



Approval

**Project Sea Dragon Stage 1 Prawn Aquaculture Project, Legune Station, NT
 (EPBC 2015/7527)**

This decision is made under sections 130(1) and 133 of the *Environment Protection and Biodiversity Conservation Act 1999*.

Proposed action

person to whom the approval is granted	Project Sea Dragon Pty Ltd
proponent's ACN	604 936 192
proposed action	To construct and operate Stage 1 of the Project Sea Dragon prawn aquaculture grow-out facilities on Legune Station in the East Kimberley Region of the Northern Territory, including – up to 112 grow-out ponds and associated bunds and channels; an intake channel; an environmental protection zone; an accommodation village; a 17.5 MW power station; a quarry and borrow pits; and service corridors [as described in EPBC Act referral 2015/7527 received on 22 July 2015 and the variation to the referral received on 4 December 2016].

Approval decision

Controlling Provision	Decision
Listed threatened species and communities (sections 18 & 18A)	Approved
Listed migratory species (sections 20 & 20A)	Approved

conditions of approval

This approval is subject to the conditions specified below.

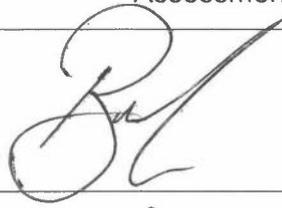
expiry date of approval

This approval has effect until 31 December 2043.

Decision-maker

name and position Bruce Edwards
Assistant Secretary
Assessments (WA, SA, NT) and Air Branch

signature



date of decision 10 May 2017

Conditions attached to the approval

1. To protect habitat for listed threatened and migratory species, **wastewater** discharges to **Alligator Creek** as a result of the action:

- a) must not exceed the mean and maximum limits for the following **wastewater** quality parameters:

	Mean	Maximum
Total nitrogen (mg/L)	0.8	3.0
Total phosphorus (mg/L)	0.1	0.3
Total suspended solids (mg/L)	20	100

- b) must be restricted to an annual average daily discharge rate of less than 420 ML/day
 - c) must only occur from one hour prior to the **Alligator Creek** ebb tide and cease 5.5 hours before the **Alligator Creek** ebb tide ends.
2. To protect habitat for listed threatened and migratory species, the person taking the action must develop a Water Quality Monitoring and Management Program (WQMMP). The WQMMP must be prepared in consultation with an appropriately-qualified **independent scientific expert** whose appointment has been approved in writing by the **Minister**. The WQMMP must be approved by the **Minister** and implemented a minimum of 12 months prior to the discharge of any **wastewater**.

The WQMMP must:

- a) explain how the WQMMP will protect the **receiving environment** from **wastewater** discharges, including the functional relationship between monitoring objectives, activities and operational decisions
- b) define the chemical, physical and biological parameters to be monitored in the **receiving environment**, including during the minimum 12 month period of baseline water quality monitoring, and justify the parameters to be monitored
- c) modify and/or confirm the **wastewater** quality parameter limits in condition 1(a) and the **wastewater** release regime in condition 1(c)

d) include a methodology to:

- i. monitor water quality parameters in condition 1(a) during both baseline data collection and operations and measure discharge volumes in condition 1(b)
- ii. develop site-specific water quality objectives and seasonal trigger values for water quality parameters identified in condition 1(a) and 2(b)
- iii. modify and/or confirm the **wastewater** quality parameter limits specified in condition 1(a) are appropriate relative to the trigger values developed under condition 2(d)(ii)
- iv. modify and/or confirm the **wastewater** release regime specified in condition 1(c)

in accordance with the **Guidelines for Fresh and Marine Water Quality**

- e) include a data handling program and commitments to technical review and evaluation of the WQMMP
- f) identify and manage the risks of the WQMMP failing to achieve its objectives
- g) describe contingency responses where management triggers are exceeded, and effective corrective actions which may be implemented.

When the person taking the action submits the WQMMP to the **Minister** for approval, they must also provide a copy of the advice of the **independent scientific expert** on the WQMMP. The approved WQMMP must be implemented.

3. The person taking the action must appoint, support and maintain a Scientific Advisory Group (SAG) to advise on matters relating to listed threatened and migratory waterbirds potentially impacted by the proposed action.

Terms of reference for the SAG, which must include roles and responsibilities, membership (including an independent chair), timeframe for commencement, frequency of proposed meetings and quorum arrangements, must be developed by the person taking the action and submitted to the **Minister** in writing within two months of the date of this approval.

The **Minister** may seek advice from the SAG at any time.

4. The person taking the action must develop and implement a Waterbird Monitoring and Impact Mitigation Program (WBMIMP). The WBMIMP must be designed to monitor impacts to listed threatened and/or migratory waterbirds:

- a) from the time flows to wetlands from **Forsyth Creek Dam** are altered as a result of the proposed action
- b) including bird predation management measures to non-predator waterbird species, including human disturbance and the operation of drones and helicopters
- c) including any additional information as the SAG sees fit within the scope of the terms of reference.

The WBMIMP must:

- a) monitor changes in waterbird composition, abundance and habitat usage
- b) apply limits of acceptable change to waterbird usage of freshwater wetlands

- c) allow for an adaptive management response in the event that exceedances of limits of acceptable change are observed.

The person taking the action must seek advice from the SAG on: formulating and drafting the WBMIMP; and any revisions proposed to the approved WBMIMP, and the person taking the action must include all comments and recommendations provided by members of the SAG with the draft submitted for initial approval and that are relevant to any revision to the WBMIMP sought under condition 14.

The SAG must be invited to assess and provide advice on any exceedances of the limits of acceptable change, and on response action taken by the person taking the action. The person taking the action must consider the advice of the SAG in determining whether further action is needed. Details on exceedances of limits of acceptable change, all comments provided by members of the SAG and any additional response action taken as a result of the advice of the SAG must be included in the annual compliance report (condition 12).

The WBMIMP must be submitted to and approved by the **Minister** prior to the **alteration of flows from Forsyth Creek Dam**. The approved WBMIMP must be implemented.

- 5. To minimise noise impacts to nesting flatback turtles (*Natator depressus*), the person taking the action must implement the following measures during **impact piling** activities:
 - a) pre-start-up visual observations: visual observations for marine turtles must be undertaken to the extent of the **piling observation zone** by a suitably trained individual for at least 30 minutes before the commencement of piling activities
 - b) operating procedures: while piling is undertaken, the following procedures must be implemented:
 - i. visual observations of a 600 metre radius from the pile hammer must be maintained continuously to detect the presence of marine turtles
 - ii. the **exclusion zone** must be no less than a 500 metre radius for marine turtles
 - iii. if marine turtles are sighted within the **exclusion zone**, piling activities within the **exclusion zone** must cease within 2 minutes or as soon as safely possible
 - iv. piling activities must not recommence until marine turtles are observed to move outside the **exclusion zone** or 30 minutes have passed since the last sighting
 - v. **soft 'fairy taps' start procedures**: piling activities must be initiated at the soft 'fairy taps' start level and then build up to full operating impact force. The **soft 'fairy taps' start procedures** may only commence if no marine turtles have been sighted within the relevant **exclusion zone** during the pre-start-up visual observations.
- 6. To minimise light pollution impacts to nesting flatback turtles (*Natator depressus*) and hatchlings, the person taking the action must, subject to minimum requirements for safety purposes, restrict artificial lighting by:
 - a) using lights of a wavelength to which flatback turtle hatchlings are not sensitive
 - b) ensuring lighting is directed away from **Turtle Point** and reflective materials
 - c) mounting lights as low as practicable

- d) using timer and motion sensors to run off lights when not in use.
7. To protect dwarf sawfish (*Pristis clavata*) and green sawfish (*Pristis zijsron*) from impacts resulting from the installation of:
- a) a pumping station adjacent to **Forsyth Creek** and
 - b) a seawater intake channel extending from **Forsyth Creek** to the **project area** with a footprint of 64.64 hectares and
 - c) an effluent discharge outfall structure at **Alligator Creek**
- the person taking the action must ensure that no more than 9.3 ha of **mangrove forest habitat is cleared** (in total) within the area depicted on the map at Attachment A.
8. To protect listed threatened and migratory **sawfish and river shark species** from impacts of recreational fishing, the person taking the action must:
- a) provide educational materials to employees about the protected status of **sawfish and river shark species**
 - b) install signage next to the **Alligator Creek** and **Keep River** waterways that promote the protected status of **sawfish and river shark species** and include identification guides, safe release guidelines and encourage recreational fishers to report any interactions with these species.
9. To protect listed threatened and migratory **sawfish and river shark species** from entrainment and entrapment, the seawater intake pipe at **Forsyth Creek** must:
- a) be fitted with a rigid mesh grille with a 100 millimetre aperture
 - b) operate with a maximum velocity of 0.4 m/s.
10. Within 30 days after the **commencement** of the action, the person taking the action must advise the **Department** in writing of the actual date of commencement.
11. The person taking the action must maintain accurate records substantiating all activities associated with or relevant to the conditions of approval, including measures taken to implement the monitoring programs required by this approval, and make them available upon request to the **Department**. Such records may be subject to audit by the **Department** or an independent auditor in accordance with section 458 of the EPBC Act, or used to verify compliance with the conditions of approval. Summaries of audits will be posted on the Department's website. The results of audits may also be publicised through the general media.
12. Within three months of every 12 month anniversary of the **commencement** of the action, the person taking the action must publish a report on their website addressing compliance with each of the conditions of this approval, including implementation of any management plans as specified in the conditions. Documentary evidence providing proof of the date of publication and non-compliance with any of the conditions of this approval must be provided to the **Department** at the same time as the compliance report is published.
13. Upon the direction of the **Minister**, the person taking the action must ensure that an independent audit of compliance with the conditions of approval is conducted and a report submitted to the **Minister**. The independent auditor must be approved by the **Minister** prior to the commencement of the audit. Audit criteria must be agreed to by the **Minister** and the audit report must address the criteria to the satisfaction of the **Minister**.

14. The person taking the action may choose to revise a plan approved by the **Minister** under conditions 2 and 4 without submitting it for approval under section 143A of the **EPBC Act**, if the taking of the action in accordance with the revised plan would not be likely to have a **new or increased impact**. If the person taking the action makes this choice they must:

- a) notify the **Department** in writing that the approved plan has been revised and provide the **Department**, at least four weeks before implementing the revised plan, with:
 - i. an electronic copy of the revised plan;
 - ii. an explanation of the differences between the revised plan and the approved plan; and
 - iii. the reasons the person taking the action considers that the taking of the action in accordance with the revised plan would not be likely to have a **new or increased impact**.

14A. The person taking the action may revoke its choice under condition 14 at any time by giving written notice to the **Department**. If the person taking the action revokes the choice to implement the revised plan, without approval under section 143A of the **EPBC Act**, the plan approved by the **Minister** must be implemented.

14B. If the **Minister** gives a notice to the person taking the action that the **Minister** is satisfied that the taking of the action in accordance with the revised plan would be likely to have a **new or increased impact**, then:

- i. condition 14 does not apply, or ceases to apply, in relation to the revised plan; and
- ii. the person taking the action must implement the plan approved by the **Minister**.

To avoid any doubt, this condition does not affect any operation of conditions 14 and 14A in the period before the day the notice is given.

At the time of giving the notice, the **Minister** may also notify that for a specified period of time condition 14 does not apply for the plan required under the approval.

Conditions 14, 14A and 14B are not intended to limit the operation of section 143A of the **EPBC Act** which allows the person taking the action to submit a revised plan to the **Minister** for approval.

16. If, at any time after five years from the date of this approval, the person taking the action has not substantially commenced the action, then the person taking the action must not substantially **commence** the action without the written agreement of the **Minister**.

17. Unless otherwise agreed to in writing by the **Minister**, the person taking the action must publish all monitoring programs and reports referred to in these conditions of approval on their website. Each monitoring program and report must be published on their website within 1 month of being approved by the **Minister** or being submitted under condition 14.

Definitions

Alligator Creek is as shown at Attachment A, where it is depicted as 'Alligator Creek'.

Alteration of flows from Forsyth Creek Dam is any deviation from the current hydrological regime, including the cessation of the annual late-wet season freshwater release from **Forsyth Creek Dam** to wetlands, as a result of the proposed action.

Clearance, clear or clearing is the cutting down, felling, thinning, logging, removing, killing, destroying, poisoning, ringbarking, uprooting or burning of native vegetation.

Commence, commenced or commencement is the construction of any infrastructure, excluding fences and signage, or **clearing** of vegetation, associated with the proposed action.

Department is the Australian Government Department or any other agency administering the **EPBC Act**.

EPBC Act is the *Environment Protection and Biodiversity Conservation Act 1999* (Cth).

Exclusion zone is a 500 metre radius around pile driving operations where piling must cease if **marine turtles** are observed within the relevant radius.

Forsyth Creek is as shown at Attachment A, where it is depicted as 'Forsyth Creek'.

Forsyth Creek Dam is as shown at Attachment A, where it is depicted as 'Forsyth Creek Dam'.

Guidelines for Fresh and Marine Water Quality is the *Australian and New Zealand Guidelines for Fresh and Marine Water Quality* (ANZECC & ARMCANZ, 2000), the *Australian Guidelines for Water Quality Monitoring and Reporting* (2000) and other relevant guideline documents.

Impact piling is driving structural supports into the ground below the waterline using weighted strikes.

Independent scientific expert is a scientist with relevant qualifications and expertise appointed and funded by the person taking the action whose appointment is approved by the **Minister**.

Keep River is as shown at Attachment A, where it is depicted as 'Keep River'.

Mangrove forest habitat is the mangrove vegetation in the vicinity of **Alligator Creek** and **Forsyth Creek**.

Marine turtles include the **EPBC Act** listed flatback turtle (*Natator depressus*), green turtle (*Chelonia mydas*), hawksbill turtle (*Eremochelys imbricata*), Olive Ridley turtle (*Lepidochelys olivacea*).

Minister is the Minister administering the **EPBC Act** and includes a delegate of the Minister.

New or increased impact is a new or increased impact on any matter protected by the controlling provisions for the action, when compared to the monitoring program that has been approved by the Minister.

Person taking the action is the person to whom approval is granted, or to whom the approval is transferred under section 145B of the **EPBC Act**.

Piling observation zone is a 600 metre horizontal radius from the pile hammer which must be visually observed at all times during piling to identify the presence of **marine turtles**

Project area is as shown at Attachment A, where is depicted as 'Project Area' and bound in yellow.

Receiving environment is the area downstream of the mixing zone determined by the Water Quality Monitoring and Management Program (condition 2) that begins at point 15° 6' 0.4477" S 129° 17' 54.4283" E (Geocentric Datum of Australia 1994), as shown at Attachment A, where it is depicted as 'discharge release point'.

Sawfish and river shark species are the **EPBC Act** listed largetooth sawfish (*Pristis pristis*), dwarf sawfish (*Pristis clavata*), green sawfish (*Pristis zijsron*) and northern river shark (*Glyphis garricki*).

Soft 'fairy tap' start procedures are initiated at commencement of all piling activities by piling at low energy levels and then build up to full impact force. The first five impacts from the piling operation must be at no more than 50% of full hammer weight (e.g. a hammer with an adjustable stroke height of 1.2 metres should drop drop a height of 0.6 metres at least 5 times during a 'soft start' procedure), to encourage animals to move away from subsequent blows.

Turtle Point is the known flatback turtle (*Natator depressus*) nesting beach located approximately 24 km north-west of **Forsyth Creek Dam**.

Wastewater is all liquid discharged from the proposed action.

