APPENDIX Y: SIGNIFICANCE OF IMPACTS ASSESSMENT

Curlew sandpiper *(Calidris ferruginea)*

Table Y-1: Assessment of whether the proposed action will have a significant impact on curlew sandpiper species using the EPBC Act significant impact guidelines 1.1

Species listing	Significant impact criteria	Response	Outcome
Critically endangered, Migratory	Lead to a long-term decrease in the size of a population	• The curlew sandpiper was not recorded within the Project Area by the Department of Biodiversity, Conservation and Attractions' (DBCA) Threatened and Priority Fauna database, BirdLife Australia's Birdata database (BirdLife Australia 2024a)[1], Ebird's species observations (Ebird Database 2024)[2], Atlas of Living Australia's database (Atlas of Living Australia 2025)[3] or the 16 bird census sites established within Waddi wind farm (RPS 2010)[4] • Further, the curlew sandpiper was not recorded within 20 bird census sites established within Yandin wind farm or the seven representative plots outside of the wind farm sites by RPS (2010), nor was the species recorded by avian surveys and mortality and abundance monitoring (Ecoscape 2018[5], Ecoscape 2019a[6], Ecoscape 2019b[7] and Ecoscape 2020[8]) at the Badgingarra wind farm, located approximately 28 km north-west of the Project Area. The curlew sandpiper was also not recorded by either the pre-development avian survey (Ecologia Environment 2017)[9] or the monthly carcass searches (Alinta Energy 2022[10]; Alinta Energy 2024[11]) undertaken at the Yandin wind farm approximately 10 to 25 km southeast of the Waddi wind farm • The EPBC Act Policy Statement 3.21—Industry guidelines for avoiding, assessing and mitigating impacts on EPBC Act listed migratory shorebird species (Commonwealth of Australia 2017)[12] outlines a process to identify important habitat for migratory shorebirds. Internationally important habitat regularly supports 1% of the individuals in a population of one species (e.g. 900 curlew sandpipers (Hansen et al. 2016))[13], or a total abundance of at least 20,000 waterbirds. Nationally important habitat regularly supports 0.1% of the flyway population of a single species of migratory shorebird (e.g. 90 curlew sandpipers (Hansen et al. 2016)), 2,000 migratory shorebirds or 15 migratory shorebird species. The Project Area does not comprise important habitat for the species as there are no internationally or nationally important shorebird areas in the Project Area. • Informed by these findings and the lack of habitat within the Project Area for this species, the curlew sandpiper is considered extremely unlikely to be seasonally present within the Project Area	Proposed action is not at variance with this significant impact criteria
	Reduce the area of occupancy of the species	• The curlew sandpiper mainly occurs on intertidal mudflats in sheltered coastal areas, including estuaries, bays, inlets, lagoons and non-tidal swamps, lakes and lagoons and around ephemeral and permanent lakes • The five key habitat types occurring within the Project Area do not align with the curlew sandpiper's preferred coastal and lake habitats: – Open pasture / cultivation area, often with scattered trees – Remnant heathland vegetation – Woodland remnants / elements – Areas where various combinations of heathland and/ or woodland are associated with areas dominated by open pasture / cultivation habitats – Aerial habitats above land for avifauna • These habitat types do not align with the curlew sandpiper's preferred coastal and lake habitats. Figure K illustrates potential migratory wader habitat within a 12 km radius of the Project Area, informed by mapped regional surface water features. • Considering the absence of preferred habitat of this species within the Project Area, in addition to the anticipated movement patterns of the species through the Dandaragan landscape (i.e. following open water habitats through the Moore River catchment from the north) when moving east to west during the Western Australian summer period when limited open water resources are available, it is extremely unlikely the species will traverse the Project Area where no open water habitat exists. Therefore, it is unlikely that the proposed action would reduce the curlew sandpiper's area of occupancy	Proposed action is unlikely to be at variance with this significant impact criteria

[1] BirdLife Australia. 2024a. Birdata database. Curlew Sandpiper. Accessed February 2024 https://birdata.birdlife.org.au/explore#map=-30.6287502_115.6150963_11&species_id=161

[2] Ebird Database. 2024. Dandaragan. Accessed February 2024 https://ebird.org/region/AU-WA-DAN?yr=all

[3] Atlas of Living Australia. 2025. Atlas of Living Australia occurrence download. Accessed March 2025 https://doi.org/10.26197/ala.42f6154f-f884-4342-a061-c3b024aa28a8.

[4] RPS. 2010. Avifauna Assessment Proposed Wind Farm Development Dandaragan Shire. Unpublished report prepared for Wind Prospect

[5] Ecoscape. 2018. Carnaby's cockatoo and other birds baseline monitoring report 2018: Badgingarra Wind Farm. Unpublished report prepared for APA

[6] Ecoscape. 2019a. Carnaby's cockatoo and other birds year one operational monitoring. Unpublished report prepared for APA

[7] Ecoscape 2019b. Field Summary Report – Spring 19. Unpublished report prepared for APA

[8] Ecoscape 2020. Field Summary Report – Spring 20. Unpublished report prepared for APA

[9] Ecologia Environment. 2017. Flora, Vegetation and Avifauna Assessment. Unpublished report prepared for Wind Prospects

[10] Alinta Energy. 2022. Yandin Wind Farm Fauna Monitoring Program. Unpublished report prepared for Alinta Energy

[11] Alinta Energy. 2024. Yandin Wind Farm Avian Fauna Monitoring Program. Unpublished report prepared for Alinta Energy

[12] Commonwealth of Australia. 2017. EPBC Act Policy Statement 3.21—Industry guidelines for avoiding, assessing and mitigating impacts on EPBC Act listed migratory shorebird species. Canberra, Australian Capital Territory

[13] Hansen, B.D., Fuller, R.A., Watkins, D., Rogers, D.I., Clemens, R.S., Newman, M., Woehler, E.J. and Weller, D.R. 2016. Revision of the East Asian-Australasian Flyway Population Estimates for 37 listed Migratory Shorebird Species. Unpublished report for the Department of the Environment. BirdLife Australia, Melbourne.

Species listing	Significant impact criteria	Response	Outcome
	Fragment an existing population into two or more populations	• The curlew sandpiper has not been recorded within the Project Area nor does the Project Area contain suitable habitat for this species • Curlew sandpipers are highly mobile and can fly large distances between areas of preferred habitat (i.e. coastal and lake areas) • The implementation of the proposed action will not result in the fragmentation of an existing curlew sandpipers population	Proposed action is not at variance with this significant impact criteria
	Adversely affect habitat critical to the survival of a species	• Critical habitat for the curlew sandpiper refers to areas that are necessary for activities such as foraging, breeding, roosting, or dispersal, for the long-term maintenance of the subspecies, to maintain genetic diversity and long-term evolutionary development, or for the re-introduction of populations or recovery of the species • Feeding habitat includes exposed sandy or soft mud substrates on intertidal flats and beaches, and similar to most migratory shorebird species, upper tidal flats are especially important, and inland wetlands when conditions are suitable. While roosting habitat consists primarily of large intertidal sandflats, spits, and banks, and less frequently within mudflats, estuaries, coastal lagoons and bays • As these preferred coastal and wetland/lake habitats are not present within the Project Area, it is therefore considered unlikely that the proposed action will adversely affect habitat critical to the survival of this species	Proposed action is unlikely to be at variance with this significant impact criteria
	Disrupt the breeding cycle of a population	• Within Australia a large network of sites is required during the non-breeding season for the species to cope with natural and human-driven environmental changes, particularly as anthropogenic disturbance can force the species away from traditional roosting and feeding sites having a suboptimal impact on the individual's ability to complete their northward migration and hence the breeding cycle/overall reproductive success of the species • There are few wetlands apart from farm dams in the vicinity of the Project Area, although a small lake occurs some 10 km to the east of the wind farm at Aggies Cottage on Badgingarra Road. However, there are a number of relatively large water bodies to the south-west (approximately 18 km from the Project Area), small to moderate sized water bodies to the east near Dandaragan (approximately 10 km from Project Area), a considerable number of water bodies in the upper Moore River catchment near Moora (approximately 37 km east from the Project Area) and a number of large water bodies further west near Wongan Hills including Lake Hinds (approximately 120 km from the Project Area) and Lake Ninan (approximately 130 km from the Project Area) • Given the curlew sandpiper's preferred habitat is not present within the Project Area, and the Project Area is primarily comprised of cleared agricultural land, it is considered unlikely that the proposed action will adversely affect the breeding cycle of a curlew sandpipers population	Proposed action is unlikely to be at variance with this significant impact criteria
	Modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline	• The five key habitat types occurring within the Project Area do not align with the curlew sandpiper's preferred coastal and lake habitats • In addition, there are a number of water bodies within regional proximity of the proposed action which are frequented by migratory wading birds, including Lake Guraga and nearby lakes approximately 18 km south of the Project Area, Lake Thetis 37 km west-north-west of the Project Area, the upper More River catchment area approximately 37 km east of the Project Area, and Aggies Cottage and Farm Dams approximately 9km east of the Project Area, that will not be impacted by the proposed action • The proposed action will not result in the permanent loss of any foraging, potential breeding or potential roosting habitat critical for the curlew sandpiper	Proposed action is not at variance with this significant impact criteria
	Result in invasive species that are harmful to a critically endangered species becoming established in the endangered or critically endangered species' habitat	• There is no suitable habitat for the curlew sandpiper within the Project Area • The potential for indirect impacts to occur to the adjoining vegetation (e.g. through introduction and spread of invasive weeds) will be managed through the implementation of the following general hygiene protocols: – Clean earth-moving machinery and vehicles of soil and vegetation prior to entering the Disturbance Area – Soil to be moved in dry conditions – No *Phytophthora* dieback infested or weed impacted soil, mulch, fill or other material is brought into the Disturbance Area – Movement of machines and other vehicles to be restricted to cleared access tracks and works area within the Disturbance Area • Through implementation of these general hygiene protocols, it is considered unlikely that the proposed action would result in invasive weeds becoming established within the Project Area or to an area outside of the Project Area containing curlew sandpiper habitat	Proposed action is unlikely to be at variance with this significant impact criteria
	Introduce disease that may cause the species to decline	• Badgingarra Conservation Park (Crown reserve 41986) has a history of soil borne *Phytophthora* dieback occurrences, mainly due to the historic mineral sand mining activities in the area. The *Phytophthora* dieback status within the Project Area is not known, as no *Phytophthora* dieback assessment has been undertaken. There is the potential *Phytophthora* dieback to be introduced and / or distributed via plant machinery or support vehicles during vegetation clearing and construction. Vehicle movements required during maintenance of the operational wind farm may also act as vectors for transfer. • The potential for indirect impacts to occur to the adjoining vegetation (e.g. through introduction and spread of *Phytophthora* dieback) will be managed through the implementation of the following general hygiene protocols: – Clean earth-moving machinery and vehicles of soil and vegetation prior to entering the Disturbance Area – Soil to be moved in dry conditions – No *Phytophthora* dieback infested or weed impacted soil, mulch, fill, or other material is brought into the Disturbance Area – Movement of machines and other vehicles to be restricted to cleared access tracks and works area within the Disturbance Area • Through implementation of these general hygiene protocols, it is considered unlikely that *Phytophthora* dieback will be introduced or spread within the Project Area or to an area outside of the Project Area that would cause the curlew sandpiper to decline	Proposed action is unlikely to be at variance with this significant impact criteria
	Interfere with the recovery of the species	• Informed by the findings of the DBCA's Threatened and Priority Fauna database, BirdLife Australia's Birdata database (BirdLife Australia 2024a), Ebird's species observations (Ebird Database 2024), Atlas of Living Australia's database (Atlas of Living Australia 2025), RPS avifauna assessment (2010) and the assessments undertaken for the neighbouring wind farms (Ecologia Environment 2017, Alinta Energy 2022; Alinta Energy 2024; Ecoscape 2018, Ecoscape 2019a, Ecoscape 2019b and Ecoscape 2020), and acknowledging a lack of habitat within the Project Area for this species, the curlew sandpiper is considered extremely unlikely to be seasonally present within the Project Area • The proposed action will not interfere with the recovery of the curlew sandpiper	Proposed action is not at variance with this significant impact criteria

(Source: Department of the Environment (DotE) 2013)[14]

[14] Department of the Environment. 2013. Matters of National Environment Significance: Significant Impact Guidelines 1.1. Canberra, Australian Capital Territory

Fork-tailed swift *(Apus pacificus)*

Table Y-2: Assessment of whether the proposed action will have a significant impact on fork-tailed swift species using the EPBC Act significant impact guidelines 1.1

Species listing	Significant impact criteria	Response	Outcome
Migratory	Substantially modify (including by fragmenting, altering fire regimes, altering nutrient cycles or altering hydrological cycles), destroy or isolate an area of important habitat for a migratory species	• The fork-tailed swift is almost exclusively aerial, flying from less than one metre to at least 300 metres above ground level and higher • Due to the broad range of habitats that this species overflies and its widespread occurrence it is not anticipated that a minor reduction of vegetation within the Project Area would materially impact this species	Proposed action is not at variance with this significant impact criteria
	Result in an invasive species that is harmful to the migratory species becoming established in an area of important habitat for the migratory species	• The five key habitat types occurring within the Project Area do provide potential habitat for the fork-tailed swift: – Open pasture / cultivation area, often with scattered trees – Remnant heathland vegetation – Woodland remnants / elements – Areas where various combinations of heathland and/ or woodland are associated with areas dominated by open pasture / cultivation habitats – Aerial habitats above land for avifauna • Figure K illustrates the extent DCCEEW's mapping of the species or species habitat likely to occur for the fork-tailed swift. • The potential for indirect impacts to occur to the adjoining vegetation (e.g. through introduction and spread of invasive weeds) will be managed through the implementation of the following general hygiene protocols: – Clean earth-moving machinery and vehicles of soil and vegetation prior to entering the Disturbance Area – Soil to be moved in dry conditions – No *Phytophthora* dieback infested or weed impacted soil, mulch, fill or other material is brought into the Disturbance Area – Movement of machines and other vehicles to be restricted to cleared access tracks and works area within the Disturbance Area • Through implementation of these general hygiene protocols, it is considered unlikely that the proposed action would result in invasive weeds becoming established within the Project Area or to an area outside of the Project Area containing fork-tailed swift habitat	Proposed action is unlikely to be at variance with this significant impact criteria
	Seriously disrupt the life cycle (breeding, feeding, migration or resting behaviour) of an ecologically significant proportion of the population of a migratory species	• The fork-tailed swift has not been recorded within the Project Area by the Carnaby's Black-Cockatoo and Fork-tailed Swift utilisation survey (BCE 2025), DBCA's Threatened and Priority Fauna database, BirdLife Australia's Birdata database (BirdLife Australia 2024b), Ebird's species observations (Ebird Database 2024), Atlas of Living Australia's database (Atlas of Living Australia 2025) or the 16 bird census sites established within the Waddi Wind Farm by RPS (2010a). . This may be due to the fact the species is transitory at most sites, and they are therefore unlikely to be recorded on specific surveys of short duration. However, the species may occur locally during dispersive movements, particularly in the summer months • The utilisation survey was undertaken by experienced ornithologists from August 2024 to January 2025, which overlapped the period when fork-tailed swifts may be expected in Western Australia (in late October, December and January) (BCE 2025). No fork-tailed swifts were seen or heard during the large amount of sampling undertaken when they may be present. In December 2024, a storm-front was observed to the northeast of the Project Area, which would provide conditions conducive for the fork-tailed swift. A long-term monitoring project (30 years; approximately 1,320 person-days) in the adjacent Cooljarloo mine site has not encountered fork-tailed swifts, and Dr Mike Bamford has observed the species twice in the region during a bird-watching career spanning nearly half a century. Considering the extremely infrequent occurrence of fork-tailed swift in the region, the site utilisation frequency and population abundance that occurs in, adjacent to, or may transit or overfly, the Project Area cannot be predicted. • There is potential for this species to fly at Rotor Swept Area (RSA) height if flocks were to move through the area under some seasonal conditions. However, the fork-tailed swift has considerable aerial ability and is likely to easily avoid collision. No fork-tailed swift mortality has been reported at either the Badgingarra or Yandin wind farms (Ecoscape 2019b; Ecoscape 2020; Alinta Energy 2022; Alinta Energy 2024). On this basis, the fork-tailed swift is considered to be at low to negligible risk of collision or barotrauma from the operating Waddi wind farm turbines. The risk of collision / entanglement presented by the transmission lines is also considered to be low to negligible • Therefore, the proposed action is considered unlikely to seriously disrupt the life cycle of an ecologically significant proportion of the fork-tailed swift population	Proposed action is unlikely to be at variance with this significant impact criteria

(Source: DotE 2013)

Sharp-tailed sandpiper *(Calidris acuminata)*

Table Y-3: Assessment of whether the proposed action will have a significant impact on sharp-tailed sandpiper species using the EPBC Act significant impact guidelines 1.1

Species listing	Significant impact criteria	Response	Outcome
Vulnerable, Migratory	Lead to a long-term decrease in the size of an important population of a species	• The sharp-tailed sandpiper was not recorded within the Project Area by the DBCA's Threatened and Priority Fauna database, BirdLife Australia's Birdata database (BirdLife Australia 2024b)[15], Ebird's species observations (Ebird Database 2024), Atlas of Living Australia's database (Atlas of Living Australia 2025) or the 16 bird census sites established within Waddi wind farm by RPS (2010) • Further, the sharp-tailed sandpiper was not recorded within 20 bird census sites established within Yandin wind farm or the seven representative plots outside of the wind farm sites by RPS (2010), nor was the species recorded by avian surveys and mortality and abundance monitoring (Ecoscape 2018, Ecoscape 2019a, Ecoscape 2019b and Ecoscape 2020) at the Badgingarra wind farm, located approximately 28 km north-west of the Project Area. The sharp-tailed sandpiper was also not recorded by either the pre-development avian survey (Ecologia Environment 2017) or the monthly carcass searches (Alinta Energy 2022; Alinta Energy 2024)[10] undertaken at the Yandin wind farm approximately 10 to 25 km southeast of the Waddi wind farm • The EPBC Act Policy Statement 3.21—Industry guidelines for avoiding, assessing and mitigating impacts on EPBC Act listed migratory shorebird species (Commonwealth of Australia 2017) outlines a process to identify important habitat for migratory shorebirds. Internationally important habitat regularly supports 1% of the individuals in a population of one species (e.g. 850 sharp-tailed sandpipers (Hansen et al. 2016)), or a total abundance of at least 20,000 waterbirds. Nationally important habitat regularly supports 0.1% of the flyway population of a single species of migratory shorebird (e.g. 85 sharp-tailed sandpipers (Hansen et al. 2016)), 2,000 migratory shorebirds or 15 migratory shorebird species. The Project Area does not comprise important habitat for the species as there are no internationally or nationally important shorebird areas in the Project Area. • Informed by these findings and the lack of habitat within the Project Area for this species, the sharp-tailed sandpiper is considered extremely unlikely to be seasonally present within the Project Area	Proposed action is not at variance with this significant impact criteria
	Reduce the area of occupancy of an important population	• The five key habitat types occurring within the Project Area do not align with the sharp-tailed sandpiper's preferred coastal and wetland habitats: – Open pasture / cultivation area, often with scattered trees – Remnant heathland vegetation – Woodland remnants / elements – Areas where various combinations of heathland and/ or woodland are associated with areas dominated by open pasture / cultivation habitats – Aerial habitats above land for avifauna • Figure K illustrates potential migratory wader habitat within a 12 km radius of the Project Area, informed by mapped regional surface water features. • Considering the absence of preferred habitat of this species within the Project Area, in addition to the anticipated movement patterns of the species through the Dandaragan landscape (i.e. following open water habitats through the Moore River catchment from the north) when moving east to west during the Western Australian summer period when limited open water resources are available, it is extremely unlikely the species will traverse the Project Area where no open water habitat exists. Therefore, it is unlikely that the proposed action would reduce the sharp-tailed sandpiper's area of occupancy	Proposed action is unlikely to be at variance with this significant impact criteria
	Fragment an existing important population into two or more populations	• The sharp-tailed sandpiper has not been recorded within the Project Area nor does the Project Area contain suitable habitat for this species • Sharp-tailed sandpipers are highly mobile and can fly large distances between areas of preferred habitat (i.e. coastal and wetland areas) • The implementation of the proposed action will not result in the fragmentation of an existing important sharp-tailed sandpiper population	Proposed action is not at variance with this significant impact criteria
	Adversely affect habitat critical to the survival of a species	• Sharp-tailed sandpipers are more flexible in their habitat choice than most shorebird species during the non-breeding season. The species occurs both along coasts and within inland wetlands - from fresh to hypersaline. Sharp-tailed sandpipers are also more tolerant of grassy vegetation than most shorebirds. The highest density of the species can be found around grassy edges of shallow inland freshwater wetlands. It is also found around sewage farms, flooded fields, mudflats, mangroves, rocky shores, and beaches (DCCEEW 2024a)[16] • These preferred coastal and wetland habitats are not present within the Project Area, it is therefore considered unlikely that the proposed action will adversely affect habitat critical to the survival of the sharp-tailed sandpiper	Proposed action is unlikely to be at variance with this significant impact criteria
	Disrupt the breeding cycle of an important population	• Within Australia a large network of sites is required during the non-breeding season for the species to cope with natural and human-driven environmental changes, particularly as anthropogenic disturbance can force the species away from traditional roosting and feeding sites having a suboptimal impact on the individual's ability to complete their northward migration and hence the breeding cycle/overall reproductive success of the species • There are few wetlands apart from farm dams in the vicinity of the Project Area, although a small lake occurs some 10 km to the east of the wind farm at Aggies Cottage on Badgingarra Road. However, there are a number of relatively large water bodies to the south-west (approximately 18 km from the Project Area), small to moderate sized water bodies to the east near Dandaragan (approximately 10 km from Project Area), a considerable number of water bodies in the upper Moore River catchment near Moora (approximately 37 km east from the Project Area) and a number of large water bodies further west near Wongan Hills including Lake Hinds (approximately 120 km from the Project Area) and Lake Ninan (approximately 130 km from the Project Area) • Given the sharp-tailed sandpiper's preferred habitat is not present within the Project Area, and the Project Area is primarily comprised of cleared agricultural land, it is considered unlikely that the proposed action will adversely affect the breeding cycle of an important sharp-tailed sandpiper population	Proposed action is unlikely to be at variance with this significant impact criteria
	Modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline	• The key habitat types occurring within the Project Area do not align with the sharp-tailed sandpiper's preferred coastal and wetland habitats • In addition, there are a number of water bodies within regional proximity of the proposed action which are frequented by migratory wading birds, including Lake Guraga and nearby lakes approximately 18 km south of the Project Area, Lake Thetis 37 km west-north-west of the Project Area, the upper More River catchment area approximately 37 km east of the Project Area, and Aggies Cottage and Farm Dams approximately 9 km east of the Project Area, that will not be impacted the proposed action • The proposed action will therefore not result in the permanent loss of any foraging, potential breeding or potential roosting habitat critical for the sharp-tailed sandpiper	Proposed action is not at variance with this significant impact criteria
	Result in invasive species that are harmful to a vulnerable species	• There is no suitable habitat for the sharp-tailed sandpiper within the Project Area • The potential for indirect impacts to occur to the adjoining vegetation (e.g. through introduction and spread of invasive weeds) will be managed through the implementation of the following general hygiene protocols:	Proposed action is unlikely to be at variance with this

[15] BirdLife Australia. 2024b. Birdata database. Sharp-tailed Sandpiper. Accessed February 2024 https://birdata.birdlife.org.au/explore#map=-30.7895065_115.8496448_10&species_id=163

[16] Department of Climate Change, Energy, the Environment and Water. 2024a. *Calidris acuminata* — Sharp-tailed Sandpiper in Species Profile and Threats Database. Accessed February 2024 https://www.environment.gov.au/cgi-bin/sprat/public/publicspecies.pl?taxon_id=874

Species listing	Significant impact criteria	Response	Outcome
	becoming established in the vulnerable species' habitat	– Clean earth-moving machinery and vehicles of soil and vegetation prior to entering the Disturbance Area – Soil to be moved in dry conditions – No *Phytophthora* dieback infested or weed impacted soil, mulch, fill or other material is brought into the Disturbance Area – Movement of machines and other vehicles to be restricted to cleared access tracks and works area within the Disturbance Area • Through implementation of these general hygiene protocols, it is considered unlikely that the proposed action would result in invasive weeds becoming established within the Project Area or to an area outside of the Project Area containing sharp-tailed sandpiper habitat	significant impact criteria
	Introduce disease that may cause the species to decline	• Badgingarra Conservation Park (Crown reserve 41986) has a history of soil borne *Phytophthora* dieback occurrences, mainly due to the historic mineral sand mining activities in the area. The *Phytophthora* dieback status within the Project Area is not known, as no *Phytophthora* dieback assessment has been undertaken. There is the potential *Phytophthora* dieback to be introduced and / or distributed via plant machinery or support vehicles during vegetation clearing and construction. Vehicle movements required during maintenance of the operational wind farm may also act as vectors for transfer. • The potential for indirect impacts to occur to the adjoining vegetation (e.g. through introduction and spread of *Phytophthora* dieback) will be managed through the implementation of the following general hygiene protocols: – Clean earth-moving machinery and vehicles of soil and vegetation prior to entering the Disturbance Area – Soil to be moved in dry conditions – No *Phytophthora* dieback infested or weed impacted soil, mulch, fill, or other material is brought into the Disturbance Area – Movement of machines and other vehicles to be restricted to cleared access tracks and works area within the Disturbance Area • Through implementation of these general hygiene protocols, it is considered unlikely that *Phytophthora* dieback will be introduced or spread within the Project Area or to an area outside of the Project Area that would cause the sharp-tailed sandpiper to decline	Proposed action is unlikely to be at variance with this significant impact criteria
	Interfere substantially with the recovery of the species	• Informed by the findings of the DBCA's Threatened and Priority Fauna database, BirdLife Australia's Birdata database (BirdLife Australia 2024b), Ebird's species observations (Ebird Database 2024), Atlas of Living Australia's database (Atlas of Living Australia 2025), RPS avifauna assessment (2010) and the assessments undertaken for the neighbouring wind farms (Ecologia Environment 2017, Alinta Energy 2022; Alinta Energy 2024; Ecoscape 2018, Ecoscape 2019a, Ecoscape 2019b and Ecoscape 2020), and acknowledging a lack of habitat within the Project Area for this species, the sharp-tailed sandpiper is considered extremely unlikely to be seasonally present within the Project Area • The proposed action will not interfere substantially with the recovery of the sharp-tailed sandpiper	Proposed action is not at variance with this significant impact criteria

(Source: DotE 2013)

Pectoral sandpiper *(Calidris melanotos)*

Table Y-4: Assessment of whether the proposed action will have a significant impact on pectoral sandpiper species using the EPBC Act significant impact guidelines 1.1

Species listing	Significant impact criteria	Response	Outcome
Migratory	Substantially modify (including by fragmenting, altering fire regimes, altering nutrient cycles or altering hydrological cycles), destroy or isolate an area of important habitat for a migratory species	• The pectoral sandpiper was not recorded within the Project Area by the DBCA's Threatened and Priority Fauna database, BirdLife Australia's Birdata database (BirdLife Australia 2024c)[17], Ebird's species observations (Ebird Database 2024), Atlas of Living Australia's database (Atlas of Living Australia 2025) or the 16 bird census sites established within Waddi wind farm by RPS (2010) • Further, the pectoral sandpiper was not recorded within 20 bird census sites established within Yandin wind farm or the seven representative plots outside of the wind farm sites by RPS (2010), nor was the species recorded by avian surveys and mortality and abundance monitoring (Ecoscape 2018, Ecoscape 2019a, Ecoscape 2019b and Ecoscape 2020) at the Badgingarra wind farm, located approximately 28 km north-west of the Project Area. The pectoral sandpiper was also not recorded by either the pre-development avian survey (Ecologia Environment 2017) or the monthly carcass searches (Alinta Energy 2022; Alinta Energy 2024) undertaken at the Yandin wind farm approximately 10 to 25 km southeast of the Waddi wind farm • The EPBC Act Policy Statement 3.21—Industry guidelines for avoiding, assessing and mitigating impacts on EPBC Act listed migratory shorebird species (Commonwealth of Australia 2017) outlines a process to identify important habitat for migratory shorebirds. Internationally important habitat regularly supports 1% of the individuals in a population of one species (e.g. 12,200 pectoral sandpipers (Hansen et al. 2016)), or a total abundance of at least 20,000 waterbirds. Nationally important habitat regularly supports 0.1% of the flyway population of a single species of migratory shorebird (e.g. 1,220 pectoral sandpipers (Hansen et al. 2016)), 2,000 migratory shorebirds or 15 migratory shorebird species. The Project Area does not comprise important habitat for the species as there are no internationally or nationally important shorebird areas in the Project Area. • Informed by these findings and the lack of habitat within the Project Area for this species, the pectoral sandpiper is considered extremely unlikely to be seasonally present within the Project Area. Hence substantial modification, destruction or isolation of an area of important habitat for the pectoral sandpiper will not occur as a result of the proposed action	Proposed action is not at variance with this significant impact criteria
	Result in an invasive species that is harmful to the migratory species becoming established in an area of important habitat for the migratory species	• Habitat for the pectoral sandpiper has been defined as shallow fresh to saline wetlands • The five key habitat types occurring within the Project Area do not align with the pectoral sandpiper's preferred wetland habitats: – Open pasture / cultivation area, often with scattered trees – Remnant heathland vegetation – Woodland remnants / elements – Areas where various combinations of heathland and/ or woodland are associated with areas dominated by open pasture / cultivation habitats – Aerial habitats above land for avifauna • Figure K illustrates potential migratory wader habitat within a 12 km radius of the Project Area, informed by mapped regional surface water features. • The potential for indirect impacts to occur to the adjoining vegetation (e.g. through introduction and spread of invasive weeds) will be managed through the implementation of the following general hygiene protocols: – Clean earth-moving machinery and vehicles of soil and vegetation prior to entering the Disturbance Area – Soil to be moved in dry conditions – No *Phytophthora* dieback infested or weed impacted soil, mulch, fill or other material is brought into the Disturbance Area – Movement of machines and other vehicles to be restricted to cleared access tracks and works area within the Disturbance Area • Through implementation of these general hygiene protocols, it is considered unlikely that the proposed action would result in invasive weeds becoming established within the Project Area or to an area outside of the Project Area containing pectoral sandpiper habitat	Proposed action is unlikely to be at variance with this significant impact criteria
	Seriously disrupt the life cycle (breeding, feeding, migration or resting behaviour) of an ecologically significant proportion of the population of a migratory species	• Within Australia a large network of sites is required during the non-breeding season for the species to cope with natural and human-driven environmental changes, particularly as anthropogenic disturbance can force the species away from traditional roosting and feeding sites having a suboptimal impact on the individual's ability to complete their northward migration and hence the breeding cycle/overall reproductive success of the species • There are few wetlands apart from farm dams in the vicinity of the Project Area, although a small lake occurs some 10 km to the east of the wind farm at Aggies Cottage on Badgingarra Road. However, there are a number of relatively large water bodies to the south-west (approximately 18 km from the Project Area), small to moderate sized water bodies to the east near Dandaragan (approximately 10 km from Project Area), a considerable number of water bodies in the upper Moore River catchment near Moora (approximately 37 km east from the Project Area) and a number of large water bodies further west near Wongan Hills including Lake Hinds (approximately 120 km from the Project Area) and Lake Ninan (approximately 130 km from the Project Area) • Given the pectoral sandpiper's preferred habitat is not present within the Project Area, and the Project Area is primarily comprised of cleared agricultural land, it is considered unlikely that the proposed action will seriously disrupt the life cycle of an ecologically significant proportion of the pectoral sandpiper population	Proposed action is unlikely to be at variance with this significant impact criteria

(Source: DotE 2013)

[17] BirdLife Australia. 2024c. Birdata Database. Pectoral Sandpiper. Accessed February 2024 https://birdata.birdlife.org.au/explore#map=-30.7895065_115.8496448_10&species_id=978

Common sandpiper *(Actitis hypoleucos)*

Table Y-5: Assessment of whether the proposed action will have a significant impact on common sandpiper species using the EPBC Act significant impact guidelines 1.1

Species listing	Significant impact criteria	Response	Outcome
Migratory	Substantially modify (including by fragmenting, altering fire regimes, altering nutrient cycles or altering hydrological cycles), destroy or isolate an area of important habitat for a migratory species	• The common sandpiper was not recorded within the Project Area by the DBCA's Threatened and Priority Fauna database, BirdLife Australia's Birdata database (BirdLife Australia 2024d)[18], Ebird's species observations (Ebird Database 2024), Atlas of Living Australia's database (Atlas of Living Australia 2025) or the 16 bird census sites established within Waddi wind farm by RPS (2010) • Further, the common sandpiper was not recorded within 20 bird census sites established within Yandin wind farm or the seven representative plots outside of the wind farm sites by RPS (2010), nor was the species recorded by avian surveys and mortality and abundance monitoring (Ecoscape 2018, Ecoscape 2019a, Ecoscape 2019b and Ecoscape 2020) at the Badgingarra wind farm, located approximately 28 km north-west of the Project Area. The common sandpiper was also not recorded by either the pre-development avian survey (Ecologia Environment 2017) or the monthly carcass searches (Alinta Energy 2022; Alinta Energy 2024) undertaken at the Yandin wind farm approximately 10 to 25 km southeast of the Waddi wind farm • The EPBC Act Policy Statement 3.21—Industry guidelines for avoiding, assessing and mitigating impacts on EPBC Act listed migratory shorebird species (Commonwealth of Australia 2017) outlines a process to identify important habitat for migratory shorebirds. Internationally important habitat regularly supports 1% of the individuals in a population of one species (e.g. 1,900 common sandpipers (Hansen et al. 2016)), or a total abundance of at least 20,000 waterbirds. Nationally important habitat regularly supports 0.1% of the flyway population of a single species of migratory shorebird (e.g. 190 common sandpipers (Hansen et al. 2016)), 2,000 migratory shorebirds or 15 migratory shorebird species. The Project Area does not comprise important habitat for the species as there are no internationally or nationally important shorebird areas in the Project Area. • Informed by these findings and the lack of habitat within the Project Area for this species, the common sandpiper is considered extremely unlikely to be seasonally present within the Project Area. Hence substantial modification, destruction or isolation of an area of important habitat for the common sandpiper will not occur as a result of the proposed action	Proposed action is not at variance with this significant impact criteria
	Result in an invasive species that is harmful to the migratory species becoming established in an area of important habitat for the migratory species	• The common sandpiper inhabits coastal wetlands and some inland wetlands and is mostly found around muddy margins or rocky shores and rarely on mudflats • The five key habitat types occurring within the Project Area do not align with the common sandpiper's preferred wetland habiats: – Open pasture / cultivation area, often with scattered trees – Remnant heathland vegetation – Woodland remnants / elements – Areas where various combinations of heathland and/ or woodland are associated with areas dominated by open pasture / cultivation habitats – Aerial habitats above land for avifauna • Figure K illustrates potential migratory wader habitat within a 12 km radius of the Project Area, informed by mapped regional surface water features. • The potential for indirect impacts to occur to the adjoining vegetation (e.g. through introduction and spread of invasive weeds) will be managed through the implementation of the following general hygiene protocols: – Clean earth-moving machinery and vehicles of soil and vegetation prior to entering the Disturbance Area – Soil to be moved in dry conditions – No *Phytophthora* dieback infested or weed impacted soil, mulch, fill or other material is brought into the Disturbance Area – Movement of machines and other vehicles to be restricted to cleared access tracks and works area within the Disturbance Area • Through implementation of these general hygiene protocols, it is considered unlikely that the proposed action would result in invasive weeds becoming established within the Project Area or to an area outside of the Project Area containing common sandpiper habitat	Proposed action is unlikely to be at variance with this significant impact criteria
	Seriously disrupt the life cycle (breeding, feeding, migration or resting behaviour) of an ecologically significant proportion of the population of a migratory species	• Within Australia a large network of sites is required during the non-breeding season for the species to cope with natural and human-driven environmental changes, particularly as anthropogenic disturbance can force the species away from traditional roosting and feeding sites having a suboptimal impact on the individual's ability to complete their northward migration and hence the breeding cycle/overall reproductive success of the species • There are few wetlands apart from farm dams in the vicinity of the Project Area, although a small lake occurs some 10 km to the east of the wind farm at Aggies Cottage on Badgingarra Road. However, there are a number of relatively large water bodies to the south-west (approximately 18 km from the Project Area), small to moderate sized water bodies to the east near Dandaragan (approximately 10 km from Project Area), a considerable number of water bodies in the upper Moore River catchment near Moora (approximately 37 km east from the Project Area) and a number of large water bodies further west near Wongan Hills including Lake Hinds (approximately 120 km from the Project Area) and Lake Ninan (approximately 130 km from the Project Area) • Given the common sandpiper's preferred habitat is not present within the Project Area, and the Project Area is primarily comprised of cleared agricultural land, it is considered unlikely that the proposed action will seriously disrupt the life cycle of an ecologically significant proportion of the common sandpiper population	Proposed action is unlikely to be at variance with this significant impact criteria

(Source: DotE 2013)

[18] BirdLife Australia. 2024d. Birdata Database. Common Sandpiper. Accessed February 2024 https://birdata.birdlife.org.au/explore#map=-30.7202050_115.7353304_12&species_id=157

Carnaby's cockatoo (*Zanda latirostris*)

Table Y-6: Assessment of whether the proposed action will have a significant impact on Carnaby's cockatoo using the EPBC Act referral guideline for three WA threatened black cockatoo species

Attribute	Referral threshold	Response	Outcomes
Breeding	Any loss of / impact upon known, suitable or potential nesting trees, and the habitat around these trees, is highly likely to require a referral to the minister. Loss of any potential nesting habitat is likely to require a referral to the minister.	Proposed action will result in the permanent loss of up to three marri trees identified as potential Carnaby's cockatoo breeding habitat. None of the three marri trees have Carnaby's cockatoo nesting hollows	Proposed action is at variance with this referral threshold
High-quality native foraging habitat	Loss of greater than or equal to 1 ha of foraging habitat scoring 5–10 using the foraging quality scoring tool is likely to require referral to the minister. Foraging habitat quality is determined using the foraging quality scoring tool and takes into account context i.e. proximity of the impact site to important attributes.	Proposed action will result in the permanent loss of up to: • 5.33 ha of native vegetation identified as high-quality Carnaby's cockatoo foraging habitat • 21 pine trees identified as high-quality Carnaby's cockatoo foraging habitat	Proposed action is at variance with this referral threshold
Lower-quality native foraging habitat	Loss of greater than or equal to 10 ha of foraging habitat scoring 0–4 using the foraging quality scoring tool is likely to require referral to the minister. Foraging habitat quality is determined using the foraging quality scoring tool and takes into account context, i.e. proximity of the impact site to important attributes.	Proposed action will result in the permanent loss of up to 11 planted trees (non-native eucalypts) identified as low-quality Carnaby's cockatoo foraging habitat	Proposed action is not at variance with this referral threshold
Exotic foraging habitat	Loss of greater than or equal to 1 ha of predominantly exotic habitat (e.g. Cape lilac trees and pine trees) known to be utilised by black cockatoos is likely to require a referral to the minister.	• Proposed action will result in the permanent loss of up to: – 21 pine trees identified as high-quality Carnaby's cockatoo foraging habitat – 11 planted trees (non-native eucalypts) identified as low-quality Carnaby's cockatoo foraging habitat • Proposed action will not result in the loss of greater than or equal to 1 ha of predominantly exotic habitat	Proposed action is not at variance with this referral threshold
Night roosting habitat	Removal of any part of a known night roosting site is likely to require referral to the minister.	• Proposed action will result in the permanent loss of up to: – 3 marri trees identified as potential roosting habitat – 21 pine trees identified as potential roosting habitat – 11 planted trees (non-native eucalypts) identified as potential roosting habitat • None of the trees is a known night roosting site	Proposed action is not at variance with this referral threshold

(Source: Department of Agriculture, Water and the Environment (DAWE) 2022)[19]

[19] Department of Agriculture, Water and the Environment. 2022. Referral guideline for 3 WA threatened black cockatoo species. Canberra, Australian Capital Territory

Table Y-7: Assessment of whether the proposed action will have a significant impact on the Carnaby's cockatoo using the EPBC Act significant impact guidelines 1.1

Species listing	Significant impact criteria	Response	Outcomes
Endangered	Lead to a long-term decrease in the size of a population	• Carnaby's cockatoo is a seasonal foraging visitor to the Project Area. Large, consolidated extents of proteaceous heath and banksia woodland vegetation in the transmission line alignment provide high quality foraging habitat (RPS 2010; Murdoch University 2024[20]; Terrestrial Ecosystems 2022[21]). Foraging evidence by Carnaby's cockatoo was observed proximate to the proposed transmission line, within Low Open Woodland Eucalyptus todtiana, Banksia Woodland over Myrtaceous Heath mapped vegetation (Figure O). • There are 298 records of Carnaby's cockatoo in the DBCA's Threatened and Priority Fauna database within a 25 km radius of the Project Area. Only one record was within the Project Area and was situated over 2 km to the east of the Disturbance Area / turbine locations • All known Carnaby's cockatoo breeding areas and night-roosts been avoided during detailed wind farm design (Figure N) • The extent of Carnaby's cockatoo foraging, potential breeding and potential roosting habitat proposed to be permanently lost because of the proposed action is: – Up to 5.5 ha of native vegetation, 5.33 ha of which is identified as high-quality Carnaby's cockatoo foraging habitat ○ Retention of at least 143.54 ha of native vegetation within the Project Area identified as high-quality Carnaby's cockatoo foraging habitat by the flora, vegetation and fauna surveys has been avoided ○ Retention of at least 1,063.18 ha of native vegetation within the Project Area identified as potential suitable foraging habitat for Carnaby's cockatoo by government mapped Native Vegetation Extent (DPIRD-005) intersected by Vegetation Associations 7, 1030 and 1031 (DPIRD-006). – Up to 21 pine trees identified as high-quality Carnaby's cockatoo foraging and potential roosting habitat ○ Retention of at least 68 pine trees (or 76% of the pine trees identified by Terrestrial Ecosystems (2022)) have been avoided – Up to 3 marri trees identified as potential Carnaby's cockatoo breeding, high-quality foraging and potential roosting habitat. None of the 3 marri trees have Carnaby's cockatoo nesting hollows ○ Retention of at least 63 marri trees (or 95% of the marri trees identified by Terrestrial Ecosystems (2022)) will be maintained. This includes all 11 marri trees identified by Terrestrial Ecosystems (2022) as having suitably sized hollows to support Carnaby's cockatoo nesting ○ At least 71.51 ha of government mapped Native Vegetation Extent (DPIRD-005) intersected by Vegetation Association 7 (DPIRD-006), where its vegetation descriptions are characteristic of suitable roosting and breeding habitat for Carnaby's cockatoo. – Up to 11 planted trees (non-native eucalypts) identified as low-quality Carnaby's cockatoo foraging and potential roosting habitat ○ Retention of at least 732 planted trees (non-native eucalypts) (or 99% of the planted trees identified by Terrestrial Ecosystems (2022)) have been avoided • There is over 18,000 ha of potential Carnaby's cockatoo foraging habitat identified within 12 km of the Project Area, including Badgingarra National Park (13,108 ha), Badgingarra Conservation Park (Crown reserve 41986) (2,369 ha), Crown reserve 27216 (1,074 ha), Unnamed Nature Reserve (1,012 ha), Wonderrah Nature Reserve (439 ha) and Minyulo Nature Reserve (86 ha). Additionally, there are substantial areas of Carnaby's cockatoo habitat outside of the conservation estates and crown reserves which are also utilised for foraging, roosting and nesting (Figure N and Figure O) • Carnaby's cockatoo is considered to be at low risk of collision or barotrauma from the operating Waddi wind farm turbines. The risk of collision / entanglement presented by the transmission lines is also considered to be low. No Carnaby's cockatoo mortality has been reported at either the neighbouring Badgingarra or Yandin wind farms (Ecoscape 2019b; Ecoscape 2020; Alinta Energy 2022; Alinta Energy 2024) • Given the local abundance of Carnaby's cockatoo foraging habitat and the avoidance of known Carnaby's cockatoo breeding areas and night-roosts, the loss of a relatively minor extent of foraging, potential breeding and potential roosting habitat and low potential collision risk associated with the turbines / transmission lines it is considered unlikely that the proposed action would lead to a long-term decrease in the Carnaby's cockatoo population	Proposed action is unlikely to be at variance with this significant impact criteria
	Reduce the area of occupancy of the species	• All known Carnaby's cockatoo breeding areas and night-roosts been avoided during detailed wind farm design (Figure N) • The extent of Carnaby's cockatoo foraging, potential breeding and potential roosting habitat proposed to be permanently lost because of the proposed action is: – Up to 5.5 ha of native vegetation, 5.33 ha of which is identified as high-quality Carnaby's cockatoo foraging habitat ○ Retention of at least 143.54 ha of native vegetation within the Project Area identified as high-quality Carnaby's cockatoo foraging habitat by the flora, vegetation and fauna surveys has been avoided ○ Retention of at least 1,063.18 ha of native vegetation within the Project Area identified as potential suitable foraging habitat for Carnaby's cockatoo by government mapped Native Vegetation Extent (DPIRD-005) intersected by Vegetation Associations 7, 1030 and 1031 (DPIRD-006). – Up to 21 pine trees identified as high-quality Carnaby's cockatoo foraging and potential roosting habitat ○ Retention of at least 68 pine trees (or 76% of the pine trees identified by Terrestrial Ecosystems (2022)) have been avoided – Up to 3 marri trees identified as potential Carnaby's cockatoo breeding, high-quality foraging and potential roosting habitat. None of the 3 marri trees have Carnaby's cockatoo nesting hollows ○ Retention of at least 63 marri trees (or 95% of the marri trees identified by Terrestrial Ecosystems (2022)) will be maintained. This includes all 11 marri trees identified by Terrestrial Ecosystems (2022) as having suitably sized hollows to support Carnaby's cockatoo nesting ○ At least 71.51 ha of government mapped Native Vegetation Extent (DPIRD-005) intersected by Vegetation Association 7 (DPIRD-006), where its vegetation descriptions are characteristic of suitable roosting and breeding habitat for Carnaby's cockatoo. – Up to 11 planted trees (non-native eucalypts) identified as low-quality Carnaby's cockatoo foraging and potential roosting habitat ○ Retention of at least 732 planted trees (non-native eucalypts) (or 99% of the planted trees identified by Terrestrial Ecosystems (2022)) have been avoided • There is over 18,000 ha of potential Carnaby's cockatoo foraging habitat identified within 12 km of the Project Area, including Badgingarra National Park (13,108 ha), Badgingarra Conservation Park (Crown reserve 41986) (2,369 ha), Crown reserve 27216 (1,074 ha), Unnamed Nature Reserve (1,012 ha), Wonderrah Nature Reserve (439 ha) and Minyulo Nature Reserve (86 ha). Additionally, there are substantial areas of Carnaby's cockatoo habitat outside of the conservation estates and crown reserves which are also utilised for foraging, roosting and nesting (Figure N and Figure O) • Carnaby's cockatoo is considered to be at low risk of collision or barotrauma from the operating Waddi Wind Farm turbines. The risk of collision / entanglement presented by the transmission lines is also considered to be low. No Carnaby's cockatoo mortality has been reported at either the neighbouring Badgingarra or Yandin wind farms (Ecoscape 2019b; Ecoscape 2020; Alinta Energy 2022; Alinta Energy 2024)	Proposed action is unlikely to be at variance with this significant impact criteria

[20] Murdoch University. 2024. Desktop analysis of black cockatoo tracking data to show movement and site utilisation of Carnaby's cockatoos in the Cataby Region with reference to the Waddi Wind Farm. Unpublished report prepared for Tilt Renewables

[21] Terrestrial Ecosystems. 2022. Black-Cockatoo habitat assessment for the Waddi Wind Farm transmission line alignment and the nominated areas in the adjacent farmland. Unpublished report prepared for RPS

Species listing	Significant impact criteria	Response	Outcomes
		• Given the local abundance of Carnaby's cockatoo foraging habitat and the avoidance of known Carnaby's cockatoo breeding areas and night-roosts, the loss of a relatively minor extent of foraging, potential breeding and potential roosting habitat and low potential collision risk associated with the turbines / transmission lines it is considered unlikely that the proposed action would reduce the area of occupancy of Carnaby's cockatoo	
	Fragment an existing population into two or more populations	• The Project Area is characterised by a variety of habitats but is primarily cleared agricultural land with remnant patches of native vegetation. Within the transmission line alignment Badgingarra Conservation Park (Crown reserve 41986) and Crown reserve 27216 represent consolidated vegetation extents. Clearing of Carnaby's cockatoo foraging habitat has been proposed adjacent to existing cleared areas (e.g. sand tracks) where practicable to avoid fragmenting native vegetation extents into smaller, isolated patches within the Project Area. Additional clearing of proteaceous heath vegetation is required slightly west of an existing sand track (by approximately 30 m) to construct an access track over Waddi Road. This was undertaken to avoid directly impacting 10 star sun-orchid individuals adjacent to the existing sand track. The short separation distance between the proposed and existing cleared track limits the fragmentation of the Carnaby's cockatoo foraging habitat found in the Waddi Road reserve. • There is over 18,000 ha of potential Carnaby's cockatoo foraging habitat identified within 12 km of the Project Area, including Badgingarra National Park (13,108 ha), Badgingarra Conservation Park (Crown reserve 41986) (2,369 ha), Crown reserve 27216 (1,074 ha), Unnamed Nature Reserve (1,012 ha), Wonderrah Nature Reserve (439 ha) and Minyulo Nature Reserve (86 ha). Additionally, there are substantial areas of Carnaby's cockatoo habitat outside of the conservation estates and crown reserves which are also utilised for foraging, roosting and nesting (Figure N and Figure O) • Carnaby's cockatoo are highly mobile and can use discrete habitat patches as 'stepping-stones' whilst traversing through the Cooljarloo landscape • It is not considered that the minor reductions in extent of foraging, potential breeding and potential roosting habitat would alter the existing local connectivity values associated with the Project Area or broader regional flock movements	Proposed action is not at variance with this significant impact criteria
	Adversely affect habitat critical to the survival of a species	• Habitat critical to the survival of Carnaby's cockatoos includes eucalypt woodlands with nest hollows for breeding and nearby vegetation to supply roosting, foraging and water resources, woodland sites that are known to have supported breeding in the past and could do so in the future with adequate nearby food and water resources, and vegetation that can provide food during the non-breeding season with nearby watering and night roosting sites (Department of Parks and Wildlife [DPAW 2013])[22] • The extent of Carnaby's cockatoo foraging, potential breeding and potential roosting habitat proposed to be permanently lost because of the proposed action is: – Up to 5.5 ha of native vegetation, 5.33 ha of which is identified as high-quality Carnaby's cockatoo foraging habitat ○ Retention of at least 143.54 ha of native vegetation within the Project Area identified as high-quality Carnaby's cockatoo foraging habitat by the flora, vegetation and fauna surveys has been avoided ○ Retention of at least 1,063.18 ha of native vegetation within the Project Area identified as potential suitable foraging habitat for Carnaby's cockatoo by government mapped Native Vegetation Extent (DPIRD-005) intersected by Vegetation Associations 7, 1030 and 1031 (DPIRD-006). – Up to 21 pine trees identified as high-quality Carnaby's cockatoo foraging and potential roosting habitat ○ Retention of at least 68 pine trees (or 76% of the pine trees identified by Terrestrial Ecosystems (2022)) have been avoided – Up to 3 marri trees identified as potential Carnaby's cockatoo breeding, high-quality foraging and potential roosting habitat. None of the 3 marri trees have Carnaby's cockatoo nesting hollows ○ Retention of at least 63 marri trees (or 95% of the marri trees identified by Terrestrial Ecosystems (2022)) will be maintained. This includes all 11 marri trees identified by Terrestrial Ecosystems (2022) as having suitably sized hollows to support Carnaby's cockatoo nesting ○ At least 71.51 ha of government mapped Native Vegetation Extent (DPIRD-005) intersected by Vegetation Association 7 (DPIRD-006), where its vegetation descriptions are characteristic of suitable roosting and breeding habitat for Carnaby's cockatoo. – Up to 11 planted trees (non-native eucalypts) identified as low-quality Carnaby's cockatoo foraging and potential roosting habitat ○ Retention of at least 732 planted trees (non-native eucalypts) (or 99% of the planted trees identified by Terrestrial Ecosystems (2022)) have been avoided • The proposed action will result in the permanent loss of 5.3 ha foraging habitat, which is within 12 km of 14 known night roost sites and six roost areas, will reduce the amount of foraging habitat available to Carnaby's cockatoo in the Cooljarloo locality. The proposed action will also result in a minor reduction of potential breeding and roosting habitat. However, there is also over 18,000 ha of potential Carnaby's cockatoo foraging habitat identified within 12 km of the Project Area, including Badgingarra National Park (13,108 ha), Badgingarra Conservation Park (Crown reserve 41986) (2,369 ha), Crown reserve 27216 (1,074 ha), Unnamed Nature Reserve (1,012 ha), Wonderrah Nature Reserve (439 ha) and Minyulo Nature Reserve (86 ha). Additionally, there are substantial areas of Carnaby's cockatoo habitat outside of the conservation estates and crown reserves which are also utilised for foraging, roosting and nesting (Figure N and Figure O)	Proposed action is likely to be at variance with this significant impact criteria
	Disrupt the breeding cycle of a population	• The Project Area has known breeding areas for Carnaby's cockatoos on three sides; the Cataby, Badgingarra and Moora, however there is no evidence to suggest that any of the 11 marri trees with hollows of suitable dimensions for Carnaby's cockatoo nesting within the Project Area have been or are currently in use for either breeding (Terrestrial Ecosystems 2022; Murdoch University 2024) or roosting (BCE 2025; Murdoch University 2024). Around half of the hollows identified by Terrestrial Ecosystems (2022) were occupied by bee hives / corella (Terrestrial Ecosystems 2022). BCE (2025) identified two potential breeding trees (wandoo or marri) with chewed hollows consistent with nesting Carnaby's cockatoos within the Project Area's north-eastern extent, and one potential breeding tree wandoo or marri) with chewed hollow/s consistent with nesting Carnaby's cockatoos and one confirmed nesting tree (large dead wandoo) with a breeding pair and fledgling observed located adjacent to the Project Area's eastern boundary. The breeding pair were also subjected to harassment from western corellas at the nest. The three potential breeding trees and one breeding tree are located from 1.2 km to 4 km from the Disturbance Area. • Renention of at least 63 marri trees (or 97% of the marri trees identified by Terrestrial Ecosystems (2022)) will be maintained. This includes all 11 marri trees identified by Terrestrial Ecosystems (2022) as having suitably sized hollows to support Carnaby's cockatoo nesting • The selective canopy trimming is considered unlikely to result in the removal of or damage to any of the 11 hollow bearing trees with suitable dimensions for Carnaby's cockatoo nesting as trimming works will be confined to the upper canopies of the marri trees and the suitable hollows were observed within the trunks or dead / broken branches (Terrestrial Ecosystems 2022) • Carnaby's cockatoo breeding is generally clustered such that there are areas with a relatively high density of nests (Groom 2010)[23]. At Coomallo Creek (approximately 40 km north-east of the Project Area), one third of nesting attempts were made in the same hollow that was used the previous season (Saunders 1982). These observations are supported by the important breeding areas (Cataby, Badgingarra and Moora) identified by Murdoch University (2024) and the DBCA's Threatened Fauna database, which both show the clustering of records around the Cataby and Badgingarra breeding areas and an absence of records proximate to the marri tree • Although the marri trees are unlikely to be currently used by Carnaby's cockatoo, there is a potential disturbance, injury or death risk during vegetation clearing, construction and selective canopy trimming works, should the hollows be in use at the time when these activities are undertaken. This potential risk will be addressed by inspecting the hollows for signs of use prior to clearing, construction and selective canopy	Proposed action is unlikely to be at variance with this significant impact criteria

[22] Department of Parks and Wildlife. 2013. Carnaby's Cockatoo (*Calyptorhynchus latirostris*) Recovery Plan. https://www.dcceew.gov.au/sites/default/files/documents/carnabys-cockatoo-recovery-plan.pdf. Accessed 20 March 2023.

[23] Groom, C. 2010.Artificial hollows for Carnaby's Black Cockatoo. An investigation of the placement, use, monitoring and maintenance requirements of artificial hollows for Carnaby's black cockatoo. Kensington, Western Australia

Species listing	Significant impact criteria	Response	Outcomes
		trimming works commencing. Section 7 of the Preliminary Documentation (RPS 2025a)[24] outlines the proposed management actions and monitoring to be implemented during pre-construction, construction and operation to mitigate potential direct and indirect environmental impacts, which may be conditioned as part of the EPBC Act approval. • The proposed action will result in the permanent loss of 5.3 ha foraging habitat, which is within 12 km of 14 known night roost sites and six roost areas, will reduce the amount of foraging habitat available to Carnaby's cockatoo in the Cooljarloo locality. The proposed action will also result in a minor reduction of potential breeding and roosting habitat. However, there is also over 18,000 ha of potential Carnaby's cockatoo foraging habitat identified within 12 km of the Project Area, including Badgingarra National Park (13,108 ha), Badgingarra Conservation Park (Crown reserve 41986) (2,369 ha), Crown reserve 27216 (1,074 ha), Unnamed Nature Reserve (1,012 ha), Wonderrah Nature Reserve (439 ha) and Minyulo Nature Reserve (86 ha). Additionally, there are substantial areas of Carnaby's cockatoo habitat outside of the conservation estates and crown reserves which are also utilised for foraging, roosting and nesting (Figure N and Figure O) • Considering the availability of large areas of suitable habitat proximate to the proposed action, lack of identified breeding within the Project Area and that vegetation clearing, construction and selective canopy trimming works will be managed through the EPBC Act approval conditions , it is unlikely that the proposed action would disrupt the breeding cycle of Carnaby's cockatoo	
	Modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline	• The extent of Carnaby's cockatoo foraging, potential breeding and potential roosting habitat proposed to be permanently lost because of the proposed action is: – Up to 5.5 ha of native vegetation, 5.33 ha of which is identified as high-quality Carnaby's cockatoo foraging habitat ○ Retention of at least 143.54 ha of native vegetation within the Project Area identified as high-quality Carnaby's cockatoo foraging habitat by the flora, vegetation and fauna surveys has been avoided ○ Retention of at least 1,063.18 ha of native vegetation within the Project Area identified as potential suitable foraging habitat for Carnaby's cockatoo by government mapped Native Vegetation Extent (DPIRD-005) intersected by Vegetation Associations 7, 1030 and 1031 (DPIRD-006). – Up to 21 pine trees identified as high-quality Carnaby's cockatoo foraging and potential roosting habitat ○ Retention of at least 68 pine trees (or 76% of the pine trees identified by Terrestrial Ecosystems (2022)) have been avoided – Up to 3 marri trees identified as potential Carnaby's cockatoo breeding, high-quality foraging and potential roosting habitat. None of the 3 marri trees have Carnaby's cockatoo nesting hollows ○ Retention of at least 63 marri trees (or 95% of the marri trees identified by Terrestrial Ecosystems (2022)) will be maintained. This includes all 11 marri trees identified by Terrestrial Ecosystems (2022) as having suitably sized hollows to support Carnaby's cockatoo nesting ○ At least 71.51 ha of government mapped Native Vegetation Extent (DPIRD-005) intersected by Vegetation Association 7 (DPIRD-006), where its vegetation descriptions are characteristic of suitable roosting and breeding habitat for Carnaby's cockatoo. – Up to 11 planted trees (non-native eucalypts) identified as low-quality Carnaby's cockatoo foraging and potential roosting habitat ○ Retention of at least 732 planted trees (non-native eucalypts) (or 99% of the planted trees identified by Terrestrial Ecosystems (2022)) have been avoided • There is over 18,000 ha of potential Carnaby's cockatoo foraging habitat identified within 12 km of the Project Area, including Badgingarra National Park (13,108 ha), Badgingarra Conservation Park (Crown reserve 41986) (2,369 ha), Crown reserve 27216 (1,074 ha), Unnamed Nature Reserve (1,012 ha), Wonderrah Nature Reserve (439 ha) and Minyulo Nature Reserve (86 ha). Additionally, there are substantial areas of Carnaby's cockatoo habitat outside of the conservation estates and crown reserves which are also utilised for foraging, roosting and nesting (Figure N and Figure O) • Considering the availability of large areas of suitable habitat proximate to the proposed action, it is unlikely that the proposed action would modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that Carnaby's cockatoo is likely to decline	Proposed action is unlikely to be at variance with this significant impact criteria
	Result in invasive species that are harmful to a critically endangered or endangered species becoming established in the endangered or critically endangered species' habitat	• Corella (*Cacatua* sp.) and feral European honey bee (*Apis mellifera*) are known to compete with black cockatoos for nest hollows (DPAW 2013). Anecdotal evidence suggests that corella have displaced Carnaby's cockatoo in very old trees along Mullering Brook within the Project Area (Terrestrial Ecosystems 2022). A large number of breeding little corellas were also observed within the marri trees recorded in Mullering Brook by Terrestrial Ecosystems (2022). The confirmed nesting tree recorded in Minyulo Nature Reserve was a large dead wandoo tree, with a nesting pair of Carnaby's cockatoos observed at the nest in a hollow spout successfully raising a fledgling. This was despite the breeding pair being visited frequently by western corellas, which were highly vocal when the Carnaby's cockatoos entered or exited the nest. Bee hives were recorded in 11 of the 64 marri trees along Mullering Brook by Terrestrial Ecosystems (2022) • It is considered unlikely that the proposed action would exacerbate the existing impacts of corella and feral European honey bee in competing for nesting hollows • The potential for indirect impacts to occur to the adjoining vegetation (e.g. through introduction and spread of invasive weeds) will be managed through the implementation of the following general hygiene protocols: – Clean earth-moving machinery and vehicles of soil and vegetation prior to entering the Disturbance Area – Soil to be moved in dry conditions – No *Phytophthora* dieback infested or weed impacted soil, mulch, fill or other material is brought into the Disturbance Area – Movement of machines and other vehicles to be restricted to cleared access tracks and works area within the Disturbance Area • Through implementation of these general hygiene protocols, it is considered unlikely that the proposed action would result in invasive weeds becoming established within the Project Area or to an area outside of the Project Area containing Carnaby's cockatoo foraging habitat	Proposed action is unlikely to be at variance with this significant impact criteria
	Introduce disease that may cause the species to decline	• Badgingarra Conservation Park (Crown reserve 41986) has a history of soil borne *Phytophthora* dieback occurrences, mainly due to the historic mineral sand mining activities in the area. The *Phytophthora* dieback status within the Project Area is not known, as no *Phytophthora* dieback assessment has been undertaken. There is the potential *Phytophthora* dieback to be introduced and / or distributed via plant machinery or support vehicles during vegetation clearing and construction. Vehicle movements required during maintenance of the operational wind farm may also act as vectors for transfer • The potential for indirect impacts to occur to the adjoining vegetation (e.g. through introduction and spread of *Phytophthora* dieback) will be managed through the implementation of the following general hygiene protocols: – Clean earth-moving machinery and vehicles of soil and vegetation prior to entering the Disturbance Area – Soil to be moved in dry conditions – No *Phytophthora* dieback infested or weed impacted soil, mulch, fill, or other material is brought into the Disturbance Area – Movement of machines and other vehicles to be restricted to cleared access tracks and works area within the Disturbance Area • Through implementation of these general hygiene protocols, it is considered unlikely that *Phytophthora* dieback will be introduced or spread within the Project Area or to an area outside of the Project Area that would cause Carnaby's cockatoo to decline	Proposed action is unlikely to be at variance with this significant impact criteria

[24] RPS. 2025a. Preliminary Documentation Waddi Wind Farm (EPBC 2023/09639). Report prepared for Waddi Wind Farm Pty Ltd as trustee of Waddi Wind Farm Project Trust

Species listing	Significant impact criteria	Response	Outcomes
	Interfere with the recovery of the species	• The extent of Carnaby's cockatoo foraging, potential breeding and potential roosting habitat proposed to be permanently lost because of the proposed action is: – Up to 5.5 ha of native vegetation, 5.33 ha of which is identified as high-quality Carnaby's cockatoo foraging habitat ○ Retention of at least 143.54 ha of native vegetation within the Project Area identified as high-quality Carnaby's cockatoo foraging habitat by the flora, vegetation and fauna surveys has been avoided ○ Retention of at least 1,063.18 ha of native vegetation within the Project Area identified as potential suitable foraging habitat for Carnaby's cockatoo by government mapped Native Vegetation Extent (DPIRD-005) intersected by Vegetation Associations 7, 1030 and 1031 (DPIRD-006). – Up to 21 pine trees identified as high-quality Carnaby's cockatoo foraging and potential roosting habitat ○ Retention of at least 68 pine trees (or 76% of the pine trees identified by Terrestrial Ecosystems (2022)) have been avoided – Up to 3 marri trees identified as potential Carnaby's cockatoo breeding, high-quality foraging and potential roosting habitat. None of the 3 marri trees have Carnaby's cockatoo nesting hollows ○ Retention of at least 63 marri trees (or 95% of the marri trees identified by Terrestrial Ecosystems (2022)) will be maintained. This includes all 11 marri trees identified by Terrestrial Ecosystems (2022) as having suitably sized hollows to support Carnaby's cockatoo nesting ○ At least 71.51 ha of government mapped Native Vegetation Extent (DPIRD-005) intersected by Vegetation Association 7 (DPIRD-006), where its vegetation descriptions are characteristic of suitable roosting and breeding habitat for Carnaby's cockatoo. – Up to 11 planted trees (non-native eucalypts) identified as low-quality Carnaby's cockatoo foraging and potential roosting habitat ○ Retention of at least 732 planted trees (non-native eucalypts) (or 99% of the planted trees identified by Terrestrial Ecosystems (2022)) have been avoided • There is over 18,000 ha of potential Carnaby's cockatoo foraging habitat identified within 12 km of the Project Area, including Badgingarra National Park (13,108 ha), Badgingarra Conservation Park (Crown reserve 41986) (2,369 ha), Crown reserve 27216 (1,074 ha), Unnamed Nature Reserve (1,012 ha), Wonderrah Nature Reserve (439 ha) and Minyulo Nature Reserve (86 ha). Additionally, there are substantial areas of Carnaby's cockatoo habitat outside of the conservation estates and crown reserves which are also utilised for foraging, roosting and nesting (Figure N and Figure O) • Carnaby's cockatoo is considered to be at low risk of collision or barotrauma from the operating Waddi wind farm turbines. The risk of collision / entanglement presented by the transmission lines is also considered to be low. No Carnaby's cockatoo mortality has been reported at either the neighbouring Badgingarra or Yandin wind farms (Ecoscape 2019b; Ecoscape 2020; Alinta Energy 2022; Alinta Energy 2024) • Given the local abundance of Carnaby's cockatoo foraging habitat and the avoidance of known Carnaby's cockatoo breeding areas and night-roosts, the loss of a relatively minor extent of foraging, potential breeding and potential roosting habitat and low potential collision risk associated with the turbines / transmission lines it is considered unlikely that the proposed action would interfere with the recovery of Carnaby's cockatoo	Proposed action is unlikely to be at variance with this significant impact criteria

(Source: DotE 2013)

Banksia woodlands of the Swan Coastal Plain ecological community

Table Y-8: Assessment of whether the proposed action will have a significant impact on the Banksia woodlands of the Swan Coastal Plain ecological community using the EPBC Act significant impact guidelines 1.1

Community listing	Potential impact	Response	Outcomes
Endangered	Reduce the extent of an ecological community	• Up to 0.3 ha of Banksia woodlands of the Swan Coastal Plain ecological community (Banksia woodlands of the Swan Coastal Plain Threatened Ecological Community (TEC)) in Excellent condition is proposed to be permanently lost • The permanent loss of 0.3 ha of Banksia woodlands of the Swan Coastal Plain TEC is from a slight increase in the size of the existing access tracks to allow access and egress for construction and operational maintenance machinery. The approach in using the already cleared access tracks as the basis for planned machinery movements has minimised clearing requirements to be as low as possible in the more sensitive Swan Coastal Plain environments • Within the Project Area, approximately 12.4 ha of Banksia woodlands of the Swan Coastal Plain TEC has been avoided within the broader area assessed by RPS (2023), Ecologia Environment (2016) and Outback Ecology (2014) surveys. The buffered extent of the DBCA's ecological community records identifies that there are approximately 53,156 ha of Banksia woodlands of the Swan Coastal Plain TEC patches recorded within 25 km of the Project Area • The proposed action will clear up to 2.4% out of 12.7 ha of Banksia woodlands of the Swan Coastal Plain TEC recorded locally and 0.0005% out of more than 53,156 ha of the TEC present within 25 km of the Project Area. Whilst the proposed action will result in a minor reduction in the extent of the Banksia woodlands of the Swan Coastal Plain TEC, it does not represent a significant reduction in the extent of the ecological community at either local or regional scales	Proposed action is at variance with this criteria, however the identified reduction is minor across local and regional scales
	Fragment or increase fragmentation of an ecological community, for example by clearing vegetation for roads or transmission lines	• The permanent loss of 0.3 ha of Banksia woodlands of the Swan Coastal Plain TEC is from a slight increase in the size of the existing access tracks to allow access and egress for construction and operational maintenance machinery. The approach in using the already cleared access tracks as the basis for planned machinery movements has minimised clearing requirements to be as low as possible in the more sensitive Swan Coastal Plain environments • The 0.3 ha of Banksia woodlands of the Swan Coastal Plain TEC is comprised of discrete patches that are situated adjacent to existing sand access tracks and are further fragmented by a sealed road leading to Tronox's sand mining operations. These discrete patches are directly connected to larger contiguous extents of native vegetation that have previous been assessed by Ecologia Environment (2016) and Outback Ecology (2014) to be banksia woodland vegetation and hence representative of the Banksia woodlands of the Swan Coastal Plain TEC • The proposed clearing will not materially increase fragmentation of the Banksia woodlands of the Swan Coastal Plain TEC as it is part of widening existing access tracks and does not involve creating new access tracks through the surrounding Banksia woodland extents	Proposed action is not at variance with this significant impact criteria

Community listing	Potential impact	Response	Outcomes
	Adversely affect habitat critical to the survival of an ecological community	• The Approved Conservation Advice for the Banksia Woodlands of the Swan Coastal Plain ecological community (Department of the Environment and Energy 2016)[25] considers areas critical to the survival of the Banksia Woodlands all patches that meet the key diagnostic characteristics and condition thresholds for the ecological community, plus the buffer zones, particularly where this comprises surrounding native vegetation • Up to 0.3 ha of Banksia woodlands of the Swan Coastal Plain TEC in Excellent condition is proposed to be permanently lost • The permanent loss of 0.3 ha of Banksia woodlands of the Swan Coastal Plain TEC is from a slight increase in the size of the existing access tracks to allow access and egress for construction and operational maintenance machinery. The approach in using the already cleared access tracks as the basis for planned machinery movements has minimised clearing requirements to be as low as possible in the more sensitive Swan Coastal Plain environments • Within the Project Area, approximately 12.4 ha of Banksia woodlands of the Swan Coastal Plain TEC has been avoided within the broader area assessed by RPS (2023), Ecologia Environment (2016) and Outback Ecology (2014) surveys. The buffered extent of the DBCA's ecological community records identifies that there are approximately 53,156 ha of Banksia woodlands of the Swan Coastal Plain TEC patches recorded within 25 km of the Project Area • The proposed action will clear up to 2.4% out of 12.7 ha of Banksia woodlands of the Swan Coastal Plain TEC recorded locally and 0.0005% out of more than 53,156 ha of the TEC present within 25 km of the Project Area • Whilst the proposed action will result in a minor reduction in the extent of the Banksia woodlands of the Swan Coastal Plain TEC, it does not represent a significant reduction in the extent of the ecological community at either local or regional scales. The proposed action is unlikely to have a material affect the survival of the Banksia woodlands of the Swan Coastal Plain TEC	Proposed action is unlikely to be at variance with this significant impact criteria
	Modify or destroy abiotic (non-living) factors (such as water, nutrients, or soil) necessary for an ecological community's survival, including reduction of groundwater levels, or substantial alteration of surface water drainage patterns	• The construction and operation of the proposed action is not expected to involve substantial groundwater abstraction activities, as such impacts to groundwater levels are not likely to occur • The proposed action has been designed to avoid areas the Mullering Brook riparian vegetation and drainage line • Once construction activities have been completed, formalised access tracks will only be used by low levels of light vehicles and occasionally by Western Power's heavy fleet vehicles for maintenance purposes. It is anticipated that the use of the access tracks by maintenance vehicles will not increase the incidence of erosion and sediment transfer to the Mullering Brook drainage line • The proposed action is therefore unlikely to result in the modification or destruction of abiotic factors necessary for the Banksia woodlands of the Swan Coastal Plain TEC, including reduction of groundwater levels, or substantial alteration of surface water drainage patterns	Proposed action is unlikely to be at variance with this significant impact criteria
	Cause a substantial change in the species composition of an occurrence of an ecological community, including causing a decline or loss of functionality important species, for example through regular burning or flora or fauna harvesting	• There is no modification proposed to the extents of Banksia woodlands of the Swan Coastal Plain TEC adjacent to the Native Vegetation Clearing Area (e.g. through regular burning or flora or fauna harvesting) • It is unlikely that the species composition of the Banksia woodlands of the Swan Coastal Plain TEC adjacent to the Native Vegetation Clearing Area would substantially change because of the proposed action	Proposed action is unlikely to be at variance with this significant impact criteria
	Cause a substantial reduction in the quality or integrity of an occurrence of an ecological community including, but not limited to: • Assisting invasive species, that are harmful to the listed ecological community, to become established, or • Causing regular mobilisation of fertilisers, herbicides or other chemicals or pollutants into the ecological community which kill or inhibit the growth of species in the ecological community	• The potential for indirect impacts to occur to the extents of Banksia woodlands of the Swan Coastal Plain TEC adjacent to the Native Vegetation Clearing Area (e.g. through introduction and spread of *Phytophthora* dieback, weeds) will be managed through the implementation of the following general hygiene protocols: – Clean earth-moving machinery and vehicles of soil and vegetation prior to entering the Disturbance Area – Soil to be moved in dry conditions – No *Phytophthora* dieback infested or weed impacted soil, mulch, fill, or other material is brought into the Disturbance Area – Movement of machines and other vehicles to be restricted to cleared access tracks and works area within the Disturbance Area • Through implementation of these general hygiene protocols, it is considered unlikely that *Phytophthora* dieback and / weeds will be introduced or spread within the Project Area or to an area outside of the Project Area that would cause a substantial reduction in the quality or integrity of an occurrence of the Banksia woodlands of the Swan Coastal Plain TEC	Proposed action is unlikely to be at variance with this significant impact criteria
	Interfere with the recovery of an ecological community	• Up to 0.3 ha of Banksia woodlands of the Swan Coastal Plain TEC in Excellent condition is proposed to be permanently lost • The proposed action will clear up to 2.4% out of 12.7 ha of Banksia woodlands of the Swan Coastal Plain TEC recorded locally and 0.0005% out of more than 53,156 ha of the TEC present within 25 km of the Project Area. Whilst the proposed action will result in a minor reduction in the extent of the Banksia woodlands of the Swan Coastal Plain TEC, it is considered unlikely to interfere with the recovery of the TEC	Proposed action is unlikely to be at variance with this significant impact criteria

(Source: DotE 2013)

[25] Department of the Environment and Energy. 2016a. Approved Conservation Advice (incorporating listing advice) for the Banksia Woodlands of the Swan Coastal Plain ecological community. Accessed February 2024 http://www.environment.gov.au/biodiversity/threatened/communities/pubs/131-conservation-advice.pdf

Star sun-orchid (*Thelymitra stellata*)

Table Y-9: Assessment of whether development of the proposed action will have a significant impact on the star sun-orchid using the EPBC Act significant impact guidelines 1.1

Species listing	Significant impact criteria	Response	Outcomes
Endangered	Lead to a long-term decrease in the size of a population	• The species is known from 42 populations with most of records from the Geraldton Sandplains IBRA bioregion (between Arrowsmith River, Coomallo Nature Reserve and Lesueur National Park), which are over 35 km to the north-west of the Project Area, and from the Jarrah Forest (Toodyay, Muchea and Armadale) (DCCEEW 2024b)[26]. Known populations are small and mostly numbering fewer than ten plants • Ten records of the star sun-orchid are reported within a 25 km search radius by the DBCA's Threatened and Priority flora database. Sixteen star sun-orchid records (37 individuals) were detected within proteaceous heath vegetation by the Reconnaissance flora and vegetation survey (RPS 2023). Twenty-five sun-orchid records (34 individuals) were detected within proteaceous heath vegetation on gravelly hill tops by the Targeted star sun-orchid and sandplain duck orchid searches (RPS 2025b)[27]. The star sun-orchid was not detected within any other vegetation community or by any of the preceding flora and vegetation surveys (Ecologia Environment 2016; Outback Ecology 2014; Outback Ecology 2010). Star sun-orchid records and potential habitat for star sun-orchid within and proximate to the Project Area is illustrated in Figure B and Figure C. • The star sun-orchid has a restricted distribution within the Project Area with all 16 records (containing 37 individuals) detected within proteaceous heath vegetation (RPS 2023) and 25 records (containing 34 individuals detected within proteaceous heath vegetation on gravelly hill tops (RPS 2025b) (Figure C). Proteaceous heath vegetation is broadly distributed throughout the RPS (2023) survey area with 20.5 ha recorded. At a regional scale, representative vegetation is described for Vegetation Association 1031 (Mosaic: Shrublands; hakea scrub-heath / Shrublands; dryandra heath) (Shepherd et al. 2002 and Beard et al. 2013). The majority of the 10 records of star sun-orchids identified from the DBCA's Threatened and Priority flora database within a 25 km radius occurred in the Vegetation Association 1031 on laterite rock. The broad Vegetation Association 1031 has more than 30% of its pre-European extent remaining within the Geraldton Sandplains IBRA bioregion (Government of Western Australia 2019), hence biodiversity values including potential habitat for the star sun-orchid is well represented across the Geraldton Sandplains IBRA bioregion. • Of the 58.49 ha of proteaceous heath vegetation recorded by the flora and vegetation surveys within and proximate to the Project Area, approximately 1.21 ha (or 2.1%) of the proteaceous heath vegetation or potential star sun-orchid habitat is proposed to be cleared. All known records of the star sun-orchid and 97.9% of surveyed potential star sun-orchid habitat within and proximate to the Project Area will be avoided (Figure C). • All known records of the star sun-orchid and 97.9% of potential star sun-orchid habitat within the Project Area have been avoided • Considering that the known locations of the star sun-orchid have been avoided and indirect impacts will be managed through avoidance and mitigation measures (and potentially offsets), it is unlikely that the proposed action would lead to the long-term decrease in the size of the star sun-orchid population	Proposed action is unlikely to be at variance with this significant impact criteria
	Reduce the area of occupancy of the species	• The star sun-orchid has a restricted distribution within the Project Area with all 16 records (containing 37 individuals) detected within proteaceous heath vegetation (RPS 2023) and 25 records (containing 34 individuals detected within proteaceous heath vegetation on gravelly hill tops (RPS 2025b) (Figure C). • Of the 58.49 ha of proteaceous heath vegetation recorded by the flora and vegetation surveys within and proximate to the Project Area, approximately 1.21 ha (or 2.1%) of the proteaceous heath vegetation or potential star sun-orchid habitat is proposed to be cleared. All known records of the star sun-orchid and 97.9% of surveyed potential star sun-orchid habitat within and proximate to the Project Area will be avoided (Figure C). • All known records of the star sun-orchid and 97.9% of potential star sun-orchid habitat within the Project Area have been avoided • Considering that the known locations of the star sun-orchid have been avoided and indirect impacts will be managed through avoidance and mitigation measures (and potentially offsets), it is unlikely that the proposed action would materially reduce the area of occupancy of the star sun-orchid	Proposed action unlikely to be at variance with this significant impact criteria
	Fragment an existing population into two or more populations	Clearing of proteaceous heath vegetation (i.e. potential star sun-orchid habitat) has been proposed adjacent to existing cleared areas (e.g. sand tracks) where practicable to avoid fragmenting potential star sun-orchid habitat into smaller, isolated patches within the Project Area. Additional clearing of proteaceous heath vegetation is required slightly west of an existing sand track (by approximately 30 m) to construct an access track over Waddi Road. This was undertaken to avoid directly impacting 10 star sun-orchid individuals adjacent to the existing sand track. The short separation distance between the proposed and existing cleared track limits the fragmentation of the proteaceous heath vegetation found in the Waddi Road reserve. • The proposed clearing will not materially increase fragmentation of the star sun-orchid as it is part of widening existing access tracks and does not involve creating new access tracks through the surrounding vegetation extents	Proposed action is not at variance with this significant impact criteria
	Adversely affect habitat critical to the survival of a species	• Of the 58.49 ha of proteaceous heath vegetation recorded by the flora and vegetation surveys within and proximate to the Project Area, approximately 1.21 ha (or 2.1%) of the proteaceous heath vegetation or potential star sun-orchid habitat is proposed to be cleared. Disturbance to proteaceous heath vegetation outside of the Native Vegetation Clearing Area has the potential to occur during ground disturbance activities (e.g. accidental clearing, dust deposition). Section 7 of the Preliminary Documentation (RPS 2025a) outlines the proposed management actions and monitoring to be implemented during pre-construction, construction and operation to mitigate potential direct and indirect environmental impacts, which may be conditioned as part of the EPBC Act approval. • Whilst the proposed action will result in a minor reduction in the extent of potential star sun-orchid habitat, it does not represent a significant reduction in the extent of its potential habiat at either local or regional scales. The proposed action is unlikely to have a material affect the survival of the star sun-orchid	Proposed action is unlikely to be at variance with this significant impact criteria
	Disrupt the breeding cycle of a population	• The star sun-orchid flowers in October–November (Western Australian Herbarium 1998-)[28], noting that not all individuals flower in any given year (RPS 2023) • All known records of the star sun-orchid and 97.9% of potential star sun-orchid habitat within the Project Area have been avoided • Disturbance to proteaceous heath vegetation outside of the Native Vegetation Clearing Area has the potential to occur during ground disturbance activities (e.g. accidental clearing, dust deposition). Section 7 of the Preliminary Documentation (RPS 2025a) outlines the proposed management actions and monitoring to be implemented during pre-construction, construction and operation to mitigate potential direct and indirect environmental impacts, which may be conditioned as part of the EPBC Act approval. • Considering that the known locations of the star sun-orchid have been avoided and indirect impacts will be managed through avoidance and mitigation measures, it is unlikely that the proposed action would disrupt the breeding cycle of the known star sun-orchid records	Proposed action is unlikely to be at variance with this significant impact criteria

[26] Department of Climate Change, Energy, the Environment and Water. 2024b. *Thelymitra stellata* — Star Sun-orchid in Species Profile and Threats Database. Accessed April 2024 http://www.environment.gov.au/cgi-bin/sprat/public/publicspecies.pl?taxon_id=7060

[27] RPS. 2025. Targeted star sun-orchid and sandplain duck orchid searches. Unpublished report prepared for Tilt Renewables.

[28] Western Australian Herbarium. 1998–. FloraBase—the Western Australian Flora. Accessed February 2024 https://florabase.dbca.wa.gov.au/

Species listing	Significant impact criteria	Response	Outcomes
	Modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline	• Of the 58.49 ha of proteaceous heath vegetation recorded by the flora and vegetation surveys within and proximate to the Project Area, approximately 1.21 ha (or 2.1%) of the proteaceous heath vegetation or potential star sun-orchid habitat is proposed to be cleared. All known records of the star sun-orchid and 97.9% of surveyed potential star sun-orchid habitat within and proximate to the Project Area will be avoided (Figure C). • All known records of the star sun-orchid and 97.9% of potential star sun-orchid habitat within the Project Area have been avoided • Disturbance to proteaceous heath vegetation outside of the Native Vegetation Clearing Area has the potential to occur during ground disturbance activities (e.g. accidental clearing, dust deposition). Section 7 of the Preliminary Documentation (RPS 2025a) outlines the proposed management actions and monitoring to be implemented during pre-construction, construction and operation to mitigate potential direct and indirect environmental impacts, which may be conditioned as part of the EPBC Act approval. Considering that the known locations of the star sun-orchid population have been avoided and indirect impacts will be managed through avoidance and mitigation measures, it is unlikely that the proposed action would modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the star sun-orchid is likely to decline	Proposed action is unlikely to be at variance with this significant impact criteria
	Result in invasive species that are harmful to a critically endangered or endangered species becoming established in the endangered or critically endangered species' habitat	• The potential for indirect impacts to occur to the adjoining vegetation (e.g. through introduction and spread of invasive weeds) will be managed through the implementation of the following general hygiene protocols: – Clean earth-moving machinery and vehicles of soil and vegetation prior to entering the Disturbance Area – Soil to be moved in dry conditions – No *Phytophthora* dieback infested or weed impacted soil, mulch, fill or other material is brought into the Disturbance Area – Movement of machines and other vehicles to be restricted to cleared access tracks and works area within the Disturbance Area • Through implementation of these general hygiene protocols, it is considered unlikely that the proposed action would result in invasive weeds becoming established within the Project Area or to an area outside of the Project Area containing star sun-orchid habitat	Proposed action is unlikely to be at variance with this significant impact criteria
	Introduce disease that may cause the species to decline	• Badgingarra Conservation Park (Crown reserve 41986) has a history of soil borne *Phytophthora* dieback occurrences, mainly due to the historic mineral sand mining activities in the area. The *Phytophthora* dieback status within the Project Area is not known, as no *Phytophthora* dieback assessment has been undertaken. There is the potential *Phytophthora* dieback to be introduced and / or distributed via plant machinery or support vehicles during vegetation clearing and construction. Vehicle movements required during maintenance of the operational wind farm may also act as vectors for transfer • The potential for indirect impacts to occur to the adjoining vegetation (e.g. through introduction and spread of *Phytophthora* dieback) will be managed through the implementation of the following general hygiene protocols: – Clean earth-moving machinery and vehicles of soil and vegetation prior to entering the Disturbance Area – Soil to be moved in dry conditions – No *Phytophthora* dieback infested or weed impacted soil, mulch, fill, or other material is brought into the Disturbance Area – Movement of machines and other vehicles to be restricted to cleared access tracks and works area within the Disturbance Area • Through implementation of these general hygiene protocols, it is considered unlikely that *Phytophthora* dieback will be introduced or spread within the Project Area or to an area outside of the Project Area that would cause the star sun-orchid to decline	Proposed action is unlikely to be at variance with this significant impact criteria
	Interfere with the recovery of the species	• Of the 58.49 ha of proteaceous heath vegetation recorded by the flora and vegetation surveys within and proximate to the Project Area, approximately 1.21 ha (or 2.1%) of the proteaceous heath vegetation or potential star sun-orchid habitat is proposed to be cleared. All known records of the star sun-orchid and 97.9% of surveyed potential star sun-orchid habitat within and proximate to the Project Area will be avoided (Figure C). • All known records of the star sun-orchid and 97.9% of potential star sun-orchid habitat within the Project Area have been avoided • Considering that the known locations of the star sun-orchid have been avoided and indirect impacts will be managed through avoidance and mitigation measures, it is unlikely that the proposed action would interfere with the recovery of the star sun-orchid	Proposed action is unlikely to be at variance with this significant impact criteria

(Source: DotE 2013)

Dwarf green kangaroo paw *(Anigozanthos viridis* subsp. *terraspectans)*

Table Y-10: Assessment of whether development of the proposed action will have a significant impact on dwarf green kangaroo paw using the EPBC Act significant impact guidelines 1.1

Species listing	Significant impact criteria	Response	Outcome
Vulnerable	Lead to a long-term decrease in the size of an important population of a species	• The species is known from six populations occurring in an area west of Cataby. An estimated total of 1889 mature plants have been recorded, with the largest population, containing approximately 800 plants, occurring along road verges. The extent of occurrence is approximately 100 km^2 (Northern Agricultural Catchment Council 2024)[29] • Twenty-five records of the dwarf green kangaroo paw are reported within a 25 km search radius by the DBCA's Threatened and Priority flora database. One dwarf green kangaroo paw record (one individual) was detected within banksia low open woodland vegetation by the Reconnaissance flora and vegetation survey (RPS 2023). The dwarf green kangaroo paw was not detected within any other vegetation community or by any of the preceding flora and vegetation surveys (Ecologia Environment 2016; Outback Ecology 2014; Outback Ecology 2010) • The dwarf green kangaroo paw has a restricted distribution within the Project Area with the single record detected within Banksia low open woodland vegetation (RPS 2023). Banksia low open woodland vegetation is broadly distributed throughout the RPS (2023) survey area with 45.4 ha recorded. At a regional scale, representative vegetation is described for Vegetation Association 1030 (Low woodland; *Banksia attenuata* and *Banksia menziesii*) (Shepherd et al. 2002 and Beard et al. 2013). The majority of the 25 records of dwarf green kangaroo paw identified from the DBCA's Threatened and Priority flora database within a 25 km radius occurred in the Vegetation Association 1030. The broad Vegetation Association 1030 has more than 30% of its pre-European extent remaining within the Swan Coastal Plain IBRA bioregion (Government of Western Australia 2019). • Of the 83.01 ha of banksia low open woodland vegetation recorded by the flora and vegetation surveys, approximately 3.88 ha (or 4.7%) of the banksia low open woodland vegetation or potential dwarf green kangaroo paw habitat is proposed to be cleared. The only known record of the dwarf green kangaroo paw and 95.3% of the potential dwarf green kangaroo paw habitat will be avoided (Figure D). There are no mapped winter wet depressions within the Project Area, nor were any wetter habitat types identified by the flora and vegetation surveys (RPS 2023; Ecologia Environment 2016; Outback Ecology 2014; Outback Ecology 2010) hence the preferred habitat conditions for this species are not present within the Project Area • Given the optimal survey conditions and timing, lack of winter wet depressions, single record, avoidance of more than 95.3% of the potential (non-winter wet) dwarf green kangaroo paw habitat and perennial growth habit, it is unlikely that the proposed action will lead to the long-term decrease in the size of an existing important dwarf green kangaroo paw population	Proposed action is unlikely to be at variance with this significant impact criteria
	Reduce the area of occupancy of an important population	• The dwarf green kangaroo paw has a restricted distribution within the Project Area with the one record detected within banksia low open woodland vegetation (RPS 2023) • Of the 83.01 ha of banksia low open woodland vegetation recorded by the flora and vegetation surveys, approximately 3.88 ha (or 4.7%) of the banksia low open woodland vegetation or potential dwarf green kangaroo paw habitat is proposed to be cleared. As a result, more than 95.3% of the potential dwarf green kangaroo paw habitat is predicted to be retained The only known record of the dwarf green kangaroo paw and 95.3% of the potential dwarf green kangaroo paw habitat will be avoided (Figure D). There are no mapped winter wet depressions within the Project Area, nor were any wetter habitat types identified by the flora and vegetation surveys (RPS 2023; Ecologia Environment 2016; Outback Ecology 2014; Outback Ecology 2010) hence the preferred habitat conditions for this species are not present within the Project Area • Considering the more than 95.3% of the potential (non-winter wet) dwarf green kangaroo habitat has been avoided and the lack of preferred habitat conditions within the Project Area, it is considered unlikely that the proposed action will reduce the area of occupancy of an existing important dwarf green kangaroo paw population	Proposed action is unlikely to be at variance with this significant impact criteria
	Fragment an existing important population into two or more populations	• Clearing of banksia low open woodland vegetation (i.e. potential dwarf green kangaroo paw habitat) has been proposed adjacent to existing cleared areas (e.g. sand tracks) where practicable to avoid fragmenting potential dwarf green kangaroo paw habitat into smaller, isolated patches within the Project Area • The proposed clearing will not materially increase fragmentation of the dwarf green kangaroo paw as it is part of widening existing access tracks and does not involve creating new access tracks through the surrounding vegetation extents	Proposed action is not at variance with this significant impact criteria
	Adversely affect habitat critical to the survival of a species	• The dwarf green kangaroo paw occurs in winter-wet depressions where it grows on grey sandy clay loam, or grey sand, in low post-fire regenerating heath. It is associated with species such as slender-leaved banksia (*Banksia leptophylla*), melaleucas (*Melaleuca* spp.), compact featherflower (*Verticordia densiflora*), coneflowers (*Conostylis* spp.) and sedges (Department of the Environment, Water, Heritage and the Arts [DEWHA] 2008a)[30] • Of the 83.01 ha of banksia low open woodland vegetation recorded by the flora and vegetation surveys, approximately 3.88 ha (or 4.7%) of the banksia low open woodland vegetation or potential dwarf green kangaroo paw habitat is proposed to be cleared. • There are no mapped winter wet depressions within the Project Area, nor were any wetter habitat types identified by the flora and vegetation surveys (RPS 2023; Ecologia Environment 2016; Outback Ecology 2014; Outback Ecology 2010) hence the preferred habitat conditions for this species are not present within the Project Area • Whilst the proposed action will result in a minor reduction in the extent of potential (non-winter wet) dwarf green kangaroo paw habitat, it does not represent a significant reduction in the extent of its potential habitat at either local or regional scales. The proposed action is unlikely to have a material affect the survival of the dwarf green kangaroo paw	Proposed action is unlikely to be at variance with this significant impact criteria
	Disrupt the breeding cycle of an important population	• The dwarf green kangaroo paw flowers in August to September (Western Australian Herbarium 1998-) • The only known record of the dwarf green kangaroo paw and 95.3% of the potential dwarf green kangaroo paw habitat will be avoided (Figure D). Disturbance to banksia low open woodland vegetation outside of the Native Vegetation Clearing Area has the potential to occur during ground disturbance activities (e.g. accidental clearing, dust deposition). Section 7 of the Preliminary Documentation (RPS 2025a) outlines the proposed management actions and monitoring to be implemented during pre-construction, construction and operation to mitigate potential direct and indirect environmental impacts, which may be conditioned as part of the EPBC Act approval. • Considering that the one known location of the dwarf green kangaroo paw has been avoided and indirect impacts will be managed through avoidance and mitigation measures, it is unlikely that the proposed action would disrupt the breeding cycle of the known dwarf green kangaroo paw record	Proposed action is unlikely to be at variance with this significant impact criteria

[29] Northern Agricultural Catchment Council. 2024. #ThreatenedSpecies of the Week: *Anigozanthos viridis* subsp. *terraspectans* — Dwarf Green Kangaroo Paw. Accessed April 2024 https://www.nacc.com.au/threatenedspecies-week-anigozanthos-viridis-subsp-terraspectans-dwarf-green-kangaroo-paw/#:~:text=Dwarf%20Green%20Kangaroo%20Paw%20is%20endemic%20to%20Western%20Australia%2C%20where,plants%2C%20occurring%20along%20road%20verges.

[30] Department of the Environment, Water, Heritage and the Arts. 2008a. Approved Conservation Advice for *Anigozanthos viridis* subsp. *terraspectans* (Dwarf Green Kangaroo Paw). Canberra, Australian Capital Territory

Species listing	Significant impact criteria	Response	Outcome
	Modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline	• Of the 83.01 ha of banksia low open woodland vegetation recorded by the flora and vegetation surveys, approximately 3.88 ha (or 4.7%) of the banksia low open woodland vegetation or potential dwarf green kangaroo paw habitat is proposed to be cleared. The only known record of the dwarf green kangaroo paw and 95.3% of the potential dwarf green kangaroo paw habitat will be avoided (Figure D). Disturbance to banksia low open woodland vegetation outside of the Native Vegetation Clearing Area has the potential to occur during ground disturbance activities (e.g. accidental clearing, dust deposition). Section 7 of the Preliminary Documentation (RPS 2025a) outlines the proposed management actions and monitoring to be implemented during pre-construction, construction and operation to mitigate potential direct and indirect environmental impacts, which may be conditioned as part of the EPBC Act approval. Considering that the one known location of the dwarf green kangaroo paw has been avoided and indirect impacts will be managed through avoidance and mitigation measures, it is unlikely that the proposed action would modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the dwarf green kangaroo paw is likely to decline	Proposed action is unlikely to be at variance with this significant impact criteria
	Result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species' habitat	• The potential for indirect impacts to occur to the adjoining vegetation (e.g. through introduction and spread of invasive weeds) will be managed through the implementation of the following general hygiene protocols: – Clean earth-moving machinery and vehicles of soil and vegetation prior to entering the Disturbance Area – Soil to be moved in dry conditions – No *Phytophthora* dieback infested or weed impacted soil, mulch, fill or other material is brought into the Disturbance Area – Movement of machines and other vehicles to be restricted to cleared access tracks and works area within the Disturbance Area • Through implementation of these general hygiene protocols, it is considered unlikely that the proposed action would result in invasive weeds becoming established within the Project Area or to an area outside of the Project Area containing dwarf green kangaroo paw habitat	Proposed action is unlikely to be at variance with this significant impact criteria
	Introduce disease that may cause the species to decline	• Badgingarra Conservation Park (Crown reserve 41986) has a history of soil borne *Phytophthora* dieback occurrences, mainly due to the historic mineral sand mining activities in the area. The *Phytophthora* dieback status within the Project Area is not known, as no *Phytophthora* dieback assessment has been undertaken. There is the potential *Phytophthora* dieback to be introduced and / or distributed via plant machinery or support vehicles during vegetation clearing and construction. Vehicle movements required during maintenance of the operational wind farm may also act as vectors for transfer • The potential for indirect impacts to occur to the adjoining vegetation (e.g. through introduction and spread of *Phytophthora* dieback) will be managed through the implementation of the following general hygiene protocols: – Clean earth-moving machinery and vehicles of soil and vegetation prior to entering the Disturbance Area – Soil to be moved in dry conditions – No *Phytophthora* dieback infested or weed impacted soil, mulch, fill, or other material is brought into the Disturbance Area – Movement of machines and other vehicles to be restricted to cleared access tracks and works area within the Disturbance Area • Through implementation of these general hygiene protocols, it is considered unlikely that *Phytophthora* dieback will be introduced or spread within the Project Area or to an area outside of the Project Area that would cause the dwarf green kangaroo paw to decline	Proposed action is unlikely to be at variance with this significant impact criteria
	Interfere substantially with the recovery of the species	• Of the 83.01 ha of banksia low open woodland vegetation recorded by the flora and vegetation surveys, approximately 3.88 ha (or 4.7%) of the banksia low open woodland vegetation or potential dwarf green kangaroo paw habitat is proposed to be cleared.The only known record of the dwarf green kangaroo paw and 95.3% of the potential dwarf green kangaroo paw habitat will be avoided (Figure D). Considering that the one known location of the dwarf green kangaroo paw has been avoided and indirect impacts will be managed through avoidance and mitigation measures, it is unlikely that the proposed action would interfere with the recovery of the dwarf green kangaroo paw	Proposed action is unlikely to be at variance with this significant impact criteria

(Source: DotE 2013)

Lesueur hakea *(Hakea megalosperma)*

Table Y-11: Assessment of whether the proposed action will have a significant impact on Lesueur hakea using the EPBC Act significant impact guidelines 1.1

Species listing	Significant impact criteria	Response	Outcome
Vulnerable	Lead to a long-term decrease in the size of an important population of a species	• The Lesueur hakea is known from Mt Lesueur, eastward for 35 km, and two disjunct populations, one near Eneabba in the north and the other near Dandaragan in the south. Thirteen populations have been recorded in the Moora District and are conserved within Alexander Morrison National Park, Mt Lesueur National Park, Mt Michaud National Park, Coomallo Nature Reserve, and the Nature Reserve north of Warradarge (DEWHA 2008b)[31] • Eight records of the Lesueur hakea are reported within a 25 km search radius by the DBCA's Threatened and Priority flora database. Four Lesueur hakea records (four individuals) were detected within proteaceous heath vegetation by the Reconnaissance flora and vegetation survey (RPS 2023). The Lesueur hakea was not detected within any other vegetation community or by any of the preceding flora and vegetation surveys (Ecologia Environment 2016; Outback Ecology 2014; Outback Ecology 2010) • The Lesueur hakea has a restricted distribution within the Project Area with all records detected within proteaceous heath vegetation (RPS 2023). Proteaceous heath vegetation is broadly distributed throughout the RPS (2023) survey area with 20.5 ha recorded. At a regional scale, representative vegetation is described for Vegetation Association 1031 (Mosaic: Shrublands; hakea scrub-heath / Shrublands; dryandra heath) (Shepherd et al. 2002 and Beard et al. 2013). The 8 records of Lesueur hakea identified from the DBCA's Threatened and Priority flora database within a 25 km radius occurred in the Vegetation Association 1031. The broad Vegetation Association 1031 has more than 30% of its pre-European extent remaining within the Geraldton Sandplains IBRA bioregion (Government of Western Australia 2019). • Of the 58.49 ha of proteaceous heath vegetation recorded by the flora and vegetation surveys within and proximate to the Project Area, approximately 1.21 ha (or 2.1%) of the proteaceous heath vegetation or potential Lesueur hakea habitat is proposed to be cleared. • All known records of the Lesueur hakea and 97.9% of surveyed potential Lesueur hakea habitat within and proximate to the Project Area will be avoided (Figure E)Considering that the known locations of the Lesueur hakea have been avoided and indirect impacts will be managed through avoidance and mitigation measures, it is unlikely that the proposed action would lead to the long-term decrease in the size of the Lesueur hakea population	Proposed action is unlikely to be at variance with this significant impact criteria
	Reduce the area of occupancy of an important population	• The Lesueur hakea has a restricted distribution within the Project Area with all records detected within proteaceous heath vegetation (RPS 2023) • Of the 58.49 ha of proteaceous heath vegetation recorded by the flora and vegetation surveys within and proximate to the Project Area, approximately 1.21 ha (or 2.1%) of the proteaceous heath vegetation or potential Lesueur hakea habitat is proposed to be cleared. • All known records of the Lesueur hakea and 97.9% of surveyed potential Lesueur hakea habitat within and proximate to the Project Area will be avoided (Figure E)Considering that the known locations of the Lesueur hakea have been avoided and indirect impacts will be managed through avoidance and mitigation measures, it is unlikely that the proposed action would materially reduce the area of occupancy of the Lesueur hakea	Proposed action is unlikely to be at variance with this significant impact criteria
	Fragment an existing important population into two or more populations	• Clearing of proteaceous heath vegetation (i.e. potential Lesueur hakea habitat) has been proposed adjacent to existing cleared areas (e.g. sand tracks) where practicable to avoid fragmenting potential Lesueur hakea habitat into smaller, isolated patches within the Project Area. Additional clearing of proteaceous heath vegetation is required slightly west of an existing sand track (by approximately 30 m) to construct an access track over Waddi Road. This was undertaken to avoid directly impacting 10 star sun-orchid individuals adjacent to the existing sand track. The short separation distance between the proposed and existing cleared track limits the fragmentation of the proteaceous heath vegetation found in the Waddi Road reserve. • The proposed clearing will not materially increase fragmentation of the Lesueur hakea as it is part of widening existing access tracks and does not involve creating new access tracks through the surrounding vegetation extents	Proposed action is not at variance with this significant impact criteria
	Adversely affect habitat critical to the survival of a species	• Of the 58.49 ha of proteaceous heath vegetation recorded by the flora and vegetation surveys within and proximate to the Project Area, approximately 1.21 ha (or 2.1%) of the proteaceous heath vegetation or potential Lesueur hakea habitat is proposed to be clearedDisturbance to proteaceous heath vegetation outside of the Native Vegetation Clearing Area has the potential to occur during ground disturbance activities (e.g. accidental clearing, dust deposition). Section 7 of the Preliminary Documentation (RPS 2025a) outlines the proposed management actions and monitoring to be implemented during pre-construction, construction and operation to mitigate potential direct and indirect environmental impacts, which may be conditioned as part of the EPBC Act approval. • Whilst the proposed action will result in a minor reduction in the extent of potential Lesueur hakea habitat, it does not represent a significant reduction in the extent of its potential habitat at either local or regional scales. The proposed action is unlikely to have a material affect the survival of the Lesueur hakea	Proposed action is unlikely to be at variance with this significant impact criteria
	Disrupt the breeding cycle of an important population	• The Lesueur hakea flowering occurs from May to June (Western Australian Herbarium 1998-) • All known records of the Lesueur hakea and 97.9% of surveyed potential Lesueur hakea habitat within and proximate to the Project Area will be avoided (Figure E)Disturbance to proteaceous heath vegetation outside of the Native Vegetation Clearing Area has the potential to occur during ground disturbance activities (e.g. accidental clearing, dust deposition). Section 7 of the Preliminary Documentation (RPS 2025a) outlines the proposed management actions and monitoring to be implemented during pre-construction, construction and operation to mitigate potential direct and indirect environmental impacts, which may be conditioned as part of the EPBC Act approval. • Considering that the known locations of the Lesueur hakea have been avoided and indirect impacts will be managed through avoidance and mitigation measures, it is unlikely that the proposed action would disrupt the breeding cycle of the known Lesueur hakea records	Proposed action is unlikely to be at variance with this significant impact criteria
	Modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline	• Of the 58.49 ha of proteaceous heath vegetation recorded by the flora and vegetation surveys within and proximate to the Project Area, approximately 1.21 ha (or 2.1%) of the proteaceous heath vegetation or potential Lesueur hakea habitat is proposed to be cleared. • All known records of the Lesueur hakea and 97.9% of surveyed potential Lesueur hakea habitat within and proximate to the Project Area will be avoided (Figure E)Disturbance to banksia low open woodland vegetation outside of the Native Vegetation Clearing Area has the potential to occur during ground disturbance activities (e.g. accidental clearing, dust deposition). Section 7 of the Preliminary Documentation (RPS 2025a) outlines the proposed management actions and monitoring to be implemented during pre-construction, construction and operation to mitigate potential direct and indirect environmental impacts, which may be conditioned as part of the EPBC Act approval. • Considering that all known locations of the Lesueur hakea have been avoided and indirect impacts will be managed through avoidance and mitigation measures, it is unlikely that the proposed action would modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the Lesueur hakea is likely to decline	Proposed action is unlikely to be at variance with this significant impact criteria

[31] Department of the Environment, Water, Heritage and the Arts. 2008b. Approved Conservation Advice for *Hakea megalosperma* (Lesueur Hakea). Canberra, Australian Capital Territory

Species listing	Significant impact criteria	Response	Outcome
	Result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species' habitat	• The potential for indirect impacts to occur to the adjoining vegetation (e.g. through introduction and spread of invasive weeds) will be managed through the implementation of the following general hygiene protocols: – Clean earth-moving machinery and vehicles of soil and vegetation prior to entering the Disturbance Area – Soil to be moved in dry conditions – No *Phytophthora* dieback infested or weed impacted soil, mulch, fill or other material is brought into the Disturbance Area – Movement of machines and other vehicles to be restricted to cleared access tracks and works area within the Disturbance Area • Through implementation of these general hygiene protocols, it is considered unlikely that the proposed action would result in invasive weeds becoming established within the Project Area or to an area outside of the Project Area containing Lesueur hakea habitat	Proposed action is unlikely to be at variance with this significant impact criteria
	Introduce disease that may cause the species to decline	• Badgingarra Conservation Park (Crown reserve 41986) has a history of soil borne *Phytophthora* dieback occurrences, mainly due to the historic mineral sand mining activities in the area. The *Phytophthora* dieback status within the Project Area is not known, as no *Phytophthora* dieback assessment has been undertaken. There is the potential *Phytophthora* dieback to be introduced and / or distributed via plant machinery or support vehicles during vegetation clearing and construction. Vehicle movements required during maintenance of the operational wind farm may also act as vectors for transfer • The potential for indirect impacts to occur to the adjoining vegetation (e.g. through introduction and spread of *Phytophthora* dieback) will be managed through the implementation of the following general hygiene protocols: – Clean earth-moving machinery and vehicles of soil and vegetation prior to entering the Disturbance Area – Soil to be moved in dry conditions – No *Phytophthora* dieback infested or weed impacted soil, mulch, fill, or other material is brought into the Disturbance Area – Movement of machines and other vehicles to be restricted to cleared access tracks and works area within the Disturbance Area • Through implementation of these general hygiene protocols, it is considered unlikely that *Phytophthora* dieback will be introduced or spread within the Project Area or to an area outside of the Project Area that would cause the Lesueur hakea to decline	Proposed action is unlikely to be at variance with this significant impact criteria
	Interfere substantially with the recovery of the species	• Of the 58.49 ha of proteaceous heath vegetation recorded by the flora and vegetation surveys within and proximate to the Project Area, approximately 1.21 ha (or 2.1%) of the proteaceous heath vegetation or potential Lesueur hakea habitat is proposed to be cleared. • All known records of the Lesueur hakea and 97.9% of surveyed potential Lesueur hakea habitat within and proximate to the Project Area will be avoided (Figure E)Considering that the known locations of the Lesueur hakea have been avoided and indirect impacts will be managed through avoidance and mitigation measures, it is unlikely that the proposed action would interfere with the recovery of the Lesueur hakea	Proposed action is unlikely to be at variance with this significant impact criteria

(Source: DotE 2013)

Sandplain duck orchid *(Caleana dixonii)*

Table Y-12: Assessment of whether the proposed action will have a significant impact on sandplain duck orchid using the EPBC Act significant impact guidelines 1.1

Species listing	Significant impact criteria	Response	Outcome
Endangered	Lead to a long-term decrease in the size of a population	• Sandplain duck orchid is currently known from eight populations from Arrowsmith, Eneabba and south to the Jurien Bay area, with an estimated 57 mature plants from these eight current populations (DEWHA 2008c)[32] • Two records of the sandplain duck orchid are reported within a 25km search radius by the DBCA's Threatened and Priority flora database. No sandplain duck orchid records were detected by any of the flora and vegetation surveys undertaken for the proposed action (RPS 2025b; RPS 2023; Ecologia Environment 2016; Outback Ecology 2014; Outback Ecology 2010) • The Project Area overlies the Yerramullah, Nylagarda and Bassendean systems, which are comprised of sands and laterite (Figure Q). Sandplain duck orchids require deep sands beneath tall dense shrublands with scattered banksias or in heathland in shallow sand over laterite (Department of the Environment 2025)[33]. These habitats were thoroughly searched during the 2024 targeted searches at the appropriate flowering time, with no records identified (RPS 2025b). • Given the timing of the field surveys coincided with the sandplain duck orchid flowering time, the lack of supporting records within the Project Area and avoidance of more than 97.9% of the potential sandplain duck orchid habitat, it is logical to conclude that the sandplain duck orchid is locally absent from the Project Area • The proposed action will not lead to a long-term decrease in the size of the sandplain duck orchid population	Proposed action is not at variance with this significant impact criteria
	Reduce the area of occupancy of the species	• No sandplain duck orchid records were detected by any of the flora and vegetation surveys undertaken for the proposed action (RPS 2025b; RPS 2023; Ecologia Environment 2016; Outback Ecology 2014; Outback Ecology 2010) • The Project Area overlies the Yerramullah, Nylagarda and Bassendean systems, which are comprised of sands and laterite (Figure Q). Sandplain duck orchids require deep sands beneath tall dense shrublands with scattered banksias or in heathland in shallow sand over laterite (Department of the Environment 2025b). These habitats were thoroughly searched during the 2024 targeted searches at the appropriate flowering time, with no records identified (RPS 2025b). Given the timing of the field surveys coincided with the sandplain duck orchid flowering time, the lack of supporting records within the Project Area and avoidance of more than 97.9% of the potential sandplain duck orchid habitat, it is logical to conclude that the sandplain duck orchid is locally absent from the Project Area • The proposed action will not reduce the area of occupancy of the sandplain duck orchid	Proposed action is not at variance with this significant impact criteria
	Fragment an existing population into two or more populations	• No sandplain duck orchid records were detected by any of the flora and vegetation surveys undertaken for the proposed action (RPS 2025b; RPS 2023; Ecologia Environment 2016; Outback Ecology 2014; Outback Ecology 2010) • The Project Area overlies the Yerramullah, Nylagarda and Bassendean systems, which are comprised of sands and laterite (Figure Q). Sandplain duck orchids require deep sands beneath tall dense shrublands with scattered banksias or in heathland in shallow sand over laterite (Department of the Environment 2025)[34]. These habitats were thoroughly searched during the 2024 targeted searches at the appropriate flowering time, with no records identified (RPS 2025b). Given the timing of the field surveys coincided with the sandplain duck orchid flowering time, the lack of supporting records within the Project Area and avoidance of more than 97.9% of the potential sandplain duck orchid habitat, it is logical to conclude that the sandplain duck orchid is locally absent from the Project Area • The proposed action will not fragment an existing sandplain duck orchid population into two or more populations	Proposed action is not at variance with this significant impact criteria
	Adversely affect habitat critical to the survival of a species	• The Project Area overlies the Yerramullah, Nylagarda and Bassendean systems, which are comprised of sands and laterite (Figure Q). Sandplain duck orchids require deep sands beneath tall dense shrublands with scattered banksias or in heathland in shallow sand over laterite (Department of the Environment 2025)[35]. These habitats were thoroughly searched during the 2024 targeted searches at the appropriate flowering time, with no records identified (RPS 2025b). Given the timing of the field surveys coincided with the sandplain duck orchid flowering time, the lack of supporting records within the Project Area and avoidance of more than 97.9% of the potential sandplain duck orchid habitat, it is logical to conclude that the sandplain duck orchid is locally absent from the Project Area • The proposed action will not adversely affect habitat critical to the survival of the sandplain duck orchid	Proposed action is not at variance with this significant impact criteria
	Disrupt the breeding cycle of a population	• The Project Area overlies the Yerramullah, Nylagarda and Bassendean systems, which are comprised of sands and laterite (Figure Q). Sandplain duck orchids require deep sands beneath tall dense shrublands with scattered banksias or in heathland in shallow sand over laterite (Department of the Environment 2025)[36]. These habitats were thoroughly searched during the 2024 targeted searches at the appropriate flowering time, with no records identified (RPS 2025b). Given the timing of the field surveys coincided with the sandplain duck orchid flowering time, the lack of supporting records within the Project Area and avoidance of more than 97.9% of the potential sandplain duck orchid habitat, it is logical to conclude that the sandplain duck orchid is locally absent from the Project Area • The proposed action will not disrupt the breeding cycle of the sandplain duck orchid	Proposed action is not at variance with this significant impact criteria
	Modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline	• The Project Area overlies the Yerramullah, Nylagarda and Bassendean systems, which are comprised of sands and laterite (Figure Q). Sandplain duck orchids require deep sands beneath tall dense shrublands with scattered banksias or in heathland in shallow sand over laterite (Department of the Environment 2025)[37]. These habitats were thoroughly searched during the 2024 targeted searches at the appropriate flowering time, with no records identified (RPS 2025b). • Given the timing of the field surveys coincided with the sandplain duck orchid flowering time, the lack of supporting records within the Project Area and avoidance of more than 97.9% of the potential sandplain duck orchid habitat, it is logical to conclude that the sandplain duck orchid is locally absent from the Project Area • The proposed action will not modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the sandplain duck orchid is likely to decline	Proposed action is not at variance with this significant impact criteria
	Result in invasive species that are harmful to a critically endangered or endangered species becoming established	• The potential for indirect impacts to occur to the adjoining vegetation (e.g. through introduction and spread of invasive weeds) will be managed through the implementation of the following general hygiene protocols: – Clean earth-moving machinery and vehicles of soil and vegetation prior to entering the Disturbance Area	Proposed action is unlikely to be at variance with this significant impact criteria

[32] Department of the Environment, Water, Heritage and the Arts. 2008c. Approved Conservation Advice for *Paracaleana dixonii* Hopper & A.P.Br. nom. inval. Canberra, Australian Capital Territory

[33] Department of the Environment. 2025. *Caleana dixonii* in Species Profile and Threats Database. Canberra, Australian Capital Territory.

Species listing	Significant impact criteria	Response	Outcome
	in the endangered or critically endangered species' habitat	– Soil to be moved in dry conditions – No *Phytophthora* dieback infested or weed impacted soil, mulch, fill or other material is brought into the Disturbance Area – Movement of machines and other vehicles to be restricted to cleared access tracks and works area within the Disturbance Area • Through implementation of these general hygiene protocols, it is considered unlikely that the proposed action would result in invasive weeds becoming established within an area outside of the Project Area containing sandplain duck orchid habitat	
	Introduce disease that may cause the species to decline	• Badgingarra Conservation Park (Crown reserve 41986) has a history of soil borne *Phytophthora* dieback occurrences, mainly due to the historic mineral sand mining activities in the area. The *Phytophthora* dieback status within the Project Area is not known, as no *Phytophthora* dieback assessment has been undertaken. There is the potential *Phytophthora* dieback to be introduced and / or distributed via plant machinery or support vehicles during vegetation clearing and construction. Vehicle movements required during maintenance of the operational wind farm may also act as vectors for transfer • The potential for indirect impacts to occur to the adjoining vegetation (e.g. through introduction and spread of *Phytophthora* dieback) will be managed through the implementation of the following general hygiene protocols: – Clean earth-moving machinery and vehicles of soil and vegetation prior to entering the Disturbance Area – Soil to be moved in dry conditions – No *Phytophthora* dieback infested or weed impacted soil, mulch, fill, or other material is brought into the Disturbance Area – Movement of machines and other vehicles to be restricted to cleared access tracks and works area within the Disturbance Area • Through implementation of these general hygiene protocols, it is considered unlikely that *Phytophthora* dieback will be introduced or spread to an area outside of the Project Area that would cause the sandplain duck orchid to decline	Proposed action is unlikely be at variance with this significant impact criteria
	Interfere with the recovery of the species	• The Project Area overlies the Yerramullah, Nylagarda and Bassendean systems, which are comprised of sands and laterite (Figure Q). Sandplain duck orchids require deep sands beneath tall dense shrublands with scattered banksias or in heathland in shallow sand over laterite (Department of the Environment 2025)[38]. These habitats were thoroughly searched during the 2024 targeted searches at the appropriate flowering time, with no records identified (RPS 2025b). Given the timing of the field surveys coincided with the sandplain duck orchid flowering time, the lack of supporting records within the Project Area and avoidance of more than 97.9% of the potential sandplain duck orchid habitat, it is logical to conclude that the sandplain duck orchid is locally absent from the Project Area • The proposed action will not interfere with the recovery of the sandplain duck orchid	Proposed action is not at variance with this significant impact criteria

(Source: DotE 2013)

[34] Department of the Environment. 2025. *Caleana dixonii* in Species Profile and Threats Database. Canberra, Australian Capital Territory.

[35] Department of the Environment. 2025. *Caleana dixonii* in Species Profile and Threats Database. Canberra, Australian Capital Territory.

[36] Department of the Environment. 2025. *Caleana dixonii* in Species Profile and Threats Database. Canberra, Australian Capital Territory.

[37] Department of the Environment. 2025. *Caleana dixonii* in Species Profile and Threats Database. Canberra, Australian Capital Territory.

[38] Department of the Environment. 2025. *Caleana dixonii* in Species Profile and Threats Database. Canberra, Australian Capital Territory.

Glossy-leafed hammer orchid *(Drakaea elastica)*

Table Y-13: Assessment of whether development of the proposed action will have a significant impact on glossy-leafed hammer orchid using the EPBC Act significant impact guidelines 1.1

Species listing	Significant impact criteria	Response	Outcome
Endangered	Lead to a long-term decrease in the size of a population	• The glossy-leafed hammer-orchid grows at approximately 42 locations with a total population size of around 230 plants (DCCEEW 2024c)[39] • No records of the glossy-leafed hammer orchid are reported within a 25km search radius by the DBCA's Threatened and Priority flora database. No glossy-leafed hammer orchid records were detected by any of the flora and vegetation surveys undertaken for the proposed action (RPS 2023; Ecologia Environment 2016; Outback Ecology 2014; Outback Ecology 2010) • Glossy-leafed hammer orchid grow on white or grey sands in low-lying areas adjoining winter-wet swamps (Western Australian Herbarium 1998–). There are no winter wet swamps in the Project Area hence the preferred habitat conditions for this species are not present within the Project Area • Given the timing of the field surveys coincided with the glossy-leafed hammer orchid flowering time, lack of supporting records and lack of preferred habitat (winter wet swamps) it is logical to conclude that the glossy-leafed hammer orchid is locally absent from the Project Area • The proposed action will not lead to a long-term decrease in the size of the glossy-leafed hammer-orchid population	Proposed action is not at variance with this significant impact criteria
	Reduce the area of occupancy of the species	• No records of the glossy-leafed hammer orchid are reported within a 25km search radius by the DBCA's Threatened and Priority flora database. No glossy-leafed hammer orchid records were detected by any of the flora and vegetation surveys undertaken for the proposed action (RPS 2023; Ecologia Environment 2016; Outback Ecology 2014; Outback Ecology 2010) • Glossy-leafed hammer orchid grow on white or grey sands in low-lying areas adjoining winter-wet swamps (Western Australian Herbarium 1998–). There are no winter wet swamps in the Project Area hence the preferred habitat conditions for this species are not present within the Project Area • Given the timing of the field surveys coincided with the glossy-leafed hammer orchid flowering time, lack of supporting records and lack of preferred habitat (winter wet swamps) it is logical to conclude that the glossy-leafed hammer orchid is locally absent from the Project Area • The proposed action will not reduce the area of occupancy of the glossy-leafed hammer-orchid	Proposed action is not at variance with this significant impact criteria
	Fragment an existing population into two or more populations	• No records of the glossy-leafed hammer orchid are reported within a 25km search radius by the DBCA's Threatened and Priority flora database. No glossy-leafed hammer orchid records were detected by any of the flora and vegetation surveys undertaken for the proposed action (RPS 2023; Ecologia Environment 2016; Outback Ecology 2014; Outback Ecology 2010) • Glossy-leafed hammer orchid grow on white or grey sands in low-lying areas adjoining winter-wet swamps (Western Australian Herbarium 1998–). There are no winter wet swamps in the Project Area hence the preferred habitat conditions for this species are not present within the Project Area • Given the timing of the field surveys coincided with the glossy-leafed hammer orchid flowering time, lack of supporting records and lack of preferred habitat (winter wet swamps) it is logical to conclude that the glossy-leafed hammer orchid is locally absent from the Project Area • The proposed action will not fragment an existing glossy-leafed hammer orchid population into two or more populations	Proposed action is not at variance with this significant impact criteria
	Adversely affect habitat critical to the survival of a species	• Glossy-leafed hammer orchid grow on white or grey sands in low-lying areas adjoining winter-wet swamps (Western Australian Herbarium 1998–). There are no winter wet swamps in the Project Area hence the preferred habitat conditions for this species are not present within the Project Area • Given the timing of the field surveys coincided with the glossy-leafed hammer orchid flowering time, lack of supporting records and lack of preferred habitat (winter wet swamps) it is logical to conclude that the glossy-leafed hammer orchid is locally absent from the Project Area • The proposed action will not adversely affect habitat critical to the survival of the glossy-leafed hammer orchid	Proposed action is not at variance with this significant impact criteria
	Disrupt the breeding cycle of a population	• Glossy-leafed hammer orchid grow on white or grey sands in low-lying areas adjoining winter-wet swamps (Western Australian Herbarium 1998–). There are no winter wet swamps in the Project Area hence the preferred habitat conditions for this species are not present within the Project Area • Given the timing of the field surveys coincided with the glossy-leafed hammer orchid flowering time, lack of supporting records and lack of preferred habitat (winter wet swamps) it is logical to conclude that the glossy-leafed hammer orchid is locally absent from the Project Area • The proposed action will not disrupt the breeding cycle of the glossy-leafed hammer orchid	Proposed action is not at variance with this significant impact criteria
	Modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline	• Glossy-leafed hammer orchid grow on white or grey sands in low-lying areas adjoining winter-wet swamps (Western Australian Herbarium 1998–). There are no winter wet swamps in the Project Area hence the preferred habitat conditions for this species are not present within the Project Area • Given the timing of the field surveys coincided with the glossy-leafed hammer orchid flowering time, lack of supporting records and lack of preferred habitat (winter wet swamps) it is logical to conclude that the glossy-leafed hammer orchid is locally absent from the Project Area • The proposed action will not modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the glossy-leafed hammer orchid is likely to decline	Proposed action is not at variance with this significant impact criteria
	Result in invasive species that are harmful to a critically endangered or endangered species becoming established in the endangered or critically endangered species' habitat	• The potential for indirect impacts to occur to the adjoining vegetation (e.g. through introduction and spread of invasive weeds) will be managed through the implementation of the following general hygiene protocols: – Clean earth-moving machinery and vehicles of soil and vegetation prior to entering the Disturbance Area – Soil to be moved in dry conditions – No *Phytophthora* dieback infested or weed impacted soil, mulch, fill or other material is brought into the Disturbance Area – Movement of machines and other vehicles to be restricted to cleared access tracks and works area within the Disturbance Area • Through implementation of these general hygiene protocols, it is considered unlikely that the proposed action would result in invasive weeds becoming established within an area outside of the Project Area containing glossy-leafed hammer orchid habitat	Proposed action is unlikely to be at variance with this significant impact criteria

[39] Department of Climate Change, Energy, the Environment and Water. 2024c. *Drakaea elastica* — Glossy-leafed Hammer Orchid in Species Profile and Threats Database. Accessed April 2024 http://www.environment.gov.au/cgi-bin/sprat/public/publicspecies.pl?taxon_id=16753

Species listing	Significant impact criteria	Response	Outcome
	Introduce disease that may cause the species to decline	• Badgingarra Conservation Park (Crown reserve 41986) has a history of soil borne *Phytophthora* dieback occurrences, mainly due to the historic mineral sand mining activities in the area. The *Phytophthora* dieback status within the Project Area is not known, as no *Phytophthora* dieback assessment has been undertaken. There is the potential *Phytophthora* dieback to be introduced and / or distributed via plant machinery or support vehicles during vegetation clearing and construction. Vehicle movements required during maintenance of the operational wind farm may also act as vectors for transfer • The potential for indirect impacts to occur to the adjoining vegetation (e.g. through introduction and spread of *Phytophthora* dieback) will be managed through the implementation of the following general hygiene protocols: – Clean earth-moving machinery and vehicles of soil and vegetation prior to entering the Disturbance Area – Soil to be moved in dry conditions – No *Phytophthora* dieback infested or weed impacted soil, mulch, fill, or other material is brought into the Disturbance Area – Movement of machines and other vehicles to be restricted to cleared access tracks and works area within the Disturbance Area • Through implementation of these general hygiene protocols, it is considered unlikely that *Phytophthora* dieback will be introduced or spread to an area outside of the Project Area that would cause the glossy-leafed hammer orchid to decline	Proposed action is unlikely to be at variance with this significant impact criteria
	Interfere with the recovery of the species	• Glossy-leafed hammer orchid grow on white or grey sands in low-lying areas adjoining winter-wet swamps (Western Australian Herbarium 1998–). There are no winter wet swamps in the Project Area hence the preferred habitat conditions for this species are not present within the Project Area • Given the timing of the field surveys coincided with the glossy-leafed hammer orchid flowering time, lack of supporting records and lack of preferred habitat (winter wet swamps) it is logical to conclude that the glossy-leafed hammer orchid is locally absent from the Project Area • The proposed action will not interfere with the recovery of the glossy-leafed hammer orchid	Proposed action is not at variance with this significant impact criteria

(Source: DotE 2013)