

# Pine Marten Den Box Monitoring — a short guide

# Mini Den Box Monitoring Guide

## Background

Monitoring is an important part of pine marten conservation - as their populations expand into new areas it enables an informed approach to supporting the species recovery. Volunteer den box monitors use trail cameras to monitor den boxes during the spring breeding season and, when possible, also over winter. Monitors then review the trail camera footage on a computer and send the survey data to VWT via an online form.

It is imperative that we monitor pine martens using den boxes without disturbing them. It is a criminal offence to come within five metres of an occupied den box unless you have a disturbance licence from Natural England, NatureScot or Natural Resources Wales. To minimise disturbance during monitoring activities, behave assuming the den box is occupied - keep noise, movement and other disturbances to an absolute minimum.

## Trail Camera Settings

Volunteers will be provided with trail cameras and user manuals, which can also be accessed on the Browning website: [Instruction Manuals - Recon Force Models - Browning Trail Cameras](#). The trail camera should be set up prior to visiting the site. Even if you have previously set up the trail camera, always check the settings before deployment, particularly the date setting as sometimes the date resets if batteries have been changed. Note that the date is in US format with the month coming before the day, so 12 November should be set as 11/12/2024. If you change the batteries used in the trail camera to a different kind than provided make sure you update this in the battery type settings (ie, Nimh = rechargeable batteries).

SETTING	SELECTED OPTION
Setup date/time	US format
Operation mode	Video
Video length	20 seconds
Video quality	High
Photo delay	1 second
Multi shot mode	Off
HDR	Off
Temp unit	Celsius
Camera name	MotM (+ camera number)
Image data strip	On
Motion test	You can use this once the camera is on the tree to check it covers the target area. Remember to turn it off before leaving the camera.
Motion detection	Long range
Battery type	NIMH (or change as required). Alkaline batteries are not recommended as they do not provide the necessary power levels.
Trigger speed	Fast
Default settings	No
Delete all	Once your camera is in place you can use this to remove pictures taken during the set up. Use this to format the SD card before deploying the camera.
IR flash power	Long range
Smart IR video	Off
SD management	Off
Capture timer	Off

## Choosing a Site For Your Trail Camera

It is a good idea to select your trail camera position (most likely on a tree) at the same time as you select your den box tree, as there are a number of factors to consider:

- The trail camera must be at least 5 metres from the den box to reduce the risk of disturbance.
- You should be able to access the trail camera without passing within 5 metres of the den box or causing noise disturbance.
- The trail camera should ideally be behind the den box (facing the entrances) and giving a view of at least one entrance.
- Aim the camera's field of view to be centred on the entrances or at the tree trunk directly below the entrances to maximise reliable triggers.
- There should be a clear view of the den box without branches or other foliage likely to trigger the trail camera (you can prune small twigs and branches).
- Ensure that the trail camera will not be pointing into the early morning or late evening sun as this can cause over-exposure of images.
- If you can find a trail camera location slightly uphill from your den box it is easier to set the trail camera at the right height to capture the den box.
- You can use twigs securely positioned between the trail camera and the tree to angle the trail camera upwards if needed, though avoid angling the camera upwards too much or rain may get in and cause damage.
- The den box should be located away from public places but if there is a concern that the trail camera might be stolen, request a lock from the VWT project officer.

## Installing the Trail Camera

**1** Attach the trail camera to the tree, post or other secure object using the strap, ensuring that the trail camera strap is tight. It is often easier for two people to undertake this activity with one holding the trail camera in the required position facing the den box and the other securing the strap.

**2** Open the front and push the On/Off switch to 'On'.

**3** You can use the live screen to help position the camera to ensure that it is capturing a view of the den box entrances.

**4** If the camera was recording during set up, please select 'Delete All' to clear the SD card of recordings of yourself installing it, once deletion is completed press 'Enter' until preview screen shows.

**5** Check that the screen shows the video mode and that the countdown (top right corner DLY 00:00) is counting down. The camera is recording when the countdown has finished. You can close the screen and walk away.

## Checklist

- Is there enough battery life?
- Is the SD card inserted?
- Is the date set correctly? (Remember Browning cameras use the American format MM/DD/YYYY)
- Is the camera turned on and in video mode?
- Is the case properly closed?
- Is it securely attached to the tree and the excess strap tucked away?

## Follow Up Visits

Trail cameras should be visited only every four to six weeks, no more, to minimise disturbance at the den box. Check the status of the batteries and SD cards - if they need changing, do so as quietly as possible while the camera is still attached to the tree. On the final visit when the trail camera is removed, the SD card and batteries can be removed away from the den box site.



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