

## ENVIRONMENTAL MONITORING METHOD: Visual Searches for Platypus



### About This Method



This document helps you to monitor platypus using visual searches. This method has been adapted from: [Habitat use by platypus \(\*Ornithorhynchus anatinus\*\) in a modified Australia Wet Tropics catchment, north-eastern Queensland, M. Milione & E. Harding](#) and [The Platy-project Toolkit, Australian Conservation Foundation](#). You can find more information on the Monitoring Country website: [monitoringcountry.org.au](http://monitoringcountry.org.au) or scan the QR code.



This method has three parts: **1. Get Ready**, **2. Out on Country** and **3. Back in the Office**. Each part can be undertaken separately but you must complete all three parts to finish the method. At the end of the document, you will find guidance for all the gear you need - [Gather Your Gear - Complete List](#).

We recommend you read the whole document before you start.

### Part 1: Get Ready



#### GATHER YOUR GEAR



##### Equipment required for this part:

- Tablets/phones with:
  - ability to take photos
  - data collection and navigation apps
- Laptop/computer with software for:
  - mapping
- GPS device (recommended)
- Reference documents or field guide
  - A short guide on how platypus look and behave. Platypus can be mistaken for Rakali (water rats) so it's important to be able to tell them apart.
  - OPTIONAL: A short guide on how to collect platypus habitat data. It can be important to record things like stream depth and width, the types of plants along the water, and the water flow, because these can tell you if platypus are more likely to be there or not.

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### KEEP IN MIND

#### Why?

Make sure there is a clear [monitoring question](#) and that the [method](#) you have selected will answer the monitoring question.

If this is the first time you are monitoring, you will need to [design the survey](#): what are you monitoring, where will you survey, and when and how often you will survey?

#### When?

Prepare well before heading out on Country so that you have time to gather gear or train staff, if needed.

#### Who?

1 ranger/staff to plan and prepare



#### Training and skills

Staff involved in planning are trained and competent in:

- Mapping software (like QGIS or Google Earth) and/or [monitoring point generator](#)
- Navigation systems (like Avenza app or GPS device)
- Data collection systems (like Fulcrum app or paper datasheets)
- Identifying platypus features, behaviours, and their habitats



#### Check permissions

Consult with Traditional Owners, landholders and relevant government agencies and authorities, to determine appropriate access and approvals for environmental monitoring:

1. Where you can go – consult with the owners/managers of the land.
2. What you can do – check if you need [scientific licences or ethics permits](#)
3. What or who can you take photos of
4. What can be done with data and photos – who owns them, where will they be stored and how will data be interpreted and communicated.



## Visual Searches for Platypus



### ACTIONS

**Make a plan and prepare**



*If you have done this monitoring before, it is best to do the surveys at the same time and same sites so that you can compare the data to previous surveys and see if there have been changes.*

1. Plan which dates you will search for Platypus
  - Platypus are most active before or at the beginning of breeding season (spring)
2. Gather platypus [records in your area](#) and identify where potential platypus habitat is.
  - Such as from the [platypus-project.acf.org.au](http://platypus-project.acf.org.au) map, Traditional Owners, Atlas of Living Australia (ALA) or government databases
3. Use the [monitoring point generator](#) or mapping software to select your sites
  - When choosing your sites, prioritise searches in the following order:
    - a. Areas that have not recorded a Platypus since 2000 or earlier
    - b. Areas that have recorded a Platypus between 2001-2010
    - c. Areas that have recorded a Platypus since 2011
    - d. Areas within Platypus distribution but with no records
4. Select your sites in freshwater creeks or rivers with flowing fresh water and deep pools
  - The search area at each site is often 50 m long
  - Sites should be at least 2 km apart if they are on the same river or creek
  - If you are interested in confirming Platypus presence, select sites in preferred habitats (good water quality and vegetation along banks in good conditions)
  - If you are interested in if management is helping Platypus, choose sites that have different habitat conditions (creeks in cleared land, creeks that have been revegetated, creeks in pristine/high quality vegetation)
5. Give each site a unique name, and export and save the location data in your data management system
6. Prepare maps of sites and load sites onto navigation devices
7. Plan how you will record information on Country (electronic data forms or paper datasheets)
8. Plan your [data management system](#) (how you will store platypus sighting and habitat data)
9. Check **GATHER YOUR GEAR** lists for **Get Ready**, **Out on Country** and **Back in the Office** ([complete list on last page](#)) and get any equipment you don't have.
  - See [buying guide\(s\)](#) for advice on which binoculars and head torches to buy
10. Charge electronic devices (tablets/phones, power banks, head torches) and batteries



## ENVIRONMENTAL MONITORING METHOD:

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### Train



1. Check the **Training and skills** requirements for **Get Ready**, **Out on Country** and **Back in the Office** steps and arrange any training or expertise that you need.
2. Run everyone involved in the survey through the plan.
  - Be clear on how many people will be involved, what everyone will be doing, and what they will need to do the survey.
3. Prepare guides for identifying platypus, their behaviours, and their habitats
  - ID books or apps can be used instead, but a short guide that is specific to your area/species makes it quicker and easier to check when out on Country.
  - Guides can be loaded onto tablets/phones or printed and laminated.
4. Run a training session for all rangers involved in the survey to learn or refresh:
  - a. How to use the devices (like tablets/phones and GPS)
  - b. How to use data collections apps and record data
  - c. How to identify platypus and their habitat

### Next Section – Part 2: Out on Country



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# Part 2: Out on Country



## GATHER YOUR GEAR



**One set of this equipment for each team:**

- Tablets/phones
- Power bank (optional)
- GPS device and spare batteries (recommended)
- Reference documents or field guides:
  - How to identify platypus and their habitat
- 1 x Head torch and spare batteries (per person)
- 1 x Binoculars (per person)

## KEEP IN MIND



### When?

It is best to do the surveys in the hour after sunrise and/or the hour before sunset when platypus are leaving or coming back to their burrows. In the cooler months (winter, early spring) platypus can be active during the day.

Avoid weather conditions that make it difficult to spot platypus (raining, windy).



### Where

Platypus are easier to see where the water is calm/flat, like a deeper pool on the outside of a river bend.



### Who?



2 rangers per team



### Training and skills

Make sure everyone knows the plan.

Field staff are trained and competent in:

- Navigation systems (like Avenza app or GPS device)
- Data collection systems (like Fulcrum app or paper datasheets)
- Identifying platypus, their behaviours, and their habitats
- Using head torches and binoculars



## ENVIRONMENTAL MONITORING METHOD: Visual Searches for Platypus



### ACTIONS



Check that your electronic devices (tablets/phones, power banks, GPS, head torches) are charged before you head out.






#### Ground truth sites

1. If this is the first time you are surveying, go to each site to check that it is in the correct habitat type (i.e. a creek or dam that is wide enough and deep enough)
2. If needed, move sites so that they are more accessible or in the correct habitat type
3. If a site is moved, record new location coordinates



#### Survey sites

1. You can survey platypus in the morning or in the afternoon
  - a) For morning surveys, start at sunrise and survey for 30 minutes to 2 hours per site
  - b) For afternoon surveys, start 1-2 hours before sunset and survey for 30 minutes to 2 hours per site
  - c) How long you search for will depend on how many sites you want to survey, and how common or rare platypus are in the area
2. Walk to your site as quietly as possible to avoid scaring platypus away
3. Find a calm area of water where you can easily see ripples that a platypus might make
-  4. Record **survey effort data**
5. Sit or stand quietly, looking and listening for any movement on the water, or the banks
  - Platypus typically swim along the surface of the water, diving for about 1 minute
  - Look for bullseye or v-shaped ripples
  - Rakali (water rats) and fish like trout also make ripples
6. If you spot movement, use the binoculars to get a close-up view to confirm if it is a platypus or another species
-  7. Record **sighting data**
-  8. Once you have finished surveying a site, record **survey effort data**
9. If you have another site on the same creek or river, go and do a survey at that site in the same morning or afternoon session
  - This helps to avoid double counting - platypus travel up and down rivers/creeks, so if you do the survey on a different day, you might see the same animal
10. If you didn't see any platypus, repeat the survey
  - If you did your first survey in the morning, repeat the survey later the same day
  - If you did your first survey in the evening, repeat the survey the following morning

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**RECORD DATA**



**Data to record at the start and end of each survey (survey effort data)**

What to record	Required?	Notes
<i>Information to record about each survey</i>		
Project name	Yes	Make it clear which project this data belongs to and its purpose
Date	Yes	Record the date the site was searched
Personnel	Yes	Record the name of the people who search- this is helpful if any questions come up about the data
Site name/number	Yes	This is the name of the river/creek and the name/number of the exact site where you did the search.
Start time	Yes	Record the start time of the search
End time	Yes	Record the end time of the search
Weather	Optional	Describe the weather conditions during the search (temperature, cloud cover, rainfall, wind)
Stories and notes	Optional	Record information or stories from Elders, and anything else worth noting about the area or animals.
Video	Optional	Record videos of information or stories from Elders, and rangers performing or describing the work they are doing.
<i>Information to record about each site</i>		
Location coordinates	Yes	Record an accurate location (using a handheld GPS if possible) (latitude and longitude or eastings and northings)
Known Platypus site	Optional	Record whether Platypus have been recorded or seen at this site before
Habitat description	Optional	Describe the habitat type and landscape features at the site (e.g. pool on edge of river with thick shrubs on bank)
Signs of disturbance	Optional	Types and causes of disturbance you can see at the site (e.g. water quality, vegetation health)
Photo of site	Optional	Take a photo of the site and make note of which camera/tablet/phone it was taken on, and the filename of the photo (usually end in .JPG)



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### Data to record when you see a Platypus

What to record	Required?	Notes
<i>Information to record about each Platypus sighting</i>		
Site name/number	Yes	This is the name of the river/creek and the name/number of the exact site where you did the search.
Time	Yes	Time when the Platypus was seen
Sighting type	Yes	Record whether you saw the Platypus or only saw water ripples, including a description of what the ripples looked like.
Photo	Optional	Take a photo of the Platypus and/or ripples and make note of which camera/tablet/phone it was taken on, and the filename of the photo (usually end in .JPG)

Next section – **Part 3: Back in the Office**



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### Part 3: Back in the Office



#### GATHER YOUR GEAR



##### Equipment required for this part:

- Tablets/phones (or paper datasheets) that you used to record data
- Photos taken during the surveys
- Data management system
- Laptop or computer with software for:
  - Spreadsheets
  - Mapping

#### KEEP IN MIND



##### When?

Always try to complete this work as soon as you can after returning from your time on Country so that what you did and what you saw is fresh in your memory.



##### Who?



1 person to manage the data



##### Training and skills

Staff managing data are trained and competent in:

- Mapping software (like QGIS or Google Earth)
- Spreadsheet software (like Microsoft Excel)
- Data collection systems (like Fulcrum app or paper datasheets)
- Data management systems (like databases, cloud storage and external hard drives)

#### ACTIONS



##### Upload photos

1. If you took photos of platypus (or other species) and you want to keep them as official records, upload them to your data management system and
  - a. Identify the species in the photos (with the help of experts if needed)
  - b. Label each photo with date, site name, and species



## ENVIRONMENTAL MONITORING METHOD:

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### ✓ Data entry, analysis and reporting

1. Record a summary of what you did and why, any observations (like weather conditions, fire history and site condition), anything that went wrong or didn't work and things that worked well
2. Upload the **survey effort and sighting data** to your data management system
  - Recommended: get someone else to proof the data to check for mistakes
3. Import the data into a spreadsheet and calculate
  - a. Mean number of sightings per site per survey session
  - b. OPTIONAL: you can calculate how different levels of disturbance (cleared land, urban areas etc) affect platypus sightings, or how different habitat variables (types of plants and soils, stream depth and width etc) affect the presence or absence of platypus, but these require statistical analysis skills
4. Create a simple graph of the mean number of sightings per site per survey session per date of the survey period
5. Use the mapping software to create a map of
  - a. All sites surveyed – “Platypus Surveys Map”
  - b. All sites that detected platypus – “Platypus Distribution Map”
6. Discuss with the ranger team or community the results of the monitoring, any reasons for the presence or absence of platypus, and if there have been any changes to previous years.
  - Consider whether trends might be related to your management (like revegetation or fencing) to check how well management is working, or if you need to make adjustments.
7. Share the data according to any data sharing or funding agreements you have made
8. Upload your data to the [The Platy Project - ACF](#)
  - a. Click on the 'Record a sighting' and log your data. You can record the number of platypuses you saw at each site on each date, and any additional notes like vegetation or weather
  - b. It's still important to record if you didn't see a platypus at a site – select the option '0 – attempted sighting' under 'Number of platypuses'

**Next section – Full Equipment List**

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# Gather Your Gear – Complete List



The complete **GATHER YOUR GEAR** list for **Get Ready**, **Out on Country** and **Back in the Office**.

Gear List	Required?	Get Ready	On Country	In Office
Tablets/phones: <ul style="list-style-type: none"> <li>Ability to take photos</li> <li>Apps for data collection (like Fulcrum) and navigation (like Avenza)</li> </ul>	✓	✓	✓	✓
Laptop or computer with software for: <ul style="list-style-type: none"> <li>Mapping (like QGIS or Google Earth)</li> <li>Spreadsheets (like Microsoft Excel)</li> </ul>	✓	✓		✓
GPS device & spare batteries	<b>Recommended</b>	✓	✓	
Power bank	<b>Recommended</b>		✓	
Head torches	✓		✓	
Binoculars	✓		✓	
Reference documents and/or field guides: <ul style="list-style-type: none"> <li>How to identify platypus and their habitat</li> </ul>	✓		✓	
Data management system (like databases, cloud storage and external hard drives)	✓			✓