

Southern Seawater Desalination Plant

2007 Flora and Fauna Scoping Document

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BACKGROUND

On 15 May 2007, the Premier announced that the next major water source for the Perth Metropolitan area would be a desalination plant located north of Binningup. The preferred location for the Southern Seawater Desalination Plant (SSDP) is Lots 8, 32 and 33 Taranto Road, north of Binningup. Lots 32 and 33 are owned by the Water Corporation and the site is currently used as a Waste Water Treatment Plant (WWTP). Water Corporation is currently in an advanced negotiating stage for the purchase of the northern section of Lot 8 Taranto Road which is currently partly cleared and used as a quarry. The purchase of Lot 8 will enable Water Corporation to avoid impacting uncleared native vegetation on Lots 32 and 33 Taranto Road, Binningup.

The first phase of flora, vegetation and fauna surveys were completed by 360 Environmental Pty Ltd (360 Environmental) and are documented in the SSDP Flora and Fauna Investigation (360 Environmental, February 2007 and revised October 2007). The first phase of survey did not consider Lot 8 Taranto Road. In order to meet the requirements of the State's Department of Environment and Conservation (DEC) and the Federal Department of Environment and Water Resources (DEW), further detailed studies of the proposed SSDP site are required. In July 2007 the Water Corporation commissioned 360 Environmental to conduct Phase 2 of the flora and fauna investigations for the Taranto Road site, the preferred pipeline route and proposed tank site. The findings of these studies will be incorporated into the environmental impact assessment document required as part of the approvals associated with the SSDP.

This Scoping Document has been prepared by 360 Environmental on behalf of Water Corporation to describe the methodologies and resources for the second phase of flora and fauna surveys. The draft Scoping Document was issued to DEC in September 2007, prior to being finalised. Comments have been tabulated in Attachment 1.0.

This Scoping Document:

- Outlines the studies required to reliably assess the potential impacts of the development of SSDP at the Taranto Road site
- Summarises the key activities that will need to be undertaken
- Describes the methodology to complete the required studies
- Details a suitably qualified team to deliver the biological survey and reporting requirements for the SSDP development.



1 SCOPE OF SURVEY

The results of the survey scoped in this document will be assessed under the State's *Environment Protection Act* 1986 (EP Act), and must address requirements and concerns of the Greater Bunbury Region Scheme (GBRS) (including the EPAs response to GBRS in Bulletin 1108) and BushForever (2000). There is at least one possible item of National Environmental Significance for this proposal – the Western Ringtail Possum, *Pseudocheirus occidentalis* (WRP) which is known to utilize the proposed SSDP site and the surrounding area, and its presence on the site may necessitate the project's referral to DEW for assessment under the *Environment Protection and Biodiversity Conservation Act* 1999 (EPBC Act). The WRP is known to Black cockatoos are known from the broader Swan Coastal Plain region and these must also be considered under the if they are found to utilize the site or associated pipeline for feeding or breeding purposes. The results and final reporting of this biological survey may therefore be assessed under the EPBC Act, either by DEW or DEC under their bilateral agreement with DEW (Commonwealth Government, 2002). Under the EPBC Act, DEW (and/or DEC) has the authority to consider both the *direct* and *indirect* impacts of the proposed SSDP at *impact* and *non-impact* sites. Direct effects include, but are not limited to, potential habitat clearance and fragmentation at the proposed site, as well as the potential loss of habitat trees along the pipeline route. Indirect effects may include habitat disjunction at a regional scale.

The flora and fauna survey areas will consist of:

- The proposed plant site located at Lots 8, 32 and 33 Taranto Road: Some remnant stands of vegetation on the proposed SSDP impact site are of high conservation value, and there is evidence of faunal activity, including evidence that WRP utilize the site (360 Environmental, February 2007). Flora relevés will be installed on the site for each vegetation type. The presence of the plant diseases *Armillaria luteobubalina* and *Phytophthora cinnamomi* as well as the extent of weeds will be determined for the site.
- Nearby, non-impacted sites: In order to properly assess the regional ecological significance of the proposed impact site it will be essential to survey nearby bushland. This will be particularly important for determining the regional significance of the WRP in the impact site. The GBRS also requires the conservation of environmental linkages which can only be assessed by extending the survey beyond the boundaries of the impact area. Access to the adjacent non-impact



site may be restricted by private land-holders and increase the importance of reference sites in Leschenault Peninsula Conservation Park (LPCP).

- Reference sites in LPCP: In order to assess the significance of the faunal assemblage on the impact site it will be necessary to carry out a comparative survey for vertebrates, invertebrates and WRP in Leschenault Peninsula Conservation Park, which has been less exposed to anthropogenic influences in the recent past and thus should contain a more intact faunal assemblage.
- The pipeline corridor: Approximately 30km of pipeline between Binningup and Harvey will be required to link the SSDP to the Integrated Water Supply System at Harvey. It is understood that the pipeline corridor alignment has not yet been finalised.
 - At a minimum, the pipeline will require a Level 1 fauna survey as well as a walk-through to identify hollows that may be used by WRP or birds and thereby act as ecological linkages in the region. Spot surveys for short range endemic (SRE) invertebrates will also be required as some SREs are known to persist in road-side reserves (B. York Main, pers. communication, 16 August 2007).
 - A flora and vegetation survey will be undertaken for the preferred pipeline route. In Spring 2006, the corridor survey width was 30m. In 2007, the width of the survey area for the flora and vegetation investigations is 50m.
 - Where Conservation Category and Resource Enhancement wetlands have been identified, surveys will be undertaken to a corridor width of 150m (50m either side of the 50m corridor).
 - The presence of the plant diseases *Armillaria luteobubalina* and *Phytophthora cinnamomi* as well as the extent of weeds will be mapped along the pipeline route.
- One tank-site: One site of approximately 5 hectares will be required for water storage. This is anticipated to be located in mainly cleared land near Harvey (final location to be confirmed by Water Corporation). This site will be surveyed as a Level 1 vertebrate fauna and flora survey. The flora and vegetation will be determined for the preferred tank site.

It is understood that several landowners have raised concerns in relation to biosecurity matters. Therefore precautionary hygiene procedures will be established for survey work prior to the completion of the detailed procedures that will be developed following the weed, *Armillaria luteobubalina* and *Phytophthora cinnamomi* surveys. These procedures will be applicable to all survey and construction teams.

1.1 Vertebrate Fauna Survey

Vertebrate fauna surveys will be undertaken in accordance with best-practice fauna surveys, meeting the requirements of the Environmental Protection Authority's *Guidance Note for the Assessment of Environmental Factors - Terrestrial Fauna Surveys for Environmental Impact Assessment in Western Australia, No. 56* (June 2004).

Vertebrate surveys will be conducted by experienced zoologists Jan Henry and Maureen Francesconi, with extra assistance as required. The field programme is designed to provide quantitative data covering the range of habitats represented in the proposed SSDP impact area. The key vegetation types have been identified as (360 Environmental, February 2007):

- Tuart woodlands
- Peppermint low woodlands and low open to closed forests
- Banksia woodlands and peppermint/ banksia woodlands
- Open shrublands and sedgeland of the interdunal flats
- The strand and foredune vegetation (quite degraded)
- Other dune shrublands and scrubs.

A selection of tuart, peppermint and Banksia woodland areas within the SSDP site are shown in Plates 1-3 and the position of the different vegetation types is shown in Figure 1. Note that the 'strand and foredune' vegetation type is not represented on Figure 1 due to its very localised presence at the interface between dune vegetation and bare beach sand.

The survey will also include reference sites in equivalent habitat types outside the SSDP site's boundary. These reference sites may be located on adjacent privately held land if land-holder cooperation can be secured. Otherwise, appropriate road-side reserves and sites in LPCP will be used.

A detailed literature review of both published and unpublished data and searches of the vertebrate fauna databases held by the Museum of Western Australia (WAM), DEC and DEW have been conducted during a Level 1 Reconnaissance survey completed previously (360 Environmental, February 2007). The results of this previous work will be updated for the final report which will also include responses to the comments provided by the Environment Protection Authority Services Unit on the previous work.

Investigations of vertebrate fauna will be conducted during mid-November 2007 which will provide a vertebrate fauna inventory of the area at the time of the survey as well as ground-truthing of the information gathered during the desktop study. The field survey will also determine the species diversity and relative abundance of animals through the main habitats that are present.

The study objectives are therefore to:

- Prepare an inventory of the vertebrate fauna recorded in the SSDP site and in the reference sites
- Based on this inventory and on local knowledge, prepare a list of species that could potentially occur in the SSDP site
- Review vertebrate fauna considered to be rare, threatened, vulnerable or geographically restricted, or those that occur on the site as an outlier population
- Assess the status of introduced and feral animals, both predators and herbivores, throughout the site
- Assess the relationships between vertebrate fauna and the vegetation types of the site in order to clearly identify any habitats of significance
- Assess the regional and local conservation status of the site (both at the species and ecosystem levels) and the potential role of the site as a contributor to Ecological Linkage/ s in the area region
- Based on all of the above, assess the potential impact of development of the SSDP on the vertebrate fauna
- Produce a list of management recommendations for Water Corporation's consideration and for incorporating into management plans to mitigate impacts on species and where possible, afford habitat protection.