities on site ▪ Migratory shorebird searches were undertaken along the beach-front and tidal creeks. Point surveys of these areas were undertaken on foot for 20 minutes and sampled across a range of tide heights. ▪ A survey from a boat of the beaches at low tide was undertaken for a total of 2.5 hours during the dry season survey on 26 September 2010 between 2:00pm – 04:30pm. ▪ Leeke's Estuary (Figure 1) was walked during the wet season survey on 21 February 2011 at low tide (incoming) between 06:20am – 09:30am. ▪ A portion of the Estuary from the mouth to the shed was surveyed over a period of 3 hours to actively search for feeding and roosting waders. ▪ Detailed habitat assessments were also undertaken throughout GKI. Central Queensland University (CQE) undertook bird surveys on GKI between 6 – 8 October 2010 and 21-25 March 2011. CQU bird surveys involved the traversing of the main development footprint by foot and electric vehicle with regular stops made to look and listen for the presence of birds (point searches). Opportunistic sightings between stop points were also recorded. All beaches and rocky headlands were surveyed for birds during a full circuit of the island by boat on Thursday 7th October.	
Myiagra cyanoleuca Satin Flycatcher		Migratory	EPBC Protected Matters Wildlife Online	Satin Flycatchers mainly inhabit eucalypt forests, often near wetlands or watercourses. They generally occur in moister, taller forests than the Leaden Flycatcher, *Myiagra*	The Satin Flycatcher is widespread in eastern Australia and vagrant to New Zealand. In Queensland, it is widespread but scattered in the east, being recorded on	They move through Queensland from late August to November, mainly along the coast, arriving in south-eastern Queensland mainly in September (SEWPAC, 2010).	Possible	Chenoweth EPLA undertook an 8 day fauna survey of the proposed disturbance area in September 2010 and a further 8	Not recorded during field survey. Possible foraging and

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			Birds Australia	*rebecula*, often occurring in gullies. They also occur in eucalypt woodlands with open understorey and grass ground cover, and are generally absent from rainforest. In south-eastern Australia, they occur at elevations of up to 1400 m above sea level, and in the ACT, they occur mainly between 800 m above sea level and the treeline. Satin Flycatchers are mainly recorded in eucalypt forests, especially wet sclerophyll forest, often dominated by eucalypts such as Brown Barrel, *Eucalypt fastigata*, Mountain Gum, *E. dalrympleana*, Mountain Grey Gum, Narrow-leaved Peppermint, Messmate or Manna Gum, or occasionally Mountain Ash, *E. regnans*. Such forests usually have a tall shrubby understorey of tall acacias, for example Blackwood, *Acacia melanoxylon*. In higher altitude Black Sallee, *E. stellulata*, woodlands, they are often associated with tea-trees and tree-ferns. They sometimes also occur in dry sclerophyll forests and woodlands, usually dominated by eucalypts such as Blakely's Red Gum, *E. blakely*i, Mugga Ironbark, *E. sideroxylon*, Yellow Box, White Box, *E. albens*, Manna Gum or stringybarks, including Red Stringybark, *E. macrorhyncha* and Broad-leaved Stringybark, usually with open understorey (SEWPAC, 2010).	passage on a few islands in the western Torres Strait. It is patchily recorded on Cape York Peninsula, from the Cape south to a line between Aurukun and Coen. The species is more widespread farther south, though still scattered, from Musgrave Station south to c. 24° S, mostly in coastal areas, but also on the Great Divide, and occasionally further west. Satin Flycatchers are widespread in south-eastern Queensland, in the area from Fraser Island, west to Goombi and south to the NSW border (SEWPAC, 2010). Satin Flycatchers are migratory, moving north in autumn to spend winter in northern Australia and New Guinea. They return south in spring to spend summer in south-eastern Australia.			days survey in February 2011. The Chenoweth Surveys were undertaken as follows: ▪ Dedicated bird watching was undertaken for 20 minutes per area (Figure 12) every morning in the early morning and late afternoon on each day of the survey. During this time, two observers walked quietly over selected areas (point surveys) of the site to detect birds present both through direct observation and through calls. ▪ Birds were also recorded when opportunistically observed during other survey activities. ▪ Nocturnal birds were searched for as part of spotlighting and call playback activities on site ▪ Migratory shorebird searches were undertaken along the beach-front and tidal creeks. Point surveys of these areas were undertaken on foot for 20 minutes and sampled across a range of tide heights. ▪ A survey from a boat of the beaches at low tide was undertaken for a total of 2.5 hours during the dry season survey on 26 September 2010 between 2:00pm – 04:30pm. ▪ Leeke's Estuary (Figure 1) was walked during the wet season survey on 21 February 2011 at low tide (incoming) between 06:20am – 09:30am. ▪ A portion of the Estuary from the mouth to the shed was surveyed over a period of 3 hours to actively search for feeding and roosting waders. ▪ Detailed habitat assessments were also undertaken throughout GKI. Central Queensland University (CQE) undertook bird surveys on GKI between 6 – 8 October 2010 and 21-25 March 2011. CQU bird surveys involved the traversing of the main development footprint by foot and electric vehicle with regular stops made to look and listen for the presence of birds (point searches). Opportunistic sightings between stop points were also recorded. All beaches and rocky headlands were	roosting habitat in some parts of Great Keppel Island.

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Species	**NCA Status**	**EPBC Status**	**Database**	**Habitat (foraging and resting) Preferences Breeding/nesting and Seasonal influences**	**Species Distribution**	**SEWPAC Survey Requirements**	**Likelihood of Occurrence (as per literature review)**	**Assessment to Date**	**Results and Likely Presence Based on Field Survey**
								surveyed for birds during a full circuit of the island by boat on Thursday 7th October.	
Myiagra inquieta Restless Flycatcher		Migratory	Birds Australia	Inhabits open forests and woodlands, often near water, and quite dry scrub out of breeding season (Flegg, 2003). Breeds July to January in south and August to march in north.	Restless Flycatcher is found throughout northern and eastern mainland Australia, as well as in south-western Australia. It is also found in Papua New Guinea. The southern subspecies, inquieta, is found in south-western Australia and from eastern South Australia to Julia Creek and Mount Isa, Queensland. The northern subspecies, nana, is found from the Kimberley region, Western Australia, to Cooktown and Townsville, Queensland. The two subspecies do not seem to mix where their ranges meet in central eastern Queensland (Birds in Backyards, 2010).		Possible	Chenoweth EPLA undertook an 8 day fauna survey of the proposed disturbance area in September 2010 and a further 8 days survey in February 2011. The Chenoweth Surveys were undertaken as follows: ▪ Dedicated bird watching was undertaken for 20 minutes per area (Figure 12) every morning in the early morning and late afternoon on each day of the survey. During this time, two observers walked quietly over selected areas (point surveys) of the site to detect birds present both through direct observation and through calls. ▪ Birds were also recorded when opportunistically observed during other survey activities. ▪ Nocturnal birds were searched for as part of spotlighting and call playback activities on site ▪ Migratory shorebird searches were undertaken along the beach-front and tidal creeks. Point surveys of these areas were undertaken on foot for 20 minutes and sampled across a range of tide heights. ▪ A survey from a boat of the beaches at low tide was undertaken for a total of 2.5 hours during the dry season survey on 26 September 2010 between 2:00pm – 04:30pm. ▪ Leeke's Estuary (Figure 1) was walked during the wet season survey on 21 February 2011 at low tide (incoming) between 06:20am – 09:30am. ▪ A portion of the Estuary from the mouth to the shed was surveyed over a period of 3 hours to actively search for feeding and roosting waders. ▪ Detailed habitat assessments were also undertaken throughout GKI. Central Queensland University (CQE) undertook bird surveys on GKI between 6 – 8 October 2010 and 21-25 March 2011. CQU bird surveys involved the traversing of the main	Recorded by Chenoweth during the dry season survey only(Sept 2010). No records of nesting or breeding were made.

Literature Review								Results	
Species	**NCA Status**	**EPBC Status**	**Database**	**Habitat (foraging and resting) Preferences Breeding/nesting and Seasonal influences**	**Species Distribution**	**SEWPAC Survey Requirements**	**Likelihood of Occurrence (as per literature review)**	**Assessment to Date**	**Results and Likely Presence Based on Field Survey**
								development footprint by foot and electric vehicle with regular stops made to look and listen for the presence of birds (point searches). Opportunistic sightings between stop points were also recorded. All beaches and rocky headlands were surveyed for birds during a full circuit of the island by boat on Thursday 7th October.	
Myiagra rubecula Leaden Flycatcher		Migratory	Birds Australia	The Leaden Flycatcher is found in tall and medium open forests, mainly in coastal areas, preferring drier habitats than the Satin Flycatcher. Southern populations make seasonal movements northwards in winter to northern Queensland and Papua New Guinea, returning south to breed in spring. Northern populations tend to be sedentary or only locally nomadic (Birds in Backyards, 2010).	The Leaden Flycatcher is found across northern Australia and down the east coast of Australia, from the Kimberley region, Western Australia to eastern Victoria. It is a vagrant to the Mount Lofty Ranges, South Australia and to Tasmania. It is also found in New Guinea and nearby islands.		Possible	Chenoweth EPLA undertook an 8 day fauna survey of the proposed disturbance area in September 2010 and a further 8 days survey in February 2011. The Chenoweth Surveys were undertaken as follows: ▪ Dedicated bird watching was undertaken for 20 minutes per area (Figure 12) every morning in the early morning and late afternoon on each day of the survey. During this time, two observers walked quietly over selected areas (point surveys) of the site to detect birds present both through direct observation and through calls. ▪ Birds were also recorded when opportunistically observed during other survey activities. ▪ Nocturnal birds were searched for as part of spotlighting and call playback activities on site ▪ Migratory shorebird searches were undertaken along the beach-front and tidal creeks. Point surveys of these areas were undertaken on foot for 20 minutes and sampled across a range of tide heights. ▪ A survey from a boat of the beaches at low tide was undertaken for a total of 2.5 hours during the dry season survey on 26 September 2010 between 2:00pm – 04:30pm. ▪ Leeke's Estuary (Figure 1) was walked during the wet season survey on 21 February 2011 at low tide (incoming) between 06:20am – 09:30am. ▪ A portion of the Estuary from the mouth to the shed was surveyed over a period of 3 hours to actively search for feeding and roosting waders. ▪ Detailed habitat assessments were also	Recorded by Chenoweth during both the dry & wet season surveys (Sept 2010; Feb 2011). Recorded by CQE. 2 were recorded in 2010 and 7 during 2011. No records of nesting or breeding were made.

Literature Review								Results	
Species	**NCA Status**	**EPBC Status**	**Database**	**Habitat (foraging and resting) Preferences Breeding/nesting and Seasonal influences**	**Species Distribution**	**SEWPAC Survey Requirements**	**Likelihood of Occurrence (as per literature review)**	**Assessment to Date**	**Results and Likely Presence Based on Field Survey**
								undertaken throughout GKI. Central Queensland University (CQE) undertook bird surveys on GKI between 6 – 8 October 2010 and 21-25 March 2011. CQU bird surveys involved the traversing of the main development footprint by foot and electric vehicle with regular stops made to look and listen for the presence of birds (point searches). Opportunistic sightings between stop points were also recorded. All beaches and rocky headlands were surveyed for birds during a full circuit of the island by boat on Thursday 7th October.	
Numenius madagascariensis Eastern curlew	NT	Migratory Marine	Wildlife Online Birds Australia	Most commonly associated with sheltered coasts, especially estuaries, bays, harbours, inlets and coastal lagoons, with large intertidal mudflats or sandflats, often with beds of seagrass. Occasionally occurs on ocean beaches (often near estuaries), and coral reefs, rock platforms, or rocky islets. Often recorded among saltmarsh and on mudflats fringed by mangroves, and sometimes use the mangroves. Mainly forages on soft sheltered intertidal sandflats or mudflats, open and without vegetation or covered with seagrass, often near mangroves, on saltflats and in saltmarsh, rockpools and among rubble on coral reefs, and on ocean beaches near the tideline. Roosts on sandy spits and islets, especially on dry beach sand near the high-water mark, and among coastal vegetation including low saltmarsh or mangroves. It occasionally roosts on reef-flats, in the shallow water of lagoons and other near-coastal wetlands (SEWPAC, 2010).	The Eastern Curlew breeds in Russia and north-eastern China but its distribution is poorly known. During the non-breeding season a few birds occur in southern Korea and China, but most spend the non-breeding season in north, east and south-east Australia. Eastern Curlews are regular non-breeding visitors to New Zealand in small numbers, and are also known from Kermadec Island and Chatham Island. In Australia, most Eastern Curlews leave between late February and March-April. A large proportion of the population winters in Australia, mostly in the northern regions. After breeding, they move south for the Northern Hemisphere winter. The birds migrate by day and night at varying altitudes, usually along coasts approximately 100 m from shore. Within Australia, immature birds, which do not migrate, move northward in winter.	The Eastern Curlew is most often counted using ground-based surveys within Australia. Population monitoring counts were able to illustrate the northward movement of many immature birds in winter within Australia. At Moreton Bay, Queensland, the constancy of numbers within-season across sites suggests that short surveys can give reliable results (SEWPAC, 2010).	Possible	Chenoweth EPLA undertook an 8 day fauna survey of the proposed disturbance area in September 2010 and a further 8 days survey in February 2011. The Chenoweth Surveys were undertaken as follows: ▪ Dedicated bird watching was undertaken for 20 minutes per area (Figure 12) every morning in the early morning and late afternoon on each day of the survey. During this time, two observers walked quietly over selected areas (point surveys) of the site to detect birds present both through direct observation and through calls. ▪ Birds were also recorded when opportunistically observed during other survey activities. ▪ Nocturnal birds were searched for as part of spotlighting and call playback activities on site ▪ Migratory shorebird searches were undertaken along the beach-front and tidal creeks. Point surveys of these areas were undertaken on foot for 20 minutes and sampled across a range of tide heights. ▪ A survey from a boat of the beaches at low tide was undertaken for a total of 2.5 hours during the dry season survey on 26 September 2010 between 2:00pm – 04:30pm. ▪ Leeke's Estuary (Figure 1) was walked during the wet season survey on 21 February 2011 at low tide (incoming) between 06:20am – 09:30am. ▪ A portion of the Estuary from	Recorded by Creighton (1984) on Great Keppel Island. Recorded by Chenoweth during the wet season survey (Feb, 2011). CEPLA recorded 1 bird feeding in Leeke's Estuary in 2011.

Literature Review								Results	
Species	**NCA Status**	**EPBC Status**	**Database**	**Habitat (foraging and resting) Preferences Breeding/nesting and Seasonal influences**	**Species Distribution**	**SEWPAC Survey Requirements**	**Likelihood of Occurrence (as per literature review)**	**Assessment to Date**	**Results and Likely Presence Based on Field Survey**
								▪ the mouth to the shed was surveyed over a period of 3 hours to actively search for feeding and roosting waders. ▪ Detailed habitat assessments were also undertaken throughout GKI. Central Queensland University (CQE) undertook bird surveys on GKI between 6 – 8 October 2010 and 21-25 March 2011. CQU bird surveys involved the traversing of the main development footprint by foot and electric vehicle with regular stops made to look and listen for the presence of birds (point searches). Opportunistic sightings between stop points were also recorded. All beaches and rocky headlands were surveyed for birds during a full circuit of the island by boat on Thursday 7th October.	
Numenius minutus Little Curlew Little Whimbrel		Marine, Migratory	EPBC Protected Matters	Open, short grassland (may not be close to water), tidal mudflats (Flegg, 2003). Gathers in large flocks on coastal and inland grasslands and black soil plains in northern Australia, near swamps and flooded areas. They also feed on playing fields, paddocks and urban lawns (Birds in Backyards, 2010).	The Little Curlew is widespread in the north of Australia and scattered elsewhere. It is an irregular visitor to New Zealand and Tasmania. It breeds in Siberia and is seen on passage through Mongolia, China, Japan, Indonesia and New Guinea. Breeds May to Augus (Birds in Backyards, 2010). Little Curlews breed in Siberia, moving south to the non-breeding areas in northern Australia and southern New Guinea. They are dispersive in Australia, probably in response to rainfall. They arrive in the north from mid to late September, then disperse, leaving again mainly in early April (Birds in Backyards, 2010).		Unlikely	Chenoweth EPLA undertook an 8 day fauna survey of the proposed disturbance area in September 2010 and a further 8 days survey in February 2011. The Chenoweth Surveys were undertaken as follows: ▪ Dedicated bird watching was undertaken for 20 minutes per area (Figure 12) every morning in the early morning and late afternoon on each day of the survey. During this time, two observers walked quietly over selected areas (point surveys) of the site to detect birds present both through direct observation and through calls. ▪ Birds were also recorded when opportunistically observed during other survey activities. ▪ Nocturnal birds were searched for as part of spotlighting and call playback activities on site ▪ Migratory shorebird searches were undertaken along the beach-front and tidal creeks. Point surveys of these areas were undertaken on foot for 20 minutes and sampled across a range of tide heights. ▪ A survey from a boat of the beaches at low tide was undertaken for a total of 2.5 hours during the dry season survey on 26 September 2010 between 2:00pm – 04:30pm.	Not recorded during field survey. Breeding habitat absent as this species does not breed in Australia. Unlikely that Great Keppel Island is a significant part of its habitat due to lack of large areas of grassland.

Literature Review								Results	
Species	**NCA Status**	**EPBC Status**	**Database**	**Habitat (foraging and resting) Preferences Breeding/nesting and Seasonal influences**	**Species Distribution**	**SEWPAC Survey Requirements**	**Likelihood of Occurrence (as per literature review)**	**Assessment to Date**	**Results and Likely Presence Based on Field Survey**
								▪ Leeke's Estuary (Figure 1) was walked during the wet season survey on 21 February 2011 at low tide (incoming) between 06:20am – 09:30am. ▪ A portion of the Estuary from the mouth to the shed was surveyed over a period of 3 hours to actively search for feeding and roosting waders. ▪ Detailed habitat assessments were also undertaken throughout GKI. Central Queensland University (CQE) undertook bird surveys on GKI between 6 – 8 October 2010 and 21-25 March 2011. CQU bird surveys involved the traversing of the main development footprint by foot and electric vehicle with regular stops made to look and listen for the presence of birds (point searches). Opportunistic sightings between stop points were also recorded. All beaches and rocky headlands were surveyed for birds during a full circuit of the island by boat on Thursday 7th October.	
Numenius phaeopus Whimbrel		Migratory Marine	EPBC Protected Matters Wildlife Online Birds Australia	Intertidal mudflats of sheltered coasts and also in harbours, lagoons, estuaries and river deltas, often those with mangroves, but also open, unvegetated mudflats. Occasionally found on sandy or rocky beaches, on coral or rocky islets, or on intertidal reefs and platforms. Infrequently recorded using saline or brackish lakes near coastal areas. Also uses saltflats with saltmarsh, or saline grasslands with standing water left after high spring-tides. Forages on intertidal mudflats, along the muddy banks of estuaries and in coastal lagoons, either in open unvegetated areas or among mangroves, sometimes forage on sandy beaches or among rocks. It has occasionally been sighted feeding on exposed coral or rocky reefs and rock platforms and known to probe holes and crevices among rubble and on reef flats, but not on reef crests. Regularly roost in mangroves and other structures flooded at high tide. They often roost in the branches of mangroves around mudflats and in estuaries and occasionally in tall coastal trees. They have also been observed to roost on the ground (sometimes under mangroves or in shallow water), on muddy, sandy or rocky beaches; rocky islets and coral cays (SEWPAC, 2010).	The Whimbrel is a regular migrant to Australia and New Zealand, with a primarily coastal distribution. seen on the south coast of Western Australia and has occasionally been recorded in south-west Western Australia and further north to Shark Bay. It has been found around the coasts of the Top End, where it sometimes follows rivers inland. It is found along almost the entire coast of Queensland and NSW and regularly at some places in Victoria, Tasmania, and South Australia. The Whimbrel breeds in north and west Alaska. Breeding occurs in the Northern Hemisphere summer, with laying occurring from May to mid-June. Within Australia, Whimbrels move south through Roebuck Bay, Western Australia, from August and September. They arrive on the north and north-east coasts from August-October. Within Australia, Whimbrels begin migrating from February onwards. Influxes occur at most sites in Queensland from early March to early April. The birds leave the north and north-east coasts by late April (SEWPAC, 2010).	As above	Known	Chenoweth EPLA undertook an 8 day fauna survey of the proposed disturbance area in September 2010 and a further 8 days survey in February 2011. The Chenoweth Surveys were undertaken as follows: ▪ Dedicated bird watching was undertaken for 20 minutes per area (Figure 12) every morning in the early morning and late afternoon on each day of the survey. During this time, two observers walked quietly over selected areas (point surveys) of the site to detect birds present both through direct observation and through calls. ▪ Birds were also recorded when opportunistically observed during other survey activities. ▪ Nocturnal birds were searched for as part of spotlighting and call playback activities on site ▪ Migratory shorebird searches were undertaken along the beach-front and tidal creeks. Point surveys of these areas were undertaken on foot for 20 minutes and sampled across a range of tide heights.	Recorded by CEPLA during wet season survey (Feb, 2011). Two birds were recorded feeding in Leeke's Estuary in 2011. CQE recorded 3 during 2010 survey and 2 in Leeke's Estuary during the 2011 survey. Feeding and roosting habitat is present on the Island. Breeding and nesting habitat is not confirmed.

Literature Review								Results	
Species	**NCA Status**	**EPBC Status**	**Database**	**Habitat (foraging and resting) Preferences Breeding/nesting and Seasonal influences**	**Species Distribution**	**SEWPAC Survey Requirements**	**Likelihood of Occurrence (as per literature review)**	**Assessment to Date**	**Results and Likely Presence Based on Field Survey**
								▪ A survey from a boat of the beaches at low tide was undertaken for a total of 2.5 hours during the dry season survey on 26 September 2010 between 2:00pm – 04:30pm. ▪ Leeke's Estuary (Figure 1) was walked during the wet season survey on 21 February 2011 at low tide (incoming) between 06:20am – 09:30am. ▪ A portion of the Estuary from the mouth to the shed was surveyed over a period of 3 hours to actively search for feeding and roosting waders. ▪ Detailed habitat assessments were also undertaken throughout GKI. Central Queensland University (CQE) undertook bird surveys on GKI between 6 – 8 October 2010 and 21-25 March 2011. CQU bird surveys involved the traversing of the main development footprint by foot and electric vehicle with regular stops made to look and listen for the presence of birds (point searches). Opportunistic sightings between stop points were also recorded. All beaches and rocky headlands were surveyed for birds during a full circuit of the island by boat on Thursday 7th October.	
Phaethon rubricauda Red-tailed tropicbird	V	Migratory Marine	Wildlife Online Birds Australia	Oceanic, breeds on tropical islands in inaccessible locations such as cliffs, visitor to Australian north-east coast (Flegg, 2003). Inhabits tropical marine waters preferably between 24 and 30C. Breeding occurs between October and April (NSW NPWS, 1999)	In Australia it occurs from the south-western corner of WA along the coast to Cape York with scattered records along the east and south coasts to SA (NSW NPWS, 1999). The red tailed tropicbird nests on islands throughout its range including Lady Elliott Island in QLD (NSW NPWS, 1999).	As Above	Possible	Chenoweth EPLA undertook an 8 day fauna survey of the proposed disturbance area in September 2010 and a further 8 days survey in February 2011. The Chenoweth Surveys were undertaken as follows: ▪ Dedicated bird watching was undertaken for 20 minutes per area (Figure 12) every morning in the early morning and late afternoon on each day of the survey. During this time, two observers walked quietly over selected areas (point surveys) of the site to detect birds present both through direct observation and through calls. ▪ Birds were also recorded when opportunistically observed during other survey activities. ▪ Nocturnal birds were searched for as part of spotlighting and call playback activities on site	Not recorded during field survey. Possible breeding, foraging and roosting habitat occur on Great Keppel Island.

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Species	**NCA Status**	**EPBC Status**	**Database**	**Habitat (foraging and resting) Preferences Breeding/nesting and Seasonal influences**	**Species Distribution**	**SEWPAC Survey Requirements**	**Likelihood of Occurrence (as per literature review)**	**Assessment to Date**	**Results and Likely Presence Based on Field Survey**
								▪ Migratory shorebird searches were undertaken along the beach-front and tidal creeks. Point surveys of these areas were undertaken on foot for 20 minutes and sampled across a range of tide heights. ▪ A survey from a boat of the beaches at low tide was undertaken for a total of 2.5 hours during the dry season survey on 26 September 2010 between 2:00pm – 04:30pm. ▪ Leeke's Estuary (Figure 1) was walked during the wet season survey on 21 February 2011 at low tide (incoming) between 06:20am – 09:30am. ▪ A portion of the Estuary from the mouth to the shed was surveyed over a period of 3 hours to actively search for feeding and roosting waders. ▪ Detailed habitat assessments were also undertaken throughout GKI. Central Queensland University (CQE) undertook bird surveys on GKI between 6 – 8 October 2010 and 21-25 March 2011. CQU bird surveys involved the traversing of the main development footprint by foot and electric vehicle with regular stops made to look and listen for the presence of birds (point searches). Opportunistic sightings between stop points were also recorded. All beaches and rocky headlands were surveyed for birds during a full circuit of the island by boat on Thursday 7th October.	
Pluvialis fulva Pacific Golden Plover		Marine, Migratory	EPBC Protected Matters Wildlife Online Birds Australia	Inhabits coastal habitats, though it occasionally occurs around inland wetlands. Usually occur on beaches, mudflats and sandflats (sometimes in vegetation such as mangroves, low saltmarsh or beds of seagrass) in sheltered areas including harbours, estuaries and lagoons, Sometimes recorded on islands, sand and coral cays and exposed reefs and rocks. They are less often recorded in terrestrial habitats, usually wetlands such as fresh, brackish or saline lakes, billabongs, pools, swamps and wet claypans, especially those with muddy margins and often with submerged vegetation or short emergent grass. Forages on sandy or muddy shores (including mudflats and sandflats) or margins of sheltered areas such as estuaries and lagoons, though it also feeds on rocky shores, islands or reefs. Occasionally forage among vegetation, such as saltmarsh, mangroves or in pasture or crops. Roost	Within Australia, the Pacific Golden Plover is widespread in coastal regions, though there are also a number of inland records (in all states), sometimes far inland and usually along major river systems, especially the Murray and Darling Rivers and their tributaries. Most Pacific Golden Plovers occur along the east coast, and are especially widespread along the Queensland and NSW coastlines. The Pacific Golden Plover breeds mostly in northern Siberia, between the Yamal Peninsula and the Chukotski Peninsula and the Gulf of Anadyr. The Pacific Golden Plover is a migratory species, breeding in the Northern Hemisphere and flying south for the boreal winter. The species is present at non-breeding grounds in Australia mostly between September and May, with greatest	Surveys for migratory shorebirds (SEWPAC, 2010) should be conducted at sites where either: ▪ No suitable survey records exis;t or ▪ Records are too old to be considered reliable; or ▪ The site characteristics have changed. The majority of shorebirds are present during the non-breeding season (October to march) and this is when count surveys to establish the presence, number , habitat characteristics and the context of the site (ie how many other similar sites occur and are these used by shorebirds). Survey recommendations are as follows: ▪ At a minimum cover all the habitat thought to be used by the same population of shorebirds and the entire contiguous habitat where shorebirds occur. ▪ Surveys should be conducted during the period when the majority of migratory birds are present in the area and the during the northern hemisphere breeding season to obtain non-breeding, non-migratory immature populations. ▪ Surveys for roosting birds are to be conducted as close to high tide as possible (max 2 hours either side). Surveys for foraging birds as close to low tide as possible (no more than	Possible	Chenoweth EPLA undertook an 8 day fauna survey of the proposed disturbance area in September 2010 and a further 8 days survey in February 2011. The Chenoweth Surveys were undertaken as follows: ▪ Dedicated bird watching was undertaken for 20 minutes per area (Figure 12) every morning in the early morning and late afternoon on each day of the survey. During this time, two observers walked quietly over selected areas (point surveys) of the site to detect birds present both through direct observation and through calls. ▪ Birds were also recorded	Not recorded during field survey. Breeding habitat absent as this species does not breed in Australia. Possible foraging and roosting habitat occur on Great Keppel Island.

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Species	**NCA Status**	**EPBC Status**	**Database**	**Habitat (foraging and resting) Preferences Breeding/nesting and Seasonal influences**	**Species Distribution**	**SEWPAC Survey Requirements**	**Likelihood of Occurrence (as per literature review)**	**Assessment to Date**	**Results and Likely Presence Based on Field Survey**
				near foraging areas, on sandy beaches and spits or rocky points, islets or exposed reefs, occasionally among or beneath vegetation including mangroves or low saltmarsh, or among beachcast seaweed (SEWPAC, 2010).	numbers in eastern and south-eastern Australia. Pacific Golden Plovers arrive back at their breeding grounds in mid- to late May (SEWPAC, 2010).	2hours either side). Surveys should not be undertaken during high rainfall or strong winds. ▪ Survey effort should be a minimum of 4 surveys for roosting shorebirds during the period when most are present in the area (eg 1 in dec, 2 in Jan and 1 in Feb). A minimum of 4 surveys for foraging shorebirds including 2 at spring low tide and 2 at neap low tide. For large sites or sites where large numbers are expected it is recommended that at least two people undertake the counts. Data requirements are: ▪ Roosting sites – total abundance, species richness, species abundance. ▪ Shorebird behaviour – activity at site (roosting, foraging, both), foraging location (mapping of foraging habitat). ▪ Survey conditions – date, time of day, tide height, weather conditions (temperature, precipitation, wind speed, wind direction). ▪ Number of observers and experience level. ▪ Habitat characteristics (dominant landform type, site hydrology, dominant vegetation types, inter-tidal substrate, invasive species, disturbance regime, presence of suitable nocturnal roost sites). ▪ Methodology used to conduct survey. Where it is not possible to conduct surveys within the manner recommended a thorough habitat assessment must be done. The characteristics of the site (landform, hydrology, flood levels) should be assessed.		when opportunistically observed during other survey activities. ▪ Nocturnal birds were searched for as part of spotlighting and call playback activities on site ▪ Migratory shorebird searches were undertaken along the beach-front and tidal creeks. Point surveys of these areas were undertaken on foot for 20 minutes and sampled across a range of tide heights. ▪ A survey from a boat of the beaches at low tide was undertaken for a total of 2.5 hours during the dry season survey on 26 September 2010 between 2:00pm – 04:30pm. ▪ Leeke's Estuary (Figure 1) was walked during the wet season survey on 21 February 2011 at low tide (incoming) between 06:20am – 09:30am. ▪ A portion of the Estuary from the mouth to the shed was surveyed over a period of 3 hours to actively search for feeding and roosting waders. ▪ Detailed habitat assessments were also undertaken throughout GKI. Central Queensland University (CQE) undertook bird surveys on GKI between 6 – 8 October 2010 and 21-25 March 2011. CQU bird surveys involved the traversing of the main development footprint by foot and electric vehicle with regular stops made to look and listen for the presence of birds (point searches). Opportunistic sightings between stop points were also recorded. All beaches and rocky headlands were surveyed for birds during a full circuit of the island by boat on Thursday 7th October.	
Pluvialis squatarola Grey Plover		Marine, Migratory	EPBC Protected Matters Wildlife Online Birds Australia	Usually inhabit sheltered embayments, estuaries and lagoons with mudflats and sandflats, and occasionally on rocky coasts with wave-cut platforms or reef-flats, or on reefs within muddy lagoons. Also occur around terrestrial wetlands such as near-coastal lakes and swamps, or salt-lakes. Usually forage on large areas of exposed mudflats and beaches of sheltered coastal shores such as inlets, estuaries and lagoons. Occasionally feed in pasture and at the muddy margins of inland wetlands. Roost in sandy areas, such as on unvegetated sandbanks or sand-spits on sheltered beaches or other sheltered environments	Grey Plovers breed north of 65° N in the Northern Hemisphere, in northern Siberia, from the White Sea east to the Gulf of Anadyr, and in Alaska and northern Canada from the shores of the Bering Sea east to Baffin Island. During the non-breeding season, the species is widespread on the coasts of North and South America, western and southern Europe, Africa, western, southern, south-eastern and eastern Asia, and Australia. The species usually leaves its breeding grounds in northern Siberia between mid-September and mid-October, but some leave	As above	Possible	Chenoweth EPLA undertook an 8 day fauna survey of the proposed disturbance area in September 2010 and a further 8 days survey in February 2011. The Chenoweth Surveys were undertaken as follows: ▪ Dedicated bird watching was undertaken for 20 minutes per area (Figure 12) every morning in the early morning and late afternoon on each day of the survey. During this time, two observers	Not recorded during field survey. Breeding habitat absent as this species does not breed in Australia. Possible foraging and roosting habitat occur on Great Keppel Island.

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Species	**NCA Status**	**EPBC Status**	**Database**	**Habitat (foraging and resting) Preferences Breeding/nesting and Seasonal influences**	**Species Distribution**	**SEWPAC Survey Requirements**	**Likelihood of Occurrence (as per literature review)**	**Assessment to Date**	**Results and Likely Presence Based on Field Survey**
				such as estuaries or lagoons Less often roost on the muddy edges of estuaries or water storages (SEWPAC, 2010)	as early as mid-August. Morphometric data suggests that Grey Plovers wintering in Australia originate from Siberian breeding grounds located east of the Lena River, with south-eastern Australia mainly supporting birds which bred on Wrangel Island. They arrive in northern Australia in August and early September, and sometimes October. Many then move south, mainly in October. Some of these southerly movements are overland, as all inland records are from the period September to January, though others certainly follow the coast. The species usually arrives at sites on the southern coast between October and November. They remain at southern non-breeding grounds until March-May. Birds move northwards along the east coast in March; they leave south-western Australia in April, and other birds pass through the area between March and May, possibly originating from the South Australian coast, travelling westward in the initial stages of their northward migration. Plovers which have remained along the northern coastline for the non-breeding season leave between February and April (SEWPAC, 2010).			walked quietly over selected areas (point surveys) of the site to detect birds present both through direct observation and through calls. ▪ Birds were also recorded when opportunistically observed during other survey activities. ▪ Nocturnal birds were searched for as part of spotlighting and call playback activities on site ▪ Migratory shorebird searches were undertaken along the beach-front and tidal creeks. Point surveys of these areas were undertaken on foot for 20 minutes and sampled across a range of tide heights. ▪ A survey from a boat of the beaches at low tide was undertaken for a total of 2.5 hours during the dry season survey on 26 September 2010 between 2:00pm – 04:30pm. ▪ Leeke's Estuary (Figure 1) was walked during the wet season survey on 21 February 2011 at low tide (incoming) between 06:20am – 09:30am. ▪ A portion of the Estuary from the mouth to the shed was surveyed over a period of 3 hours to actively search for feeding and roosting waders. ▪ Detailed habitat assessments were also undertaken throughout GKI. Central Queensland University (CQE) undertook bird surveys on GKI between 6 – 8 October 2010 and 21-25 March 2011. CQU bird surveys involved the traversing of the main development footprint by foot and electric vehicle with regular stops made to look and listen for the presence of birds (point searches). Opportunistic sightings between stop points were also recorded. All beaches and rocky headlands were surveyed for birds during a full circuit of the island by boat on Thursday 7th October.	
Pterodroma neglecta neglecta Kermadec Petrel		Vulnerable	EPBC Protected Matters Database	Oceanic, breeds on south pacific islands (Flegg, 2003). The species has been observed over waters with surface-temperatures of 15-25°C. Breeding occurs on atolls and rocky islets across subtropical South Pacific Ocean on vegetated coastal slopes, cliffs or mountainous terrain inland.	The Kermadec Petrel occurs in subtropical seas between 20 and 35°S. Breeding colonies are located in the South Pacific Ocean, 25-35 °S, from Lord Howe Island to Juan Fernandez Island. Non-breeding Kermadec Petrels migrate trans-equatorially. Individuals have	On land area searches or transect surveys (in areas up to 10ha) for nest sites during the breeding season. Birds are nocturnal so spotlight searches at night for landed birds and vocal detection of flying birds around colony. Land-based area searches or transects recommended survey effort is 20 hours/4 days (SEWPAC, 2010).	Unlikely	Chenoweth EPLA undertook an 8 day fauna survey of the proposed disturbance area in September 2010 and a further 8 days survey in February 2011. The Chenoweth Surveys were	Not recorded during field survey. Unlikely to breed on Great Keppel Island as GKI is further north than the usual breeding

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				Nests are located on the ground or in rock crevices under ferns, shrubs or trees (NSW NPWS, 1999). Breeding time may vary between spring-summer to summer-autumn.	been recorded as far north as 28°N in the central Pacific Ocean and 21°N in the eastern Pacific Ocean. The species is usually present around Kermadec Island throughout the year and is a vagrant to the east coast of Australia (NSW NPWS, 1999). Ranges over subtropical and tropical waters of the South Pacific. Balls Pyramid, near Lord Howe Island, is the only known breeding site in Australian waters.			undertaken as follows: ▪ Dedicated bird watching was undertaken for 20 minutes per area (Figure 12) every morning in the early morning and late afternoon on each day of the survey. During this time, two observers walked quietly over selected areas (point surveys) of the site to detect birds present both through direct observation and through calls. ▪ Birds were also recorded when opportunistically observed during other survey activities. ▪ Nocturnal birds were searched for as part of spotlighting and call playback activities on site ▪ Migratory shorebird searches were undertaken along the beach-front and tidal creeks. Point surveys of these areas were undertaken on foot for 20 minutes and sampled across a range of tide heights. ▪ A survey from a boat of the beaches at low tide was undertaken for a total of 2.5 hours during the dry season survey on 26 September 2010 between 2:00pm – 04:30pm. ▪ Leeke's Estuary (Figure 1) was walked during the wet season survey on 21 February 2011 at low tide (incoming) between 06:20am – 09:30am. ▪ A portion of the Estuary from the mouth to the shed was surveyed over a period of 3 hours to actively search for feeding and roosting waders. ▪ Detailed habitat assessments were also undertaken throughout GKI. Central Queensland University (CQE) undertook bird surveys on GKI between 6 – 8 October 2010 and 21-25 March 2011. CQU bird surveys involved the traversing of the main development footprint by foot and electric vehicle with regular stops made to look and listen for the presence of birds (point searches). Opportunistic sightings between stop points were also recorded. All beaches and rocky headlands were surveyed for birds during a full circuit of the island by boat on Thursday 7th October.	colony range at 23°S. Unlikely that Great Keppel Island is a significant part of its habitat.

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Sterna dougallii Roseate Tern		Marine, Migratory	Wildnet Online	The species breeds in large, dense single- or mixed-species colonies that may contain several thousands of pairs. It remains gregarious throughout the year, roosting in large groups and feeding singly, in small loose groups or in flocks of many hundreds of individuals. The species nests on sand-dunes, sand-spits, shingle beaches, saltmarshes and rocky, sandy or coral, showing a preference for densely vegetated sites in temperate regions but sparsely vegetated sites in the tropics. It also shows a preference for nest sites close to clear, shallow, sandy fishing grounds in tidal bays and sheltered inshore waters. The nest is a bare scrape in sand, shingle or coral rubble, preferably in sites surrounded by walls and rocks, or, in temperate regions, in the shelter of vegetation, also in crevices between and under rocks, or in the entrances to rabbit or Puffin burrows. Throughout the year the species often rests and forages in sheltered estuaries, creeks, inshore waters and up to several kilometres offshore, moving to warm tropical coasts after breeding (Birdlife International, 2009).	This species breeds in widely but sparsely distributed colonies along the east coast and offshore islands of Canada, USA, from Honduras to Venezuela, possibly to Brazil, the Caribbean (including the Bahamas, Greater and Lesser Antilles and the West Indies), UK, France, Ireland, Portugal (Azores, Salvages and perhaps Madeira), Spain (Canary Islands), South Africa, Kenya, Somalia, Madagascar, Oman, Seychelles, St Brandon and the Mascarene Islands (Mauritius), Maldives, Chagos (British Indian Ocean Territory), Andaman and Nicobar Islands (India), Sri Lanka, Ryukyu Islands (Japan), Indonesia, Fiji, Solomon Islands, New Guinea (Papua New Guinea), New Caledonia (to France) and Australia (Birdlife International, 2009).		Possible	Chenoweth EPLA undertook an 8 day fauna survey of the proposed disturbance area in September 2010 and a further 8 days survey in February 2011. The Chenoweth Surveys were undertaken as follows: ▪ Dedicated bird watching was undertaken for 20 minutes per area (Figure 12) every morning in the early morning and late afternoon on each day of the survey. During this time, two observers walked quietly over selected areas (point surveys) of the site to detect birds present both through direct observation and through calls. ▪ Birds were also recorded when opportunistically observed during other survey activities. ▪ Nocturnal birds were searched for as part of spotlighting and call playback activities on site ▪ Migratory shorebird searches were undertaken along the beach-front and tidal creeks. Point surveys of these areas were undertaken on foot for 20 minutes and sampled across a range of tide heights. ▪ A survey from a boat of the beaches at low tide was undertaken for a total of 2.5 hours during the dry season survey on 26 September 2010 between 2:00pm – 04:30pm. ▪ Leeke's Estuary (Figure 1) was walked during the wet season survey on 21 February 2011 at low tide (incoming) between 06:20am – 09:30am. ▪ A portion of the Estuary from the mouth to the shed was surveyed over a period of 3 hours to actively search for feeding and roosting waders. ▪ Detailed habitat assessments were also undertaken throughout GKI. Central Queensland University (CQE) undertook bird surveys on GKI between 6 – 8 October 2010 and 21-25 March 2011. CQU bird surveys involved the traversing of the main development footprint by foot and electric vehicle with regular stops made to look and listen for	Not recorded during field survey. Possible foraging and breeding habitat exists on Great Keppel Island.

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								the presence of birds (point searches). Opportunistic sightings between stop points were also recorded. All beaches and rocky headlands were surveyed for birds during a full circuit of the island by boat on Thursday 7th October.	
Sterna hirundo Common Tern		Marine, Migratory	Birds Australia	The habitat of the Common Tern is mainly coastal when not breeding and typically in offshore waters, ocean beaches, estuaries and large lakes. Common Terns are occasionally seen in freshwater swamps, floodwaters, sewage farms and brackish and saline lakes (Birds in Backyards, 2010). Common Terns forage in marine environments, often close to the shore, including sheltered embayments and in the surf-zone, but also well out to sea. They also forage in near-coastal terrestrial wetlands, including estuaries, rivers and swamps (SEWPAC, 2010)	This species is strongly migratory, breeding in the northern hemisphere in the boreal spring-summer and migrating south to wintering areas in the Northern and Southern Hemispheres (SEWPAC, 2010) In Australia the Common Tern is a regular non-breeding visitor. It breeds across much of northern North America, Europe and Asia as far east as the Pacific coast of Siberia, and as far south as the Mediterranean, North Africa and Central Asia. Breeds May to August (Birds in Backyards, 2010). In Australia, Common Terns are mainly found along the eastern coast, where they are widespread and common from south-eastern Queensland to eastern Victoria (SEWPAC, 2010). Common Terns do not breed in Australia but this country appears to be an important wintering destination. In eastern Australia, they appear to move south along the coast. Common Terns are recorded in Queensland from September (SEWPAC, 2010).	Common Terns are in Australia primarily during the austral spring-summer, with only small numbers present in the austral. Most surveys of the species are ground counts conducted from the shoreline or counts from boats due to access issues. The species has been counted during aerial surveys of wetlands of the Northern Territory, and surveyed at sea by boat. However, the largely marine foraging of this species in northern Australia, and elsewhere, means numbers are not adequately recorded during surveys of terrestrial wetlands (SEWPAC, 2010).	Possible	Chenoweth EPLA undertook an 8 day fauna survey of the proposed disturbance area in September 2010 and a further 8 days survey in February 2011. The Chenoweth Surveys were undertaken as follows: ▪ Dedicated bird watching was undertaken for 20 minutes per area (Figure 12) every morning in the early morning and late afternoon on each day of the survey. During this time, two observers walked quietly over selected areas (point surveys) of the site to detect birds present both through direct observation and through calls. ▪ Birds were also recorded when opportunistically observed during other survey activities. ▪ Nocturnal birds were searched for as part of spotlighting and call playback activities on site ▪ Migratory shorebird searches were undertaken along the beach-front and tidal creeks. Point surveys of these areas were undertaken on foot for 20 minutes and sampled across a range of tide heights. ▪ A survey from a boat of the beaches at low tide was undertaken for a total of 2.5 hours during the dry season survey on 26 September 2010 between 2:00pm – 04:30pm. ▪ Leeke's Estuary (Figure 1) was walked during the wet season survey on 21 February 2011 at low tide (incoming) between 06:20am – 09:30am. ▪ A portion of the Estuary from the mouth to the shed was surveyed over a period of 3 hours to actively search for feeding and roosting waders. ▪ Detailed habitat assessments were also undertaken throughout GKI.	Not recorded during field survey. Breeding habitat absent as this species does not breed in Australia. Possible foraging and roosting habitat occur on Great Keppel Island.

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Species	**NCA Status**	**EPBC Status**	**Database**	**Habitat (foraging and resting) Preferences Breeding/nesting and Seasonal influences**	**Species Distribution**	**SEWPAC Survey Requirements**	**Likelihood of Occurrence (as per literature review)**	**Assessment to Date**	**Results and Likely Presence Based on Field Survey**
								Central Queensland University (CQE) undertook bird surveys on GKI between 6 – 8 October 2010 and 21-25 March 2011. CQU bird surveys involved the traversing of the main development footprint by foot and electric vehicle with regular stops made to look and listen for the presence of birds (point searches). Opportunistic sightings between stop points were also recorded. All beaches and rocky headlands were surveyed for birds during a full circuit of the island by boat on Thursday 7th October.	
Sternula albifrons Little Tern	E	Marine, Migratory	Wildlife Online Birds Australia	Sheltered coastal environments including lagoons, estuaries, river mouths and deltas, lakes, bays, harbours and inlets, especially those with exposed sandbanks or sand-spits, and also on exposed ocean beaches. Nest on sand-spits, banks, ridges or islets in sheltered coastal environments, such as coastal lakes, estuaries and inlets, and also on wide and flat or gently sloping sandy ocean beaches, and also, occasionally, in sand-dunes. forage in shallow waters of estuaries, coastal lagoons and lakes, frequently over channels next to spits and banks or entrances, and often close to breeding colonies. Also forage along open coasts, especially around bars off the entrances to rivers and lagoons, less often at sea, and usually within 50 m of shore. Roost or loaf on sand-spits, banks and bars within sheltered estuarine or coastal environments, or on the sandy shores of lakes and ocean beaches (SEWPAC, 2010). In the Northern Territory, Little Terns have an extended breeding season, with breeding recorded from April to early January, with the main periods being late April-July and September-early January. Formerly, far more limited data from northern Australia, mainly from the Gulf of Carpentaria and Cape York Peninsula, indicated breeding in the austral autumn-winter, with breeding reported April-July and December and eggs recorded mid-April to late June and in October, consistent with the more recent observations from the Northern Territory. The eastern subpopulation breeds in the austral spring-summer, with laying from late August to January-February, more usually beginning late October and with peak laying in late November to mid-December (SEWPAC, 2010).	Widespread on islands off the Northern Territory coast and less often on offshore continental islands or coral cays off Queensland. (SEWPAC, 2010). The Australian breeding population can be divided into two major subpopulations: (1) a northern subpopulation that breeds across northern Australia, from about Broome in north-western Western Australia (where first recorded only in December 1995), through coastal Northern Territory (mainly from just west of Darwin to the Queensland border) to the Gulf of Carpentaria and eastern Cape York Peninsula (with an extended breeding season covering most of the year); and (2) an eastern subpopulation that breeds on the eastern and south-eastern coast of the mainland and northern and eastern Tasmania, occasionally extending as far west as western Victoria and south-eastern South Australia (and breeding in the austral spring-summer). In addition, a third population of Asian migrants that spend the northern non-breeding season (austral spring-autumn) in Australia, and leave for their northern breeding grounds in March-April is recognised (SEWPAC, 2010).	Surveys for migratory shorebirds (SEWPAC, 2010) should be conducted at sites where either: ▪ No suitable survey records exist or ▪ Records are too old to be considered reliable; or ▪ The site characteristics have changed. The majority of shorebirds are present during the non-breeding season (October to march) and this is when count surveys to establish the presence, number , habitat characteristics and the context of the site (ie how many other similar sites occur and are these used by shorebirds). Survey recommendations are as follows: ▪ At a minimum cover all the habitat thought to be used by the same population of shorebirds and the entire contiguous habitat where shorebirds occur. ▪ Surveys should be conducted during the period when the majority of migratory birds are present in the area and the during the northern hemisphere breeding season to obtain non-breeding, non-migratory immature populations. ▪ Surveys for roosting birds are to be conducted as close to high tide as possible (max 2 hours either side). Surveys for foraging birds as close to low tide as possible (no more than 2hours either side). Surveys should not be undertaken during high rainfall or strong winds. ▪ Survey effort should be a minimum of 4 surveys for roosting shorebirds during the period when most are present in the area (eg 1 in dec, 2 in Jan and 1 in Feb). A minimum of 4 surveys for foraging shorebirds including 2 at spring low tide and 2 at neap low tide. For large sites or sites where large numbers are expected it is recommended that at least two people undertake the counts. Data requirements are: ▪ Roosting sites – total abundance, species richness, species abundance. ▪ Shorebird behaviour – activity at site (roosting, foraging, both), foraging location (mapping of foraging habitat). ▪ Survey conditions – date, time of day, tide height, weather conditions (temperature, precipitation, wind speed, wind direction). ▪ Number of observers and experience level. ▪ Habitat characteristics (dominant landform type, site hydrology, dominant vegetation types, inter-tidal substrate, invasive species, disturbance regime, presence of suitable nocturnal roost sites). ▪ Methodology used to conduct survey. Where it is not possible to conduct surveys within the manner recommended a thorough habitat assessment must be done. The characteristics of the site (landform, hydrology, flood levels) should be assessed.	Possible	Chenoweth EPLA undertook an 8 day fauna survey of the proposed disturbance area in September 2010 and a further 8 days survey in February 2011. The Chenoweth Surveys were undertaken as follows: ▪ Dedicated bird watching was undertaken for 20 minutes per area (Figure 12) every morning in the early morning and late afternoon on each day of the survey. During this time, two observers walked quietly over selected areas (point surveys) of the site to detect birds present both through direct observation and through calls. ▪ Birds were also recorded when opportunistically observed during other survey activities. ▪ Nocturnal birds were searched for as part of spotlighting and call playback activities on site ▪ Migratory shorebird searches were undertaken along the beach-front and tidal creeks. Point surveys of these areas were undertaken on foot for 20 minutes and sampled across a range of tide heights. ▪ A survey from a boat of the beaches at low tide was undertaken for a total of 2.5 hours during the dry season survey on 26 September 2010 between 2:00pm – 04:30pm. ▪ Leeke's Estuary (Figure 1) was walked during the wet season survey on 21 February 2011 at low tide (incoming) between 06:20am – 09:30am. ▪ A portion of the Estuary from the mouth to the shed was	Not recorded during field survey. Possible breeding habitat exists on Great Keppel Island and possible foraging habitat occurs on Great Keppel Island.

Literature Review								Results	
Species	**NCA Status**	**EPBC Status**	**Database**	**Habitat (foraging and resting) Preferences Breeding/nesting and Seasonal influences**	**Species Distribution**	**SEWPAC Survey Requirements**	**Likelihood of Occurrence (as per literature review)**	**Assessment to Date**	**Results and Likely Presence Based on Field Survey**
								surveyed over a period of 3 hours to actively search for feeding and roosting waders. ▪ Detailed habitat assessments were also undertaken throughout GKI. Central Queensland University (CQE) undertook bird surveys on GKI between 6 – 8 October 2010 and 21-25 March 2011. CQU bird surveys involved the traversing of the main development footprint by foot and electric vehicle with regular stops made to look and listen for the presence of birds (point searches). Opportunistic sightings between stop points were also recorded. All beaches and rocky headlands were surveyed for birds during a full circuit of the island by boat on Thursday 7th October.	
Sula leucogaster Brown Booby		Marine, Migratory	Birds Australia	Harbours and rivermouths to search for fish and squid, it also forages hundreds of kilometres out to sea. Nest is a platform of sticks, leaves and debris, most commonly on the ground on cliff edge, in small clear spot among bushes, or on coral pinnacle (Readers Digest Complete Book of Australian Birds, 1986). Oceanic habitat, breeding on islands including those off the north Australian coast, nesting on the ground often in clearings in scrubby vegetation (Flegg, 2003).	The species is considered native in a number of countries including Australia (American Samoa; Anguilla; Antigua and Barbuda; Argentina; Aruba; Australia; Bahamas; Barbados; Belize; Brazil; British Indian Ocean Territory; Brunei Darussalam; Canada; Cape Verde; Cayman Islands; China; Christmas Island; Cocos (Keeling) Islands; Colombia; Comoros; Cook Islands; Costa Rica; Cuba; Djibouti; Dominica; Dominican Republic; Ecuador; Egypt; El Salvador; Equatorial Guinea; Eritrea; Fiji; French Guiana; French Polynesia; Gabon; Grenada; Guadeloupe; Guam; Guatemala; Guinea; Guinea-Bissau; Guyana; Haiti; Honduras; India; Indonesia; Israel; Jamaica; Japan; Jordan; Kenya; Kiribati; Liberia; Madagascar; Malaysia; Maldives; Marshall Islands; Martinique; Mauritania; Mayotte; Mexico; Micronesia, Federated States of; Montserrat; Myanmar; Nauru; Netherlands Antilles; New Caledonia; Nicaragua; Nigeria; Northern Mariana Islands; Palau; Panama; Philippines; Puerto Rico; Saint Helena; Saint Kitts and Nevis; Saint Lucia; Saint Vincent and the Grenadines; Samoa; Sao Tomé and Principe; Saudi Arabia; Seychelles; Singapore; Solomon Islands; Somalia; Sri Lanka; Sudan; Suriname; Taiwan, Province of China; Thailand; Timor-Leste; Tonga; Trinidad and Tobago; Turks and Caicos Islands; United States; United States Minor Outlying Islands; Vanuatu; Venezuela; Viet Nam; Virgin Islands, British; Virgin Islands, U.S.; Wallis and Futuna; Yemen). The species is considered a vagrant in the following countries: Benin; Bermuda; Gambia; Ghana; Hong Kong; Morocco; Mozambique; New Zealand; Oman; Portugal; Senegal; Sierra Leone; South Africa; Spain; United Arab Emirates; Uruguay (Birdlife International, 2009).	Surveys for migratory shorebirds (SEWPAC, 2010) should be conducted at sites where either: ▪ No suitable survey records exis;t or ▪ Records are too old to be considered reliable; or ▪ The site characteristics have changed. The majority of shorebirds are present during the non-breeding season (October to march) and this is when count surveys to establish the presence, number , habitat characteristics and the context of the site (ie how many other similar sites occur and are these used by shorebirds). Survey recommendations are as follows: ▪ At a minimum cover all the habitat thought to be used by the same population of shorebirds and the entire contiguous habitat where shorebirds occur. ▪ Surveys should be conducted during the period when the majority of migratory birds are present in the area and the during the northern hemisphere breeding season to obtain non-breeding, non-migratory immature populations. ▪ Surveys for roosting birds are to be conducted as close to high tide as possible (max 2 hours either side). Surveys for foraging birds as close to low tide as possible (no more than 2hours either side). Surveys should not be undertaken during high rainfall or strong winds. ▪ Survey effort should be a minimum of 4 surveys for roosting shorebirds during the period when most are present in the area (eg 1 in dec, 2 in Jan and 1 in Feb). A minimum of 4 surveys for foraging shorebirds including 2 at spring low tide and 2 at neap low tide. For large sites or sites where large numbers are expected it is recommended that at least two people undertake the counts. Data requirements are: ▪ Roosting sites – total abundance, species richness, species abundance. ▪ Shorebird behaviour – activity at site (roosting, foraging, both), foraging location (mapping of foraging habitat). ▪ Survey conditions – date, time of day, tide height, weather conditions (temperature, precipitation, wind speed, wind direction). ▪ Number of observers and experience level. ▪ Habitat characteristics (dominant landform type, site hydrology, dominant vegetation types, inter-tidal substrate, invasive species, disturbance regime, presence of suitable nocturnal roost sites). ▪ Methodology used to conduct survey.	Possible	Chenoweth EPLA undertook an 8 day fauna survey of the proposed disturbance area in September 2010 and a further 8 days survey in February 2011. The Chenoweth Surveys were undertaken as follows: ▪ Dedicated bird watching was undertaken for 20 minutes per area (Figure 12) every morning in the early morning and late afternoon on each day of the survey. During this time, two observers walked quietly over selected areas (point surveys) of the site to detect birds present both through direct observation and through calls. ▪ Birds were also recorded when opportunistically observed during other survey activities. ▪ Nocturnal birds were searched for as part of spotlighting and call playback activities on site ▪ Migratory shorebird searches were undertaken along the beach-front and tidal creeks. Point surveys of these areas were undertaken on foot for 20 minutes and sampled across a range of tide heights. ▪ A survey from a boat of the beaches at low tide was undertaken for a total of 2.5 hours during the dry season survey on 26 September 2010 between 2:00pm – 04:30pm.	Not recorded during field survey. Possible foraging, breeding and roosting habitat occur on Great Keppel Island.

Literature Review								Results	
Species	**NCA Status**	**EPBC Status**	**Database**	**Habitat (foraging and resting) Preferences Breeding/nesting and Seasonal influences**	**Species Distribution**	**SEWPAC Survey Requirements**	**Likelihood of Occurrence (as per literature review)**	**Assessment to Date**	**Results and Likely Presence Based on Field Survey**
						Where it is not possible to conduct surveys within the manner recommended a thorough habitat assessment must be done. The characteristics of the site (landform, hydrology, flood levels) should be assessed.		▪ Leeke's Estuary (Figure 1) was walked during the wet season survey on 21 February 2011 at low tide (incoming) between 06:20am – 09:30am. ▪ A portion of the Estuary from the mouth to the shed was surveyed over a period of 3 hours to actively search for feeding and roosting waders. ▪ Detailed habitat assessments were also undertaken throughout GKI. Central Queensland University (CQE) undertook bird surveys on GKI between 6 – 8 October 2010 and 21-25 March 2011. CQU bird surveys involved the traversing of the main development footprint by foot and electric vehicle with regular stops made to look and listen for the presence of birds (point searches). Opportunistic sightings between stop points were also recorded. All beaches and rocky headlands were surveyed for birds during a full circuit of the island by boat on Thursday 7th October.	
Thalasseus bengalensis Lesser Crested Tern		Marine, Migratory	Birds Australia	Breeds in small colonies on tropical beaches and islands, dispersing into coastal areas (Flegg, 2003). No nest is made (Readers Digest Complete Book of Australian Birds, 1986).	Breeds from Point Cloates, WA, round northern coasts and offshore islands to about Gladstone, Qld (Readers Digest Complete Book of Australian Birds, 1986).	As above	Known	Chenoweth EPLA undertook an 8 day fauna survey of the proposed disturbance area in September 2010 and a further 8 days survey in February 2011. The Chenoweth Surveys were undertaken as follows: ▪ Dedicated bird watching was undertaken for 20 minutes per area (Figure 12) every morning in the early morning and late afternoon on each day of the survey. During this time, two observers walked quietly over selected areas (point surveys) of the site to detect birds present both through direct observation and through calls. ▪ Birds were also recorded when opportunistically observed during other survey activities. ▪ Nocturnal birds were searched for as part of spotlighting and call playback activities on site ▪ Migratory shorebird searches were undertaken along the beach-front and tidal creeks. Point surveys of these areas were undertaken on foot for 20 minutes and sampled across a range of tide heights.	Not recorded during CEPLA field survey. One was recorded by CQE (Black and Houston, 2010) from Leeke's Estuary. Foraging and roosting habitat occur on Great Keppel Island. Breeding habitat is not confirmed.

Literature Review								Results	
Species	**NCA Status**	**EPBC Status**	**Database**	**Habitat (foraging and resting) Preferences Breeding/nesting and Seasonal influences**	**Species Distribution**	**SEWPAC Survey Requirements**	**Likelihood of Occurrence (as per literature review)**	**Assessment to Date**	**Results and Likely Presence Based on Field Survey**
								▪ A survey from a boat of the beaches at low tide was undertaken for a total of 2.5 hours during the dry season survey on 26 September 2010 between 2:00pm – 04:30pm. ▪ Leeke's Estuary (Figure 1) was walked during the wet season survey on 21 February 2011 at low tide (incoming) between 06:20am – 09:30am. ▪ A portion of the Estuary from the mouth to the shed was surveyed over a period of 3 hours to actively search for feeding and roosting waders. ▪ Detailed habitat assessments were also undertaken throughout GKI. Central Queensland University (CQE) undertook bird surveys on GKI between 6 – 8 October 2010 and 21-25 March 2011. CQU bird surveys involved the traversing of the main development footprint by foot and electric vehicle with regular stops made to look and listen for the presence of birds (point searches). Opportunistic sightings between stop points were also recorded. All beaches and rocky headlands were surveyed for birds during a full circuit of the island by boat on Thursday 7th October.	
Vanellus miles Masked Lapwing		Migratory	Birds Australia	The Masked Lapwing inhabits marshes, mudflats, beaches and grasslands, and is often seen in urban areas (Birds in Backyards, 2010). It can also be found on the margins of ponds and dams (Flegg, 2003). Nest is a scrape in the ground lined with grass and debris, sometimes on a flat roof. When not breeding they form flocks of up to 100 and may travel extensively. At night the flocks roost, standing in large expanses of shallow water or on small islands (Readers Digest Complete Book of Australian Birds, 1986).	The Masked Lapwing is common throughout northern, central and eastern Australia. Masked Lapwings are also found in Indonesia, New Guinea, New Caledonia and New Zealand. The New Zealand and New Caledonian populations have been formed from birds that have flown there from Australia (Birds Australia, 2010). Masked Lapwings may breed when conditions are suitable.	As above	Known	Chenoweth EPLA undertook an 8 day fauna survey of the proposed disturbance area in September 2010 and a further 8 days survey in February 2011. The Chenoweth Surveys were undertaken as follows: ▪ Dedicated bird watching was undertaken for 20 minutes per area (Figure 12) every morning in the early morning and late afternoon on each day of the survey. During this time, two observers walked quietly over selected areas (point surveys) of the site to detect birds present both through direct observation and through calls. ▪ Birds were also recorded when opportunistically observed during other survey activities. ▪ Nocturnal birds were searched for as part of spotlighting and call playback activities on site	Recorded by Chenoweth during the dry season survey (Sept 2010) and wet season (Feb, 2011). CQE recorded 4 during the 2010 survey and 16 throughout GKI during the 2011 survey. Masked Lapwing was identified from Leeke's Beach, Leeke's Estuary, Putney Beach and the Resort Precinct. No breeding or nesting birds were identified during surveys. Feeding and roosting habitat occur on GKI.

Literature Review								Results	
Species	**NCA Status**	**EPBC Status**	**Database**	**Habitat (foraging and resting) Preferences Breeding/nesting and Seasonal influences**	**Species Distribution**	**SEWPAC Survey Requirements**	**Likelihood of Occurrence (as per literature review)**	**Assessment to Date**	**Results and Likely Presence Based on Field Survey**
								▪ Migratory shorebird searches were undertaken along the beach-front and tidal creeks. Point surveys of these areas were undertaken on foot for 20 minutes and sampled across a range of tide heights. ▪ A survey from a boat of the beaches at low tide was undertaken for a total of 2.5 hours during the dry season survey on 26 September 2010 between 2:00pm – 04:30pm. ▪ Leeke's Estuary (Figure 1) was walked during the wet season survey on 21 February 2011 at low tide (incoming) between 06:20am – 09:30am. ▪ A portion of the Estuary from the mouth to the shed was surveyed over a period of 3 hours to actively search for feeding and roosting waders. ▪ Detailed habitat assessments were also undertaken throughout GKI. Central Queensland University (CQE) undertook bird surveys on GKI between 6 – 8 October 2010 and 21-25 March 2011. CQU bird surveys involved the traversing of the main development footprint by foot and electric vehicle with regular stops made to look and listen for the presence of birds (point searches). Opportunistic sightings between stop points were also recorded. All beaches and rocky headlands were surveyed for birds during a full circuit of the island by boat on Thursday 7th October.	

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