



# PRECIOUS FROG

HELP RECOVER THE OREGON SPOTTED FROG

# FROG HANDLING PROTOCOLS

July 2016  
BCOSFRT Protocols v 1.0

## BEFORE YOU BEGIN, PREPARE.

Ensure you have gathered the required permits and materials, sterilized your equipment, and prepared your data collection tools.

### Purpose

The data that you are collecting is critical to the wise management of the Oregon Spotted Frog, *Rana pretiosa*, a species listed as endangered in both Canada and the United States. This data will help us to:

- Provide basic science on the species;
- Monitor the recovery (or decline) of the species;
- Understand population health and population dynamics;
- Make comparisons regarding the relative health of populations;
- Inform status assessments and direct resource allocation by government agencies; and
- Develop and adapt habitat management strategies, including drainage works and habitat restoration.

### Permitting

Please ensure that you have a copy of your permits (BC Wildlife and SARA) in your vehicle on-site at all times, and that your name is listed on the permits.



### Data Management

Please provide data to the Oregon Spotted Frog Recovery Team (OSFRT). Data should be collected in a standardized manner and provided to the BC Conservation Data Center as a condition of your BC Wildlife Act permit, and to Environment Canada as a condition of your Species at Risk Act permit.

The OSFRT uses a standard FileMakerPro™ database for data collection on electronic devices (iPad / iPhone / Tablet) that is available from the OSFRT Chair upon request.

Alternatively, please use the data form provided and follow standard OSFRT data collection guidelines.

### CAUTION!!

**Frogs should be handled as little as possible and hands must be kept moist and cool.**

**Warm dry hands increase stress on the frog.**

### Equipment List

#### Collect

- Ziplock bags
- Bucket

#### Record

- Notebook / iPad
- Camera
- GPS, set to NAD83/UTM

#### Inspect

- Frog Identification Guide
- PIT reader, set to binary mode
- Blacklight
- VIE Color Detection Standard

#### Measure

- Soft measuring tape / ruler
- Calipers
- Scale
- Plastic tub with lid for weighing

#### PIT Tag

- PIT reader
- PIT tags
- Cuticle cutters (very sharp\*)
- Rubbing alcohol

*\* Cuticle cutters must be very sharp and should be replaced often. Dull cutters result in torn skin, large holes and lost tags.*

#### VIE Tag

- Carrying case with cold pack
- Elastomer dye in chosen colours
- Curing agent
- Mixing supplies & instructions
- Syringes & elastomer injectors
- Blacklight
- VIE Color Detection Standard

### Sterilization

All personal and field equipment should be limited to use in a single watershed or population, including traps, waders, field kits etc.

**To disinfect large gear** between sites, follow the Provincial Hygiene Protocols at [goo.gl/oEsvgB](http://goo.gl/oEsvgB). Ensure all seeds and mud are removed before disinfecting with a bleach solution (32 mL of 6.2% household bleach : 1 L water).

**To disinfect smaller, general-use equipment** (scale, tub, calipers, tape, PIT reader etc) clean and swab with rubbing alcohol.

**To sterilize tagging equipment between frogs** (clippers, PIT tags, VIE needles), submerge portion that will come in contact with frog in rubbing alcohol for at least 30 seconds and allow to air dry before use.

If you chose not to use gloves, wash your hands in the pond water before and after each frog is handled. Keep your hands cool and moist when handling frog. Ensure hands are free of lotion, sunscreen or repellents.

## Step 1. Inspect frog for existing tags / Tag frog (Steps 1A/1B)

- 1. Scan the frog for PIT tag**  
Record PIT # in binary form (eg. 985000012345678).
- 2. Check feet for VIE tag**  
Use a blacklight in the shade to check for VIE tag. Record presence / absence of tag for both feet.
- 3. If no tag found, or only VIE, immediately tag frog. See Step 1A on page 3.**



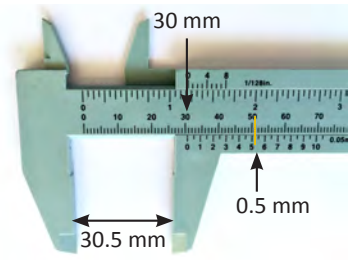
## Step 2. Snout-Vent-Length (SVL, to 1 mm)

- 1. Stabilize the frog**  
Hold the frog in your non-dominant hand facing belly up, with legs held straight using your pinky, ring and middle fingers. Use the palm below your index finger to support the frog's back. Wait until frog has quieted and belly is flat (not arched) before measuring.
- 2. Measure the SVL (mm)**  
Use a soft measuring tape or flexible ruler to measure from the tip of the frog's nose to the vent, indicated by the crease between the frog's straightened legs.



## Step 3. Right Shank (to 0.1 mm)

- 1. Stabilize the frog**  
Hold the frog in your non-dominant hand by the straightened left leg so that the frog's RIGHT leg is folded naturally and resting on your hand.
- 2. Measure the right shank (0.1 mm)**  
Use calipers to measure from the outside of the bony knee to the outside of the bony ankle.



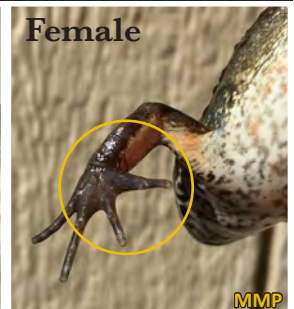
## Step 4. Mass (to 0.1 g)

- 1. Prepare equipment**  
Tare scale with tub and lid before weighing each frog.
- 2. Drip the frog**  
Ensure the frog is not dripping wet before weighing. An additional gram of water can make a significant difference in recorded mass.
- 3. Weigh the frog (0.1 g)**  
Place the frog in the container, covering with lid, and record mass when frog is still.



## Step 5. Sex (Immature / Male / Female)

- 1. Determine maturity**  
In our experience, males over 10 g have developed nuptial pads, therefore frogs over 10 g should be sexed.
- 2. Determine Sex (U / I / M / F)**
  - U** Unable to sex frog - sex **Unknown**
  - I** < 10 g - **Immature**, sex unknown
  - M** > 10 g, nuptial pads and thick forearms - **Male**
  - F** > 10 g, no nuptial pads, thin forearms - **Female**



**Tag frogs and record ID data before measuring, in case frog escapes.**

## Step 1A. PIT Tagging - All Oregon Spotted Frogs > 35 mm SUL and > 10 g

If frog is smaller than 35 mm or 10 g see below for VIE tagging.

### 1. Scan and sterilize the PIT tag

Scan and record the PIT tag code before handling the frog. Record PIT # in binary form with no spaces (eg. 985000012345678). Place tag and cuticle cutters in alcohol solution to sterilize.



### 2. Stabilize the Frog

Hold the frog in your non-dominant hand, with its legs stretched out and held with two fingers. Rest its belly on your knee to stabilize yourself and the frog.



### 3. Create a skin fold

Using the thumb and index finger of the hand holding the frog, squeeze gently along the lateral lines behind the head to create a central dorsal skin-fold behind the eyes.



### 4. Snip a hole with sterilized clippers

In your dominant hand, hold sterilized cuticle clippers' cutting edge perpendicular to the fold and snip to make a small slit in the skin. Continue to hold the the skin fold with your other hand.

### 5. Insert and secure the PIT tag

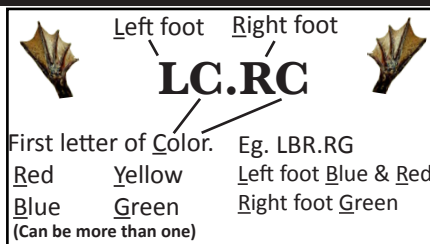
Use your dominant hand to slide the PIT tag into the hole. Use the tip of your finger to guide the PIT tag under the skin of the frog towards its back, ideally past the frog's hip bones. Slide your finger back up the frogs' back to remove air bubbles and re-seal the hole.

### 6. Double check PIT # before release.

## Step 1B. VIE Tagging - All Oregon Spotted Frogs < 35 mm SUL and < 10 g

### 1. Prepare VIE dye

Follow manufacturer instructions to prepare VIE dye. Ensure you have the correct colours available for your tag. Double check your codes. See code →



### 2. Stabilize the Frog

Hold the frog in your non-dominant hand, with its head towards your pinkie finger and the leg that you intend to tag held firmly with hind foot webbing spread using your thumb and index finger.



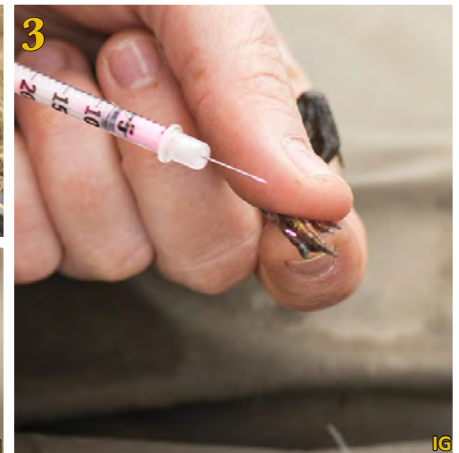
### 3. Insert the sterilized needle

With your dominant hand, insert the needle in the webbing between two toes, either towards or away from the body of the frog.



### 4. Insert and spread the dye

Press the syringe to insert a rice-sized glob of dye into the webbing. Remove the needle and use the tips of your fingers to press and spread the dye into the webbing /skin away from the insertion point. Check with black light to ensure that dye is visible and secure.



**Tag frogs and record ID data before measuring, in case frog escapes.**

## Field Data to be Collected

All fields should be filled out. If no data, indicate no data with ND. Contact the OSFRT Chair for blank digital files.

### Daily Records

Record the following on each field day:

- Site (Watershed / Waterway)
- Date (YYYY/MM/DD)
- Julian Date - day of year / 365 (eg. January 10 = 010)
- Observer 1
- Observer 2
- Start Time
- Weather
- Air Temperature
- Water Temperature
- Water Level at Gauge
- End Time
- Total Time Spent
- Notes

### Trap Locations

Record the following on each field day:

- Site (Watershed / Waterway)
- Trap #
- Date set
- Time Set
- UTM East
- UTM North
- Date Removed
- Time Removed
- Description



### Frog Capture Data

Record the following for each frog:

- Site (Watershed / Waterway)
- Date
- Julian Date - day of year / 365 (eg. January 10 = 010)
- Time
- Trap ID (or Hand Capture)
- Species
- PIT tag #
- Mark (New capture / Recapture - ie. PIT present?)
- VIE Present? (Yes / No)
- Existing VIE code (See p.3)
- VIE Added? (Yes / No)
- Added VIE code (p.3)
- Sex (Unknown / Immature / Male / Female)
- Gravid? (Yes / No / N/A)
- Mass (g)
- Snout-Vent Length (mm)
- Right shank (mm)
- Frog notes (anything of note, Photo ID)

### Sample FileMaker Form

Contact the OSFRT Chair for a blank database

Site	Maria Slough	Date	2016-03-24	<input type="checkbox"/>	<b>New Record</b>
Julian Date	84	Time	11:50:17 AM		
Trap ID	45	Hand Capture - Coordinates (UTM E)		(UTM N)	

#### Marking

Species	RAPR	VIE Added?	N	(Yes / No)
PIT Tag #	985153000902652	Added VIE Code		
Mark	R	(New / Recapture)		
VIE Present?	Y	(Yes / No)		
Existing VIE Code	LB			

**LC.RC**

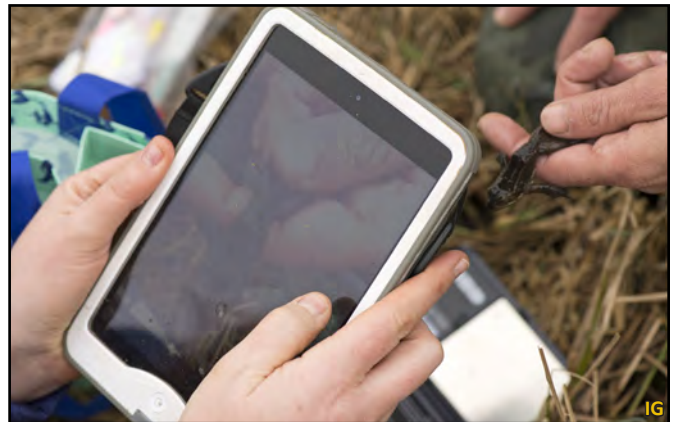
Left foot    Right foot

First letter of Color. Eg. LBR, RG  
 Red    Yellow    Left foot Blue & Red  
 Blue    Green    Right foot Green  
 (Can be more than one)

#### Measuring

Sex	F	(Immature / Male / Female)	Right Shank (mm)	27.9
Gravid?	Y	(Yes / No / N/A)	Snout-Vent Length (mm)	26.0
Mass (g)	29.6			

Frog Notes	Picture
SAMPLE RECORD. This frog was caught yesterday in the same trap. In amplexus with male in trap (985153000989725).	



British Columbia Oregon Spotted Frog Recovery Team Protocols for Handling, Measuring and Marking Frogs. July 2016. Prepared by Balance Ecological in Vancouver, British Columbia for the Fraser Valley Conservancy.



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**Tag frogs and record ID data before measuring, in case frog escapes.**