

Amphibian Studies within the CNC Research Forest

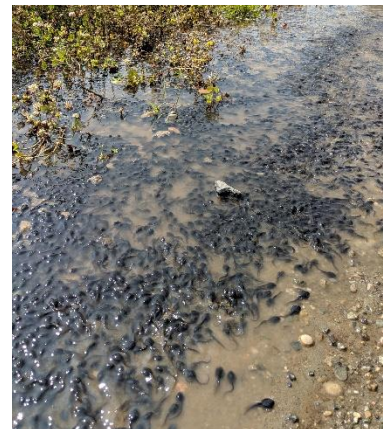
Project Summary

INTRODUCTION: A species of special concern in Canada, the western toad, currently yellow-listed in British Columbia, is the province's only true toad species. Occupying both aquatic habitat (breeding) and upland, terrestrial habitat (foraging, hibernation), these small omnivores are sensitive to habitat loss/fragmentation, road mortality and predation. Migrating up to several kilometers to return to breeding sites, these toads exhibit high site fidelity, returning to communal breeding sites each year.

OBJECTIVES: As little is known about the distribution of these toads throughout much of the province, in the summer of 2020, the CNC Research Forest plans to implement two projects to establish baseline data on the distribution of western toads within various Research Forest Units north of Prince George, British Columbia. Two projects will be carried out to examine: 1) the use of temporary roadside ponds as potential breeding areas, and 2) to quantify the use of upland habitat created by harvest. All data obtained from these studies will be consolidated to further understand the distribution of amphibians within the CNC Research Forest. Habitat observations including coarse woody debris abundance, vegetation structure/diversity, and distance to forest/wetland are to be recorded at all locations in which sightings are noted.

METHODS: Use of Temporary Roadside Ponds as Breeding Habitat

To identify and quantify the use of temporary roadside ponds, recently harvested (<1year) areas within CNC Research Forest Units E and F are the main focus. Pending access in early-mid May, temporary roadside ponds will be identified at each of the locations, with GPS coordinates, elevation, aspect, pond area, average/maximum depth, date of observation, distance to nearest wetland, and distance to forested edge recorded at each pond. Data including species, size, condition (health), colour and life stage are to be recorded for all amphibians observed. Weekly monitoring of ponds with confirmed amphibian use is required until metamorphosis. Pond area, average/maximum depth, counts of eggs/tadpoles/juveniles and mortality events are to be recorded each week. Time-constrained aquatic surveys, starting in late May/early June, will occur in wetlands within or adjacent to each of the aforementioned sites. All amphibians encountered (adults, egg mass, tadpoles) are to be identified to the species. GPS points, counts (if possible) and photographs are required for all incidences of amphibians.



Western Toad tadpoles observed along a flooded wetland on route to Unit D (Caine FSR). Uschenko 2019.

METHODS: Habitat Use and Western Toad Distribution

With an emphasis on upland habitat created by harvest, up to six Research Forest Units have been selected to quantify the distribution of western toads. Due to the vast area selected for sampling, road surveys for this nocturnal species will begin after dark, commencing in mid-late May, pending access. All transects surveyed will encompass both cutblock and wetland/riparian habitat, with observations of all amphibians, including western toads recorded (GPS point, observation time). Counts of all individuals detected are required. In addition, auditory surveys, conducted at pre-selected sites along survey transects are to occur simultaneously. A minimum of three transects are to be conducted at each site to improve the likelihood of recording migrating individuals.