VISUAL SURVEY PROTOCOL AND DATA FORM

FIELDS IN RED ARE MANDATORY FOR DATA ENTRY

INTRODUCTION

This survey method is the most general of survey techniques. It can be used for amphibians or reptiles or both at the same time. It can be used in wetlands and in terrestrial sites. It can be used as a liner transect or to search a defined area. However, as a survey technique this may produce the most variable data because the results are very dependant on the experience and skill of the surveyor. However, with proper training and over the long term, this can produce valuable results on occupancy, persistence and relative abundance of species at a site.

OBJECTIVE

To assess the presence and potentially the relative abundance of amphibians and reptiles at a given site, to identify important areas for protection and conservation, and to monitor trends in relative abundance.

METHODS

Where to survey: Any habitats that might favour amphibians or reptiles can be chosen. Even backyards and semi-urban sites could be monitored even if abundance is low. Understanding reasons for low numbers is just as important as identifying high abundance sites. Backyard ponds and school ponds are ideal locations because of logistical ease and hence the potential for long-term commitment to monitoring.

When to survey: The optimum time and frequency of surveying will depend on the site, the amount of effort, and logistical ease of access. The timing and frequency should be discussed with the B.C. Frogwatch coordinator once the site is chosen. The presence and abundance of amphibians and reptiles at a site can vary from year to year even in the same location, and so multiple counts per year (e.g., once a month through the active season) and over the years (minimum 5 years but longer the better) will provide better data.

How to survey: Visual surveys can be conducted in aquatic habitats such as ponds and wetlands, along riparian areas, along the shoreline, along streams (for tailed frogs), or in terrestrial habitats such as rocky areas, talus slopes, grassland, and even along rock walls and gardens in urban areas. It is important that the area surveyed remains the same year after year, so that the data can be comparable across years. The survey area can either be a transect (a line along the shore line) or a quadrat (the whole pond or a bay in a lake or a talus slope or rock garden). Mark the borders of the survey area with permanent markers, and record the UTMs using a GPS unit. Estimate the area surveyed either using the GPS or measuring tape in the field, or from a high resolution map. The location of your survey site is indicated by the “Study area name” (the naming convention is explained in the data sheet). The entire survey area can be divided into smaller sampling units, like 20-100m segments of a transect or 1-25 m^2 plots of a larger area or small discrete ponds in a wetland complex. These smaller sample units are sequentially numbered with a “Site Name” e.g., multiple small shoreline segments within a larger wetland could be 2014_VisualTransect_LizardLake_1, 2014_VisualTransect_LizardLake_2 and so on.

At the start of the project record project level information such as project leader name, study area name, site names and UTMs, and landscape information (First two page of the printed data form and first two pages of the Excel data sheet).

At the start of each survey session/day fill out the information at the top of the second page of the data sheet such as date, start time, persons conducting the survey, and weather conditions.

Identifying amphibians and reptiles requires training and experience. Usually, searchers are able to visually survey a 4 meter wide transect, 2 meters on either side. When there are only a few animals, UTMs of each egg mass can be recorded. When there are many animals, it would be best to provide total counts in each sub-sampling unit as divided by the Site Names. The Site Name UTMs can be used for each of these total counts. Remember to use the BC Ministry of Environment disinfection protocol if surveying multiple wetlands (http://www.env.gov.bc.ca/wld/documents/wldhealth/BC%20Protocol%20-%20Amphibian%20field%20researchers%202008.pdf).

Equipment List: GPS (and spare batteries / charged); Digital camera (and spare batteries / charged); BC Frogwatch visual survey datasheet (below); Pencils; Clipboard; Watch; Thermometer; polarized sunglasses; life jacket if surveying from a boat; Field guides.

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OBSERVER INFORMATION

Project Leader: (*This information is entered on page 1 "Observer Info" on the Excel data sheet*)

First Name _____ Last Name _____Email _____

Other Observers (*Entered on Excel data sheet page 3 under "Surveyor" on the if data are collected by someone other than the project leader*)

First Name _____ Last Name _____

STUDY AREA NAME_____

The naming convention is: Start Year_SurveyMethod_Site-Name_Region e.g., *2014_EggMass_LizardLake_Okanagan*

Habitat description: How would you classify the study Area? Circle one below and enter code in Excel data sheet

AF	AG	AS	BU	DC	FR	GR	RO	TR	UR
Aquatic - Flowing	Cultivated Agricultural	Aquatic - Still	Bush or Scrub land	Described in comments	Forest Related	Grassland	Rock/Exposed Soil	Transportation Transmission	Urban or Residential

SITE NAME – Use sequential numbering if subsampling a larger wetland or subdividing the shoreline. If not, just add "1" to the Study Area Name to fill in this column in the Excel Data form

Site Name (transect/ quadrat #)	UTM Zone	Easting (start or center)	Northing (start or center)	Habitat[1] Descrip. (codes below)	Habitat[2] Descrip. (codes below)
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					

[1] For Aquatic sites record Surface description. For terrestrial sites record Human Activity or leave blank

[2] For Aquatic sites record bottom description. For terrestrial sites record Land Use or leave blank

Surface description

Described in comments	Open Water	Submergent vegetation	Emergent Vegetation	Floating Vegetation
DC	*OW*	*SV*	*EV*	*FV*
Provide sufficient detail	*No vegetation is visible within 1 metre below the surface.*	*Vegetation is visible within 1 metre of the surface, but does not break the surface of the water.*	*Vegetation breaks the surface of the water and is rooted in the bottom substrate.*	Vegetation is floating on the surface of the water and may or may not be rooted.

Bottom description

Described in Comments	Muddy	Sandy	Gravelly	Rocky	Detritus	Woody Debris
DC	*M*	*S*	*G*	*R*	*D*	*WD*
Provide sufficient detail	Inorganic particles between 0.062-2.00 mm diameter)	Inorganic particles between 0.062-2.00 mm diameter	Pebbles between 2-70 mm diameter	Rock between 70-250 mm diameter	Organic material less than 150 mm long.	Pieces of trees and sticks greater than 150 mm long.

Evidence of Human activity in and within 100 metres of the site (circle below and type in code in Excel data sheet):

Not Evaluated	Little Evidence	Some Evidence	Moderate Evidence	Much Evidence
NE	*LE*	*SE*	*ME*	*MU*
Evidence not evaluated	For example, a back-country trail.	For example, a swimming hole, lake with boat access but no residential development.	For example, a large park within a developed area with many hikers but no motorized road access, lake with some houses but shoreline and surrounding dominant vegetative cover left undisturbed.	For example, lake with residential developments, docks and modified foreshore, vineyards, agricultural, cattle watering ponds, park surrounded by roads.

Land Use Within 100 m of the Site (circle dominant/majority habitat below and type in code in Excel data sheet):

TR	*AS*	*AF*	*AG*	*FR*	*RO*	*UR*	*BU*	*GR*	*DC*
Transportation/ Transmission Corridor	Aquatic Still	Aquatic Flowing	Cultivated/ Agricultural	Forest Related	Rock, Exposed soil	Urban or Residential	Bush/ Scrub land	Grassland	Described in Comments

Biotic description (circle below and type in code in Excel data sheet):

Evidence of cattle activity at or with 100 m of site? (circle)	Not Evaluated	Yes	No
Evidence of beaver activity (aquatic habitats only)? (circle)	Not Evaluated	Yes	No
Native fish present (aquatic habitats only)? (circle)	Not Evaluated	Yes	No
Non-native fish present (aquatic habitats only)? (circle)	Not Evaluated	Yes	No

SURVEY DETAILS (TYPE IN CODE IN EXCEL DATA SHEET):

Code	Call	Egg Mass	Road Transect	Visual Transect	Visual Quadrat
Survey method	Call Surveys	Egg Mass Surveys	Road Transect Surveys	Visual Transect Surveys	Visual Quadrat Surveys

If you are using a line along a shoreline or terrestrial habitat enter information in these two (green) columns

Transect length _____metres Initial bearing at start point _____° (1-360) (pointing towards end point)

If you are searching a square area within a wetland or terrestrial habitat enter information in this (blue) column

Size of area is _____ square metres

If the area is a mixture of terrestrial and habitat:
Area of water surface_____

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Date _____ Start Time _____ End Time _____ Project leader/Surveyors _____

Cloud Cover

Clear	*Cloud cover <50%*	*Cloud cover >50%*	*100 % Unbroken clouds*

Wind Speed

None	*Leaves move slightly*	*leaves rustle but not twigs*	*leaves and twigs move constantly*	*small branches move, dust rises*	*small trees sway*	*large branches move, wind whistling*

Air Temp (°C) _____

Water Temp (°C) _____

Preceding 24hr Rainfall (mm) _____

Current Precipitation: _____

Water turbidity: _____ (Enter the depth to which you can clearly see)

Use a thermometer to measure temperature. Use rain gauge or data from the local weather station to record rainfall. If you are guessing/estimating either temperature or rainfall, please indicate it in the comments.

None	Foggy	Misty Drizzle	Drizzle	Light Rain	Hard Rain	Snow
	Reduced visibility, like a cloud	*No distinct rain drops but can dampen clothing*	*Fine rain drops (<0.5mm diameter), visible on ground*	*Puddles not forming quickly, <2.5 mm rain per hour*	*Puddles form quickly, >2.5 mm rain per hour*	

Site Name segment #	UTM Zone	Easting	Northing	Species ID	Total Count	Lifestage/sex[1]	Behaviour[2]	Sign[3] type	Comments

[1] Life-stage/Sex: Adult Males, Adult Females, Adult Unknown Sex, Juvenile Unknown Sex, Unknown Age and Sex

[2] Basking, Drinking, Feeding, Fleeing, Hunting, Living (Activity that could not be classified), Migrating Daily, Migrating Seasonally, Traveling or Described in Comments,

[3] Body parts, Carcass, Snake Pellet, Shed Skin, or Described in Comments,

Other Comments about the Site and the observation

Data must be transferred to the Excel data form: Visual Survey Excel Template
Download form from: http://www.env.gov.bc.ca/wld/frogwatch/frogwatching/visual-surveys.htm
Scanned data forms and Excel files can be emailed to: bcfrogwatch@victoria1.gov.bc.ca
Paper forms may be mailed to: B.C. Frogwatch, Ecosystems Branch, Ministry of Environment, PO Box 9338 Stn Prov Govt Victoria, B.C. V8W 9M1