

Monitoring feral pig impacts using photopoint monitoring

In feral pig management programs, it is crucial to understand and monitor the impacts that feral pigs are causing on targeted assets. This is needed to support the planning and prioritisation of management actions needing to be undertaken, how, where, when and by whom. By measuring and monitoring change to targeted assets over time, it may be possible to assess the effectiveness of the chosen management activities.

There are many ways to monitor feral pig impacts.

Whichever method(s) you use, it is recommended to stick to the same methods throughout your program.

Photopoint monitoring

Taking photos, also known as “photopoint monitoring” is a simple and easy method to visualise what the impacts from feral pigs and changes in the environment are over time.

It is usually best to start monitoring and taking photos before a management activity has occurred to establish a baseline.

These photos can be useful to communicate the purpose and effectiveness of your programs, incorporate into reports to stakeholders and program investors, and justify the importance and need for ongoing feral pig management to protect environmental, agricultural, cultural and social assets in your region.

Advantages to photopoint monitoring:

- Inexpensive
- Can be done on a phone
- Permanent visual record of your work sites or property
- Can demonstrate if your management actions are successful
- If not successful, what can be done to improve your program
- Promote and communicate your work and successes.

This document aims to provide a step-by-step guide on how to use photos in your feral pig management program.

Step 1: Determine what data to collect

- The data you collect is dependent on the assets you are trying to protect from feral pigs.
- This data may include:
 - Crop and /or land damage at nominated locations
 - Infrastructure loss
 - Environmental damage
 - Changes to cultural values

Step 2: Choose your data recording method

- Multiple programs are available to record data and photos:
 - Your mobile phone photo app can collect GPS coordinates, time and date information.
 - Free photo apps are available to download from your app stores
- Field cameras can also be used to take photos at regular intervals

Step 3: Decide how often to take your photos

- Photos can be taken at different time intervals depending on the program and the impacts wanting to be measured.
- Timeframes may be:
 - **Short:** before and after. Photos can be taken weekly, fortnightly or monthly. This will help to capture impacts within a season such as immediate changes in populations and impacts following the implementation of control actions.
 - **Medium:** every 6 – 12 months, when a site is changing quite rapidly, or a lot of visible work is being carried out.
 - **Long:** every year to few years, when more subtle changes are occurring.
- The frequency of monitoring may change over time as management actions or conditions improve/decline on the site. For example, photos may be taken frequently as management works are implemented, and then drop to a medium and then long timeframe as management actions slow or cease and the environment responds over time.

Step 4: Identify key locations to take photos

- Identify key locations in the landscape, together with GPS coordinates, where photos are to be taken over time.
- These locations should be directly aligned with the targeted asset(s) to be protected.
- When identifying the location from which photos are to be taken, it is vital to choose locations that are recognisable and easily accessible at key times throughout the year.
- Photos should ideally be taken at the same position and direction each time. This position can be distinguished by using a specific fence post, marker, a permanent vegetation landmark like a large tree, or a large stake. Flagging tape can also be used to distinguish this position.
- Select sites that will:
 - Be easily recognised and safely accessible in all seasons
 - Be unobscured by factors that may spoil future photos, such as plant growth
 - Effectively demonstrate impacts changes to your project area over time
 - Be representative of the site and relevant to the projects' main objectives.

Tips for taking photos

- When taking photos, it is ideal to:
 - take them at the same time of the day and during similar weather conditions where possible
 - minimise sun glare and shadowing by considering sun position and angle
 - use a point of reference where possible in each photo, such as a building, fence post, pathway, or a mature tree
 - record the date and time of each photo, the height of the camera, orientation, GPS coordinates and percentage zoom. This information will make it easier to set up future photos and assist with comparisons of photos taken at the site over time.
- Where possible, consider taking additional photos to help place your project site in a wider or landscape context.
- Both portrait and landscape formats from the same point are useful. Panoramas, close-ups, or an adjacent 'control' site can all help with the interpretation of setting and intention and assist reporting.
- Some extra tips on Photopoint monitoring are available through the *Ecological Field Monitoring Protocols Manual – TERN Australia*; https://www.tern.org.au/wp-content/uploads/EMSA-Manual_Photopoints-Module_v1_20230721.pdf

Step 5: Archiving photos and reporting the results

- When taking photos on a mobile phone, ensure they are stored correctly in a folder and backed up.
- Some phone apps have a built-in cloud feature that will backup your photos.
- Ensure any data you have collected is clearly described, documented and stored with the photos.

Example of photo monitoring

Demonstrating the impacts of feral pigs over time
Rinyirru National Park, Queensland
Photos courtesy of Queensland Parks and Wildlife Service
For more information, watch Stuart Johnson's NFPAP stakeholder forum presentation, December 2023
(<https://www.youtube.com/watch?v=ZaVu4MaLGgw>)



Links

- Natural Resource Management Program - https://www.wa.gov.au/system/files/2022-02/SNRMP_FactSheet_Photopoint_Monitoring_revised_05.11.2021.pdf
- NRM South, Tasmania - <http://www.nrmsouth.org.au/wp-content/uploads/2014/08/Photo-Monitoring-Fact-Sheet-NRM-South.pdf>
- O'Neill S, Leitch E, Tokmakoff A, Sparrow B (2023) Photopoints Module. In 'Ecological Field Monitoring Protocols Manual using the Ecological Monitoring System Australia'. Eds S O'Neill, K Irvine, A Tokmakoff, B Sparrow). TERN, Adelaide https://www.tern.org.au/wp-content/uploads/EMSA-Manual_Photopoints-Module_v1_20230721.pdf