

Mamre Road Data Centre Campus

Dam Decommissioning Plan

AT&L & Associates Pty Ltd

24 June 2026

Final

cumberland
ecology

PART OF  SLR

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The preparation of this report has been in accordance with the brief provided by the Client and has relied upon the data and results collected at or under the times and conditions specified in the report. All findings, conclusions or commendations contained within the report are based only on the aforementioned circumstances. The report has been prepared for use by the Client and no responsibility for its use by other parties is accepted by Cumberland Ecology.

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Glossary

Term/Abbreviation	Definition
ANZECC	Australia and New Zealand Environment and Conservation Council
the 'client'	AT&L & Associates Pty Ltd
CPCP	Cumberland Plain Conservation Plan
DO	Dissolved oxygen
DPI	NSW Department of Primary Industries
DPHI	NSW Department of Planning Housing and Infrastructure
EC	Electrical Conductivity
EHG	NSW Environment and Heritage Group
EPA	NSW Environment Protection Agency
NSW	New South Wales
Project Area	706-752 Mamre Road, Kemps Creek, as well as areas across the shared boundaries to the east and south and portions of Bakers Lane and Mamre Road
the 'project'	Proposed development of the Project Area

1. Introduction

Cumberland Ecology has been commissioned by AT&L & Associates Pty Ltd (the 'client') to prepare a Dam Decommissioning Plan to support a State Significant Development Application (SSDA) for the proposed development of the Mamre Road Data Centre Campus (the 'project'). The Project Area for the project, 706-752 Mamre Road, Kemps Creek (Lot 10 DP 1280592), constitutes the main development site with areas across the shared boundaries to the east and south (described below) and sections of Bakers Lane and Mamre Road utilised to facilitate roadworks and bulk earthworks:

- Gibb Group site to the East known as 1-22 Bakers Lane, Kemps Creek (Lot 40 in DP 708347).
- GPT Group site to the South known as 754 Mamre Road, Kemps Creek (Lot 180 in DP 1290397).

This Dam Decommissioning Plan is applicable to all dams within the Project Area (see **Figure 1**) and has been prepared in response to item 6(a) received from Penrith City Council which is reproduced below.

Penrith City Council – 6(a)

Council could not locate a Dam Dewatering Plan. As stated in comments provided pertaining to an SSD proposed for this site in April 2024, the development will result in decommissioning three large dams. The Dam Decommissioning plan is to include details of how aquatic fauna will be rescued and relocated. The plan will need to identify suitable locations for the fauna to be relocated to. It will be important to note that due to the development in the local area no relocation sites should be located on land that is certified – urban capable due to the high likelihood the aquatic waterbodies in these areas are likely to be impacted by current proposed development or future development.

The Project Area covers approximately 52 ha and is located entirely within the Penrith Local Government Area. It was rezoned mostly IN1 – General Industrial, with a small area bordering Mamre Road zoned SP2 – Infrastructure, under the *State Environmental Planning Policy (Western Sydney Employment Area) 2009* (repealed and replaced with the *State Environmental Planning Policy (Industry and Employment) 2021*). It is also located within the Western Sydney Employment Area and the Western Sydney Aerotropolis, approximately 6 km northeast of the Aerotropolis Core Precinct. The Project Area is predominantly comprised of farming properties and primarily used for livestock grazing, but also includes private roads, dams and creeks. Native vegetation also occurs across the Project Area, and varies in composition from patches of open forest and woodland to exotic dominated grassland. The Project Area also contains 11 farm dams, three (3) large dams, and eight (8) small dams across the Project Area (see **Figure 1**).

This document aims to outline the ecological procedures that will be carried out during and following the decommissioning/dewatering of the 11 dams located within the Project Area as part of the project.

2. Methodology

2.1. Desktop Assessment

A review of existing species records was undertaken to assess the likelihood of threatened aquatic species occurring on the Project Area. Consultation of the NSW Department of Primary Industries (DPI) threatened species distribution maps was undertaken prior to the site inspection.

Aerial imagery of the Project Area and surrounding locality were studied to determine presence of publicly accessible water bodies in close proximity to the site which would be suitable for any potential relocation of aquatic fauna.

Potential sites were investigated based on a combination of their proximity to the Project Area and public accessibility. Aerial imagery was reviewed and potential ephemeral creeks (i.e. creeks that were visibly dry in aerial imagery) were excluded from further consideration. Areas with robust riparian zones that appeared to require access via private properties were also excluded from consideration.

Three sites were selected based on a combination of their proximity to the Project Area and accessibility. The three relocation sites include one site along South Creek, one site along Werrington Creek and one site along the Nepean River to the north of the Project Area (**Figure 2 - 4**). These sites are all permanent creeks/ivers whereby released fauna can emigrate from the release point, thus allowing for dispersal of released fauna and reducing the potential impacts of releasing predatory fish such as Short-finned Eels at the release location.

The coordinates of the release locations are shown below in **Table 1** and their location is shown on **Figures 2 - 4**.

Table 1 Coordinates of fauna release sites

Release Site Number	Release Site Name	Easting	Northing
1	South Creek	293292	6261325
2	Werrington Creek	290701	6263002
3	Nepean River	283384	6261561

2.2. Field Surveys

2.2.1. Water Quality Testing

Water quality testing was conducted on 17 July 2024 at the 11 dams and three proposed release locations to determine the suitability of the sites as a relocation point for aquatic and semi-aquatic fauna species. Water quality analysis was taken *in situ* using a YSI Pro DSS Water Quality Meter. The following parameters were measured:

- Water Temperature (°C);
- Turbidity (NTU);
- Dissolved Oxygen (% saturation);

- Electrical Conductivity ($\mu\text{S}/\text{cm}$); and
- pH.

Visual assessments of the water (presence of slicks, plumes, flecks etc.) were also conducted for the dams and relocation sites.

2.2.2. Flora Survey

An aquatic flora survey was conducted of the 11 dams and three release sites.

A random meander surveys was conducted around the margins of the dams and all marginal and emergent aquatic flora species were recorded. Photographs were also taken to record the condition of vegetation around the dams.

Photographs were also taken to record the ecological conditions at the fauna release locations and dominant vegetation at each release location was noted.

2.2.3. Fauna Survey

An assessment of potential habitat for aquatic and semi-aquatic fauna was conducted at the dams in the Project Area and release locations. Factors assessed included presence of sheltering vegetation, snags and submerged debris.

Opportunistic sightings of aquatic and semi-aquatic fauna were recorded during the water quality surveys, flora surveys and fauna surveys.

3. Results

3.1. Water Quality Testing

Analyses of the in-situ water samples taken determined that water quality within the proposed relocation sites is of equal quality to that present within the dams present within the Project Area. The range in temperature and pH is similar between the dams within the Project Area and the proposed relocation points. Algal blooms were recorded in two of the eleven dams, and two dams had minor slicks; however, no flecks or plumes were observed at any of the dams or release sites. Note that the difference in electrical conductivity (EC) between the dam and the potential relocation sites are most likely attributed to normal fluctuations that occur throughout the day and are still within the ANZECC trigger value ranges.

The measured parameters at the dams and proposed relocation sites were within the ANZECC trigger value ranges for disturbed ecosystems (lowland rivers) except for Dissolved Oxygen (DO) and EC (Dams 1, 7 and 8) (**Table 2**), with the exception of Dam 10, which had all of its measured parameters within the ANZECC trigger value ranges.

Note that no ANZECC Trigger Values are available for temperature as the temperature of dams fluctuate throughout the day due to the heat retention capacity of the water bodies.

The water quality within the proposed relocation sites is considered to be suitable for relocation of native aquatic fauna.

Table 2 Water quality comparisons with ANZECC trigger values

Parameter	ANZECC Trigger Values	Dams											Proposed Relocation Sites		
		Dam 1	Dam 2	Dam 3	Dam 4	Dam 5	Dam 6	Dam 7	Dam 8	Dam 9	Dam 10	Dam 11	South Creek	Werrington Creek	Nepean River
Temperature (°C)	-	11.7	11.0	9.4	10.4	10.4	10.6	10.3	9.6	8.9	11.1	11.0	10.5	11.4	13.0
Dissolved Oxygen (% Saturation)	85-110	82.3	84.1	63.5	73.6	68.4	55.8	78.4	53.4	67.5	100.5	59.5	53.9	62.8	60.4
Electrical Conductivity (µS/cm)	125-2200	122.7	264.2	760.0	161.0	258.0	653.0	103.0	116.6	126.1	145.5	684.0	1202.0	1069.0	185.0
pH	6.5-8.0	7.36	7.15	6.73	7.40	7.30	7.44	6.92	7.53	6.79	7.94	7.38	7.28	7.44	7.9

3.2. Flora and Fauna

A summary of each dam and the flora and fauna species recorded are provided below, while photographs are provided in **Appendix A**.

3.2.1. Dam 1 (Large)

This dam is large in size with a high-water level at the time of survey although the exact depth could not be measured. The water is of low turbidity, with no oil slicks or foam present on the surface. The walls surrounding the southern and western edges of the dam are steep, with the best access points observed on the northern and eastern sides of the dam which has a much gentler slope and solid ground.

Emergent vegetation such as *Juncus usitatus* is present along the banks of the dam, with *Eleocharis* spp. (Spikerushes) present in patches along the southern and western edges of the dam. Exotic grasses are also present along the banks of the dam, including *Ehrharta erecta* (Panic Veldtgrass), and *Cenchrus clandestinus* (Kikuyu Grass), which trail into the water in some instances.

No amphibians were sighted or heard during the survey; however, a number of native wetland birds were observed, including the Purple Swamphen (*Porphyrio porphyrio*), Little Pied Cormorant (*Microcarbo melanoleucos*), and Australian Wood Duck (*Chenonetta jubata*). No aquatic fauna were observed within the dam during surveys; however, native eels and turtles are likely to occur in the dam. The exotic European Carp (*Cyprinus carpio*) may also be present.

3.2.2. Dam 2 (Small)

This dam is small in size with a high-water level at the time of survey although exact depth could not be measured. The water is of low turbidity, with minor oil slicks present on the surface along the southern edge. All but the northern side of the dam is of a gentle slope and have solid ground, with the northern side having a steep wall.

Emergent vegetation such as *Juncus usitatus* is present along the banks of the dam, with patches of *Eleocharis* spp. (Spikerushes) present in the centre of the dam. Exotic grasses are also present along the banks of the dam, including *Ehrharta erecta* (Panic Veldtgrass), and *Cenchrus clandestinus* (Kikuyu Grass), which trail into the water in some instances.

No amphibians were sighted or heard during the survey; however, a number of native wetland birds were observed, including the Eurasian Coot (*Fulica atra*), Australian Wood Duck (*Chenonetta jubata*), and Grey Teal (*Anas gracilis*). No aquatic fauna were observed within the dam during surveys; however, native eels and turtles are likely to occur in the dam. The exotic European Carp (*Cyprinus carpio*) may also be present.

3.2.3. Dam 3 (Small)

This dam is small in size with a high-water level at the time of survey although exact depth could not be measured. The water is of moderate turbidity, with no oil slicks or foam present on the surface. All but the northern side of the dam is of a gentle slope and have solid ground, with the northern side having a steep wall.

Emergent vegetation such as *Juncus usitatus* is present along the banks of the dam, with patches of *Eleocharis* spp. (Spikerushes) present in the centre of the dam and along the eastern edge, and *Typha orientalis* (Broadleaf Cumbungi) also present in the centre of the dam. Exotic grasses are also present along the banks of the dam, including *Ehrharta erecta* (Panic Veldtgrass), and *Cenchrus clandestinus* (Kikuyu Grass), which trail into the water in some instances. Minor occurrences of *Senecio madagascariensis* (Fireweed) also occur.

The Common Eastern Froglet (*Crinia signifera*) was heard calling during the survey; however, no wetland bird species were recorded. No aquatic fauna were observed within the dam during surveys; however, native eels and turtles are likely to occur in the dam. The exotic European Carp (*Cyprinus carpio*) may also be present.

3.2.4. Dam 4 (Small)

This dam is small in size with a high-water level at the time of survey although exact depth could not be measured. The water is of moderate turbidity, with no oil slicks or foam present on the surface; however, a large algal bloom is present in this dam. All sides of the dam are of a gentle slope and have solid ground.

Emergent vegetation such as *Juncus usitatus* is present along the banks of the dam, with patches of *Eleocharis* spp. (Spikerushes) present in the centre of the dam. Exotic grasses are also present along the banks of the dam, including *Ehrharta erecta* (Panic Veldtgrass), and *Cenchrus clandestinus* (Kikuyu Grass), which trail into the water in some instances.

No amphibians or wetland birds were sighted or heard, and no aquatic fauna were observed within the dam during surveys. Based on the presence of an algal bloom, aquatic fauna such as eels and turtles, or the European Carp (*Cyprinus carpio*), are unlikely to be present in the dam.

3.2.5. Dam 5 (Small)

This dam is small in size with a high-water level at the time of survey although exact depth could not be measured. The water is of low turbidity, with no oil slicks or foam present on the surface. All sides of the dam are of a gentle slope and have solid ground.

Emergent vegetation such as *Juncus usitatus* is present along the banks of the dam, with a large patch of *Eleocharis* spp. (Spikerushes) present in the centre of the dam. Exotic grasses are also present along the banks of the dam, including *Ehrharta erecta* (Panic Veldtgrass), and *Cenchrus clandestinus* (Kikuyu Grass), which trail into the water in some instances.

The Common Eastern Froglet (*Crinia signifera*) was heard calling during the survey; however, no wetland bird species were recorded. No aquatic fauna were observed within the dam during surveys; however, native eels and turtles are likely to occur in the dam. The exotic European Carp (*Cyprinus carpio*) may also be present.

3.2.6. Dam 6 (Small)

This dam is small in size with a high-water level at the time of survey although exact depth could not be measured. The water is of low turbidity, with oil slicks present on the surface along the eastern edge of the dam, and a large algal bloom also present. All sides of the dam are of a gentle slope and have solid ground.

Emergent vegetation such as *Juncus usitatus* is present along the banks of the dam, with a large patch of *Typha orientalis* (Broadleaf Cumbungi) present in a circle around the centre of the dam. Exotic grasses are also present along the banks of the dam, including *Ehrharta erecta* (Panic Veldtgrass), and *Cenchrus clandestinus* (Kikuyu Grass), which trail into the water in some instances.

No amphibians or wetland birds were sighted or heard, and no aquatic fauna were observed within the dam during surveys. Based on the presence of an algal bloom, aquatic fauna such as eels and turtles, or the European Carp (*Cyprinus carpio*), are unlikely to be present in the dam.

Additionally, a hollow-bearing tree is located in close proximity to this dam, which is currently occupied by a pair of Red-rumped Parrots (*Psephotus haematonotus*).

3.2.7. Dam 7 (Small)

This dam is small in size with a high-water level at the time of survey although exact depth could not be measured. The water is of high turbidity, with no oil slicks or foam present on the surface. All sides of the dam are of a gentle slope and have solid ground.

Emergent vegetation such as *Juncus usitatus* is present along the banks of the dam, with small patches of *Eleocharis* spp. (Spikerushes) present within the dam. Exotic grasses are also present along the banks of the dam, including *Ehrharta erecta* (Panic Veldtgrass), and *Cenchrus clandestinus* (Kikuyu Grass), which trail into the water in some instances.

The Common Eastern Froglet (*Crinia signifera*) was heard calling during the survey; however, no wetland bird species were recorded. No aquatic fauna were observed within the dam during surveys; however, native eels and turtles are likely to occur in the dam. The exotic European Carp (*Cyprinus carpio*) may also be present.

3.2.8. Dam 8 (Small)

This dam is small in size with a high-water level at the time of survey although exact depth could not be measured. The water is of high turbidity, with no oil slicks or foam present on the surface. All sides of the dam are of a gentle slope and have solid ground.

Emergent vegetation such as *Juncus usitatus* is present along the banks of the dam, with patches of *Eleocharis* spp. (Spikerushes) present within the dam. Exotic grasses are also present along the banks of the dam, including *Ehrharta erecta* (Panic Veldtgrass), and *Cenchrus clandestinus* (Kikuyu Grass), which trail into the water in some instances.

The Common Eastern Froglet (*Crinia signifera*) was heard calling during the survey; however, no wetland bird species were recorded. No aquatic fauna were observed within the dam during surveys; however, native eels and turtles are likely to occur in the dam. The exotic European Carp (*Cyprinus carpio*) may also be present.

3.2.9. Dam 9 (Small)

This dam is small in size with a high-water level at the time of survey although exact depth could not be measured. The water is of high turbidity, with no oil slicks or foam present on the surface. All sides of the dam are of a gentle slope and have solid ground.

Emergent vegetation such as *Juncus usitatus* is present along the banks of the dam, with the exotic *Callitriche stagnalis* (Common Starwort) present within the dam. Exotic grasses are also present along the banks of the dam, including *Ehrharta erecta* (Panic Veldtgrass), and *Cenchrus clandestinus* (Kikuyu Grass), which trail into the water in some instances.

No amphibians or wetland birds were seen or heard calling, and no aquatic fauna were observed within the dam during the survey; however, native eels and turtles are likely to occur in the dam. The exotic European Carp (*Cyprinus carpio*) may also be present.

3.2.10. Dam 10 (Large)

This dam is large in size with a high-water level at the time of survey although the exact depth could not be measured. The water is of very low turbidity, with no oil slicks or foam present on the surface. The walls surrounding the southern and western edges of the dam are steep, with the best access points observed on the northern and eastern sides of the dam which has a much gentler slope and solid ground.

Emergent vegetation such as *Juncus usitatus* is present along the banks of the dam, with *Vallisneria gigantea* (Eelgrass) present on the bed of the deeper sections of the dam, and a small patch of *Eleocharis* spp. (Spikerushes). Exotic grasses are also present along the banks of the dam, including *Ehrharta erecta* (Panic Veldtgrass), and *Cenchrus clandestinus* (Kikuyu Grass), which trail into the water in some instances.

No amphibians were sighted or heard during the survey; however, a number of native wetland birds were observed, including the Eurasian Coot (*Fulica atra*), and Australian Wood Duck (*Chenonetta jubata*). No aquatic fauna were observed within the dam during surveys; however, native eels and turtles are likely to occur in the dam. The exotic European Carp (*Cyprinus carpio*) may also be present.

3.2.11. Dam 11 (Large)

This dam is the largest on the site, with a high-water level at the time of survey although the exact depth could not be measured. The water is of low turbidity, with no oil slicks or foam present on the surface. The walls surrounding the southern and western edges of the dam are steep, with the best access points observed on the northern and eastern sides of the dam which has a much gentler slope and solid ground.

Emergent vegetation such as the native *Juncus usitatus* and exotic *J. acutus* (Sharp Rush) is present along the banks of the dam, with *Marsilea mutica* (Nardoo), *Eleocharis* spp. (Spikerushes), and *Typha orientalis* (Broadleaf Cumbungi) present in patches in the centre and along the edges of the dam. Exotic grasses are also present along the banks of the dam, including *Ehrharta erecta* (Panic Veldtgrass), and *Cenchrus clandestinus* (Kikuyu Grass), which trail into the water in some instances.

No amphibians were sighted or heard during the survey; however, a number of native wetland birds were observed, including the Eurasian Coot (*Fulica atra*), Australasian Grebe (*Tachybaptus novaehollandiae*), Australian Wood Duck (*Chenonetta jubata*), and Little Pied Cormorant (*Microcarbo melanoleucos*). No aquatic fauna were observed within the dam during surveys; however, native eels and turtles are likely to occur in the dam. The exotic European Carp (*Cyprinus carpio*) may also be present.

4. Dam Dewatering Procedures and Protocols

4.1. Licence Requirements

A qualified ecologist will be present on-site during and following the dewatering of the dams in the Project Area to ensure that appropriate actions are taken with regard to care and relocation of fauna residing in the dams. Requisite licences to undertake the work include:

- NSW Animal Ethics Licence;
- NSW Fisheries Licence; and
- NSW Scientific Licence.

The project ecologist will also require a specific translocation license from DPI Fisheries (Section 37 Miscellaneous Permit) to enable relocation of any native fauna species found during the dewatering process.

4.2. Inductions

Site inductions are to be given to all personnel involved with dam decommissioning to ensure they are aware of ecological issues associated with the dams, as well as the correct procedure to discharge water from the dams. These inductions are to be provided prior to the commencement of dam decommissioning works.

4.3. Reducing the Water Level

The discharge of water is to be undertaken in accordance with the procedures identified by the engineers/hydrologist, and must be implemented by the clearing contractor in consultation with an environmental scientist.

This will involve pumping water directly from each dam and into drainage systems or irrigated across soils within the Project Area. The rate of discharge into drainage systems should be controlled to prevent runoff and sedimentation. Similarly discharge via irrigation should be controlled such that irrigated water is infiltrated into the soil and surface runoff is not generated from the irrigation area leading to offsite water releases. If the soil becomes saturated and generates surface runoff, pumping should be adjusted to slow runoff.

The discharge area must be limited to the boundaries of the Project Area, with the rate of discharge controlled, and sufficient buffers and surface water runoff controls established to prevent the offsite migration of irrigated water runoff.

The discharge of water will only commence if less than 10mm of rain has fallen within the local area in the preceding week, and where there is less than 10mm of rain predicted to fall within the local area in the seven days following the discharge of water.

When pumping water from dams, the pump inlet must be attached to a float to prevent disturbance of the silt base of the dam. The pump inlet must be fitted with a 4 mm mesh filter suitable to prevent small fauna from entering the pump inlet. The water level should be monitored daily until the dam is reduced to a depth of approximately 1 m whereby fauna capture is feasible.

To prevent the dams from refilling following rain, the dam walls should be deconstructed using an excavator following completion of the dewatering process. Should the dam fill during subsequent rainfall events, it will need to be dewatered again using the methods described in this document.

4.4. Dam Decommissioning Procedures

Approximately 48 hours prior to the commencement of dewatering activities, the ecologist is to notify DPI - Fisheries that the dams are to be dewatered and provide the locations of the dams and the proposed relocation sites.

Prior to the commencement of dewatering, the ecologist will also examine the mesh and other mitigation measures around the intake pipes utilised for the draining of the dams, to determine that they are suitable to prevent uptake of vertebrate fauna and minimise fauna injury.

It is estimated that an ecologist will be required on-site to rescue fauna once the dam water is lowered to a depth of approximately 1 m. Depending on the timeframe required to reach this depth, the ecologist will make periodic inspections of the intake pipe mesh to determine that conditions are still suitable to prevent uptake of eggs and juveniles of pest species and prevent injury to native fauna.

Once each dam is dewatered to a suitable depth, the ecologist will capture and relocate native species to the specified relocation point. Such species will include non-threatened frogs, turtles and native fish.

It is recommended that fauna, in particular native fish and eels, are relocated immediately after capture. All dewatering works must cease until the ecologist returns to the Project Area. Any captured pest species are to be humanely euthanised in a manner consistent with the *Prevention of Cruelty to Animals Act 1979*.

There is potential for deep silty sediments at the bottom of the dam to pose a serious safety hazard to personnel attempting to retrieve fauna buried in the sediments. In the event of this safety hazard, it is recommended that an excavator be used to carefully scoop up sediments present at the bottom of the dam and the excavated sediments be sorted to retrieve any fauna present.

During the dewatering process, the ecologist is to record:

- Number of each species of native fauna removed from the dam;
- Relocation points of recorded native fauna; and
- Number and species of pests/sickly natives euthanised.

4.5. Timing for Dewatering

Although there is currently no seasonal restriction for the timing of dewatering, it is recommended that the following environmental conditions are avoided during dewatering of the dam:

- Daytime temperatures above 35°C whereby the capture location may overheat; or
- During rainfall events of more than 20 mm in a 24-hour period; or

- The three days prior to a predicted rain event, or more than 50 mm of rain within a 72-hour period.

4.6. Fauna Handling and Relocation Protocols

Ecologists are responsible for capturing vertebrate fauna during the dam-dewatering process, as this maximises the number of vertebrate fauna able to be rescued and enables injured animals to be euthanised quickly and efficiently if required.

Animals caught are to be placed in appropriate plastic containers or buckets whether alive, dead or euthanised. A judgement is required on injured animals as to whether they are suitable for release, transport to a vet or should be euthanised. This decision is based on the welfare of the animal and whether it is likely to survive when it is released.

It is recommended that any fauna deemed likely to survive transportation to a vet with minimal pain are taken to either of the following clinics:

- St Clair Animal Hospital, 1 Oliver Cres, St Clair NSW 2759 (~7.6 km – 10 min drive). Telephone: (02) 9670 4955. Hours: Mon – Friday 9am – 7pm, Saturday 9am – 3pm, Sunday 10am – 12pm.
- Orchard Hills Veterinary Hospital, 49-63 Wentworth Rd, Orchard Hills NSW 2748 (~12 km – 14 min drive). Telephone: (02) 4736 2027. Hours: Mon – Friday 9am – 7pm, Saturday 9am – 3pm, Sunday 10am – 12pm.
- Abbotsbury Veterinary Clinic, Shop 5/60-68 Stockdale Cres, Abbotsbury NSW 2176 (~14km – 16 min drive). Telephone: (02) 8786 0400. Hours: Mon – Friday 9am – 7pm, Saturday 9am – 4pm, Sunday closed.

The veterinary clinics should be notified prior to the dam decommissioning to ensure they are willing to treat injured animals. Alternatively, WIRES may be utilised for native fauna.

The protocols for fauna handling and translocation are to be explained to all persons working on the dewatering activities. The protocols identify the procedures that should be undertaken if fauna are detected during dewatering. If any fauna are detected, works should cease to enable the ecologist to capture fauna safely and humanely for appropriate relocation (native fauna) or euthanasia (introduced/pest species and sickly natives). Fauna are not to be handled or removed in the absence of the ecologist.

4.6.1. Amphibians

Amphibians found in the dam are to be handled and frog hygiene protocols should be followed as outlined in the Hygiene Protocols for the Control of Disease in Frogs (NPWS 2008) in order to prevent the spread of frog Chytrid Fungus. Disposable rubber/latex gloves should be used, and frogs should not be handled with bare hands.

Captured Individuals should be placed in a plastic container with air holes, some damp soil and leaf litter. Same species are to be placed together, smaller individuals no more than three per container, large species only one animal per container.

4.6.2. Turtles

Scoop nets are to be utilised to capture large vertebrate fauna such as turtles, and captured individuals are to be transferred into plastic buckets containing water from the dam for relocation. Turtle shells will be wiped down with a sponge to remove any Carp eggs that may be attached.

Any injured turtles will be taken to a local veterinary service for treatment or referred to WIRES.

4.6.3. Eels and Native Fish

All eels and native fish present will be scooped out of the dams using dip nets and landing nets. All eels and native fish will be transferred to a vehicle-based holding tank for transportation to the release site.

Any injured eels/native fish or sickly individuals will be euthanized using the same lethal overdose of anaesthetic procedure as outlined for below.

4.6.4. Introduced Fish

All introduced fish are to be euthanised and transported appropriately. All Carp and large fish will be euthanized using an anaesthetic (such as Aqui-S) as recommended by DPI – Fisheries (DPI 2014). Small fish such as Mosquito Fish (*Gambusia holbrooki*) will be euthanized using ice slurry with a 1:1 mix of crushed ice and water. All introduced fish carcasses will be disposed of appropriately as directed by NSW Environment Protection Agency (EPA) and DPI – Fisheries.

4.6.5. Transport Protocols

All fauna will be relocated to release sites in large plastic tanks by vehicle. Fish (and eels) will be transported in a container filled with water from the capture location. Prior to release, water from the release location should be mixed slowly with the tank water to allow fish to acclimatise to the new water quality. Frogs and turtles will be transported in a shaded bucket with a small amount of water present to prevent overheating. All transported water will be aerated using either battery operated aerators, or via compressed air through a regulator.

All sampling gear will be free of weeds and washed down before and after the dewatering process to prevent the spread of carp eggs and other pest species.

4.7. Emergency Stop Works Procedures

In the event of any threatened species being detected during pre-clearing surveys or dewatering works, the following procedures will apply:

- All dewatering works, including removal of vegetation and/or lowering of dam water will cease immediately;
- Further searches are to be conducted by the attending ecologists to determine number of threatened individuals present;
- Council, the DPE, and the Environment and Heritage Group (EHG) are to be notified of the finding and measures put in place for appropriate translocation of the threatened individuals; and

- If required, a Licence to Harm Threatened Species application is to be made to relocate any threatened species found during dewatering works. Dewatering works are not to recommence until all threatened individuals are captured and relocated.

4.8. Post Dewatering

After dewatering, an escape ramp should be graded to allow trapped fauna to escape overnight. Dam sediment will be inspected for fauna by the ecologist on site to capture any fauna that may be buried in the sediments at the bottom. The dam will be left for at least 72 hours undisturbed, to allow hidden fauna to emerge and ensure fauna have an opportunity to relocate, prior to further site works.

4.9. Reporting

A report will be submitted to the client detailing the events that occurred during the dewatering and subsequent processes. The report, as a minimum, will include:

- The location of the dam decommissioned;
- The quantum and species of native fauna relocated;
- The quantum and species of euthanized fauna;
- The quantum and species of injured native fauna taken to veterinary services;
- The date of dewatering and environmental conditions; and
- Persons involved in dewatering.

5. References

DPI. 2014. Carp (*Cyprinus carpio*). Department of Primary Industries (Fishing and Aquaculture).

NPWS. 2008. Hygiene Protocols for the Control of Disease in Frogs. National Parks and Wildlife Service

APPENDIX A :

Photographs

Photograph 1 Dam 1 (large) within the Project Area



Photograph 2 Dam 2 (small) within the Project Area



Photograph 3 Dam 3 (small) within the Project Area



Photograph 4 Dam 4 (small) within the Project Area



Photograph 5 Dam 5 (small) within the Project Area



Photograph 6 Dam 6 (small) within the Project Area



Photograph 7 Dam 7 (small) within the Project Area



Photograph 8 Dam 8 (small) within the Project Area



Photograph 9 Dam 9 (small) within the Project Area



Photograph 10 Dam 10 (large) within the Project Area



Photograph 11 Dam 11 (large) within the Project Area



Photograph 12 Proposed fauna relocation site 1 - South Creek



Photograph 13 Proposed fauna relocation site 2 - Werrington Creek



Photograph 14 Proposed fauna relocation site 3 - Nepean River



FIGURES



Legend

- Project Area
- Dams

Image Source: Nearmap © (2024) Dated: 29/5/2024
Data Source: Sixmaps Clip & Ship, DCS Spatial Services
NSW Department of Customer Services



Spatial Reference: GDA 1994 MGA Zone 56

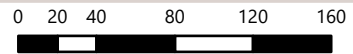


Figure 1. Dam locations and numbering



Figure 2. Proposed fauna relocation site 1 – South Creek

Legend

Proposed Fauna Relocation

Site 1

Image Source: Nearmap © (2024) Dated: 29/5/2024
Data Source: Sixmaps Clip & Ship, DCS Spatial Services
NSW Department of Customer Services

cumberland
ecology

Spatial Reference: GDA 1994 MGA Zone 56

0 20 40 80 120 160 m



Figure 3. Proposed fauna relocation site 2 – Werrington Creek



Legend
Proposed Fauna Relocation
Site 3

Image Source: Nearmap © (2024) Dated: 11/7/2024
Data Source: Sixmaps Clip & Ship, DCS Spatial Services
NSW Department of Customer Services



Spatial Reference: GDA 1994 MGA Zone 56

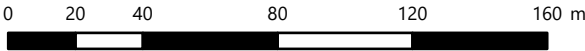


Figure 4. Proposed fauna relocation site 3 – Nepean River