

Referral of a proposal under s. 38 of the

PART A: PROPONENT AND REFERRER INFORMATION AND PROPOSAL DESCRIPTION			
Referrer information			
Who is referring this proposal?		<input type="checkbox"/> Proponent <input type="checkbox"/> Decision-making authority <input checked="" type="checkbox"/> Community member/third party	
Name (print) ██████████		Signature ██████████	
Position	WA Campaign Manager	Organisation	Australian Marine Conservation Society (AMCS) - Protect Ningaloo Campaign ACN/ABN: 53 409 718 351
Email	██████████	Phone	██████████
Address	2 Delhi Street		
	West Perth	WA	6005
Date	19/12/2025		
Does the referrer request that the EPA treat any part of the proposal information in the referral as confidential? <i>Provide confidential information in a separate attachment.</i>		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Does the referrer confirm that they consent to receive correspondence electronically?		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Referral declaration for proponent and Authorised representative: I, ██████████ declare that I am authorised to refer this proposal on behalf of Australian Marine Conservation Society.....and further declare that the information contained in this form is true and not misleading. Date: 19/12/2025			
Proponent information			
Name of the proponent/s <i>Include Trading Name if relevant</i>		Lake MacLeod Pty Ltd	

Australian Company Number(s) <input type="checkbox"/> OR Australian Business Number(s) <input checked="" type="checkbox"/>	94 670 992 060
Pre-referral discussions	
Have you had pre-referral discussions with the EPA (including the EPA Services of DWER)? <i>If so, provide name, date, and overview of discussions.</i>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Pre-referral meetings were held with EPA Services and with the Part V licence team to discuss the proposal and assessment processes. Follow-up emails confirmed the referral process, as well as initial scope, receptors and emissions under the Part V assessment.
Proposal information	
Proposal name	Lake MacLeod Solar Salt Project Expansion L7178/1997/11
What is the proposal? (Include general description in the Instructions and template: How to identify the content of a proposal)	
<p>Short Description</p> <p>The proposal involves a significant expansion of the existing solar salt operations at Lake MacLeod to increase production from approximately 1.5 million tonnes per annum (Mt/a) to 3 Mt/a by 2027. Key elements include:</p> <ul style="list-style-type: none"> • Construction of six new crystalliser ponds totalling approximately 300 hectares (ha), each approximately 50 ha in wet area, located within the southern lakebed. • Upgrades to pump stations (including new bitterns pump stations with duty pumps). • Levee construction and relocation of the northern flood levee further north to protect the new crystallisers and future expansions. • Development of borrow pits for earthworks materials (potentially additional pits to be applied for later). • Installation of associated pipelines, a new brine feed channel, bitterns channel, and a new discharge point for bitterns. • Upgrades to oily water separators and addition of an existing oily water separator not currently on the licence. • A request to reduce existing acid sulphate soils (ASS) monitoring requirements. <p>The proposal is located within the lakebed and adjacent areas, which support microbial, algal, and aquatic invertebrate life. Earthworks will require clearing of native vegetation outside the lakebed for borrow pits. The expansion aims to double brine flows and production capacity, with potential for further future expansions of the crystalliser field.</p> <p>This description is based on the proponent's Licence Amendment Supporting Document (Section 3B: Proposed Activities, pages 16-24), which details the engineering and operational changes. No comprehensive hydrological modelling of whole-lake impacts or cumulative effects has been provided in the application.</p> <p>Location</p>	

The site is within Lake MacLeod, an inland wetland system approximately 40 km north of Carnarvon, adjacent to the Ningaloo Coast World Heritage Area. It relates to part of Mining Tenements AML 70/245, L09/10, L09/11, L09/17, and L09/18, as defined by coordinates in Schedule 1 of the current licence. These are located on Blowholes Road, Carnarvon WA 6701 within the Shire of Carnarvon.

Proposal Extent

It is proposed that clearing and or disturbance of up to 300 ha of lakebed for crystallisers will occur (in an ecologically active area), clearing of vegetation for borrow pits and levees (extent not fully quantified in application, but indirect impacts on native vegetation possible) plus extraction of groundwater to supply into the evaporative crystalliser ponds. This is to occur at the coordinates defined in Schedule 1 of Licence L7178/1997/11, with the proposed new crystalliser field sited north of the existing operations (see proponent's Supporting Document, Fig 13, p 37).

Have you provided electronic spatial data, maps, and figures in the appropriate format?

Yes No

Refer to proponents' documentation.

What type of proposal is being referred?

For significant amendment or derived proposal, provide the associated existing Ministerial statement number/s
For a proposal under an assessed planning scheme, provide the scheme number and name

- significant proposal. *Choose which type of significant proposal*
 - new proposal
 - significant amendment (proposal only)
 - significant amendment (conditions only)
 - significant amendment (proposal and conditions)
- strategic proposal
- derived proposal
- proposals of a prescribed class
- proposal under an assessed planning scheme

Proposal content: Complete the corresponding template (Proposal Content Document) from the [Instructions and template: How to identify the content of a proposal](#) for the type of proposal identified above. The completed form **must be** submitted with the referral.

Alternatives

PART B: ASSESSMENT OF ENVIRONMENTAL IMPACTS

Environmental factors

<p>What are the likely significant environmental factors for this proposal?</p> <p>Based on the proponent's application the preliminary key environmental factors are Inland Waters, Flora and Vegetation, Terrestrial Fauna, and Terrestrial Environmental Quality. These align with the Part V risk assessment's key receptors (Lake MacLeod water quality, groundwater-dependent ecosystems, flora including mangroves, migratory shorebirds, native vegetation, groundwater) and emissions (ASS, dust, particulates and salt, noise, stormwater including hydrocarbon contaminants, process wastewater, salt brine).</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Benthic Communities and Habitat <input type="checkbox"/> Coastal Processes <input type="checkbox"/> Marine Environmental Quality <input type="checkbox"/> Marine Fauna ✓ Flora and Vegetation <input type="checkbox"/> Landforms <input type="checkbox"/> Subterranean Fauna ✓ Terrestrial Environmental Quality ✓ Terrestrial Fauna ✓ Inland Waters <input type="checkbox"/> Air Quality <input type="checkbox"/> Greenhouse Gas Emissions <input type="checkbox"/> Social Surroundings <input type="checkbox"/> Human Health 	
<p><i>For each of the environmental factors identified above, complete the following table, or provide the information in a supplementary report</i></p>		
<p>Potential environmental impacts – for each environmental factor</p>		
1	EPA policy and guidance	Please refer to Table 1 below.
2	Receiving environment	Please refer to Table 1 below.
3	Likely environmental impacts	Please refer to Table 1 below.
4	Application of the mitigation hierarchy, including other statutory decision-making processes	Please refer to Table 1 below.
5	Assessment and significance of residual impacts	Please refer to Table 1 below.
6	Likely environmental outcomes	Please refer to Table 1 below.
<p>Holistic impact assessment</p>		
<p>Outline the holistic impact assessment for the Proposal.</p> <p>The proposed expansion of the Lake MacLeod Solar Salt Project, involving 300 ha of new crystallisers, levee relocation, increased brine extraction, and bitterns discharge, poses holistic environmental risks through interconnected impacts on inland waters, flora and vegetation, terrestrial fauna, and environmental quality. Alterations to hydrology, such as doubled brine flows and potential steepening of the lake's north-south gradient, are expected to occur. This could cumulatively degrade water quality and recharge regimes, affecting groundwater-dependent ecosystems and changing halite concentrations. These hydrological shifts may indirectly threaten flora like mangroves, algae, seagrass and cyanobacterial mats. Levees could alter surface water flooding regimes, increase sedimentation on salt lake surface, dust deposition on vegetation and biologically active ecosystems on the lakes surface, and ASS exposure could lead to habitat loss. Terrestrial fauna, particularly migratory shorebirds reliant on specific water regimes for maintaining feeding and roosting, face disruption from noise, dust, and prey base decline, with six species exceeding 1% of global populations at risk. Soil and groundwater quality degradation from emissions and contamination could amplify these effects, potentially harming the Ramsar-eligible wetland's biodiversity, with potential implications for connectivity to the Ningaloo World Heritage Area. Comprehensive modelling and a holistic impact assessment are needed to determine if there would be significant impacts from the proposed expansion and may necessitate enhanced</p>		

monitoring, and a re-examination of existing licence conditions for current operations to ensure environmental values are being protected in accordance with the *Environmental Protection Act 1986*.

Cumulative environmental impact assessment

Outline the relevant cumulative environmental impacts of the Proposal (based on scoping).

The proposed expansion of the Lake MacLeod Solar Salt Project (increasing production from 1.5 Mt/a to 3 Mt/a through 300 ha of new crystallisers, doubled brine flows, levee relocation, and new bitterns discharge) would compound existing impacts from operations dating back to 1967 (with amendments in 1973, 2003, 2015, 2020, and recent 2024-2025 transfers/amendments). Based on review of key factors (Inland Waters, Flora and Vegetation, Terrestrial Fauna, Terrestrial Environmental Quality), relevant cumulative impacts include:

Hydrological regime changes (Inland Waters)

Existing brine abstraction (up to 3.35 GL/annum) combined with doubled flows and new channels could exacerbate alterations to the lake's north-south gradient (1.5 m drop), reducing hydraulic residence times in the Northern Ponds and affecting interconnected groundwater aquifers. This may lead to irreversible changes in halite concentrations such as salinity increases, may increase sedimentation from borrow pits during floods, and reduce water quality / availability for dependent ecosystems, amplifying historical modifications. This requires whole-lake modelling to properly assess cumulative impacts to the wetland's hydrological regime.

Habitat degradation and biodiversity loss (Flora and Vegetation, Terrestrial Fauna)

Changes to hydrological regimes could adversely impact dependent ecosystems including salt marshes, mangroves (world's largest inland *Avicennia marina* population), cyanobacterial mats and associated invertebrate assemblages and could cumulatively diminish habitat. Past clearing and disturbances (e.g., from prior crystalliser fields and levees) plus new vegetation removal for borrow pits and indirect effects from dust/salt deposition is cumulatively diminishing surrounding vegetation. For fauna, this compounds threats to migratory shorebirds (28 listed species, six exceeding 1% global populations), with altered water regimes disrupting feeding/roosting habitats and prey bases, potentially violating EPBC Act protections.

Water and soil quality deterioration (Terrestrial Environmental Quality)

Ongoing stormwater/hydrocarbon discharges, ASS exposure, and bitterns management, combined with reduced ASS monitoring, may heighten cumulative contamination risks, including acidification, salinisation of surrounding soils/groundwater, and diffuse emissions (dust, noise) affecting the Ramsar-eligible wetland's overall integrity and connectivity to the Ningaloo World Heritage Area.

These cumulative effects, unaddressed in the proponent's application, risk landscape-scale degradation, emphasizing the need for comprehensive assessment to ensure consistency with EPA objectives.

Consultation

Outline the stakeholder identification and consultation process, and outcomes of consultation on the Proposal and its likely environmental effects.

Supporting documents

Provide a list of the supporting documents

Has the referrer provided survey information according to the [Instructions and Form: IBSA Data Packages](#) and/or the [Instructions and form: IMSA Data Packages](#)

Yes

No

Conclusion

Do you consider the proposal may have a significant effect on the environment?

Yes, the proposed expansion of the Lake MacLeod Solar Salt Project may have a significant effect on the environment. The scale and nature of the proposal—doubling production to 3 Mt/a through 300 ha of new crystallisers, increased brine extraction, levee relocation, and new bitterns discharge—pose substantially increased additional risks from current operations, to an ecologically unique Ramsar-eligible wetland system adjacent to the Ningaloo Coast World Heritage Area.

Lake MacLeod is an ecologically unique wetland system with exceptional biodiversity and hydrogeological features. Owing to its high ecological, hydrological, and geomorphological values, it is recognised as meeting multiple criteria for listing as a Wetland of International Importance under the Ramsar Convention.¹ It is listed in the Directory of Important Wetlands in Australia as an outstanding example of a major coastal lake, which includes permanent saline wetlands and inland mangrove swamps that are maintained by subterranean waterways.² The wetland is also classed as an Environmentally Sensitive Area.³

The Northern Ponds of Lake Macleod meet many of the criteria required to be considered a Wetland of International Importance under the Ramsar Convention (Kavazos and Horwitz 2016).

The recognised biological assets at Lake MacLeod include:

- 1) aquatic invertebrates and phytoplankton,
- 2) waterbirds, waders and shorebirds,
- 3) mangroves,
- 4) fish,
- 5) the unique salt marsh habitats,
- 6) the seagrass and algae that comprise aquatic habitats, and
- 7) the cyanobacterial mats which are common on the mudflats.

Its unique geological evolution has resulted in a marine ecosystem surrounded by semi-arid desert and connected to the ocean through underground karst limestone waterways, recharged with a continuous supply of seawater as well as episodic freshwater pulses.

Lake MacLeod supports the largest inland populations of *Avicennia marina* (grey mangrove) in the world. It provides important habitat for large numbers of shorebirds and waterbirds—regularly supporting over 1% of the global population of several migratory species, making the wetlands internationally important. The wetlands also support diverse aquatic invertebrates and fish adapted to hypersaline environments. The northern section of Lake MacLeod was also included in the optimal Ningaloo World Heritage boundaries proposed by the WA Government World Heritage Advisory Committee in 2004.⁴

¹ Ecological character of the Lake MacLeod Wetland of International Importance

<https://library.dbca.wa.gov.au/FullTextFiles/064089.pdf>; Biodiversity and ecosystem functioning of the Northern ponds, Lake MacLeod, ECU, 2016,

https://www.researchgate.net/publication/311768430_Biodiversity_and_ecosystem_functioning_of_the_Northern_ponds_Lake_MacLeod

² <https://www.environment.gov.au/water/wetlands/australian-wetlands-database/directory-important-wetlands>

³ Environmental Protection (Environmentally Sensitive Areas) Notice 2005,

<https://www.wa.gov.au/service/environment/environment-information-services/environmentally-sensitive-areas>

⁴ World Heritage Consultative Committee (2005). Report on a proposal to nominate the North West Cape — Ningaloo Reef area for inscription on the World Heritage List. World Heritage Consultative Committee Final Report 18 October 2004, <https://library.dbca.wa.gov.au/FullTextFiles/023086.pdf>.

These risks include potential alterations to hydrological regimes, degradation of groundwater-dependent ecosystems, loss of unique flora such as mangroves and cyanobacterial mats, disruption to specially protected migratory shorebirds (with six species exceeding 1% of global populations), and soil/groundwater contamination from ASS, dust, and discharges. As outlined in the holistic and cumulative impact assessments, these effects are interconnected and build on impacts from historical operations since 1967, potentially leading to landscape-scale degradation. A comprehensive assessment of these likely holistic and cumulative impacts, including surveys and full hydrology modelling, must be carried out. As such we believe the Part V process is inadequate for addressing these risks, and we strongly recommend formal environmental impact assessment under Part IV of the Environmental Protection Act 1986 to ensure protection of environmental values consistent with EPA objectives.

Table 1: Potential environmental impacts – for each environmental factor

Environmental Factor	EPA policy and guidance	Receiving environment	Likely environmental impacts	Application of the mitigation hierarchy, including other statutory decision-making processes	Assessment and significance of residual impacts
Inland Waters	<p>Environmental Factor Guideline - Inland Waters (EPA 2018): Outlines how the EPA considers impacts to hydrological regimes, groundwater, and surface water quality to protect environmental values.</p> <p>Objective: To maintain the hydrological regimes and quality of groundwater and surface water so that environmental values are protected.</p>	<p>Lake MacLeod is an ecologically unique inland wetland system with high hydrological, geomorphological, and biodiversity values, meeting multiple Ramsar Convention criteria (Daniel et al, 2009; Kavazos and Horwitz 2016).</p> <p>It includes interconnected groundwater-dependent ecosystems, surface water features like the Northern Ponds, and connections to aquifers. Surface waters support significant ecosystems and biological assemblages (Ellison et al 2003).</p> <p>The system supports unique water regimes with a slight north-south slope (1.5 m drop), influencing hydraulic residence times critical for biodiversity.</p>	<p>Alteration of surface and groundwater hydrology from increased brine extraction (doubling flows to 3 Mt/a), new channels, bitterns discharge, and levee relocation.</p> <p>Potential impacts include changes to water quality (e.g., salinity increases, contamination from stormwater / hydrocarbons), steepening of lake gradient affecting northern ponds and halite concentrations, dust and sedimentation from borrow pits during floods, changes to standing surface water residence times, and cumulative effects from existing abstractions (up to 3.35 GL/annum)</p>		<p>Residual impacts potentially significant. Risks to water quality and regimes rated moderate to high, with potential irreversible effects on Ramsar-eligible wetlands if unmitigated. Significance: High, given the system's international importance and proximity and potential complementarity and connectivity to Ningaloo World Heritage Area.</p>
Flora and Vegetation	<p>Environmental Factor Guideline - Flora and Vegetation (Environmental factor guideline)</p>	<p>The receiving environment includes salt marsh habitats, mangroves (largest inland</p>	<p>Direct clearing of native vegetation for borrow pits and levees (extent not</p>		<p>Residual impacts are significant, particularly due to indirect effects, potentially</p>

Environmental Factor	EPA policy and guidance	Receiving environment	Likely environmental impacts	Application of the mitigation hierarchy, including other statutory decision-making processes	Assessment and significance of residual impacts
	<p>flora ...):</p> <p>Details consideration of impacts to flora and vegetation, including Technical Guidance for surveys.</p> <p>Objective: To maintain representation, diversity, viability, and ecological function at the species, population, and community level.</p>	<p><i>Avicennia marina</i> population globally), seagrass, algae, and cyanobacterial mats within the lakebed and surrounds (Ellison et al 2003).</p> <p>Groundwater-dependent ecosystems and native vegetation outside the lakebed (e.g., at borrow pit sites) are present.</p> <p>The Northern Ponds support priority flora and invertebrate assemblages Kavazos & Horwitz, 2016).</p>	<p>quantified) (Tyler 1988);</p> <p>indirect impacts from altered water regimes, dust/salt deposition, ASS exposure, and bitterns discharge affecting mangroves, salt marshes, and cyanobacterial mats.</p> <p>Potential smothering from sedimentation and salinity changes impacting groundwater-dependent flora.</p>		<p>leading to loss of unique habitats.</p> <p>Significance: Moderate to high, given Ramsar viability and lack of updated biodiversity surveys (e.g., Index of Biodiversity Surveys).</p>
Terrestrial Fauna	<p>Environmental Factor Guideline - Terrestrial Fauna (EPA 2016): Outlines assessment of impacts to terrestrial fauna, emphasizing surveys and protection of specially protected species (Storr & Harold, 1984).</p> <p>Objective: To maintain representation, diversity, viability, and ecological function at the species, population, and assemblage level.</p>	<p>Habitat for up to 70 bird species, including 28 migratory shorebirds listed under bilateral treaties (e.g., Japan-Australia, China-Australia (Gov Aus & Gov Jap. 1981) (Bertzeletos et al - 2012; Johnstone et al 2000); six species exceed 1% global population (Weller et al. 2020). Lake MacLeod supports food for these species in aquatic invertebrates, fish, and assemblages dependent on</p>	<p>Disruption from noise, dust, and habitat alteration during construction/operations; indirect impacts from changed hydrology affecting feeding/roosting sites for migratory shorebirds.</p> <p>Potential loss of invertebrate prey base due to salinity/water quality changes.</p>		<p>Residual impacts potentially significant for migratory species, with moderate risk without fauna surveys.</p> <p>Significance: High, as the site meets international importance criteria for shorebirds under Ramsar/EPBC.</p>

Environmental Factor	EPA policy and guidance	Receiving environment	Likely environmental impacts	Application of the mitigation hierarchy, including other statutory decision-making processes	Assessment and significance of residual impacts
		specific water quality regimes in Northern Ponds and mudflats (Huggett et al, 2017; McLure 2011). EPBC Act-listed species present.			
Terrestrial Environmental Quality	<p>Environmental Factor Guideline - Terrestrial Environmental Quality (Environmental Protection Authority 2016): Addresses soil, landform, and subsurface quality to protect ecosystem health and human use.</p> <p>Objective: To maintain the quality of land and soils so that environmental values are protected.</p>	Saline lakebed soils with potential ASS; surrounding native vegetation and groundwater (Daniel et al 2009). Emissions like dust and brine affect soil quality.	Degradation from ASS disturbance (acidification), dust/particulates/salt deposition, changes to surface water runoff and sedimentation regimes; stormwater contamination (hydrocarbons), and brine seepage impacting soil/groundwater. Noise as a nuisance. Proponent requests reduced ASS monitoring.		Residual impacts high significance from diffuse emissions and reduced monitoring, potentially affecting surrounding quality, as well as risks from sedimentation.

PART B: ASSESSMENT OF ENVIRONMENTAL IMPACTS FOR SIGNIFICANT AMENDMENTS ONLY

Type of significant amendment	<input type="checkbox"/> significant amendment to the approved proposal <input type="checkbox"/> significant amendment to the implementation conditions <input type="checkbox"/> significant amendment to both the proposal and the implementation conditions
Information of the approved proposal	
Combined effects of the approved proposal and significant amendment	
Analysis of existing implementation conditions	
Previous changes to the Proposal and or implementation conditions	
Compliance	
Environmental Performance	
Control of implementation of significant amendment	

PART C: OTHER APPROVALS AND REGULATION

Decision-making authorities and their approvals

Provide a table list of the decision-making authorities, associated legislation or agreement regulating the activity and the specific approval required. (Example table at the end of form)	See table below
Provide a summary of the statutory decision-making processes you consider can mitigate the potential impacts of the proposal on the environment. (Note: this should be a summary of the information provided in Part B section 2.4). (Example table at the end of form)	

Tenure and Local Government approvals

Location of proposal: a) street address, lot number, suburb, and nearest road intersection; or b) if remote, the nearest town and distance and direction from that town to the proposal site.	Lake MacLeod Solar Salt Project Blowholes Road Carnarvon WA 6701
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Name of the Local Government Authority in which the proposal is located.	Shire of Carnarvon
Is rezoning of any land required before the proposal can be implemented? If yes, please provide details.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
What is the current land use on the property, and the extent (area in hectares) of the property?	Mineral Lease (ML 245SA)
Does the proponent have the legal access required for the implementation of all aspects of the proposal? <i>If yes, provide details of legal access authorisations / agreements / tenure.</i> <i>If no, what authorisations / agreements / tenure is required and from whom?</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No
Commonwealth Government approvals	
Does the proposal involve an action that may be or is a controlled action under the <i>Environment Protection and Biodiversity Conservation Act 1999</i> (EPBC Act)?	<input type="checkbox"/> Yes <input type="checkbox"/> No Potentially
Has the proposed action been referred? If yes, when was it referred and what is the reference number (EPBC No.)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Date: _____ EPBC No.: _____
If referred, has a decision been made on whether the proposed action is a controlled action? If 'yes', check the appropriate box and provide the decision in an attachment.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Decision – controlled action <input type="checkbox"/> Decision – not a controlled action
If the proposal is determined to be a controlled action, do you request that this proposal be assessed under a Bilateral Agreement or as an accredited assessment?	<input type="checkbox"/> Yes - Bilateral <input type="checkbox"/> No <input type="checkbox"/> Yes - Accredited
Is approval required from other Commonwealth Government/s for any part of the proposal? <i>If yes, describe.</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No Approval:
Decision-making authority referrals <u>ONLY</u>	
What approval/s, under your authority, are required for this proposal? <i>Please provide details.</i>	

Table: Other approvals

Decision-making authority	Legislation or Agreement regulating the activity	Approval required (and specify which proposal element the approval is related to)
DWER	Environmental Protection Act 1986 (Part V)	The Part V licence amendment process is the primary approval sought by the proponent. However, it lacks comprehensive assessment of cumulative impacts, hydrological modelling, or biodiversity surveys. Key omissions include effects on the Northern Ponds' Ramsar-eligible values (e.g., migratory shorebirds, mangroves). The process may mitigate some emissions (e.g., dust, noise) via conditions but is inadequate for landscape-scale risks like altered hydrology or bitterns discharge.
Commonwealth Department of Climate Change, Energy, the Environment and Water	Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)	Potential referral if significant impacts on matters of national environmental significance (e.g., migratory shorebirds listed under bilateral agreements with Japan/China). The application does not address EPBC Policy Statement 3.21 on avoiding/mitigating impacts to shorebirds. Six species exceed 1% of global population at Lake MacLeod, making it internationally important.
DBCA	Biodiversity Conservation Act 2016	Could regulate impacts to specially protected fauna (e.g., migratory species). No assessment provided; expansion may alter water regimes critical to shorebirds.

References

- Bertzeletos, D., Davis, R. & Horwitz, P. Importance of Lake MacLeod, northwestern Australia, to shorebirds: a review and update. *J. R. Soc. West. Aust.* 95, 115–124 (2012).
- Daniel, G., Kerm, S., Pinder, A. & Nowicki, A. Resource Condition Report for a Significant Western Australian Wetland Lake MacLeod System. (2009).
- Ellison, J. C. & Simmonds, S. Structure and Productivity of inland mangrove stands at Lake MacLeod, Western Australia. *J. R. Soc. West. Aust.* 86, 21–26 (2003).
- Government of Australia and the Government of Japan. Agreement between the Government of Australia and the Government of Japan for the Protection of Migratory Birds in Danger of Extinction and their Environment. (1981).
- Huggett, M. J., Kavazos, C. R. J., Bernasconi, R., Czarnik, R. & Horwitz, P. Bacterioplankton assemblages in coastal ponds reflect the influence of hydrology and geomorphological setting. *FEMS Microbiol. Ecol.* 93, (2017).
- Phillips, B., Butcher, R., Hale, J. & Coote, M. Ecological character of the Lake MacLeod Wetland of International Importance. (2005).
- Johnstone, R. E., Burbidge, A. H. & Stone, P. Birds of the southern Carnarvon Basin, Western Australia: distribution, status and historical changes. *Rec. West. Aust. Mus. Suppl.* 60, 371 (2000).
- Kavazos, C. & Horwitz, P. Biodiversity and Ecosystem Functioning of the Northern Ponds, Lake MacLeod, Western Australia - Final Report. (2016).
- McLure, N. Temporal & Spatial Variation in Aquatic Invertebrate Communities at Lake MacLeod, Northwestern Australia. (Edith Cowan University, 2011).
- Storr, G. & Harold, G. Herpetofauna of the Lake MacLeod Region, Western Australia. *Rec. West. Aust. Mus.* 11, 173–189 (1984).
- Tyler, J. P. Vegetation surveys near Lake Macleod, Western Australia. *Kingia* 1, 49–74 (1988).