How to set up camera traps for the National Malleefowl AM experiments (not a regulation just a guide)

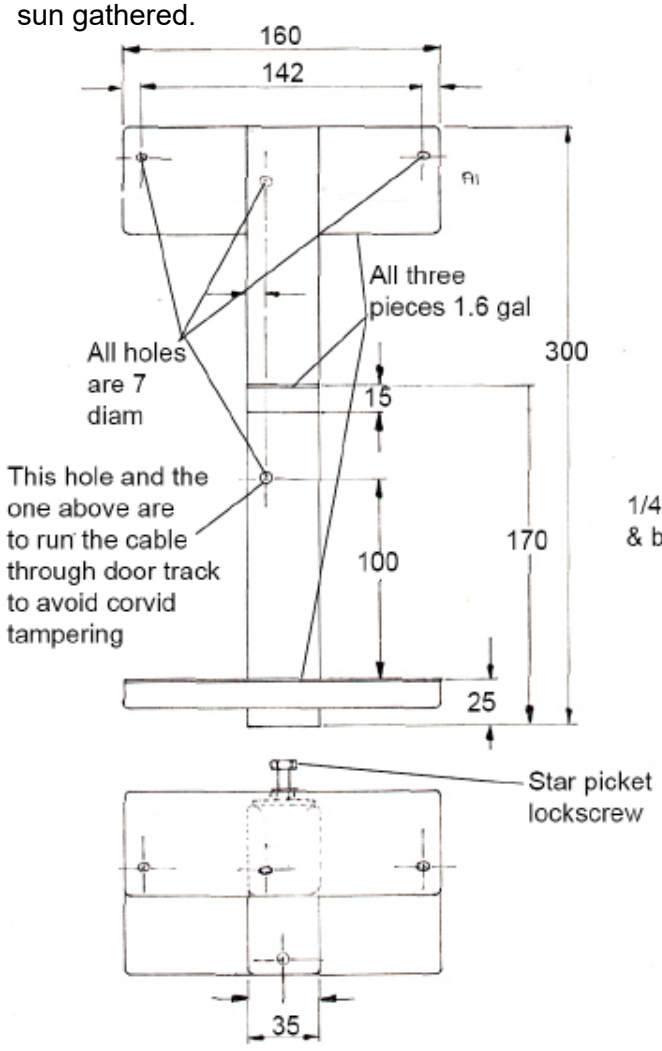
Cameras with a power source may be left in the field indefinitely. This means that the photo-data can be gathered during annual monitoring. We have already trialled a solar panel/ external battery set up and found little problem with camera reliability for the year. However we have found that batteries must be fully charged when put in place. The solar panel can maintain voltage but is not sufficient to charge a flat battery.
We have developed a simple and effective stand. While the stand is quite visible and thus susceptible to theft, our cameras are being placed off tracks and this greatly reduces the threat of theft.

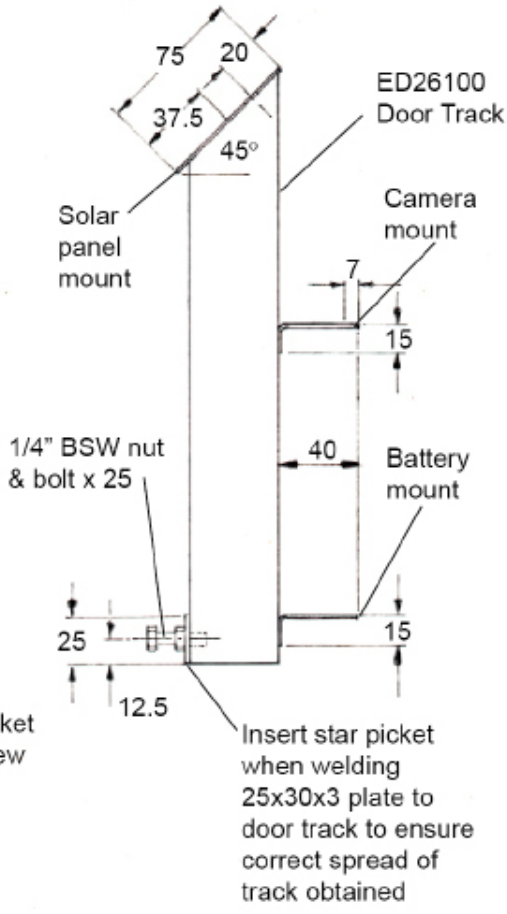
Basically we are using a 6volt 12 amp hour battery with a 1 watt solar panel. The panel is placed over the camera to give maximum protection from the sun. The battery is the heaviest component and is placed low to the ground for stability and lives in a plastic box (standard downpipe cut to suit). We are setting our cameras at about 600mm above ground level and facing south to avoid sun glare (this means that solar panels always face north for max sun). The panels are set at an angle to maximise winter solar gathering when short days mean less sun gathered.

To deter birds from using the the panel as a perch, resulting in camera triggers of the birds' tail we attached zip to the top of the panel.

A final consideration is the weight of the whole unit. Because we are installing the units off-track, we will be carrying these into the bush and a neat, lightweight unit will be needed.

We included the design so that you can get a quote from a local engineering shop.





Other materials

1/4" BSW nut & bolt x20 to mount camera

Battery cover is made from 100 x 50 PVC downpipe ends cut to15° 150mm on short length

two 300mm cable ties to secure battery cover

Spray entire unit with insect surface spray (spiders webs)

4 x 150 cable ties for bird deterent on panel

2 x 1/4' BSW nut & bolt x 20mm to secure panel

Star picket x 800 (standard picket cut in half)

Our example uses a star picket cut in half as the base. You drive the picket into the ground and then slip the camera mount over the dropper (it fits very snug and has no movement).
The white PVC box at the base houses the battery. We placed a 10amp car fuse between the power terminal on the battery and the input to camera.
The solar panel and the small piece of sheet metal above the camera, protect from sun and birds perching.
The entire unit (camera, panel, battery, stand and dropper) weighs just under 5kg
The battery and panel can be purchased on line for about $30 + $20 and we have received a quote from a small engineering firm for the mount $80 (note that if you make it yourself, the materials are only about $10) however a second company quoted $110 per stand. Droppers cost about $6. Total = about $100, but you still need to assemble the unit.

The main guidelines for camera installation are;

•The same camera model need to be used at all sites within a cluster (at least between the paired treatment and control site), so that camera detection parameters are equal and predator activity rates can be compared statistically. However, different camera models can be used at different clusters,•A 4-8 GB SD card and 6V 12Ah lead-acid dry-cell battery with 1W solar panel will permit collection and storage of photos for a full calendar year
•We intend that cameras are checked and cards changed when the site is being monitored
•Cameras to be placed at least 50m off tracks to keep them out of sight from passers-by.
•Cameras should be orientated southerly to minimise glare from the sun,
•Care needs to be taken to select a site and orientation that avoids vegetation that might move in the wind and trigger the camera.

•Cameras are set at an angle that will capture a fox near or far (15deg) at about 60cm above ground level

Camera Settings;

We have only used KeepGuard KG680 series cameras. For these cameras, we suggest the following settings:

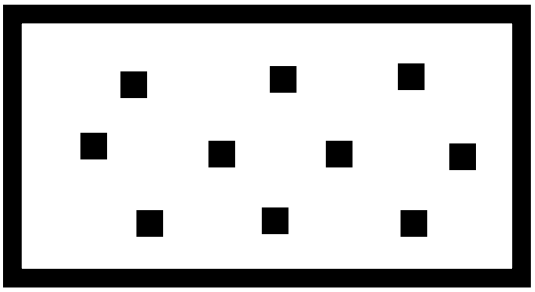
Mode: Camera
Image size: 5mb
Capture number: 1
Video size: na (choose any)
Video length: na (choose any)
Interval: 5 min Sensor level: normal
Format: na (choose any)
TV output: na (choose any)
Time period set: OFF
Time stamp: ON

Note that the current time can be set on the camera, but that the time will be lost if the battery is disconnected for more than 30sec or so. Other settings are usually preserved indefinitely.

Always record the time the camera was set up in the field in case the time on the camera was incorrectly set or lost – this will enable times of photos to be estimated later.

Where to put the cameras;

At a coarse scale, camera stations should be systematically distributed across the site to sample animal abundances within the site. Most importantly, the pattern used in control and treatment site pairs should be similar.



Here is an example of camera layout within a site (we can provide GPS locations to you if you wish):

We must stress that a lot of onsite decision making is needed with setting up cameras. The terrain and vegetation cannot be predicted at the level we require. What this fact sheet aims to do is give examples.