

AQUATIC BIOTA SAMPLING

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| Equipment | <ul style="list-style-type: none"> • eskies • snap lock bags • PFAS water sample bottles • PFAS sediment jars • PFAS free DI water • new buckets for equipment storage and decontamination • new scrubbing brush • prepared transport blanks • notebook • camera • GPS • Permanent marker pens • Digital scales • Tape measure / ruler • Electrofishing pack • Gill nets • Boats (supplied by DPI Fisheries) |
| Mobilisation and preparation | <p>Printed copies of SAQP and SWMSs Checked forecast weather conditions Project manager and director notified of planned schedule Confirmed conditions on the day and ran through safety review with crew.</p> |
| Sampling dates | <p>Aquatic biota sampling was conducted on: 30 March – 2 April 2017 November 2017. December 2017 9 – 16 March 2018 23 March 2018</p> |
| Permit Details | <p>Permit No. S17/3409 Permit holder: Ian Dixon of Eco Logical Australia Pty Ltd (ELA) Valid Dates: 30 March 2017 to 30 March 2022</p> |
| Sample Collection | <p>Completed following scope at each sampling location</p> <p>Noted river condition, vegetation, bed type. Collected photos</p> <p>Described aquatic animals observed (including water birds)</p> <p>GPS readings taken at each sample collection site</p> <p>Fish, crustaceans and molluscs were collected to reflect the aquatic food web, and as such many species and sizes were caught that are not necessarily directly relevant to human consumption. The full sample register provided in Appendix B Table 6, documents species, location and size of each sample.</p> <p>An electrofishing pack was used to optimise sampling in freshwater reaches. This was completed by a certified operator, using methods that comply with the guidelines set out by the Australian Code of Electrofishing Practice and the ethics approval. Stunning used the minimum power necessary to attract and stun the fish effectively. Sampling was halted if any non-target animals or reptiles came within 15 m of fishing. Electrofishing occurred for 5 – 10 minutes per pool, or until adequate samples had been collected. All non- target species were released from electrical current immediately.</p> <p>Surface water samples were collected in duplicate from a location representative of fish sampling.</p> |

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| | <p>A sediment sample was also collected from each location.</p> <p>Selected fish were euthanised humanly according to our animals ethics permit conditions. Captured target fish were euthanised via a combination of ice slurry, Aqui-S solution anaesthesia, clubbing, pithing and/or cervical dislocation.</p> |
| <p>Sample preparation</p> | <p>Equipment was rinsed with laboratory supplied PFAS free DI water.</p> <p>Samples were stored in large PE bags or snaplock bags and packed in ice until preparation.</p> <p>Specimens were weighed, measured and the species and location caught was recorded.</p> <p>For edible target fish of sufficient size, the following sample preparation was conducted:</p> <ul style="list-style-type: none"> • New opened bag used as cutting board cover • Knife/blade was cleaned with DI water or new disposable scalpel blade was used • Fillets and liver were separated into separate samples • Packaged and labelled separately as 3 samples • Where reusable equipment was used, a rinsate sample was collected after cleaning reusable equipment (run DI water over equipment and collect in PFAS sample bottle) <p>Other samples (small fish, crustaceans, molluscs) were kept whole.</p> <p>All samples were double bagged and frozen.</p> |
| <p>Analytical laboratories</p> | <p>Primary samples were sent to Eurofins. Inter-laboratory duplicate samples were sent to NMI.</p> |
| <p>Sample IDs</p> | <p>Fish, crustacean and mollusc sample nomenclature - 1302_FHxxx_yymmdd</p> <p>Sample ID was written clearly on sample bag, bottle or jar, and on a paper note between double bags.</p> <p>Sample ID and key descriptors were recorded on COC</p> |
| <p>Quality Control</p> | <p>Where fish were large enough, left and right fillets were used as duplicate samples for quality control analysis. Alternatively, samples of similar description were used for general comparison (i.e. similar sized fish of same species caught at same location).</p> <p>Duplicate samples were collected of surface water and sediment from at least one location.</p> <p>Nomenclature - 1302_QCFHxxx_yymmdd (for rinsate/s and trip blank)</p> <p>QC log described quality control samples and batch of DI water used.</p> |
| <p>Sample Transport</p> | <p>Frozen samples were packed in eskies with additional frozen water bottles and sealed, prior to overnight dispatch to Eurofins Brisbane.</p> |

VEGETATION SAMPLING

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| Equipment | <ul style="list-style-type: none"> • eskies • snap lock bags • PFAS water sample bottles • PFAS sediment jars • PFAS free DI water • frozen drinking water bottles • nitrile gloves • secateurs • knife • prepared transport blanks • notebook • camera • Permanent marker pens • Tape measure |
| Mobilisation and preparation | <p>Printed copy of SAQP and SWMSs Project manager and director were notified of planned schedule</p> |
| Sampling dates | <p>Terrestrial biota sampling was carried out in November and December 2018.</p> <ul style="list-style-type: none"> • Community gardens • Native vegetation |
| Vegetation Sample Collection | <p>GPS readings or site address were recorded at each sample collection site.</p> <p>For vegetation sampling, a knife or secateurs was used to collect the sample, if required. Where applicable, excess soil was removed from the sample. All fruit and vegetable samples were double bagged. Gloves were changed between samples and equipment rinsed with DI water.</p> <p>Site notes described the following:</p> <ul style="list-style-type: none"> • Type of fruit, vegetable, plant. • Whether the sample is whole, partial or composite • Sample condition • Sample size <p>A photograph of the labelled sample was taken prior to dispatch.</p> <p>Reusable sampling equipment (e.g. knife or secateurs) was decontaminated between sample locations by rinsing in laboratory supplied PFAS free DI water and using a scrubbing brush.</p> |
| Sample preparation | <p>The following instructions were provided to the laboratory regarding the preparation and analysis of terrestrial biota samples:</p> <p>Ensure all equipment, gloves and other materials used in the preparation and analysis are PFAS free.</p> <p>Describe and weigh each sample prior to analysis.</p> <p>Specific preparation instructions for the different types of vegetation analysed are provided in the analytical results tables in Appendix B, Table 5.</p> <p>Samples were homogenised by the laboratory and a 5 g specimen taken for extraction and analysis.</p> |
| Analytical laboratories | <p>Primary samples were sent to Eurofins. Inter-laboratory duplicate samples were sent to NMI.</p> |

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| Sample IDs | Fruit, vegetable and plant sample nomenclature - 1302_VGxxx_yymmdd Sample ID was written clearly on sample bag, bottle or jar. Sample ID and key descriptors were documented on COC |
| Quality Control | Separate fruits or vegetative parts from the same plant/source were used to provide quasi duplicate samples. Nomenclature - 1302_QCVGxxx_yymmdd (for rinsate/s and trip blank) A QC log was maintained that described quality control samples, duplicate samples and batch of DI water used. |
| Sample Transport | Samples were packed in eskies with additional frozen water bottles and sealed, prior to overnight dispatch to Eurofins Brisbane. |

VERTEBRATE SAMPLING

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| Equipment | <ul style="list-style-type: none"> • eskies • snap lock bags • PFAS water sample bottles • PFAS sediment jars • PFAS free DI water • frozen drinking water bottles • nitrile gloves • secateurs • knife • prepared transport blanks • notebook • camera • Permanent marker pens • Tape measure |
| Mobilisation and preparation | <p>Printed copy of SAQP and SWMSs Project manager and director were notified of planned schedule</p> |
| Sampling dates | <p>Terrestrial biota sampling was carried out in March and April 2018 .</p> <ul style="list-style-type: none"> • Terrestrial surveys • Hunter donations • Injured wildlife • Indigenous donations |
| Permit Details | <p>Permit No. S17/3409 Permit holder: Ian Dixon of Eco Logical Australia Pty Ltd (ELA) Valid Dates: 30 March 2017 to 30 March 2022</p> <p>Ethics approval dated 22 February 2018</p> |
| Vertebrate Sample Collection | <p>GPS readings or site address were recorded at each sample collection site.</p> <p>Animals were caught through a variety of methods including:</p> <ul style="list-style-type: none"> • Pit fall traps • Baited traps • Donations from indigenous communities of animals caught for food • Carcass or serum samples from injured wildlife <p>Site notes described the following:</p> <ul style="list-style-type: none"> • Type of animal. • Whether the sample is whole, partial or composite • Animal size • Sample type (whole, portion, organs, flesh, etc) <p>A photograph of the labelled sample was taken prior to dispatch.</p> <p>Where serum was collected, blood samples were collected in new PE or PP vials (no glass or Teflon) and subsequently separated to obtain 5 ml of serum. Samples were kept chilled and transferred to the NATA certified analysing laboratory.</p> <p>Reusable sampling equipment (e.g. knife or secateurs) was decontaminated between sample locations by rinsing in laboratory supplied PFAS free DI water and using a scrubbing brush.</p> |

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| <p>Sample preparation</p> | <p>Small mammals, amphibians and reptiles were kept whole for analysis and are representative of the ecological food web. Larger animals and animals for human consumption were sub-sampled prior to dispatch to the laboratory.</p> <p>Samples were stored in large PE bags or snaplock bags and packed in ice until preparation.</p> <p>Specimens were weighed, measured and the species and location caught was recorded.</p> <p>For animals of sufficient size, the following sample preparation was conducted:</p> <ul style="list-style-type: none"> • New opened bag used as cutting board cover • Knife/blade was cleaned with DI water or new disposable scalpel blade was used • Carcass and organs were separated into separate samples • Where reusable equipment was used, a rinsate sample was collected after cleaning reusable equipment (run DI water over equipment and collect in PFAS sample bottle) <p>All samples were double bagged and frozen.</p> <p>The following instructions were provided to the laboratory regarding the preparation and analysis of terrestrial vertebrates samples:</p> <ul style="list-style-type: none"> • Ensure all equipment, gloves and other materials used in the preparation and analysis are PFAS free. <p>Specific preparation instructions for the different samples analysed are provided in the analytical results tables in Appendix B. <<No results available for draft>></p> <p>Samples were homogenised by the laboratory and a 5 g specimen taken for extraction and analysis.</p> |
| <p>Analytical laboratories</p> | <p>Primary samples were sent to Eurofins. Inter-laboratory duplicate samples were sent to NMI.</p> |
| <p>Sample IDs</p> | <p>Terrestrial vertebrates nomenclature - 1302_TVxxx_yymmdd</p> <p>Serum sample nomenclature – 1302_SMxxx_yymmdd</p> <p>Sample ID was written clearly on sample bag, vial or jar.</p> <p>Sample ID and key descriptors were documented on COC</p> |
| <p>Quality Control</p> | <p>Similar samples (similar size of same species from same location) were used to provide quasi duplicate samples.</p> <p>Nomenclature - 1302_QCTVxxx_yymmdd (for rinsate/s and trip blank)</p> <p>A QC log was maintained that described quality control samples, duplicate samples and batch of DI water used.</p> |
| <p>Sample Transport</p> | <p>Samples were frozen and packed in eskies with ice and sealed, prior to overnight dispatch to Eurofins Brisbane.</p> |

WATER SUPPLY SAMPLING

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| Equipment | <ul style="list-style-type: none"> • eskies • PFAS water sample bottles • PFAS sediment jars • PFAS free DI water • frozen drinking water bottles • nitrile gloves • trowel • prepared transport blanks • notebook • camera • Permanent marker pens |
| Mobilisation and preparation | <p>Printed copy of SAQP and SWMSs Project manager and director were notified of planned schedule</p> |
| Sampling dates | <p>Water supply sampling (bore water, river water, tank water) was carried out between 2 August and 2 October.</p> |
| Sample Collection | <p>GPS readings or site address were recorded at each sample collection site.</p> <p>The potential sampling point closest to the source of water (i.e. connection to bore, or tap on tank) was identified with the assistance of the property owner/manager. Samples were collected directly into laboratory supplied PFAS water sampling bottles (500ml PET) and the lid sealed tightly. New nitrile gloves were used for each sample collected.</p> <p>Site notes described the following:</p> <ul style="list-style-type: none"> • Site address, date and time • Type of water supply and general plumbing arrangement • Collection location for each sample (if more than one collected from a property) • Use of water supply, if known <p>A photograph of the labelled sample was taken prior to dispatch.</p> |
| Analytical laboratories | <p>Primary samples were sent to Eurofins. Inter-laboratory duplicate samples were sent to ALS.</p> |
| Sample IDs | <p>Production bore and private water supply samples - 0990_PBxxx_yymmdd</p> <p>Subscripts were used to identify different sources from the same property (i.e. -1 Bore, -2 tank, -3 deep bore)</p> <p>Sample ID was written clearly on the bottle in permanent marker.</p> <p>Sample ID and key descriptors were documented on COC</p> |
| Quality Control | <p>Duplicate samples were collected at least at a frequency of 1 in 10 primary samples.</p> <p>Nomenclature - 0990_QCPBxxx_yymmdd (for duplicates, rinsates and trip blanks)</p> <p>A QC log was maintained that described quality control samples, duplicate samples and batch of DI water used.</p> |
| Sample Transport | <p>Samples were packed in eskies with additional frozen water bottles and sealed, prior to overnight dispatch to Eurofins Melbourne.</p> |

RESIDENTIAL SOIL SAMPLING

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| Equipment | <ul style="list-style-type: none"> • eskies • PFAS sediment jars • PFAS free DI water • frozen drinking water bottles • nitrile gloves • trowel • prepared transport blanks • notebook • camera • Permanent marker pens |
| Mobilisation and preparation | <p>Printed copy of SAQP and SWMSs</p> <p>Project manager and director were notified of planned schedule</p> |
| Sampling dates | Residential soil sampling was carried out between 27 September and 13 October. |
| Sample Collection | <p>GPS readings or site address were recorded at each sample collection site.</p> <p>Soil sampling locations were selected based on pairing soil with biota samples (i.e. vegetable patches, base of fruit trees or in chicken coops) or based on property owner/manager information about areas of frequent irrigation or water inundation.</p> <p>Samples were collected into laboratory prepared PFAS soil jars either directly with the jar and a glove, using a decontaminated trowel or following loosening with a spade (taking care to not collect any soil that had contacted the spade). New gloves were used for each sample collected.</p> <p>Site notes described the location of soil sample and associated biota sample (if applicable)</p> <p>A photograph of the labelled sample was taken prior to dispatch.</p> <p>Reusable sampling equipment (e.g. trowel) was decontaminated between sample locations by triple rinsing in laboratory supplied PFAS free DI water and using a scrubbing brush.</p> |
| Analytical laboratories | <p>Primary samples were sent to Eurofins.</p> <p>Inter-laboratory duplicate samples were sent to ALS.</p> |
| Sample IDs | <p>Residential soil nomenclature - 0990_RSxxx_yymmdd</p> <p>Sample ID was written clearly on the jar.</p> <p>Sample ID and key descriptors were documented on COC</p> |
| Quality Control | <p>Duplicate samples were collected at least at a frequency of 1 in 10 primary samples.</p> <p>Rinsate samples were collected each day when reusable equipment was used for sample collection.</p> <p>Nomenclature - 0990_QCRSxxx_yymmdd (for duplicates, rinsates and trip blanks)</p> <p>A QC log was maintained that described quality control samples, duplicate samples and batch of DI water used.</p> |
| Sample Transport | Samples were packed in eskies with additional frozen water bottles and sealed, prior to overnight dispatch to Eurofins Brisbane. |