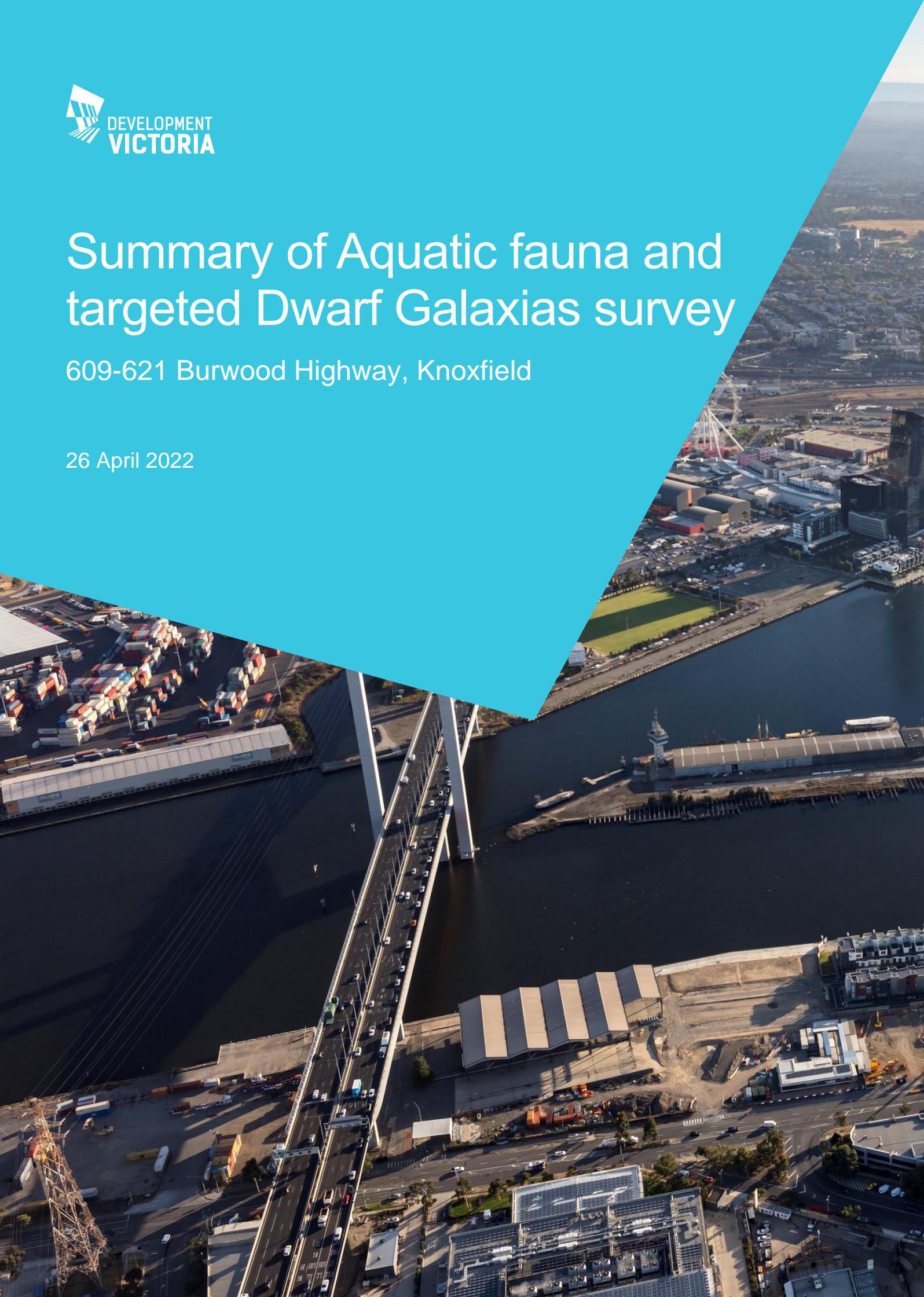


# Summary of Aquatic fauna and targeted Dwarf Galaxias survey

609-621 Burwood Highway, Knoxfield

26 April 2022



# Summary

This document provides a summary of the Aquatic fauna and targeted Dwarf Galaxias <sup>1</sup>survey prepared by Aquatica Environmental on behalf of Development Victoria.

The survey was primarily conducted to survey for the presence of Dwarf Galaxias following an ecological assessment conducted in 2021 that listed Dwarf Galaxias as having a 'low' likelihood of occurrence on the site. It was also agreed that there was an opportunity to broadly survey for a range of aquatic fauna potentially present in the dam to further inform the potential aquatic values assessment and assist with project planning and approvals.

## The objective

- Determine the likelihood of Dwarf Galaxias being present in the dam, and if present, determine the size of the population;
- Determine the range of other aquatic fauna that is present in the dam;
- Explore the potential implications for the project based on the findings of the survey; and
- Provide recommendations for 'next steps' (if required).

## Methodology

- Desktop review including a 5km search buffer to cater for more species in the study area.
- Two, two-day catch and release surveys for aquatic fauna and Dwarf Galaxias in wadeable aquatic habitat at the dam. Active sampling was undertaken during daylight hours, with passive nets and traps set overnight. The surveys were undertaken in accordance with approvals and permits held by Aquatica Environmental.
- Three rounds of eDNA sampling specifically targeting Dwarf Galaxias, to determine the potential presence/absence of the species in the dam and provide a further line of evidence to the physical survey results.

## Results

The evidence shows that Dwarf Galaxias are unlikely present in the dam based on the following:

- There were no historical records of the species in the dam.
- There were no recent records of the species in Blind Creek (i.e. all where >20 years old) and none were from, at or upstream of the dam.
- Habitat in the dam was sub-optimal, missing many of the key aspects required to support a population of the species (e.g. ephemerality, dense and shady overstory vegetation, etc).
- Lack of seasonal connectivity to the Blind Creek (which itself appears unlikely to support a population upstream of the dam).
- Lack of detection of the species during two rounds of intensive netting and trapping (noting Dwarf Galaxias are not a difficult fish to detect when present).

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<sup>1</sup> © Aquatica Environment 2022 – Aquatic fauna and targeted Dwarf Galaxias survey of former DELWP research site irrigation dam, Knoxfield, Victoria

- Lack of detection of the species' DNA in the dam and Blind Creek during two rounds of sampling, including the species being positively detected at a control site (excluding the first likely anomalous round of sampling).

The survey also detected the presence of native Short-finned Eel, freshwater shrimp, a range of other common aquatic invertebrates and introduced Goldfish. Given the size and age of the dam, the potential for historical natural or deliberate stocking/introduction of other species is high. It is known the dam connects to Blind Creek during occasional flooding events. Accordingly, it is possible there is a range of other common aquatic fauna present in the dam that was not detected during the survey.

### Recommendations

When dewatering the existing dam on site, Aquatica Environmental recommend that it will be essential to salvage any trapped fauna in order to comply with the relevant animal ethics requirements, Fisheries Act, Flora and Fauna Act, etc. Based on Aquatica Environmental's previous experience with fauna salvage there are a number of scenarios that will need to be catered for including:

- Relocation of native fauna (i.e. eels, turtles, etc) to suitable habitat on or off the site. This could include any newly constructed on-site water body or off-site to Blind Creek.
- Humane euthanasia of species listed as 'noxious' under Section 75 of the Fisheries Act (e.g. European Carp if present).
- Humane euthanasia of other non-native/pest species that cannot be relocated (e.g. Goldfish).

Development Victoria will now explore the following 'next steps' which were recommended:

- Engage with Dwarf Galaxia species experts to gain input and position on the results of the survey work to date.
- Develop a salvage and translocation plan detailing the process and protocols for salvaging and relocating aquatic fauna that may be encountered during dewatering of the dam.

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