

# Pre-Harvest Survey Program

Survey Guideline - Reptiles (V2)



**Acknowledgements**

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**Photo credit**

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# 1. Reptiles

## 1.1 Context

Reptiles are a very difficult group of fauna to survey due to relatively low abundance, their speed on the ground and often restricted distribution and habitat preference.

Areas found to be particularly rich in reptiles or amphibians may also trigger protection prescriptions in some management zones.

Two threatened reptile species are included here because roading works associated with timber harvesting operations may impact their habitat.

## 1.2 Objectives

To detect the presence of infer the absence of threatened reptile species within, and nearby, specified coupes in the PHSP. The species to be targeted include:

Threatened reptiles to be targeted in the PHSP

Species with management prescriptions are:

Alpine Water Skink *Eulamprus kosciuskoi*

Alpine She-oak Skink *Cyclodomorphus praealtus*

Diamond Python *Morelia spilota spilota*

Species without current management prescriptions are:

Eastern She-oak Skink *Cyclodomorphus michaeli*

Swamp Skink *Lissolepis coventryi*

Mountain Skink *Liopholis montana*

Alpine Bog Skink *Pseudemoia cryodroma*

Tree Goanna (Lace Monitor) *Varanus varius*

Rosenberg's Goanna *Varanus rosenbergi*

## 1.3 Survey effort

Staff should expect to spend approximately two hrs at each coupe including formal search time, walking time between sites and time spent identifying animals.

Each coupe will receive a total of three person-hrs of timed searches for reptiles.

The searches will consist of two observers surveying three search areas together.

Each area will be searched for 30 mins (60 person-mins in total) and cover approximately 2 500 sq.m.

At least one repeat survey of each search area should be undertaken in a different season.

In East Gippsland additional time may be spent in searches for Diamond Pythons.

## 1.4 Staff requirements

A field survey team of two people.

Familiarity, preferably via first-hand experience, with all the reptile species likely, or possibly present, in the program area, including their habitat preferences, shelter locations and behaviour.

Possess sound identification skills to reliably identify all the reptile fauna that may be encountered. Be familiar with the latest taxonomic revisions to ensure correct identification.

## 1.5 Equipment for the technique

- Snake bandages
- Thermometer
- Bright torch or headlamp
- Endoscope with recording function
- High-powered binoculars and/or spotting scope
- Light-weight tripod
- Leather gloves
- Noose type device for lizards/skinks
- Short-handled three pronged rake or similar
- Small jemmy/crow-bar
- Measuring calipers and ruler
- Cloth handling bags
- Thin handling gloves
- Cameras with macro/close-up function and flash
- Time-keeping devices
- 2x PHSP Reptile Survey Data Sheets on 2x electronic-based pro-formas
- Back-up hard copies of data sheets on waterproof paper on clipboards x2

## 1.6 Site selection

Desktop assessments of coupes and their surrounds in highland areas must consider the Alpine Water Skink and Alpine She-oak Skink. The habitat of these species, occurring in alpine and sub-alpine environments, will not be subject to timber harvesting but there is the potential for them to be impacted by new roading to access future coupes. Where potential conflict occurs then visual surveys and artificial shelter devices / cover boards should be employed in surveying the planned road corridors for these species. For the best allocation of total survey effort in the PHSP, reptile surveys should occur after the results of automated camera surveys and Elliott trapping (for terrestrial mammals) are known. These surveys may incidentally detect threatened reptile species and thus preclude the need to conduct formal reptile surveys at some coupes or some specific habitat within some coupes.

The location of the survey sites may be pre-determined (e.g. via desktop assessment and the CHASS). Any pre-selection will be confirmed in the field and sites moved as necessary (e.g. to take advantage of habitat features).

The Habitat Distribution Models (HDMs) for all the species should be used to guide the survey locations within and adjacent to coupes.

Likely habitat of threatened species must be targeted when within or near their known geographic distribution.

Where-ever it is present, the habitats of the four threatened skink species should be targeted within or near the coupe:

- rocky habitats such as rock outcrops, areas of scree and tors,
- edges of forest and forest clearings, heath and tussocks bordering wetlands,
- riparian, wet heath and bog associations,
- dense ground cover in low-lying marshes, lagoon margins, swamps, near permanent water or in areas subject to periodic inundation.

In the absence of likely habitat for these species, as many different habitat types as possible should be sampled across the three search areas.

## 1.7 Conducting the survey

Surveys shall be conducted from late Spring to mid-Autumn (November to April).

Searches are to be undertaken during warm weather. The best times are usually between mid-morning and late afternoon (10 am to 4 pm). Ideally surveys should be conducted in the morning as temperatures rise, reptiles are basking in the open and becoming active. When extreme heat is forecast then searches must commence earlier in the morning (e.g. 9 am). Cold temperatures, strong winds, rain and thick overcast must be avoided.

The survey technique will be a timed visual encounter survey i.e. visual search with active hand searching for a set duration, conducted at three different sites in the coupe.

Each area should be searched for 30 mins (i.e. one person-hr per search) and cover approximately 2500 sq.m.

The shape of the search area can be chosen at the observers' discretion but should be appropriate to habitat types (e.g. a plot 50 x 50 m across a broad rocky area, a transect of 5 x 500 m along a water-course, etc).

The 30 mins covers search / detection time. Time spent identifying a reptile once detected (e.g. via spotting scope at a distance) should not be included in the search duration. Use a stopwatch or similar as necessary.

Two observers will work together for safety, to apply complementary techniques at the site, and to help each other capture animals as necessary.

For each search site one observer should focus on active hand searching to uncover reptiles. They should carry tools and wear gloves appropriate to pushing ground-cover vegetation aside, raking leaf litter, rolling rocks and logs, and capturing animals for identification.

The other observer should be primarily concerned with visually scanning ahead, around and above for basking/resting individuals. They should carry binoculars or a spotting scope with lightweight tripod, and a torch and endoscope with illuminated tip for looking into tunnels, burrows, rock cracks, low tree-hollows, etc.

Observers will share roles as conditions change e.g. where vegetation is too thick to permit much visual scanning, or upon entering clearings with little or no microhabitat cover but extended visibility.

Microhabitat disturbance should be kept to a minimum e.g. rolled rocks and logs should be returned to their original positions. Only where endoscopes cannot be used conveniently or are unable to reveal enough of the animal for

identification, should large pieces of tree bark be removed and logs be broken open. Do not remove large sections of bark or broken sheet rock unnecessarily.

Observers should walk slowly, tread lightly and be alert to sudden movements or slight noises in the vegetation.

Observers should always scan at least a few metres ahead especially into likely basking spots such as sunlit areas.

If possible, observers should have the sun overhead or to the side of them, to avoid casting their shadow directly in front of them or having to scan into sun glare.

Good quality colour photographs should be taken where ever possible to confirm identifications. Photos should show distinguishing characteristics including length across a ruler as necessary.

All necessary precautions should be taken to avoid injury to animals when attempting capture. As far as possible be mindful of where hands, elbows, knees and feet are placed, and the force with which they are placed, when chasing down a fleeing individual. Be mindful of other, unseen individuals present in the microhabitat disturbed.

Any captured animals should be released at the point of capture as soon as possible after identification. Carefully replace any refuge features that were moved, avoiding injury to the returned animal.

After capturing and identifying an individual, ensure that all equipment has been retrieved before resuming the search.

All threatened and non-threatened reptile species should be recorded with the GPS location of each.

Wash hands in water without soap after handling each reptile. Before leaving the coupe area wash hands with an appropriate disinfectant.

The start and end times of the timed searches should be recorded, along with the actual time spent surveying within those times.

## **1.8 Diamond Python Opportunistic Searches**

In addition to examining areas of potential habitat for Diamond Pythons within the coupe search areas, workers might also opportunistically examine potential resting, ambush, and nest sites for this species up to 1.2 km away from the edges of the coupe (based on a 100 ha protection zone) within or close to it's know distribution in East Gippsland.

Workers should inspect burrows, culverts, bridges, hollows in fallen trees, roof cavities in shelters/buildings, etc.

Such examinations should be made on an opportunistic basis along roads whilst driving within the vicinity of the coupe, when encountering bridges and roofed structures (toilet blocks, under cover picnic tables, information boards), during spotlighting surveys for other nocturnal taxa on warm nights.

## **1.9 Data reporting requirements**

The following information should be recorded:

Weather conditions at the time of the survey (minimum of air temperature during each survey, wind on the Beaufort scale, cloud cover, precipitation)

Records of all other species observed in and around the coupe should also be submitted to DELWP