

# **Animal Ethics Manual – Wildlife**

## **STANDARD OPERATING PROCEDURES**

**SOP No:** W-4

**SUBJECT:** **Collecting, Swabbing and Marking Frogs.**

**POLICY:** To minimize the risk of transmitting diseases between individual animals.<sup>1</sup>

To limit the time of handling and restraint to the minimum needed to achieve the scientific or educational objectives.<sup>1</sup>

To release animals at the site of capture (unless approved otherwise).<sup>1</sup>

To take all reasonable steps to protect animals from injury and predation at the time of release.<sup>1</sup>

**PRECAUTIONS:** Researchers must hold current scientific collecting permits.

**EQUIPMENT:** Disposable surgical gloves and/or disposable freezer bags.

### **PROCEDURE:**

#### **1. General Frog Handling Protocols**

To eliminate cross-infection of diseases between individuals each animal must be separately collected, handled, sampled or contained using sterile disposable surgical gloves and plastic bags or sterile instruments.

The following guidelines are provided in Poole & Grow (2012). Always handle specimens as little as possible. Procedures that are quick, even if potentially painful, may cause less stress than longer procedures (Speare et al., 2004). Amphibians tend not to show signs of stress immediately after handling; however, unnecessary handling should be avoided. Instruments and equipment should always be disinfected between specimens, remembering to rinse thoroughly after the appropriate amount of time. Specimens should only be released at the site of capture, and any sick or dead amphibians found should be preserved and submitted for disease diagnosis.

#### **2. Handling Frogs**

Frogs may be handled for short periods using disposable plastic freezer bags (to reduce the environmental impact) or using non-powdered latex gloves (see below). Always use one bag / glove or container per specimen. Do not re-use collecting bags, and utilize a new one for each specimen.

The following guidelines are provided in Poole & Grow (2012):

Non-powdered disposable latex or vinyl gloves are the best choice when handling specimens; however, if powdered gloves are used, they should be rinsed free of powder. A new pair of gloves should be used for each specimen. If gloves are unavailable, wash hands between specimens. Special consideration should be taken when handling tadpoles and larvae, as Cashins et al. (2008) provided some evidence that latex can be toxic to tadpoles.

Therefore tadpoles and larvae should be handled with vinyl gloves only, although it could be toxic if not rinsed with water prior to use. See Greer et al. (2009) for more information about this issue.

### **3. Housing Frogs**

The following guidelines are provided in Poole & Grow (2012): Always use one container per specimen. The greatest risk for spreading disease when handling specimens occurs when animals are placed together in the same container or when containers are re-used without being disinfected first (e.g. Virkon S).

### **4. Swab Sampling**

Separate disposable sterile swabs must be used when sampling individuals for amphibian chytrid fungus or DNA.

### **5. Humane methods for individually marking frogs.**

“Toe-clipping.” Removal of 1-4 digits is the only available method for small frogs (< 50mm). All four digits should never be removed from a foot. The minimum number of toes must be removed (for mark and recapture studies or genetic samples) and scissors must be washed in alcohol and water between each amputation.

“Pit-tagging.” A microchip (12mm) can be implanted under the skin of a larger frog (> 50mm SV) to permit convenient future identification. Application is through injection, with the opening closed using tissue glue (e.g. VetBond).

Elastomers are flexible coloured natural polymers (e.g. rubber) that fluoresce to aid in detection. They can be injected under the skin of the frog, or between toe webbing. There are a limited number of colours, but by combining colours and location, a large number of unique identifications can be made. While relatively inexpensive, the elastomer is used when a large number of frogs can be tagged at the same time (rare in field studies) as the elastomer dries immediately following mixing.

## **RECOMMENDATIONS:**

**DATE ISSUED:** JUNE 2012

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**TO BE REVISED:** 2017

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### Marking Frogs

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