Australian Government
Department of the Environment

# Referral of proposed action

## What is a referral?

The *Environment Protection and Biodiversity Conservation Act 1999* (the **EPBC Act**) provides for the protection of the environment, especially matters of national environmental significance (**NES**). Under the EPBC Act, a person must not take an action that has, will have, or is likely to have a significant impact on any of the matters of NES without approval from the Commonwealth Environment Minister or the Minister's delegate. (Further references to 'the Minister' in this form include references to the Commonwealth Environment Minister or the Minister's delegate.) To obtain approval from the Minister, a proposed action must be referred. The purpose of a referral is to enable the Minister to decide whether your proposed action will need assessment and approval under the EPBC Act.

Your referral will be the principal basis for the Minister's decision as to whether approval is necessary and, if so, the type of assessment that will be undertaken. These decisions are made within 20 business days, provided sufficient information is provided in the referral.

## Who can make a referral?

Referrals may be made by or on behalf of a person proposing to take an action, the Commonwealth or a Commonwealth agency, a state or territory government, or agency, provided that the relevant government or agency has administrative responsibilities relating to the action.

## When do I need to make a referral?

A referral must be made by the person proposing to take an action if the person thinks that the action for actions that has, will have, or is likely to have a significant impact on the following matters protected by Part 3 of the EPBC Act:

- World Heritage properties (sections 12 and 15A);
- National Heritage places (sections 15B and 15C);
- wetlands of international importance (sections 16 and 17B);
- listed threatened species and communities (sections 18 and 18A);
- listed migratory species (sections 20 and 20A);
- protection of the environment from nuclear actions (sections 21 and 22A);
- Commonwealth marine environment (sections 23 and 24A);
- Great Barrier Reef Marine Park (sections 24B and 24C);
- a water resource, in relation to coal seam gas development and large coal mining development (sections 24D and 24E);
- the environment, if the action involves Commonwealth land (sections 26 and 27A), including:
    - actions taken outside Commonwealth land that are likely to have a significant impact on the environment of Commonwealth land;
    - actions taken on Commonwealth land that may have a significant impact on the environment generally;
- the environment, if the action is taken by the Commonwealth (section 28); and
- Commonwealth Heritage places outside the Australian jurisdiction (sections 27B and 27C).

You may still make a referral if you believe your action is not going to have a significant impact, or if you are unsure. This will provide a greater level of certainty that Commonwealth assessment requirements have been met.

To help you decide whether or not your proposed action requires approval (and therefore, if you should make a referral), the following guidance is available from the Department's website:

- Submitting a referral under the EPBC Act – A fact sheet for a person proposing to take an action http://www.environment.gov.au/epbc/publications/factsheet-environment-assessment-process

- the Policy Statement titled Significant Impact Guidelines 1.1 – Matters of National Environmental Significance http://www.environment.gov.au/epbc/publications/significant-impact-guidelines-11-matters-national-environmental-significance Additional sectoral guidelines are also available.
- the Policy Statement titled Significant Impact Guidelines 1.2 - Actions on, or impacting upon, Commonwealth land, and actions by Commonwealth agencies http://www.environment.gov.au/epbc/publications/significant-impact-guidelines-12-actions-or-impacting-upon-commonwealth-land-and-actions
- the Policy Statement titled Significant Impact Guidelines: Coal seam gas and large coal mining developments—Impacts on water resources http://www.environment.gov.au/resource/significant-impact-guidelines-13-coal-seam-gas-and-large-coal-mining-developments-impacts
- the interactive map tool (enter a location to obtain a report on what matters of NES may occur in that location) http://www.environment.gov.au/epbc/pmst/index.html

**Can I refer part of a larger action?**

In certain circumstances, **the Minister may not accept a referral for an action that is a component of a larger action and may request the person proposing to take the action to refer the larger action for consideration under the EPBC Act (Section 74A, EPBC Act).** If you wish to make a referral for a staged or component referral contact the Referrals Gateway (1800 803 772).

**Do I need a permit?**

Some activities may also require a permit under other sections of the EPBC Act or another law of the Commonwealth. Information is available on the Department's web site.

**Is your action in the Great Barrier Reef Marine Park?**

If your action is in the Great Barrier Reef Marine Park it may require permission under the *Great Barrier Reef Marine Park Act 1975* (**GBRMP Act**). If a permission is required, referral of the action under the EPBC Act is deemed to be an application under the GBRMP Act (see section 37AB of the GBRMP Act). This referral will be forwarded to the Great Barrier Reef Marine Park Authority (**the Authority**) for the Authority to commence its permit processes as required under the *Great Barrier Reef Marine Park Regulations 1983* (**GBRMP Regulations**). If a permission is not required under the GBRMP Act, no approval under the EPBC Act is required (see section 43 of the EPBC Act). The Authority can provide advice on relevant permission requirements applying to activities in the Marine Park.

The Authority is responsible for assessing applications for permissions under the GBRMP Act, GBRMP Regulations and Zoning Plan. Where assessment and approval is also required under the EPBC Act, a single integrated assessment for the purposes of both Acts will apply in most cases. Further information on environmental approval requirements applying to actions in the Great Barrier Reef Marine Park is available from http://www.gbrmpa.gov.au/ or by contacting GBRMPA's Environmental Assessment and Management Section on (07) 4750 0700.

The Authority may require a permit application assessment fee to be paid in relation to the assessment of applications for permissions required under the GBRMP Act, even if the permission is made as a referral under the EPBC Act. Further information on this is available from the Authority:

Great Barrier Reef Marine Park Authority

2-68 Flinders Street PO Box 1379
Townsville QLD 4810
AUSTRALIA

Phone: + 61 7 4750 0700
Fax: + 61 7 4772 6093

www.gbrmpa.gov.au

## What information do I need to provide?

**Please complete all parts of this form to assist the Department to process your referral efficiently. If a section of the referral document is not applicable to your proposal, please enter N/A.**

You can complete your referral by entering your information into this Word file.

**Instructions**

Instructions are provided in blue text throughout the form.

**Attachments/supporting information**

The referral form should contain sufficient information to provide an adequate basis for a decision on the likely impacts of the proposed action. You should also provide supporting documentation, such as environmental reports or surveys, as attachments.

Coloured maps, figures or photographs to help explain the proposed action and its location should also be submitted with your referral. Aerial photographs, in particular, can provide a useful perspective and context. Figures should be good quality as they may be scanned and viewed electronically as black and white documents. Maps should be of a scale that clearly shows the location of the proposed action and any environmental aspects of interest.

**Please ensure any attachments are below five megabytes (5mb) as they will be published on the Department's website for public comment. To minimise file size, enclose maps and figures as separate files if necessary. If unsure, contact the Referrals Gateway (email address below) for advice. Attachments larger than five megabytes (5mb) may delay processing of your referral.**

**Note: The Minister may decide not to publish information that the Minister is satisfied is commercial-in-confidence.** If you believe that your referral contains information that is commercial-in-confidence, you must clearly identify such information and the reason for its confidentiality at the time of making the referral. The Minister cannot be satisfied that particular information included in a referral is commercial-in-confidence unless a person demonstrates to the Minister that:

- release of the information would cause competitive detriment to the person; and
- the information is not in the public domain; and
- the information is not required to be disclosed under another law of the Commonwealth, a State or a Territory; and
- the information is not readily discoverable.

## How do I pay for my referral?

From 1 October 2014, the Australian Government commenced cost recovery arrangements for environmental assessments and some strategic assessments under the EPBC Act. If an action is referred on or after 1 October 2014, then cost recovery will apply to both the referral and any assessment activities undertaken. Further information regarding cost recovery can be found on the Department's website at: http://www.environment.gov.au/epbc/publications/cost-recovery-cris

If you are an individual or a small business, you may be exempt from paying the referral fee. See Part 9 of this form for further details.

You may apply for all or part of a fee to be waived. See Part 9 of this form for further details.

**Payment of the referral fee can be made using one of the following methods:**

- **EFT Payments can be made to:**

  BSB: 092-009
  Bank Account No. 115859
  Amount: $7352
  Account Name: Department of the Environment.
  Bank: Reserve Bank of Australia
  Bank Address: 20-22 London Circuit Canberra ACT 2601
  Description: The reference number provided (see note below)

- **Cheque** - Payable to "Department of the Environment". Include the reference number provided (see note below), and if posted, address:

  The Referrals Gateway
  Environment Assessment Branch
  Department of the Environment
  GPO Box 787
  Canberra ACT 2601

- **Credit Card**

  Please contact the Collector of Public Money (CPM) directly (call (02) 6274 2930 or 6274 20260 and provide the reference number (see note below).

**Note**: an invoice will be raised and forwarded to you upon submission of your referral which will include the EPBC reference number for your referral.

## How do I submit a referral?

Referrals may be submitted by mail or email.

**Mail to:**

Referrals Gateway
Environment Assessment Branch
Department of Environment
GPO Box 787
CANBERRA ACT 2601

- If submitting via mail, please also provide electronic copies of documentation (on CD/DVD or by email)..

**Email to: epbc.referrals@environment.gov.au**

- Clearly mark the email as a 'Referral under the EPBC Act'.
- Attach the referral in a suitable electronic document format (e.g. Microsoft Word and, if possible, PDF).
- If submitting via email, please also mail a hardcopy of the referral including copies of any attachments or supporting reports.

## What happens next?

Following receipt of a valid referral (containing all required information) you will be advised of the next steps in the process, and the referral and attachments will be published on the Department's web site for public comment. Any person may give the Minister comments on the referral within 10 business days of publication on the Department's website.

The Department will write to you within 20 business days to advise you of the outcome of your referral and whether or not assessment and approval under the EPBC Act is required. There are a number of possible decisions regarding your referral:

**The proposed action is NOT LIKELY to have a significant impact and does NOT NEED approval**

No further consideration is required under the environmental assessment provisions of the EPBC Act and the action can proceed (subject to any other Commonwealth, state or local government requirements).

**The proposed action is NOT LIKELY to have a significant impact IF undertaken in a particular manner**

The action can proceed if undertaken in a particular manner (subject to any other Commonwealth, state or local government requirements). The particular manner in which you must carry out the action will be identified as part of the final decision. You must report your compliance with the particular manner to the Department.

**The proposed action is LIKELY to have a significant impact and does NEED approval**

If the action is likely to have a significant impact a decision will be made that it is a *controlled action*. The particular matters upon which the action may have a significant impact (such as World Heritage values or threatened species) are known as the *controlling provisions*.

The controlled action is subject to a public assessment process before a final decision can be made about whether to approve it. The assessment approach will usually be decided at the same time as the controlled action decision. (Further information about the levels of assessment and basis for deciding the approach are available on the Department's web site.)

**The proposed action would have UNACCEPTABLE impacts and CANNOT proceed**

The Minister may decide, on the basis of the information in the referral, that a referred action would have clearly unacceptable impacts on a protected matter and cannot proceed.

## For more information

- call the Department of the Environment Community Information Unit on 1800 803 772 or
- visit the web site http://www.environment.gov.au/epbc

All the information you need to make a referral, including documents referenced in this form, can be accessed from the above web site.

# Referral of proposed action

| | |
|---|---|
| **Proposed action title:** | Cockatoo Swamp Environmental Watering Improvement Projects – Yellingbo Nature Conservation Reserve |

# 1 Summary of proposed action

## 1.1 Short description

Cockatoo Swamp (the Swamp) is an ecologically sensitive area located within the Yellingbo Nature Conservation Reserve (the reserve). It supports the only intact, extensive occurrence of Sedge-rich Mountain Swamp Gum (*Eucalyptus camphora*) habitat, which is the last remaining known habitat for various threatened species, such as the Critically Endangered Helmeted Honeyeater and Lowland Leadbeater's Possum, both of which are protected under both Commonwealth and State legislation. Less than 200 ha of the Sedge-rich Mountain Swamp Gum vegetation community remains (DSE 2003).

The Sedge-rich Mountain Swamp Gum vegetation community (listed as threatened under the *Flora and Fauna Guarantee Act 1988*) is dependent on a specific hydrological regime. Historical catchment modification in the 1950s, such as land clearing and construction of levees upstream of the reserve, has resulted in adverse hydrological conditions in the Swamp, which has ultimately led to severe vegetation dieback in sections of the floodplain. The proposed action has been requested by the Helmeted Honeyeater and lowland Leadbeater's Possums recovery programs.

To promote recovery and regeneration of the Sedge-rich Mountain Swamp Gum vegetation community and the broader riparian environment, Melbourne Water (as designated waterway manager for the Port Phillip and Westernport region) is proposing two actions to support the hydrological modification of sections of the upper and lower Cockatoo Swamp within the reserve. These include:

- A trial (which is supported by modelling, research and specialist advice, and numerous stakeholder reference group workshops) aimed at reducing the waterlogging that is causing the degradation of the ecological community. The trial involves temporary measures including: installation of an above-ground pipeline for de-watering the area above the 'choke' (constriction point in the creek channel which has been exacerbated by the build up of increased sediment) and discharging the water back into the creek channel below the choke. The trial will occur over a three to four-year period to study the benefits of the hydrological change on the Sedge-rich Mountain Swamp Gum vegetation community to inform a business case for implementing a permanent solution.

- The permanent removal of targeted sections of existing levee banks to restore a more natural flooding regime to the adjoining floodplain and mobility of sediments onto the floodplain.

## 1.2 Latitude and longitude

| Location point | Latitude degrees | Latitude minutes | Latitude seconds | Longitude degrees | Longitude minutes | Longitude seconds | Longitude dec degree | Latitude dec degree |
|---|---|---|---|---|---|---|---|---|
| 1 | -37 | 50 | 33.6507 | 145 | 29 | 33.9905 | 145.492775 | -37.842681 |
| 2 | -37 | 50 | 33.5600 | 145 | 29 | 33.0352 | 145.492510 | -37.842656 |
| 3 | -37 | 50 | 36.4197 | 145 | 29 | 31.4706 | 145.492075 | -37.843450 |
| 4 | -37 | 50 | 37.5639 | 145 | 29 | 31.6434 | 145.492123 | -37.843768 |
| 5 | -37 | 50 | 41.5947 | 145 | 29 | 32.0531 | 145.492237 | -37.844887 |
| 6 | -37 | 50 | 42.6697 | 145 | 29 | 32.1525 | 145.492265 | -37.845186 |
| 7 | -37 | 50 | 43.9200 | 145 | 29 | 32.5365 | 145.492371 | -37.845533 |
| 8 | -37 | 50 | 45.5791 | 145 | 29 | 33.0194 | 145.492505 | -37.845994 |
| 9 | -37 | 50 | 48.4480 | 145 | 29 | 35.2638 | 145.493129 | -37.846791 |
| 10 | -37 | 50 | 49.0103 | 145 | 29 | 35.8457 | 145.493290 | -37.846947 |
| 11 | -37 | 50 | 52.4766 | 145 | 29 | 38.3876 | 145.493997 | -37.847910 |
| 12 | -37 | 50 | 51.4637 | 145 | 29 | 41.2052 | 145.494779 | -37.847629 |
| 13 | -37 | 51 | 3.0624 | 145 | 30 | 11.2020 | 145.503112 | -37.850851 |
| 14 | -37 | 51 | 2.9950 | 145 | 30 | 12.6432 | 145.503512 | -37.850832 |
| 15 | -37 | 51 | 2.2997 | 145 | 30 | 15.9459 | 145.504429 | -37.850639 |
| 16 | -37 | 51 | 2.6491 | 145 | 30 | 17.4322 | 145.504842 | -37.850736 |
| 17 | -37 | 51 | 3.2462 | 145 | 30 | 20.3114 | 145.505642 | -37.850902 |
| 18 | -37 | 51 | 4.1678 | 145 | 30 | 21.5010 | 145.505972 | -37.851158 |
| 19 | -37 | 51 | 7.5606 | 145 | 30 | 25.2512 | 145.507014 | -37.852100 |
| 20 | -37 | 51 | 8.8483 | 145 | 30 | 26.5834 | 145.507384 | -37.852458 |
| 21 | -37 | 51 | 9.5259 | 145 | 30 | 25.2786 | 145.507022 | -37.852646 |
| 22 | -37 | 51 | 10.6244 | 145 | 30 | 25.8894 | 145.507191 | -37.852951 |
| 23 | -37 | 51 | 12.5939 | 145 | 30 | 27.3596 | 145.507600 | -37.853498 |
| 24 | -37 | 51 | 13.3983 | 145 | 30 | 27.9877 | 145.507774 | -37.853722 |

## 1.3 Locality and property description

The project area is located within the Yellingbo Nature Conservation Reserve.

Locality

The reserve is located in the upper Yarra Valley within the localities of Yellingbo and Macclesfield, approximately 60km to the east of Melbourne CBD. The reserve is generally linear in shape following the riparian corridors of Woori Yallock, Cockatoo and Shepherd Creeks, and extends into a rectangular portion of land to the south which contains Shepherd, Cockatoo and Macclesfield Creeks.

Locally, the landscape is undulating with valleys that flow to the Yarra River. Cockatoo Swamp is naturally constricted (Parks Victoria 2004). Soil types range from sandy clays to deep silty clay loams in riparian areas. The area has been historically cleared for timber and agricultural purposes.

Upstream of the Swamp the watercourses have been channelised, with built up edges, so that the high point of the banks is higher than the surrounding floodplain. In the upper Swamp the channels have been modified and enlarged so that much higher flows are now required to get water out onto the floodplain, the converse of which, results in most normal flows, and the sediments they contain, remaining within the channel until the choke is reached and sedimentation occurs. The levee banks were constructed during the 1950s as part of 'improved drainage' works by adjoining landowners.

Two separate sections of the reserve are affected by each action:

- The de-watering project is located adjacent to the lower Cockatoo Swamp. The site is accessed from an existing access track via Giles Road and the Macclesfield-Woori Yallock Road.

- The targeted removal of sections of existing levees will be undertaken in the northern section of the reserve. The site is accessed via an existing access track off Healesville-Koo Wee Rup Road and Spillers Road.

Property Description

The Yellingbo Nature Conservation Reserve is Crown land reserved for habitat and species protection. It was gazetted in 1965 as a result of community concerns regarding declining numbers of the Helmeted Honeyeater. The public land manager for the reserve is Parks Victoria. With administrative context, the project occurs within the Highland Southern Fall Bioregion, the Yarra Ranges Local Government Area (LGA) and the Port Phillip and Western Port Catchment Management Authority (CMA) area.

Ecological Condition

The condition of the Swamp was recorded from field assessments undertaken in October 2016, December 2016 and January 2017.

**Lower Cockatoo Swamp**

The inlet location featured an inundated area of EVC 937 where the dominant canopy tree was Mountain Swamp Gum, with dieback evident. Water Ribbons (*Cycnogeton procerum*) were also present in the inundated area. EVC 937 persisted outside of the inundated area with dominant canopy species being Mountain Swamp Gum and Mealy Stringybark (*E. cephalocarpa*). The mid-storey was dominated by Swamp Paperbark (*Melaleuca ericifolia*) with Woolly Tea-tea (*Leptspermum lanigerum*) and occasional Wattles (*Acacia* species). Smaller lifeforms were dominated by graminoids, ferns and forbs with climbers, including Tall Sedge (*Carex appressa*) and Wattle Matt-rush (*Lomandra filiformis*), Spreading Rope-rush (*Empodisma minus*) and Austral Bracken (*Pteridum esculentum*) and Common Heath *(Epacris impressa*). EVC 937 was present part-way along the proposed inlet access track, gradually transitioning to a woodier form before becoming most representative of EVC 16 to the west and adjoining the existing access track.

The EVC 16 vegetation within the proposed access track and surrounding the existing track included a mixed eucalypt canopy of Mealy Stringybark, Mountain Swamp Gum, Broad-leaved Peppermint (*E. dives*), and Messmate Stringybark (*E. obliqua*). The mid-storey shrub layer was dominated by Prickly Tea-tree (*Leptospermum continentale*) and Scented Paperbark (*Melaleuca squarrosa*) with Yarra Burgan (*Kunzea leptospermoides*), Golden Pea-bush *(Pultenaea gunnii*) and occasional Blackwood (*Acacia melanoxylon*). The ground layer featured graminoids, ferns and herbs dominated by Spiny-headed Matt-rush (*Gahnia radula*), Austral Bracken, and Small Grass Tree (*Xanthorrhoea minor*), with Common Heath, Tasman Flax-lily (*Dianella tasmanica*), Milkmaids (*Burchardia umbellata*), Common Flat-pea (*Platylobium obtusangulum*) and Common Apple-berry (*Billardiera mutabalis*).

**Upper Cockatoo Swamp**

Native vegetation of the levee area was much more disturbed than that of the pipeline area, reflecting historical disturbance associated with the construction of the levees and the impact of the levees (flow confinement) on adjoining riparian vegetation. Extensive historical clearing was evident with few remaining large old scattered trees, mostly on the channel banks, with either an exotic grass-dominated understorey or a weed-dominated shrub/sedge understorey. Fenced native vegetation regeneration plots and stands of planted Mountain Swamp Gum saplings were also present in the levee area. In-stream vegetation was present within the channelised creek, dominated by Water Ribbons.

Vegetation in the north-western portion of the levee area was generally dominated by the introduced fodder grass Reed Canary Grass (*Phalaris arundinacea*). The south-eastern portion of the levee areas featured a mature Mountain Swamp Gum dominated canopy. The mid-storey and understorey were less disturbed and, while still dominated by exotic vegetation, had a greater diversity of native species. The main species present in the south-east included Blackwood, Silver Wattle (*Acacia dealbata*), and Sweet Bursaria (*Bursaria spinosa*), Austral Bracken, Screw Fern, and Fishbone Water-fern (*Blechnum nudum*), Tall Sedge, Fen Sedge (*C. gaudichaudiana*), Weeping Grass (*Microlaena stipoides*) and Australian Sweet-grass (*Glyceria australis*) with Slender Knotweed and Slender Bitter-cress (*Cardomine tenuifolia*). More detail is provided within the ecological assessment in Attachment B.

1.4 **Size of the development footprint or work area (hectares)**

0.847Ha

1.5 **Street address of the site**

1345 Maccesfield Road, Macclesfield Victoria 3782

1.6 **Lot description**

| Title Details | Address | Land Manager | Infrastructure Component |
|---|---|---|---|
| Allotment 76A3 Parish of Nangana SPI 76A3\PP3255 | 1345 Macclesfield Road, Macclesfield 3782 | Parks Victoria | Temporary and short term de-watering pipeline and pump |
| Allotment 77F Parish of Nangana SPI 77F\PP3255 | 1345 Macclesfield Road, Macclesfield 3782 | Parks Victoria | Temporary and short term Inlet and outlet pipes |
| Allotment 77F Parish of Nangana SPI 77F\PP3255 | 1345 Macclesfield Road, Macclesfield 3782 | Parks Victoria | Permanent Break in levee bank and temporary construction access to the levee. |
| Allotment 77A1 Parish of Nangana SPI 77A1\3255 | 1345 Macclesfield Road, Macclesfield 3782 | Parks Victoria | Temporary Construction Access Track to Levees |

1.7 **Local Government Area and Council contact (if known)**

The project is wholly within the Yarra Ranges Shire. Key contacts are:

Marty White
Executive Officer Biodiversity Conservation
Yarra Ranges Council
(03) 92946289
m.white@yarraranges.vic.gov.au

Katie Douglas
Senior Statutory Planner
Yarra Ranges Council
(03) 9294 6143
k.douglas@yarraranges.vic.gov.au

1.8 **Time frame**

Construction on the de-watering project is proposed to commence in April 2017. There is a short window of opportunity for Melbourne Water to construct the proposed development to avoid the Helmeted Honeyeater breeding season and ensure that the works are undertaken during periods of low flows.

Works will commence on removal of the levee breaks prior to the end of June 2017 during periods of low flows to provide sufficient time for revegetation of earthworks to take hold.

| | | | |
|---|---|---|---|
| 1.9 | **Alternatives to proposed action** | | No |
| | | **X** | Yes, refer to section 2.2 |
| 1.10 | **Alternative time frames, locations or activities** | **X** | No |
| | | | Yes, you must also complete Section 2.3. For each alternative, location, time frame, or activity identified, you must also complete details in Sections 1.2-1.9, 2.4-2.7 and 3 and 5 (where relevant). |
| 1.11 | **Commonwealth, State or Territory assessment** | **X** | No |
| | | | Yes, please also complete section 2.5 |
| 1.12 | **Component of larger action** | **X** | No |
| | | | Yes, please also complete section 2.7 |
| 1.13 | **Related actions/proposals** | **X** | No |
| | | | Yes, provide details: |
| 1.14 | **Australian Government funding** | **X** | No |
| | | | Yes, please also complete section 2.8 |
| 1.15 | **Great Barrier Reef Marine Park** | **X** | No |
| | | | Yes, please also complete section 3.1 (h), 3.2 (e) |

# 2 Detailed description of proposed action

## 2.1 Description of proposed action

Melbourne Water (MW) is the designated waterway authority (floodplain, drainage and waterway health) in the Port Phillip and Westernport region. As the proponent, Melbourne Water is proposing two actions within the Yellingbo Nature Conservation Reserve, Victoria. These actions will support hydrological modification in the upper and lower Cockatoo Swamp by restoring natural wetting and drying regimes and sediment deposition to facilitate recovery and regeneration of native vegetation. The reserve protects a diversity of flora and fauna including the Helmeted Honeyeater (State avifaunal emblem), lowland Leadbeater's Possum (State animal emblem), Green Scentbark, Powerful Owl, Swamp Skink and Growling Grass Frog. The reserve contains the only remaining extent of the Sedge-rich *Eucalyptus camphora* Swamp vegetation community which is listed as threatened under the *Flora and Fauna Guarantee Act 1988*. The proposed actions are described in detail below.

### 2.1.1 Dewatering of the Lower Swamp

The first action involves the temporary trial of a de-watering solution to reduce extended inundation within the lower Swamp and to assist with the recovery and growth of the Sedge-rich *Eucalyptus camphora* vegetation community. The hydraulic modelling undertaken during the functional design recommends that water will need to be pumped at a rate of 20 ML/d to provide the required water level reduction to benefit the Mountain Swamp Gum community. Inlet and outlet locations were also considered in the modelling, taking into consideration the suitability of the locations in relation to known breeding sites for the Helmeted Honeyeater.

Choosing the optimum timing for the dewatering component of the project is influenced by a range of factors including: the seasonal changes to the Helmeted Honeyeater breeding season (normally July to mid-January); prevailing hydrological conditions (i.e avoiding drought and periods of high flows which are usually between May to November); and periods of optimal growth of the *E. camphora* (usually October to April) which is temperature driven. Based on these factors, pumping is likely to occur between January and April (in a typical year) and is unlikely to occur outside the period of October and April each year. However, it is recognised that over the period of the trial (3-4 years), seasonal fluctuations in rainfall and temperature will influence the length of the Helmeted Honeyeater breeding season and the optimum hydrological and vegetation growth conditions. Therefore, Melbourne Water anticipates that each year, the pumping period will need to be refined based on consideration of all these factors and in close consultation with key stakeholders (such as the DELWP Senior Ornithologist, Bruce Quin, and riparian ecologist, Joe Greet).

The temporary de-watering system consists of construction access, an inlet, suction pipeline, diesel engine and pump units, discharge pipeline, an outlet and a monitoring program. Initial construction will involve slashing of native vegetation to provide for four metre wide access to the diesel engine and pump unit site and inlet. A floating suction with a strainer has been chosen to avoid the need for permanent structures within the waterway. An area of silt, with a width of three metres and depth up to the hard bed from the bank to the middle of the channel (approximately 14m), will be removed from the waterway to allow for the suction. Sediment curtains will be used to minimise mobile sedimentation during the excavation works. Previous Acid Sulphate Soil (PASS) investigations around the proposed inlet suggest the presence of Actual Acid Sulphate Soils (AASS) with limited (below or at detection level) concentrations of PASS. Excavated silt will be stored temporarily within the designated works area to drain within a sterile straw-bale structure for 1 – 2 days, or as required, before transportation off-site to an approved facility. A small trench will be constructed to intercept and analyse water draining from the silt.

Two pumps with diesel engines will be used to pump water from the Cockatoo Swamp inlet to the outlet. The required construction footprint for the diesel engine and pump units is 100m$^2$. The engine and fuel tank are contained in one unit, 110% bunded and silenced to 69dB at 1m (equivalent to conversation level) and will only require re-fueling once a month. The fuel tank is located above ground and set back 10 metres from the watercourse. The suction and discharge pipelines will be laid on top of vegetation and within the existing access track (to avoid impacts on native vegetation). Between the track and the outlet, the pipe will be laid on top of the vegetation by hand. Sand bags covered with geotextile fabric (2m$^2$) and secured by star pickets will be placed around the outlet in order to dissipate energy and avoid any bank erosion/ scouring. A robust vegetation condition, surface water and groundwater monitoring program will be undertaken by Melbourne Water and The University of Melbourne.

### 2.1.2 Targeted Removal of Sections of Existing Levees

The second action involves the permanent removal of seven targeted sections of existing levees to restore floodplain connectivity and increase sediment deposition on the floodplain. The purpose is to restore the natural wetting and drying regime within the upper Swamp and to encourage recovery and growth of native vegetation. Specifically, the action involves excavating breaks in the existing levees (with varying widths of 18m to 53m) and repositioning of approximately 475 m$^3$ of levee material alongside the remaining levee sections, on either side of each break. These will be re-shaped and battered and re-vegetated with a mixture of indigenous grasses and plants.

Previous Acid Sulphate Soil investigations around the proposed levee break indicate the presence of Actual Acid Sulphate Soils (AASS) and very limited (below or at the detection level) Potential Acid Sulphate Soils (PASS). Accordingly, the material is suitable for on-site retention. Using information from the July 2014 flood event, a hydraulic model of the Swamp was created to identify flood paths and retention times. The position of these breaks were further refined based on the findings of the ecological survey, to minimise the impact to native vegetation and habitat.

Throughout the development of the detailed design, key stakeholders, ecologists, project engineers, Melbourne Water specialists and the natural resource management delivery team have worked together to design the project components and

identify measures to minimise environmental impacts. More detail is provided within each project specific design report in Attachment C.

### 2.2 Feasible alternatives to taking the proposed action

In 2016, Melbourne Water commissioned an independent technical review of information relating to Cockatoo Swamp. The review made recommendations to help guide conservation works to achieve the best environmental outcomes. This report (Boon, 2016)[1] is provided in Attachment D. This report concluded that a 'do nothing' approach was not a feasible option. A number of alternatives were considered for each action. The selection of the preferred option for each action was identified in consultation with the Stakeholder Reference Group (refer Attachment E). A number of on-site meetings and workshops have been held with the Stakeholder Reference Group in order to develop the functional design for the project. The options are discussed below.

#### 2.2.1 De-watering of Cockatoo Swamp

During the functional design phase of the project, the Stakeholder Reference Group considered three options:

- A trenched pipeline located within the existing vehicle track;
- A combination of trenched and bored pipeline; and
- An above ground pipeline located next to the existing vehicle track.

Due to the high capital investment associated with the permanent options, Melbourne Water and the Stakeholder Reference Group agreed to operate the project on a temporary basis for three to four years, to assess the outcomes before implementing a permanent solution.

Therefore the above ground pipeline was chosen as it:

- Will have the least impact on existing habitat;
- Represents the most cost efficient temporary solution; and
- Allows the outcomes (benefits and impacts) to be assessed to inform a business case for a more permanent solution.

All stakeholders are fully supportive of the project and will be engaged throughout the entire process.

#### 2.2.2 Targeted removal of an existing levee

Two options were considered:

- Full removal of levee; and
- Partial removal of levee.

The 'do nothing' option was not a feasible alternative to achieve the environmental objective for the upper Swamp to restore natural function for flow distribution, flood attenuation, and ecology. Partial removal of the levees was chosen as it:

- Represents the most cost effective solution;
- Is more flexible than full removal;
- Allows for targeting of areas which are easier to access and enables areas of high value vegetation and habitat to be avoided; and
- Reduces the loss and impact on native vegetation.

### 2.3 Alternative locations, time frames or activities that form part of the referred action

N/A

### 2.4 Context, including any relevant planning framework and state/local government requirements

*Aboriginal Heritage Act 2006*
A Cultural Heritage Management Plan (CHMP) has been prepared for both actions and was approved by the Wurundjeri Tribe Land Cultural Heritage Council on 8 March 2017.

*Planning and Environment Act 1987 – Yarra Ranges Planning Scheme*
A separate planning permit application for each action has been lodged with Yarra Ranges Council for the use, development and vegetation removal. The proposed actions will be assessed against the Yarra Ranges Planning Scheme. The documents included to support the planning permit applications include:

[1] Boon, P (2016). Cockatoo Swamp – independent technical review, Alluvium Report P116051_R01V02 to Melbourne Water

- Ecological Assessment Report (including Offset Management Strategy)
- Threatened Species Management Plan
- Separate Risk Assessments and Environmental Management Plans
- Acid Sulphate Soils Management Plan
- Monitoring Program

Yarra Ranges Council are yet to make a determination on these applications. The above supporting documents are attached to this referral.

*Water Act 1989*
Melbourne Water is the designated waterway, drainage and floodplain manager in the Port Phillip and Westernport region; therefore Melbourne Water is exempt from obtaining a permit under this Act for works undertaken in its role as the waterway authority.

*Flora and Fauna Guarantee Act 1988*
A permit to take listed species will be required under this Act. The permit application is currently being processed by DELWP and Parks Victoria.

*Catchment and Land Protection Act* 1994 (CaLP Act)

The CaLP Act defines requirements to:

- Avoid land degradation;
- Conserve soil;
- Protect water resources; and
- Eradicate and prevent the spread and establishment of noxious weed and pest animal species.

The Act defines four categories of noxious weeds: State Prohibited Weeds, Regionally Prohibited Weeds, Regionally Controlled Weeds and Restricted Weeds. Noxious weeds species and the category they are placed in is specific to individual CMA regions. The spread and establishment of noxious weeds and pest animal species is considered a risk of the project to the integrity of populations of threatened species. As such, the effective implementation of a pest weed and pest animal control program is considered a crucial component of managing risks to threatened fauna. Further detail as to the management of pest plant species from construction impacts will be provided within the Environmental Management Plans. Parks Victoria implement a pest animal (deer, fox) control program.

*Wildlife Act 1975*
The Wildlife Act establishes procedures for the protection and conservation of wildlife, the prevention of wildlife becoming extinct, and the sustainable use of and access to wildlife. It prohibits and regulates the conduct of persons engaged in activities concerning wildlife. It is an offence to take, destroy, acquire, capture and handle listed 'protected', 'notable' or 'endangered' wildlife in Victoria without an authorisation under the Wildlife Act. Penalties for offences against listed species are significant and can include fines and / or imprisonment. Any person employed by the project to undertake surveys for or to handle fauna will need to have a permit to do so under the Wildlife Act.

### 2.5 Environmental impact assessments under Commonwealth, State or Territory legislation

*Environment Protection and Biodiversity Conservation Act 1999 (Cmwth)*
The proposed action is being referred to the Commonwealth to determine whether or not it is a controlled action under the *Environment Protection and Biodiversity Conservation Act 1999*.

*Environment Effects Act 1978*
The proposed action will not be required to be referred to the Victorian Minister for Planning to determine whether an Environment Effects Statement (EES) needs to be prepared. However, Melbourne Water has provided the Department of Environment, Land, Water and Planning (DELWP) with a self-assessment to demonstrate that the projects do not warrant referral under the *Environment Effects Act 1978*.

### 2.6 Public consultation (including with Indigenous stakeholders)

Significant stakeholder engagement has been undertaken on this project for several years (since 2012), but more intensively over the past 18 months. This is summarised in the table below. A list of specialist stakeholders is provided in Attachment E.

| **Stakeholder consultation** | |
|---|---|
| **Who and how** | **When** |
| **Specialist stakeholders (see Attachment E)** | |
| Four onsite meetings and six workshops have been held with key stakeholders to develop and refine the project, and to identify the most suitable locations for the works in order to minimise potential impacts on critically endangered species within the reserve.<br>Regular email updates and phone calls have been made. All project documentation has been provided to the Stakeholder Reference Group for their reference and for opportunities to provide feedback. | Over the past 18 months |
| **Indigenous Stakeholders** | |
| Wurundjeri Tribe Land Compensation and Cultural Heritage Council Inc (WTLCCHC).<br>Inception meeting was held at WTLCCHC's Abbottsford office; the project background and assessment methodology was discussed and agreed to. | 14 October 2016 |

| | |
|---|---|
| Consultation was undertaken during the standard assessment with the listed field representatives regarding the minimal amount of ground disturbance that the activity will cause and the ground disturbance that has occurred due to levee construction. Only the pump site location was considered worthy of a topsoil inspection during stripping of the vegetation to prepare the pump site pad. | 4 November 2016 |
| A meeting was held at WTLCCHC offices in Abbottsford to discuss the results of the standard assessment and the draft management recommendations. Further information was requested on the location of the diesel fuel cells in order for WTLCCHC to make a decision on whether complex assessment was required. As no Aboriginal Places were discovered during the assessment and unknown Aboriginal heritage is unlikely to be impacted upon, standard induction and compliance checks were agreed to. Monitoring the topsoil soil disturbance during the pump pad preparation was also agreed too. | 7 November 2016 |
| Documentation and mapping showing the fuel cell location in between the two pumps were provided as well as the written standard assessment section of the CHMP. | 16 November 2016 |
| **Government and agency stakeholders:** | |
| Department of Environment, Land, Water and Planning (DELWP). Phone call with Geoff Ralphs, Principal Advisor, Impact Assessment to discuss the proposed actions. | 13 December 2016 |
| DELWP – Lodgement of Self Assessment under the *Environment Effects Act 1978* | 23 December 2016 |
| DELWP). Follow up telephone discussions with Jack Krohn, Senior Impact Asssessor to provide further detail on the self assessment. | 16 January 2017 |
| Yarra Ranges Council. Pre-lodgement meeting with Katie Douglas, Senior Land Use Planner and Marty White, Executive Officer Biodiversity Conservation to discuss the project proposal and to confirm information requirements for inclusion within the planning permit application. | 4 October 2016 |
| Parks Victoria. Meeting with Garry French (Regional Planning Officer, Land Use & Statutory) and Jack Dinkgreve (Area Chief Ranger, Gembrook) to: provide a general project update; an opportunity to answer questions; to discuss monitoring during the project and reinstatement measures upon completion of the project; and discuss draft agreements for access and minor works | 8 February 2017 |
| DELWP. Email to Jack Krohn with attached letter re: Regeneration of Native Vegetation Within Yellingbo Nature Conservation Reserve (Cockatoo Swamp) - Self-Assessment under *Environment Effects Act 1978* providing supplementary information including the Boon 2016 report. | 13 February 2017 |

## 2.7 A staged development or component of a larger action

Not Applicable

## 2.8 Related actions

Not Applicable

# 3 Description of environment & likely impacts

### 3.1 Matters of national environmental significance

### 3.1 (a) World Heritage Properties

**Description**

There are no World Heritage Properties located within 5 km of the proposal.

**Nature and extent of likely impact**

There are no direct or indirect impacts on any World Heritage values of any World Heritage property.

### 3.1 (b) National Heritage Places

**Description**

There are no National Heritage Places located within 5 km of the proposal.

**Nature and extent of likely impact**

There are no direct or indirect impacts on any National Heritage values of any National Heritage place.

### 3.1 (c) Wetlands of International Importance (declared Ramsar wetlands)

**Description**

There are no wetlands of international importance within 5 km of the proposed action.

**Nature and extent of likely impact**

There are no direct or indirect impacts on any Wetlands of National Importance.

### 3.1 (d) Listed threatened species and ecological communities

The Ecological Assessment Report prepared by Jacobs 2017 (Attachment B) includes a likelihood of occurrence assessment for threatened fauna species to occur at the project site or within the surrounding five kilometres. Suitable habitat for those threatened fauna species identified as having a moderate or high likelihood of occurrence was further considered during the field assessment to identify whether the threatened flora or their suitable habitats, if present, may be potentially impacted by the project.

No threatened ecological communities listed under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) were identified occurring within the project area.

Threatened fauna species assessed as having a moderate or high likelihood of occurrence and potential impact are described in the table below. Threatened species not described in the table below, have been assessed (Jacobs 2017) as being either unlikely to occur in the project area; or to have the potential to occur, but unlikely to be significantly impacted by the project due to prescribed management and mitigation measures, or due to the nature of the project-species interactions. The Ecological Assessment Report (Jacobs 2017) explains the rationale for this outcome.

| **Common Name**<br>***Scientific Name*** | **Preferred Habitat** | **Likelihood of Occurance** | **Potential for Adverse Impact** |
|---|---|---|---|
| Helmeted Honeyeater<br>*Lichenostomus melanops cassidix* | Streamside/swamp woodlands of Mountain Swamp Gum; with scented Paperbark, Woolly and Prickly Tea-tree understorey and sedges | High – known from the area and observed during field assessment | Low – vegetation impacted does not include nesting sites and silent pumps will be used to minimise noise disturbance. The birds would likely disperse naturally during works. The area of potential habitat disturbance is small (0.039ha; less than 1% remaining habitat). Experts (DELWP Senior Ornithologist) support this approach as it will result in overall improvement and extension of suitable habitat. The project works have been scheduled to occur outside the breeding season for the Helmeted Honeyeater (breeding season is usually July through to January). |
| Lowland Leadbeater's Possum<br>*Gymnobelideus leadbeateri* | Mountain Swamp Gum with a dense mid-storey of paperbark and/or tea tree species. Yellingbo NCR is known to support a resident colony that regularly dens in nest boxes. | High – an active nest box occurs along the existing vehicle access track approximately half way along the pipeline. Suitable habitat for this species generally occurs to the north of the pipeline where the midstorey is particularly dense. However, construction and operation activities have the potential to disrupt the species' foraging behaviour during the operational time of January to April each year | Low –pipe laying within the existing vehicle track will not directly affect the active nest box. Potential lowland Leadbeater's Possum habitat near the outlet site will not be substantially disturbed as the pipe will be placed above-ground, not requiring vegetation removal. Sandbag placement at the inlet will be done by hand, requiring minimal disturbance to this habitat.<br>Consultation with Leadbeater's Possum specialist (Dr. Dan Harley) has indicated that the Project will not significantly impact the lowland Leadbeater's Possum. There will be no impacts on the availability of dens (hollow-bearing trees), negligible impact on foraging habitat and very minor impact of movement pathways in a very restricted area, albeit habitat connectivity in the canopy will not be impacted. |

**Nature and extent of likely impact**

The interpretation that there will be no or negligible impact arising from the proposed works on the Helmeted Honeyeater and lowland Leadbeater's Possum populations is based on extensive monitoring data spanning over 20 years for each species and detailed site knowledge provided by species experts.

### 3.1 (e) Listed migratory species

**Description**

The report by Jacobs 2017 (Attachment B) identifies the following migratory species that may occur within the project area.

| **Common Name** ***Scientific Name*** | **Preferred Habitat** | **Likelihood of Occurance** | **Potential for Adverse Impact** |
|---|---|---|---|
| Australian Painted Snipe *Rostratula australis (*listed in Vic as *benghalensis sens lat)* | Shallow terrestrial freshwater wetlands, including temporary and permanent lakes and swamps, inundated grassland, dams, rice crops, sewage farms and bore drains. Habitat typically includes emergent tussocks of grass, sedges, rushes or reeds; often with scattered clumps of Lignum, Canegrass or Paperbark. May utilise areas that are lined with trees or that have some scattered fallen or washed-up timber. Breeding habitat includes shallow wetlands with areas of bare wet mud and both upper and canopy cover nearby. Nest records are nearly all associated with small islands in freshwater wetlands with a combination of very shallow water, exposed mud, dense low cover and sometimes some tall dense cover | Moderate – historic records from 1972 from 1.5 km north of the pipeline. Suitable habitat occurs within Cockatoo Swamp. | Low – species not recently recorded within 5 km of the project area. The project is unlikely to substantially modify habitat for this species within Cockatoo Swamp such that suitable habitat would be lost. The project is not likely to significantly impact this species. |
| Common Sandpiper *Actitis hypoleucos* | Shallow, pebbly, muddy or sandy edges of rivers and streams, coastal to far inland; dams, lakes, sewage ponds; margins of tidal rivers; waterways in mangroves or saltmarsh; mudflats; rocky or sandy beaches; causeways, riverside lawns, drains, street gutters | Moderate – historic record from 1962 within 1.5km downstream of the pipeline. May occasionally farage within Cockatoo Swamp. | Low – species is unlikely to be present within the project impact area. Foraging habitat for this species is unlikely to be diminished as a result of the project. The project is unlikely to incur a significant impact to this species. |
| Eastern Great Egret *Ardea modesta* | Shallows of rivers, estuaries, tidal mudflats, freshwater wetlands; sewage ponds, irrigation areas, larger dams. In Victoria, breeding colonies occur in the Riverina region | High – 16 historic records within 5 km of the study area. | Low – Breeding unlikely to occur in the project area. Foraging habitat will not be adversely impacted by the project and ample habitat for this species occurs within the locality. The project is unlikely to incur a significant impact to this species. |
| Latham's Snipe *Gallinago hardwickii* | Arrive in south-eastern Australia between August and January and depart between February and April.<br>Inhabits permanent and ephemeral freshwater or brackish wetlands up to 2000 m ASL. Wetlands are open with low, dense vegetation (swamps, flooded grass/heathlands, bogs, waterholes, billabongs, lagoons, lakes, creek or river margins, river pools and floodplains, flooded meadows, seasonal or semi-permanent swamps, or open waters). Structure/ composition of wetland vegetation is not important for habitat suitability and may include various vegetation types (tussock grasslands with rushes, reeds and sedges, coastal and alpine heathlands, lignum or tea-tree scrub, button-grass plains, alpine herbfields and open forest). Foraging habitat is characterized by areas of mud (either exposed or shallowly submerged) and some form of cover (low, dense vegetation).<br>Feeds on plant material, worms, spiders, molluscs, isopods and centipedes | Moderate – suitable foraging habitat is available for the species within Cockatoo Swamp. | Low – suitable foraging habitat for this species is not proposed to be diminished by the project. The species is unlikely to be present during much of the duration of project activity. The project is unlikely to incur a significant impact to this species. |
| Satin Flycatcher *Myiagra cyanoleuca* | Eucalypt forest and woodland habitats, particularly tall wet sclerophyll forest, in gullies or along water courses. The birds are arboreal insectivores. On the mainland the birds are high-altitude breeders. However, the Project area is sited within the mapped Core Breeding Range and breeding occurs in summer (from October) before the northerly winter migration to Qld and PNG. No previous records detected within 5 km of the Project area and habitat disturbance will be minimal | Low - no historic records within 5 km of the site. No breeding habitat occurs on site. | Low – species may be an occasional visitor to the site, if at all. Impacts to potential habitat for this species are considered to be negligible. The project is unlikely to incur a significant impact to this species. |

**Nature and extent of likely impact**

The Ecological Assessment Report provided in Attachment B concludes that the project is unlikely to have a significant adverse impact on any migratory species.

**3.1 (f) Commonwealth marine area**
(If the action is in the Commonwealth marine area, please complete 3.2(c) instead. This section is for actions taken outside the Commonwealth marine area that may have impacts on that area.)

**Description**
There are no Commonwealth marine areas impacted within 5 km of the proposal.

**Nature and extent of likely impact**

There are no direct or indirect impacts on any part of the environment in the Commonwealth marine area.

**3.1 (g) Commonwealth land**
(If the action is on Commonwealth land, please complete 3.2(d) instead. This section is for actions taken outside Commonwealth land that may have impacts on that land).

**Description**
The proposed action is not on Commonwealth land.

**Nature and extent of likely impact**

There are no direct or indirect impacts on Commonwealth land.

**3.1 (h) The Great Barrier Reef Marine Park**

**Description**
The proposed action will not have an impact on the Great Barrier Reef Marine Park.

**Nature and extent of likely impact**

There are no direct or indirect impacts on any part of the environment in the Great Barrier Reef Marine Park.

**3.1 (i) A water resource, in relation to coal seam gas development or large coal mining development**

**Description**
The action is not a coal seam gas development or large coal mining development.

**Nature and extent of likely impact**

There are no direct or indirect impacts on a water resource from coal seam gas development or coal mining.

## 3.2 Nuclear actions, actions taken by the Commonwealth (or Commonwealth agency), actions taken in a Commonwealth marine area, actions taken on Commonwealth land, or actions taken in the Great Barrier Reef Marine Park

| | | | |
|---|---|---|---|
| **3.2 (a)** | **Is the proposed action a nuclear action?** | **X** | No |
| | | | Yes (provide details below) |
| | **If yes, nature & extent of likely impact on the whole environment** | | |

| | | | |
|---|---|---|---|
| **3.2 (b)** | **Is the proposed action to be taken by the Commonwealth or a Commonwealth agency?** | **X** | No |
| | | | Yes (provide details below) |
| | **If yes, nature & extent of likely impact on the whole environment** | | |

| | | | |
|---|---|---|---|
| **3.2 (c)** | **Is the proposed action to be taken in a Commonwealth marine area?** | **X** | No |
| | | | Yes (provide details below) |
| | **If yes, nature & extent of likely impact on the whole environment (in addition to 3.1(f))** | | |

| | | | |
|---|---|---|---|
| **3.2 (d)** | **Is the proposed action to be taken on Commonwealth land?** | **X** | No |
| | | | Yes (provide details below) |
| | **If yes, nature & extent of likely impact on the whole environment (in addition to 3.1(g))** | | |

| | | | |
|---|---|---|---|
| **3.2 (e)** | **Is the proposed action to be taken in the Great Barrier Reef Marine Park?** | **X** | No |
| | | | Yes (provide details below) |

**If yes, nature & extent of likely impact on the whole environment (in addition to 3.1(h))**

## 3.3 Description of the project area and affected area for the proposed action

### 3.3 (a) Flora and fauna

Flora and vegetation present in the project area includes EVC 16 Lowland Forest, EVC 937 Swampy Woodland and EVC 83 Swampy Riparian Woodland. The Sedge-rich Mountain Swamp Gum (*Eucalyptus camphora*) is present within these areas and is the only known intact, extensive occurrence. Native vegetation of the pipeline area is of high quality while vegetation in the levee area is relatively more disturbed, reflecting the original construction of the levees.

The Helmeted Honeyeater (Critically Endangered; EPBC Act) forages within the project area and is known to breed in the nearby surrounding bushland. Habitat for the lowland Leadbeater's Possum (Critically Endangered; EPBC Act) is present around the centre of the pipeline length.

### 3.3 (b) Hydrology, including water flows

Historical human modification of the channel and vegetation in the 1950s has altered the hydrology within the swamp. Upstream of the swamp, the watercourses have been channelised, with built up edges, so that the high point of the banks is higher than the surrounding floodplain. In the upper swamp the channels have been modified and enlarged so that much higher flows are now required to get water out onto the floodplain. Levees were constructed through the Swamp along the north side of the main channel causing the area to the north of Cockatoo Creek to be inundated less frequently, and water to be more rapidly diverted to the lower swamp. Additionally, there are levee sections across depressions that act as barriers to overland flow and retain floodwaters.

In the lower swamp near the pipeline area, sediment and other debris has built up at a topographic restriction in local landform in the swamp forming a 'choke'. Water drains very slowly through this choke, leading to increased sedimentation. When high flow events occur they are trapped behind the choke, leading to localised flooding and taking a significant time to recede.

### 3.3 (c) Soil and vegetation characteristics

Native vegetation in the works area includes EVC 16 Lowland Forest, EVC 937 Swampy Woodland and EVC 83 Swampy Riparian Woodland. The vegetation of the pipeline area is of high quality while the vegetation in the levee area is relatively more disturbed, reflecting the original construction of the levees and land clearing. There are significant areas of die-back of the Sedge-rich Mountain Swamp Gum (*Eucalyptus camphora*) in the lower swamp.

Soil types in the proposed works areas range from sandy clays to deep silty clay loams in riparian areas. Acid sulphate soils are also present. The Acid Sulphate Soils Management Plan is provided in Attachment F.

### 3.3 (d) Outstanding natural features

No other outstanding natural features have been identified within the project site or within the immediate area.

### 3.3 (e) Remnant native vegetation

Remnant vegetation within the works area includes vegetation classified within the EVC 16 Lowland Forest, EVC 937 Swampy Woodland and EVC 83 Swampy Riparian Woodland.

### 3.3 (f) Gradient (or depth range if action is to be taken in a marine area)

Not applicable

### 3.3 (g) Current state of the environment

The current state of the environment has been impacted by the historical catchment modification upstream of the Yellingbo NCR including the construction of levees. Channelistation has also occurred upstream. These modifications have altered the hydrology of the area and caused less frequent inundation upstream and increased areas of inundation downstream. These conditions have resulted in excessive sedimentation at a natural constriction (choke) in the waterway, with the related waterlogging impacting the native vegetation and leading to dieback of the Sedge-rich Mountain Swamp Gum (*Eucalyptus camphora*) community and habitat.

Areas of Mountain Swamp Gum dieback in Cockatoo Swamp have been found to be inundated by up to a meter of water and buried in approximately half a meter of fine sediment, even during times of low rainfall, and so may increase in times of greater rainfall. Areas of healthy Mountain Swamp Gum growth features either moist underfoot or shallowly inundated areas but were not smothered by loose sediments.

The native vegetation of the pipeline area is of higher quality while the levee area is relatively more disturbed, reflecting the original construction of the levees. Extensive historical clearing is also evident surrounding the levees with few remaining large old scattered trees, mostly on the channel banks. Exotic grasses or weeds dominate the understory.

### 3.3 (h) Commonwealth Heritage Places or other places recognised as having heritage values

There are no Commonwealth Heritage places or other places recognised as having heritage values in or surrounding the site.

### 3.3 (i) Indigenous heritage values

A standard Cultural Heritage Management Plan (CHMP) along with a desktop assessment was completed for the site.

The desktop assessment indicated that no previously recorded Aboriginal cultural heritage was present in the activity area. No new Aboriginal Places were identified during the survey.

The desktop assessment predictive modelling suggested that scarred trees and artefact scatters associated with terraced landforms would be the most common Aboriginal Place types in the area. No scarred trees were identified during the survey. This was due to a general lack of mature vegetation and also the mature Stringybark species that were present would not be ideal trees for cultural scarring. No landforms with the potential to conceal sub-surface cultural deposits (eg. creek terraces) were identified during the survey.

Considering the floodplain landscape context of the activity area, it is highly unlikely that any Aboriginal cultural material would exist within a sub-surface context. Also considering the minimal amount of ground surface impact that will occur during the activity and its restriction to areas that have already undergone significant ground disturbance (levees), or are associated with land that is likely to have been unsuitable as a camping location, there is an overall low potential for sub-surface Aboriginal cultural material to be harmed by the activity.

### 3.3 (j) Other important or unique values of the environment

No other important or unique values of the environment have been identified within the proposal site or within the local area.

### 3.3 (k) Tenure of the action area (e.g. freehold, leasehold)

The site of the proposed actions are located on crown land. Parks Victoria have provided public land manager consent for the proposed actions.

### 3.3 (l) Existing uses of area of proposed action

The area proposed for action is managed by Parks Victoria as a restricted public access Nature Conservation Reserve. Within the Nature Conservation Reserve, the waterway environment is managed by Melbourne Water.

The primary management objective for the Yellingbo Nature Conservation Reserve is to maintain the high species richness and abundance of stream and wetland bird and fauna populations and to conserve and enhance the only remaining patch (less than 200 hectares) of the Sedge-rich *Eucalyptus camphora* Swamp vegetation community.

### 3.3 (m) Any proposed uses of area of proposed action

#### 3.3.1 De-watering Project

Jacobs has assessed the project against the provisions of the Yarra Ranges Planning Scheme and concludes that planning approval is required for:

- Temporary use of the land for a minor utility installation
- Temporary development (including earthworks) associated with the construction of the inlet and outlet, suction pipeline, pumps and fuel tanks, diversion pipeline and monitoring
- Removal of vegetation pursuant to Clauses 52.17 and 53 of the Yarra Ranges Planning Scheme.

#### 3.3.2 Levee Project

Jacobs has assessed the project against the provisions of the Yarra Ranges Planning Scheme and concludes that planning approval is required for:

- Use of the land for earthworks and vegetation removal *to facilitate a natural system*
- Development (including earthworks) associated with the permanent removal of seven breaks within existing levees
- Removal of vegetation pursuant to clauses 53 and 52.17 of the Yarra Ranges Planning Scheme.

# 4 Environmental outcomes

Melbourne Water recognises the significance of the Yellingbo Nature Conservation Reserve and the importance of its role as designated waterway manager for the Port Phillip and Westernport region. It acknowledges that the project will result in the following outcomes for biodiversity:

- Native vegetation is required to be removed from the Yellingbo Nature Conservation Reserve (Crown land). The extent of removal required has been minimised to the greatest extent practicable. The remaining area of native vegetation (pipeline: 0.049 and levee: 0.798) will be offset in accordance with the Biodiversity Assessment Guideline (DEPI 2013).
- A small area of the Mountain Swamp Gum community is required to be removed for the placement of the pipeline (0.037ha) and the levee breaks (0.798 ha).
- While no significant impact will be incurred to the threatened species assessed by the Ecological Assessment, biodiversity values lost will be offset as per the Biodiversity Assessment Guideline (DEPI 2013).
- Required offsets for the pipeline works include 0.008 General Biodiversity Offset Units with a minimum Strategic Biodiversity Score of 0.134. Required offsets for the levee works include 0.059 General Biodiversity Offset Units with a minimum Strategic Biodiversity Score of 0.137. These offsets will be achieved through the securing of first party credits allocated from Melbourne Water's existing offset cache administered by DELWP.
- In-stream construction works have the potential to mobilise silt within the waterway, compromise bank stability and increase local water temperatures through loss of shading vegetation. These impacts can reduce water quality and affect aquatic habitats and the species they support. Mitigation measures implemented through the Environmental Management Plans (EMPs) will ensure these impacts are minimised, or avoided where possible. The EMPs are provided as Attachment I.
- The pipeline and pumping project component will be temporary and short term and its impacts carefully managed through the implementation of the EMP such that no significant impacts are likely to be incurred to threatened species or their habitats.
- The project has been designed to minimise the impacts on the ecological and landscape values of the Yellingbo NCR.
- Based on hydrological modelling (Jacobs 2016), the project will not result in an adverse impact on the flooding regime of Cockatoo Swamp downstream of the reserve.

The independent technical review (Boon 2016) examined the range of factors which may be causing deterioration in condition and the decrease in extent of the Sedge-rich *Eucalyptus camphora* Swamp community. The report concluded that:

> *The body of evidence available in reports on dieback in the reserve, going back nearly 25 years, suggests strongly that an inappropriate hydrological regime is the major cause of deterioration in plant condition and the loss of extent of the threatened Sedge-rich Eucalyptus camphora Swamp community. The most serious dieback, in terms of both extent and severity, occurs in chronically waterlogged parts of Cockatoo Swamp. The most recent, and most detailed, studies undertaken by Greet (2014, 2015a, 2015b) support this conclusion and suggest that rectifying the inappropriate wetting and drying cycles in the parts of the Cockatoo Swamp subject to chronic inundation is a major part of the solution* (Boon, 2016: p26).

The report also examined the suitability of the proposed conservation works in terms of reversibility, capacity to be extended and their ability to achieve the desired hydrological and ecological outcomes. The report identified that the:

> *Investigations that have been undertaken to date are detailed and exhaustive. Options have been progressively proposed, critiqued and refined as information has become available and knowledge improved* (Boon, P 2016:p35).

The report acknowledges the diverse range of supportive partners and stakeholders at the Yellingbo Nature Conservation Reserve who have been involved in informing the proposed works. The report highlights the need to intermesh the various intervention, revegetation and monitoring activities within the reserve. This work will be on-going through collaborative efforts by Melbourne Water, Parks Victoria, DELWP, Zoos Victoria, Greening Australia, The University of Melbourne, technical experts and various community groups and individuals.

Additionally, a robust monitoring program has been developed to monitor the impacts of the proposed engineering interventions on the reserve. This includes:

- Vegetation condition monitoring program conducted by The University of Melbourne in consultation with Melbourne Water, Parks Victoria, Zoos Victoria, Greening Australia, and community groups (e.g. Friends of the Helmeted Honeyeater and Friends of the Leadbeater's Possum). It will involve ecological surveys to measure any changes (using a range of variables) resulting from the proposed de-watering of the swamp. Details of this program is provided in Attachment G.

- A surfacewater and groundwater monitoring program will be conducted by Melbourne Water. Monitoring shall consist of a combination of water level and groundwater loggers, and photo points. Details of this monitoring program is provided in Attachment G.

The proposed actions will contribute to the on-going protection and conservation of the Yellingbo Nature Conservation Reserve.

# 5 Measures to avoid or reduce impacts

Mitigation and management measures will be employed to ensure the impacts to biodiversity will be minor. The proposed action itself is a conservation measure to rectify significant issues associated with the important vegetation and habitat on site. The main potential impacts considered not to be significant incude minor native vegetation loss, habitat loss, impacts to specific threatened species, fauna movement obstruction of the pipeline, noise disturbance, run-off, erosion and sedimentation from the works, and weeds and pathogens. The mitigation and management measures will be implemented through the required planning permit application assessment process, including the Biodiversity Offset Strategy, and through the project-specific Environmental Management Plans. Risk assessments of the two components of the project were undertaken (Attachment H) and measures to avoid or reduce risk impacts are outlined within the Ecological Assessment (Attachment B) and the project specific Environmental Management Plans (Attachment I).

A summary of key measures include:

- Before works commence, temporary protection fencing will be erected around the permitted areas of native vegetation clearing under the supervision of a suitably qualified ecologist. Fencing will remain in place until works are completed and maps of the approved clearing areas will be available within the EMP.
- All on-site personnel will be inducted by a suitably qualified ecologist to communicate the sensitivities of the native vegetation and habitats it provides. This is to minimise the likelihood of inadvertent disturbance and to communicate stop work procedures if any native vegetation is impacted beyond the fenced area of permitted clearing.
- Parking will be limited to the area permitted for clearing or the existing National Park roadways and the number of vehicles parked on-site will be limited to avoid vegetation compaction and spread of invasive species that may degrade high quality vegetation.
- In areas dominated by sedge understory where potential for slashed vegetation to damage vehicle tyres is negligible, clearing will be through slashing to a minimum height of 100 mm to facilitate natural regeneration during non-operational periods. In areas dominated by woody shrubs that have a high potential to damage vehicle tyres, vegetation removal will occur at the minimum height practicable. This approach will enable the current species assemblage to persist, minimise the potential for weed establishment, and to encourage native regrowth once the pipeline and associated works areas have been completed and all construction materials removed.
- The area of native vegetation loss at the inlet/outlet areas will be further minimised by encouraging it to naturally regenerate between yearly operational periods.
- The flexible pipeline will be placed on top of vegetation above the natural ground surface and will avoid disturbance of established trees and shrubs.
- Temporary disturbance of native vegetation will occur where the pipeline is laid from the existing access track to the outlet point. In this area, where trees occur within the path of the pipeline the pipe will be laid around the trees to avoid impacts.
- Following washdown and prior to site entry, vehicles should be overseen by a vegetation specialist or someone trained in vegetation management to check for residual plant material or soil potentially containing weed propagules.
- Implement best practice hygiene protocols for control of weeds and pathogens, to reduce the risk of the introduction and spread of weeds and pathogens, as specified for Cockatoo Swamp in Parks Victoria Hygiene Protocols for Phytopthera and Other Potential Soil Pathogens (2002) in the first instance, or under the Arrive Clean, Leave Clean guidelines from DoEE.
- Specific and comprehensive weed monitoring will be conducted for particularly invasive species, including Reed Canary Grass, Reed Sweet Grass, Creeping Buttercup, Lesser Spearwort, Cut-grass and Grey Sallow. Subsequent treatment (suitable for sensitive environments; such as hand-pulling) will be implemented in alignment with the Vegetation Condition Monitoring Program for the Cockatoo Swamp (Melbourne Waterway Research Practice Partnership, 2015).
- Weed suppression treatment (as appropriate for sensitive environments) will be implemented in areas of disturbed soils, especially at the levee sites and the pipeline inlet and outlet sites. Liaison with Parks Victoria will confirm the most suitable weed suppression methods for use in this sensitive area.
- A qualified and licensed fauna spotter/catcher will be present at the time of permitted vegetation (habitat) clearing to assess for fauna presence prior to vegetation removal. Fauna detected will be encouraged to disperse of natural accord or transferred to suitable alternative habitat using methods approved under current fauna ethics licensing.
- Potential spills may occur during the works (e.g. from construction vehicles). Although the water pumps will be 110% bunded, refuelling of the pumps will be conducted no closer than 10 m from the permanent water body to further minimise potential spill impacts to this sensitive area. A spill kit will be located close by, as deemed appropriate by the contractor (e.g. emergency evacuation point).
- Fauna crossings will be emplaced at regular intervals (e.g. every 100 m) along the pipeline to ensure small fauna species can cross the pipeline as needed. This may be in the form of a small trench dug below the pipe reinforced with a short section of 100mm PVC pipe (or similar).
- Silt curtains will be used during in-stream substrate removal to minimise the potential mobilised silt impacts to surrounding and downstream aquatic habitats for species including fish and amphibians.
- Standard terrestrial run-off, erosion and sedimentation controls will be emplaced to minimise potential impacts to the aquatic environments. As determined to be appropriate by the contractor during the works, controls may include silt curtains and sand bagging around the waterway to intercept potential contaminants entering the waterway.

- Following construction, revegetation of the disturbed area will be considered to encourage and promote bank stability and minimise erosion.
- A reinstatement plan of disturbed areas should be developed by Parks Victoria and Melbourne Water. At the conclusion of the project, discussion will be held with Parks Victoria to establish whether the natural regeneration occurring is adequate and weed establishment is being avoided or whether supplementary planting is required in the disturbed areas.

More detail is provided within the project specific Environmental Management Plan (Attachment I).

A Threatened Species Management Plan (TSMP) has been prepared to document mitigation and monitoring measures to manage the proposed Cockatoo Swamp environmental watering improvement project works at Cockatoo Swamp such that they do not detrimentally impact the four threatened species identified in this TSMP.

The species include:

1) Helmeted Honeyeater
   *Lichenostomus melanops cassidix*
2) Lowland Leadbeater's Possum
   *Gymnobelideus leadbeateri*
3) Turquoise Parrot
   *Neophema pulchella*
4) Swamp Skink
   *Lissolepis coventryi*

This information will be incorporated and implemented through the project Environmental Management Plans (EMPs). Some of the key recommendations within the TSMP for the Helmeted Honeyeater and the lowland Leadbeater's Possum are:

**Pre-clearing habitat surveys**
A habitat survey is to be completed prior to construction to identify and map specific threatened species breeding resources that may occur (recently established) within or adjacent to the project areas, including active denning and sheltering habitat.

**Identification of release areas for fauna salvaged during construction**
- Hollow-bearing trees are to be identified within the construction corridor and in areas of similar habitat outside of the construction area within close proximity. Suitable areas should comprise a similar vegetation community and availability of logs, ground cover and canopy cover as the site of removal. Release sites should be located within 150 m of the hollow-bearing tree removal site.
- Nest boxes, specifically constructed for Leadbeater's Possum, are to be attached to appropriate trees within the identified release area. It is considered that any existing hollow-bearing trees are likely to be inhabited. Appropriate nest-boxes are commercially available for purchase from a number of companies. Nest-boxes are to be erected within the potential release area at a ratio of one nest-box for each nesting hollow removed. This will ensure that the project has no net-loss of hollows.
- Where nest-boxes are required to be installed, they should be installed prior to the removal of the hollow-bearing trees. Nest boxes must be attached to trees in a secure manner that accounts for the future growth of the tree.
- The location of release sites is to be marked on maps and included within the report that details the outcome of the pre-clearing survey.

**Definition of the construction area**
- The clear identification of the boundary of the construction area is essential for the protection of retained habitat. The extent of the construction area is to be clearly defined on all site maps and communicated to site personnel.
- The extent of the approved construction area will be clearly marked in the field with visible temporary fencing (e.g. bunting), defining the works area. Personal, vehicles and machinery should not leave the approved works area.

**Training and induction**

All personnel working within the study area will undergo training and induction regarding threatened species management procedures as a part of the general site induction prior to commencing work on site. The induction will include:
- A briefing of the location and type of threatened species habitat within the project area.
- Personnel, vehicle and equipment hygiene practices.
- Restrictions for the movement of vehicles and machinery along access tracks, and through the designated entrance and exit points.
- Off-site parking for personal vehicles is to be established.
- Identification of 'no-go' areas and the restriction of activities in and around these areas.
- Briefing as to monitoring and reporting requirements if protective fencing is damaged or potential threatened species identified within the project works area.

**Post-construction activities**

**Site rehabilitation**

- All vehicles, equipment and materials including any temporary fencing are to be removed at the completion of construction.
- Any tree hollows and fallen timber that were required to be removed during construction are to be retained within the landscape. Lopped trees are to be retained as on-ground timber within areas of remnant vegetation in close proximity to the site of removal. It should be ensured that logs are placed at sites where they will ecologically complement the existing remnant vegetation. That is, timber should not be placed on top of high quality understorey, where it may result in the loss of important species.
- Appropriate pest plant and monitoring programs will be implemented in accordance with the Environmental Management Plans to ensure that the construction works do not result in the spread and establishment of these pest plants. Parks Victoria will continue to implement their control program for pest animals across the reserve.

More detail is provided within the Threatened Species Management Plan (Attachment J).

# 6 Conclusion on the likelihood of significant impacts

## 6.1 Do you THINK your proposed action is a controlled action?

| | |
|---|---|
| **X** | No, complete section 6.2 |
| | Yes, complete section 6.3 |

## 6.2 Proposed action IS NOT a controlled action.

Assessments of potential presence and potential impact significance were conducted for each threatened species, which has resulted in the determination that no significant adverse impacts to these species are likely to be incurred by the project, provided that the environmental management measures outlined within the Ecological Assessment, Threatened Species Management Plan and the Environmental Management Plans are implemented. Additionally:

- The potential minor and temporary environmental effects of the project can be adequately assessed through the planning permit process under the *Planning and Environment Act 1987*, and the permit process under the *Flora and Fauna Guarantee Act 1995*. These assessments will ensure the project avoids, minimises and offsets native vegetation removal and adopts appropriate mitigation measures.
- Residual effects and obligations to provide the required offsets can be adequately addressed through the planning permit process under the *Planning and Environment Act 1987*, consistent with the requirements of the *Permitted Clearing of Native Vegetation - Biodiversity Assessment Guidelines (2013).*
- A Cultural Heritage Management Plan has been prepared for the site and potential effects on Aboriginal and cultural heritage are adequately addressed under the *Aboriginal Heritage Act 2006.*
- Potential effects of removal of actual acid sulphate soils (AASS) from the Cockatoo Swamp area are likely to be localised and can be managed through the environmental framework contained within the Acid Sulphate Soils Management Plan and Environmental Management Plans that have been prepared for the project.

## 6.3 Proposed action IS a controlled action

**Matters likely to be significantly impacted**

| | |
|---|---|
| | World Heritage values (sections 12 and 15A) |
| | National Heritage places (sections 15B and 15C) |
| | Wetlands of international importance (sections 16 and 17B) |
| | Listed threatened species and communities (sections 18 and 18A) |
| | Listed migratory species (sections 20 and 20A) |
| | Protection of the environment from nuclear actions (sections 21 and 22A) |
| | Commonwealth marine environment (sections 23 and 24A) |
| | Great Barrier Reef Marine Park (sections 24B and 24C) |
| | A water resource, in relation to coal seam gas development and large coal mining development (sections 24D and 24E) |

| | |
|---|---|
| | Protection of the environment from actions involving Commonwealth land (sections 26 and 27A) |
| | Protection of the environment from Commonwealth actions (section 28) |
| | Commonwealth Heritage places overseas (sections 27B and 27C) |

# 7 Environmental record of the person proposing to take the action

| | | Yes | No |
|---|---|---|---|
| **7.1** | **Does the party taking the action have a satisfactory record of responsible environmental management?**<br>**Provide details**<br><br>Melbourne Water has an established Environmental Stewardship Policy (Melbourne Water Corporation 2013) which is publically available at http://www.melbournewater.com.au/aboutus/whoweare/Legislationandpolicies/Documents/Environmental-stewardship-policy.pdf . Melbourne Water is committed to protecting, conserving and improving natural assets and using natural resources sustainably. Our Environmental Stewardship Policy specifies actions and outcomes to achieve maximum net environmental benefits to society and to promote sustainable resource management and use. Melbourne Water's Environment Policy supports *Our Strategic Direction*, which formalises Melbourne Water's commitment to a sustainable water future and links our programs to relevant Government policy platforms such as *Melbourne 2030* and *Our Environment Our Future* (Melbourne Water Corporation 2016a).<br><br>Melbourne Water's Environmental Management System is based on the International Standard AS/NZS ISO 14001:2004 and makes reference to our 'Integrated Management System Manual'. Melbourne Water's Integrated Management System manual sets out to combine, where possible, the common elements of Quality, Safety, Environment and Public Health, and Product Quality Management Systems (including risk management). It outlines the minimum requirements for Melbourne Water to achieve its vision of "Enhancing Life and Liveability" by, providing safe and high quality products and services to our customers, enhancing the value of our natural and cultural assets, and a commitment to achieve zero harm in the workplace, where the safety of people is paramount and people can count on a healthy safe and supportive work environment.<br><br>The establishment and maintenance of the Environmental Management System underpins Melbourne Water's commitment to continual improvement in environmental performance.<br><br>Melbourne Water provides annual Sustainability Reports detailing its performance, which are published on the corporation's website. Melbourne Water further provides ongoing monitoring and reporting of listed species and water quality to the Department of the Environment and Energy under existing audit requirements (EPBC 2002/688, EPBC 2008/3960, EPBC 2008/4221 and EPBC 2011/5992). | **X** | |
| **7.2** | **Provide details of any proceedings under a Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources against:**<br>**(a) the person proposing to take the action, or**<br>**(b) if a permit has been applied for in relation to the action - the person making the application.** | **X** | |

| | | | |
|---|---|---|---|
| | **If yes, provide details**<br>During 2000/01 Melbourne Water received two Penalty Infringement Notices for litter and odour related to the discharge of effluent to Bass Strait from the Eastern Treatment Plant, Carrum, Victoria.<br><br>During 2005/06 Melbourne Water received two Penalty Infringement Notices for pollution and late notification related to a failure of a sludge supernatant pump at the Eastern Treatment Plant.<br><br>An aluminium sulphate (alum) leak from the Winneke Water Treatment Plant to Sugarloaf Creek at Christmas Hills was identified and contained in November 2005. The cause was a leaking chemical pipeline that went undetected because it was within a wall cavity at the plant. The leak is likely to have occurred for many weeks before being noticed and resulted in a blue colouration to the creek water and a small number of dead fish in Watsons Creek. EPA Victoria Issued a Clean-Up Notice for this incident.<br><br>In 2005/06 fluorosilicic acid (a liquid form of fluoride) from the Cardinia Water Treatment Plant was lost to Cardinia Creek at Beaconsfield. The cause was a leaking chemical pipeline within a part of the plant that was out of service at the time of the incident. The leak occurred intermittently over a period of three weeks before it was identified and stopped. Inspection of the creek revealed no evidence of fish deaths.<br><br>These two offences were heard together in the Magistrates Court on 29 August 2007 with both found proven without a conviction recorded against Melbourne Water. Melbourne Water was required to make contributions to an environmentally relevant community project totalling $150,000 and had to pay for the EPA Victoria's technical reports and its legal costs.<br><br>In 2006/07 Melbourne Water was issued a Pollution Abatement Notice to manage the remediation of the Dandenong Wastewater Treatment Plant. Melbourne Water inherited this plant from a previous organisation. The remediation work has now been completed. | | |
| **7.3** | **If the person taking the action is a corporation, please provide details of the corporation's environmental policy and planning framework and if and how the framework applies to the action.**<br>Yes. Melbourne Water's Environmental Management System covers all activities, sites and persons working for or on behalf of Melbourne Water in respect to its environmental obligations. Melbourne Water implements much of its capital works, mechanical and electrical maintenance requirements in alliance partnerships where members may have their own environment management tools. Melbourne Water's Integrated Management System manual sets out to combine the common elements of ISO 14001 Environmental Management System, ISO 9001 Quality Management System, and AS/NZ 4801 Occupational Health and Safety Management Systems, ISO 31000 Risk Management – Principles and Guidelines and ISO 22000 Food Safety Management System and the HACCP Codex Alimentarius principles. The Integrated Management System comprises certified management systems for safety, environment, quality and product quality, and also additional systems for assets, emergencies, security and risk. Each of these systems contributes towards achieving Melbourne Water's environmental performance improvement, supporting the role of the Environmental Management System (Melbourne Water Corporation 2016b). | **X** | |
| **7.4** | **Has the party taking the action previously referred an action under the EPBC Act, or been responsible for undertaking an action referred under the EPBC Act?** | **X** | |

| Provide name of proposal and EPBC reference number (if known) | | |
|---|---|---|
| 2016/7671 | Colchester Road Retarding Basin upgrade | The proposed action is not a controlled action provided it is undertaken in accordance with conditions. |
| 2015/7619 | Melbourne Water Corporation/Waste Management (sewerage)/8km southwest of Werribee/Victoria/WTP Effluent Discharge Improvement Works (Multiple Outlets), Werribee, Vic | The proposed action is not a controlled action. |
| 2015/7572 | Melbourne Water Corporation/Water Management and Use/100 Bulla Road, Essendon Fields/Victoria/M9 Water Main replacement project, Essendon Fields, Vic | The proposed action is not a controlled action. |
| 2015/7515 | Melbourne Water Corporation/Waste management (sewerage)/Werribee/VIC/Western Treatment Plant Stage 2 Augmentation Project, Werribee, Vic | The proposed action is not a controlled action. |
| 2015/7313 | Melbourne Water Corporation/Waste Management (sewerage)/Lot 1, New Farm Road, Werribee/Victoria/Western Treatment Plant Stage 1 Augmentation, Werribee, Vic | The proposed action is not a controlled action provided it is undertaken in accordance with conditions. |
| 2014/7156 | Melbourne Water Corporation/Water management and use/218 Mt Derrimut Road, Derrimut/VIC/Kayes Drain drainage works, 218 Mt Derrimut Road, Derrimut, Vic | The proposed action is not a controlled action |

# 8 Information sources and attachments

## 8.1 References


- Australian Ecosystems (2012). *Yellingbo Nature Conservation Reserve Vegetation Assessment.* Draft Report. July 2012. Paterson Lakes, VIC 3197
- BirdLife. 2016. Yellow-tufted Honeyeater *Lichenostomus melanops*. Accessed online 03/10/2016 from http://www.birdlife.org.au/bird-profile/yellow-tufted-honeyeater
- Bolton, S. and Shellberg, J. 2001. *Ecological issues in floodplains and riparian corridors*. University of Washington. Accessed online 02/12/2016 from http://wdfw.wa.gov/publications/00058/wdfw00058.pdf
- DELWP, 2017. Biodiversity Impact and Offset Report (ref: JAC_0037) (Levees). Prepared by DELWP and received by Jacobs 2-2-2017
- DELWP 2016. Biodiversity Impact and Offset Report (ref: JAC_0035) (Pipeline). Prepared by DELWP and received by Jacobs 22-12-2016
- DELWP, 2015. FFG-Listed Community Descriptions. Accessed online 10/10/2016 from http://delwp.vic.gov.au/environment-and-wildlife/conserving-threatened-species-and-communities/flora-and-fauna-guarantee-act-1988/scientific-advisory-committee/victorian-threatened-community-descriptions
- DotE. 2017. *Gallinago hardwickii* in Species Profile and Threats Database. Department of the Environment. Camberra. Accessed online 09/01/2017 from http://www.environment.gov.au/cgi-bin/sprat/public/publicspecies.pl?taxon_id=863
- DotE. 2016. Conservation Advice *Lichenostomus melanops cassidix* Helmeted Honeyeater. Department of the Environment. http://www.environment.gov.au/biodiversity/threatened/species/pubs/26011-conservation-advice.pdf
- DotE. 2015. *Gymnobelideus leadbeateri* Leadbeater's Possum Conservation Advice. Department of the Environment. Accessed online 03/10/2016 from http://www.environment.gov.au/biodiversity/threatened/species/pubs/26011-conservation-advice.pdf
- DotE. 2015. Referral guideline for 14 birds listed as mirgratory species under the EPBC Act (draft). Department of the Environment, September 2015. Accessed online 09/01/2017 from http://www.environment.gov.au/biodiversity/threatened/publications/epbc-act-referral-guidelines-migratory-birds
- DotE. 2015. Wildlife Conservation Plan for Migratory Shorebirds. Department of the Environment, August 2015. Accessed online 09/01/2017 from http://www.environment.gov.au/system/files/resources/9995c620-45c9-4574-af8e-a7cfb9571deb/files/widlife-conservation-plan-migratory-shorebirds.pdf
- DSE. 2013. Advisory List of Threatened Vertebrate Fauna in Victoria. Accessed online 10/10/2016 from http://www.depi.vic.gov.au/__data/assets/pdf_file/0019/210439/Advisory-List-of-Threatened-Vertebrate-Fauna_FINAL-2013.pdf
- DSE. 2003. Flora and Fauna Guarantee Action Statement Helmeted Honeyeater. Department of Sustainability and Environment. Accessed online 03/10/2016 from http://www.depi.vic.gov.au/__data/assets/pdf_file/0003/251193/Helmeted_Honeyeater_Lichenostomus_melanops-cassidix.pdf
- DSE. 2003. Flora and Fauna Guarantee Act 1988 Action Statement No. 130 Sedge-rich *Eucalyptus camphora* Swamp. Accessed online 10/10/2016 from http://www.depi.vic.gov.au/__data/assets/pdf_file/0004/249907/Sedge-rich_Eucalyptus_camphora_swamp.pdf
- Jacobs (2017) *Cockatoo Swamp Environmental Watering Improvement Project – Ecological Assessment*
- Melbourne Water Corporation (2013) 'Environmental Stewardship Policy'. Internal document, Melbourne Water, version 1, November 2014, http://www.melbournewater.com.au/aboutus/whoweare/Legislationandpolicies/Documents/Environmental-stewardship-policy.pdf
- Melbourne Water Corporation (2016a) *Our Strategic Direction*. Melbourne Water, Melbourne, http://www.melbournewater.com.au/aboutus/whoweare/ourvision/Pages/Our-vision-and-values.aspx
- Melbourne Water Corporation (2016b) 'Environmental Management System Manual'. Internal document, Melbourne Water, July 2016.
- Natural Heritage Trust 2000. Water notes. Advisory notes for land managers on river and wetland restoration. Accessed online 10/10/2016 from https://www.water.wa.gov.au/__data/assets/pdf_file/0008/3113/11441.pdf
- Parks Victoria, 2004. Yellingbo Nature Conservation Reserve Management Plan. Accessed online 10/10/2016 from http://parkweb.vic.gov.au/__data/assets/pdf_file/0007/313468/Yellingbo-Nature-Conservation-Reserve.pdf

- Zoos Victoria. 2016. News – Helmeted Honeyeaters take flight. Newsletter 11 September 2016. Accessed online 03/10/216 from http://www.zoo.org.au/news/helmeted-honeyeaters-take-flight

## 8.2 Reliability and date of information

## 8.3 Attachments

The following attachments have been included to support the referral under the *Environment Protection and Biodiversity Conservation Act 1999*:

Attachment A – Spatial Data and Figures
Attachment B – Ecological Assessment Report
Attachment C – Project Specific Design Reports
Attachment D – Independent Technical Review Report
Attachment E – Stakeholder Reference Group
Attachment F – Acid Sulphate Soils Management Plan
Attachment G – Monitoring Program
Attachment H – Project Specific Risk Assessments
Attachment I – Project Specific Environmental Management Plans
Attachment J – Threatened Species Management Plan

# 9 Contacts, signatures and declarations

**Proposed action title:** Cockatoo Swamp Environmental Watering Improvement Projects – Yellingbo Nature Conservation Reserve

### 9.1 Person proposing to take action

Name and Title: Edwina Manifold – Waterways and Land Officer

Organisation: Melbourne Water

□

ACN / ABN: 81 945 386 953

Postal address: PO Box 4342 Melbourne VIC 3001

Telephone: T: (03) 9679 6823 | M: 0457 176 127

Email: Edwina.Manifold@melbournewater.com.au

Declaration:
I declare that to the best of my knowledge the information I have given on, or attached to this form is complete, current and correct.
I understand that giving false or misleading information is a serious offence.
I declare that I am not taking the action on behalf of or for the benefit of any other person or entity.

Signature: E. Manifold Date: 16/02/2017

### 9.2 Designated proponent

Name of proposed proponent: Melbourne Water

ACN / ABN : 81 945 386 953

Postal address: PO Box 4342 Melbourne VIC 3001

Telephone: T: (03) 9679 6823 | M: 0457 176 127

Email: Edwina.Manifold@melbournewater.com.au

Declaration by the proposed proponent:

I, Edwina Manifold, the proposed proponent, consent to the proposed designation of myself as the proponent for the purposes of the action described in this referral.

Signature: 

Declaration by the person proposing to take the action:

Date: 16/02/2017

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**9.3 Person preparing the referral information (if different from section 9.1)**

| | |
|---|---|
| Name: | Anna Raftery |
| Title: | Senior Land Use and Environmental Planner |
| Organisation: | Jacobs Group (Australia) Pty Ltd |
| ACN / ABN : | 37 001 024 095 |
| Postal address: | Level 11, 452 Flinders Street, Melbourne, Victoria 3000 |
| Telephone: | +61 3 86683284 |
| Email: | Anna.Raftery@jacobs.com |
| Declaration: | I declare that to the best of my knowledge the information I have given on, or attached to this form is complete, current and correct.<br>I understand that giving false or misleading information is a serious offence. |

Signature: 

Date: 2 March 2017

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