

#1612

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AMPHIBIAN SURVEY IN THE BOW  
VALLEY

(including some reptile observations)

and some additional observations in Banff National Park.

1992, 1993, 1994 Seasons

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668.E2  
A463  
1995  
C2

Bow Valley Naturalists  
Box 1693  
Banff, AB  
T0L 0C0

compiled by Diane Mcivor

INTRODUCTION

The amphibian observations which have been compiled in this report were collected as part of a three year monitoring project conducted in Alberta and across Canada. In response to a growing concern about an apparent global decline in amphibian populations, the International Union for the Conservation of Nature (I.U.C.N.) formed a task force to study the issue. A Canadian Working Group was established to assess whether there is sufficient data to conclude that there is a general decline in amphibian populations. Following the third field season (1994) a report from Alberta will be presented to the Canadian Working Group and I.U.C.N.

These observations were submitted to the Bow Valley Naturalists (B.V.N.) by a number of people, all participating in the project as volunteers. It should be noted that the data do not reflect any sort of rigorous or consistent methodology. For the most part, records were obtained on a random, opportunistic basis. As such, their value with respect to the monitoring project may be extremely limited. On the other hand, they tell us more about the occurrence and distribution of amphibians than we knew three years ago. This work could be considered a first step towards meaningful, long-term monitoring in the Central Rockies Ecosystem of a group of animals which until now, has received little study, attention or concern.

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Amphibian Data Survey

LOCATION: Flowing Waters Beaver Pond (Bow Valley Prov. Park)

SITE DESCRIPTION: Beaver pond east of IX Hwy. near park boundary; very little aquatic vegetation in comparison to Middle Lake.

OBSERVERS: Megan Kopp/Gerald Matthews

- May 5/92 - 21:00 - 21:45 - Nothing seen or heard - weather clear, mild.
- May 28/92 - 21:53 - 1 Wood Frog - shallow water near shore, swimming away.  
Weather: clear, mild
- June 3/92 - 20:29 - 1 Wood Frog (small 3cm.) - west edge of beaver pond; lots of undercut bank edge and grassy shoreline. Resting on bottom of pond, partially submerged in mud.
- 20:32 - 1 Wood Frog (small 3cm.) - same site as above.
- 20:46 - 1 Wood Frog (large 8 cm.) - N.W. edge of beaver pond, resting on bottom of pond, partially submerged in mud.
- 20:47 - 1 Wood Frog (6 cm.) Same site as above.
- 20:50 - 1 Wood Frog (6 cm.) Same site as above.
- 20:51 - 1 Wood Frog (6 cm.) Same site as above  
Weather; clear and mild.
- June 11/92 - 20:30 - 21:30 - Nothing seen or heard - Upper and portion of lower beaver pond.  
Weather; steady rain, cool
- June 17/92 - 21:05 - 1 Frog. Moved too quickly into water to adequately identify. On shore (grassy) near south edge of beaver pond. Jumped into water and swam away.  
Weather; partially overcast.
- Observer: Bill O'Conner
- June 21/93 - no time given - Searched the perimeter of entire pond. No sightings.  
Weather: Overcast, +17 C.

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LOCATION: Middle Lake (Bow Valley Prov. Park)

SITE DESCRIPTION: Shallow kettle lake; perimeter surrounded by successional plant species; large amounts of cattails, rushes etc. making walking difficult in places.

OBSERVERS: Megan Kopp. Gerald Matthews.

- May 14/92 - 21:47 - 1 Wood Frog - shallow water (6") near shore, burrowing under reeds.  
Weather; overcast.

May 22/92 - 20:15 - 21:30 - Nothing seen or heard.  
Weather; clear, mild.

May 28/92 - 8:45 - 1 Wood Frog - shallow water near shore, lots of aquatic  
vegetation. Swimming away.  
- 21:00 - 1 Boreal Chorus Frog. Same as above.  
Weather; partially overcast.

OBSERVERS: Colleen Jones

June 12/93 - 21.00 - 22.00 - 1 Wood Frog (21.40) on the N.W. side of lake where the  
edge vegetation is most dense. Jumped from shore  
into water.  
Weather: Rainy, slight breeze, + 5 C.

OBSERVER: Rhonda Rasmussen

June 22/93 - 21:45 - 22:30 - Heard Chorus Frog singing (21:50) at north end of lake  
in reeds.  
Weather: Overcast, cool, snowing at higher elevations. Very strong  
winds.

OBSERVER: Colleen Jones

May 7/94 - 21:00 - 21:35 - no frogs seen or heard. Long egg masses seen, east  
shoreline. (may have been algae strings).?  
Weather: no comments.

May 13/94 - 20:12 - 20:55 - no frogs seen or heard. Egg masses seen mixed with algae  
strings on eastern shore.  
Weather: Cloudy, high pressure system moving in. 12 C.

OBSERVER: Regan Smith

May 24/94 - 20.45 - 21.40 - Nothing seen except for mosquito larvae.  
Weather: windy. 22 C

OBSERVER: C. Jones

June 9/94 - 22.05 - 22.35 - Nothing seen or heard. Weather: no comments.

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LOCATION: Many Springs UTM PG322594 (Bow Valley Prov. Park)

SITE DESCRIPTION: Slow trickling ponds fed by spring water, some still water puddles.

OBSERVER: C. Jones

May 17/92 - 22.30 - 2 Western Toads. - Small, still-water puddle with  
grass/sedge edges. Slowly swimming away from me.  
Weather; clear, 15 C., no wind, dark.

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LOCATION: Chilver Lake, UTM PG355362/595

SITE DESCRIPTION: Lake edges along north side are mostly rocky and fallen trees. East edge has muddy grass and sedge edges.

OBSERVER: C.Jones

- May 24/92 - 21.15 - 1 Wood Frog. Sedges adjacent to water. Jumped towards shore.  
- 22.04 - 1 Chorus Frog. Small tuft of grass next to water 5m. from actual bank. Jumped into water.  
- 2 Western Toads. Heard.  
- 1 Wood Frog. Heard.  
- 12 Chorus Frogs. Heard.  
Weather: Clear skies, slight breeze, 15 C.

OBSERVER: Karen Hayduk, Park Ranger

SITE DESCRIPTION: Area from group camp to YMCA Boat Launch(Chilver Lk)

- May 30/92 - 21.50 - Grey lumpy eggmass ? Area west of broken fence line leading into water, near small shrubs floating in water.  
Weather: Overcast, light west wind, 14 C. Storm on horizon to west.

- June 11/92 - 20:30 - 21:03 - Nothing seen or heard. From YMCA Boating area to 500 m. west.  
Weather: shower and downpour.

- June 19/92 - 22.17 - 1 Chorus Frog - Beach/reed area at eastern end of lake. Sandy area 5 m. from large reed area. Hopped into lake and swam into reeds.  
- 22.17 - 1 Chorus Frog - Area of shore near largest reed patch, eastern shore of lake. Hopped & swam.  
Weather; scattered cloud, no wind, 22 C.

OBSERVER: Colleen Jones

- June 7/93 - 21.40 - 22.15 - Heard 2 Wood Frogs (21.45) in the reed grass island just offshore.  
- Heard 2 Chorus Frogs (21.50) on shore of lake (sand, reed grass & waters' edge).  
- 50 Toad tadpoles(22.00) swimming in sandy bar area protected by reed grass. (still water)  
Weather: Overcast, calm, rain coming.

- June 20/93 - 21.30 - 22.15 - Heard 3 Chorus Frogs (21.45) in the reed grass island 5 m. offshore.  
- Saw 1 Chorus Frog (21.55) in the reeds along the shore. Jumped into the water.  
- Heard 3 to 4 Chorus Frogs on south side of the lake.  
Weather: Few clouds, no wind, +15 C.

June 22/93 - 21:15 - 21:30 - Too windy (storm approaching). Waves hitting shore. No sign of amphibians.  
Weather: Windy, overcast, +7.

OBSERVER: C. Jones

May 1/94 - 19:50 - 20:30 - Nothing seen or heard.  
Weather: Clear, sunny, breeze. 20 C.

May 16/94 - 21:10 - 21:36 - Nothing seen or heard.  
Weather: Windy, 10 C.

May 28/94 - 20:20 - 20:50 - Nothing seen or heard.  
Weather: 10 C.

June 5/94 - 21:20 - 21:45 - Nothing seen or heard.  
Weather: 15 C.

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LOCATION: Salamander ponds. UTM PG341611 (Bow Valley Provincial Park)  
SITE DESCRIPTION: Several still-water puddles/ponds in abandoned borrow-pit trenches.  
OBSERVER: Paul Vidalin, Park Ranger

May 31/92 - 20:30 - 1 Western Toad - Pond #1. Singing  
1000+ newly hatched toads. Swimming  
- 20:30 - 1 Long-toed Salamander. Juvenile. Pond #2. Under rock  
- 21:00 - 5 Long-toed Salamander. Juvenile  
Some larval salamanders.  
Salamander eggs and toad larvae. Pond #12. Under logs.  
- 22:00 - 2 Wood Frogs. Near Pond #5.  
Weather; Warm, clear, 15 C., calm.

OBSERVER: C. Jones

June 1/92 - 13:39 - 1 Wood Frog. Dry gully with grasses and shrubs. Jumped up berm towards a shrub.  
- 13:45 - 1 Long-toed Salamander. Under rock 20 m. from water puddle. Resting.  
- 13:55 - 1 Wood Frog. Pond #2. Jumped from water towards shrub.  
Weather clear, no breeze, 15 C.

June 8/92 - 22:07 - 1 Wood Frog. Pond #3 - in the grasses of the water edge. Jumped into sedges towards a bush.  
- 22:15 - 1 Wood Frog. East of Pond #3, along the water edge. Jumped away from water.  
- 22:22 - 1 Wood Frog. North of Pond #6, mud and grass edges. Jumped towards a bush on a gravel rock berm.  
- 22:24 - 1 Wood Frog. Pond #7, mud and grass edges. Jumped

towards bushes.  
- 22:37 - 1 Western Toad. Heard. Near pond #6 along grass and shrub edge. Singing.  
Weather: Clear skies, slight breeze, 15C.

June 21/92 - 21.00 - Hundreds of young toads (tadpoles). Pond #1. Swimming.  
- 21.30 - 1 Long-toed Salamander. Juvenile. Pond #2. Under rock.  
- 1 Western Toad. Heard singing.  
- Chorus Frogs. Heard singing.  
- 21.40 - 1 Frog?. Pond #2. Hopped into water.  
Weather: warm, clear, calm. 20C. \* Note: H2O level in all 12 ponds has almost doubled since late May.

OBSERVER: Colleen Jones.

May 17/93 - 21:00 - 22:00 - 50 Toad tadpoles (21.05) recently hatched. Swimming in Pond #1.  
- 1 Wood Frog (21.15). Jumped from bushes to water in Pond #2.  
- 1 Wood Frog (21.40). Jumped from bushes to water in Pond #7.  
- 15 big head tadpoles (toads?) (21.45) swimming in Pond #6.  
Weather: Few clouds, breezy, +7 C.

June 11/93 - 21.25 - 22.15 - 1 Wood Frog (21.35). Jumped from shrub area into water.  
- 20 Toad tadpoles (21.30) swimming in Ponds #1 & 3. (big black heads, small tail fins).  
- 25 Salamander tadpoles (22.05) swimming in Ponds #8 & 9. (smaller heads, more flattened).  
Weather: calm, few clouds. 12 C.

June 22/93 - 22.00 - 23.00 - 20 Toad tadpoles (black with big heads) (22.10) swimming in Pond #1. The pond is shallow surrounded by sedges, willows and water birch.  
- Salamander tadpoles (smaller, brown, pectoral fins showing) (22.15) swimming in Pond #3. Same description as Pond #1 above.  
- 1 Wood Frog (22.30) in Pond #2. Jumped from shrub area into water. The pond is surrounded by willows and water birch.  
Weather: Windy, overcast, +7C.

OBSERVER: C. Jones

May 6/94 - 13.05 - 14.00 - 1 Wood Frog heard. No eggs seen.  
Weather: Sunny, clear, breezy. 15 C.

May 29/94 - 13.35 - 14.10 - (15 Wood Frogs, 3 types of tadpoles.):

13.35 -14.05 - Ponds 1,4, 6, 8 (northside ponds with consistent water levels.)Tadpoles of Wood Frogs, Western Toads and L.T. Salamanders.

- 13.37 - 1 Wood Frog in Pond 1. Grassy edge. Jumped away.
- 13.42 - 1 Wood Frog in Pond 2. Shrubs. Jumped away.
- 13.43 - 1 Wood Frog in Pond 2. Waters' edge. Jumped away.
- 13.44 - 3 Wood Frogs in Pond 2. Reeds at pond edge. Jumped away.
- 13.46 - 1 Wood Frog in Pond 2. Grass. Jumped away
- 13.47 - 2 Wood Frogs in Pond 2. Shrubs. Jumped away.
- 13.48 - 1 Wood Frog in Pond 2. in the water. Jumped away.
- 13.49 - 3 Wood Frogs in Pond 2. Grass/shrubs. Jumped away.
- 13.50 - 1 Wood Frog in Pond 2. Grass. Jumped away.
- 13.51 - 1 Wood Frog in Pond 2. Reeds. Jumped away.

Weather: 20 C.

June 5/94 - 17:30 - 18:15 - (14 Wood Frogs, 2 Western Toads, 3 types of tadpoles.):

- Ponds 1,4, 6, 8. Tadpoles of Wood Frogs, Western Toads, L.T. Salamanders.
- 17:30 - 2 Wood Frogs. Pond 1. In water.
- 17.37 - 1 Wood Frog. Pond 2. Grasses/shrubs.
- 17.38 - 1 Wood Frog. Pond 2
- 17.38 - 1 Western Toad. Pond 2. In water. Burrowed under the algae.
- 17.39 - 3 Wood Frogs. Pond 2. Water/grass edge.
- 17.40 - 2 Wood Frogs. Pond 2. Grass/shrubs.
- 17.41 - 1 Wood Frog. Pond 2. Grass.
- 17.42 - 2 Wood Frogs. Pond 2. Water.
- 17.45 - 1 Western Toad (adult). Pond 2. Grass.
- 17.48 - 1 Wood Frog. Pond 2. Heard.
- 17.55 - 1 Wood Frog. Pond 1. In water.

Weather: 17 C.

June 12/94 - 20:20 - 21:00 - (18 Wood Frogs, 3 Western Toads, new string of eggs (Toad?):

- 20:26 - 1 Wood Frog. Pond 1. Grass.
- 20:42 - 1 Wood Frog. Pond 2. Grass/shrubs.
- 20:43 - 2 Wood Frogs. Pond 2. Water.
- 20:44 - 3 Wood Frogs. Pond 2. Water.
- 20:47 - 3 Wood Frogs. Pond 2. Grass into water.
- 20.48 - 1 Western Toad. Pond 2. in water.
- 20:49 - 2 Wood Frog. Pond 2. In water.
- 20:50 - 1 Western Toad. Pond 2. in water.
- 20:53 - 1 Wood Frog. Pond 2. In water.
- 20:54 - 1 Wood Frog. Pond 2. In water.
- 20:55 - String of eggs (toads?) in shallows.Pond 2



- 20:56 - 2 Wood Frogs. Pond 2. In water.
  - 20:57 - 1 Wood Frog. Pond 2. In water.
- Weather: Cloudy, breezy. 15 C.

June 25/94 - 21:20 - 21:50 - (8 Wood Frogs, 1 Western Toad, 3 L.T. Salamanders, new tadpoles from egg mass (dark black - Wood Frogs?)):

- 21:25 - 2 Wood Frogs. Pond I. Grass/shrubs. Hopped away.
  - Oodles of tadpoles in Pond I.
  - Types; 1) Black with black tail fin.
  - 2) Greenish with black spots and skeleton like tail.
  - 3) Greenish/somewhat translucent with fins behind head followed by tail.
  - 21:35 - 2 Wood Frogs. Pond I. Grass/shrubs.
  - 21:36 - 1 Wood Frog. " " "
  - 21:38 - 1 Western Toad. Pond I. In water.
  - 21:39 - String of eggs has hatched. Appears to be black. In water.
  - 21:40 - 1 Wood Frog. Pond I. Grass
  - 21:43 - 2 Wood Frogs. Pond I. In water.
  - 21:45 - 3 L.T. Salamanders. Under a piece of wood.
- Weather: Breezy, storm approaching. 16 C.

LOCATION: Bow Valley south borrow pit.

SITE DESCRIPTION: Old borrow pit adjacent to service road. Slough 50 m X 50 m. surrounded by rushes, sedges and grasses.

OBSERVER: C. Jones.

- June 8/92 - 21:30 - 1 Chorus Frog. In reeds adjacent to water. Singing then jumped into water and hid under mud.
  - 21:35 - 1 Chorus Frog. Same as above.
- Weather; slight breeze, clear skies. 15 C.

OBSERVER: C. Jones

- May 28/94 - 19:40 - 20:10 - 1 Wood Frog. Reeds.
  - 1 egg mass in water surrounded by reeds. Wood Frogs?
- Weather: 10 C.

- June 5/94 - 21:50 - 22:10 - No frogs seen or heard.
- Weather: 15 C.

LOCATION: Beaver Ponds near railway tracks. BVPP. UTM PG345614

SITE DESCRIPTION: Open water ponds 400 m. X 100 m. surrounded by sedges and rushes.

OBSERVER: C. Jones.

- May 18/92 - 8:55 - 1 Wood Frog. Heard. Nothing seen.
- Weather: Storm approaching from the west, 50 km/hr. winds, waves forming on the ponds.

LOCATION: Yamnuska Natural Area

SITE DESCRIPTION: Small puddles on access road parallel to Hwy 1A north of Hwy. 1X Jct.

OBSERVER: Heather Dempsey

August 22/93 - 16:00 - 2 Wood Frogs. Adults.

Weather: Overcast, 20 C.

SITE DESCRIPTION: East End Beaver Ponds. UTM PG332648. New (3 year old) beaver ponds. Dead trees standing. Dikes dividing ponds in three. Beaver house in the middle pond and one on shore of first pond. Active. Beavers and muskrat seen. Quite deep.

OBSERVERS: Mike & Diane McIvor

April 19/92 - 3.00 - 3.30 pm. - 2 Spotted Frog - Calling. Edge of first pond  
- 3 Wood Frog - Calling. Middle of first pond near west end  
(2), 1 at the edge of grassy shore.

Weather; Warm, sunny, 14 C.

May 5/92 - 9:00 - 9:30 - 1 Wood Frog. Calling. Middle of first pond, edge of grassy shore. Same location as April 19.

Weather; clear, warm.

SITE DESCRIPTION: Beaver Ponds (middle of the Yamnuska). In one of the beaver made channels.

OBSERVERS: Mike, Diane McIvor

May 18/94 - mid-day - - 1 Spotted Frog. On the edge of the channel. Saw the light jaw stripe and the spots. Jumped in and disappeared in the muck at the bottom of the channel.

Weather; mainly sunny, warm, windy.

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LOCATION: Canmore Creek. Canmore. Bow Valley.

SITE DESCRIPTION: Small shallow ponds near Canmore Creek.

OBSERVERS: Bob Smith, Mike, Diane McIvor.

July 25/93 - evening - - 50+ larvae. Small black tadpoles. No legs showing. 3 young. Very small. On the edge of pond. Bob reported seeing numerous #'s of tadpoles 3 weeks earlier. (Wood Frogs?)

Weather: overcast, rain.

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LOCATION: Weigh Station, west of Calgary along the TCH.

SITE DESCRIPTION: Pond near parking lot. Old Heritage Rd.

OBSERVER: Scott Lamont

May 12/92 - 9:00 pm. - Chorus Frogs (many). Calling. At dusk.

Weather; nice spring evening.

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LOCATION: Quarry Lake. Canmore  
SITE DESCRIPTION: 2nd Lake  
OBSERVER: Scott Lamont

June 20/92 - 1:00 am - 3 Frogs? Calling. In lake.  
Weather; clear, warm night.

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LOCATION: Wind Ridge Summit Trail.  
SITE DESCRIPTION: Below treeline. Trail in Wind Valley on south side of the Bow Valley  
OBSERVER: Scott Lamont.

June 7/92 - 10:00 am - 1 Western Toad. On the trail side.  
Weather hot.

OBSERVER: Rosanne Konrad

Aug. 12/94 - 13:00 - 15:00 - 2 Western Toads. On the trail. (2 km. from gate).  
Weather: warm, sunny. 23 C.

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LOCATION: Bow River campsite (at bridge)  
SITE DESCRIPTION: ? east of Canmore.  
OBSERVER: Rosanne Konrad

Aug 1/94 - 11:00 - 1 Western Toad. On riverbank.  
Weather: warm, sunny.

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LOCATION: Carrot Creek. BNP UTM PG092674  
SITE DESCRIPTION: upstream of Bow River  
OBSERVER: H. Dempsey

July 23/94 - 14:30 - - 1 Wood Frog.  
Weather: Hot. 30 C.

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LOCATION: Hidden Lake. BNP. UTM PG101690  
SITE DESCRIPTION. Small pond just west of Carrot Creek.  
OBSERVERS: Jeff Waugh, Al Williams, Donna Boheslowich, Shirley Truscott, Mike Potter

August 20/93 - 11:40. - 1 Long-toed Salamander. Young  
Weather: Fine, sunny, warm

OBSERVERS: Mike, Diane McIvor

August 29/93 - 15:00. - 1 Wood Frog. In the bay at the east end of Hidden Lake.  
Heard it call half a dozen time. Never did find it.  
Weather: Cool with sunny periods.

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LOCATION: Two Jack Lake Campground. BNP. UTM PG047757  
SITE DESCRIPTION: Located on Two Jack Lake  
OBSERVER: Perry Davis

Oct. 22/92 - no time given - 1 Long-toed Salamander. Sitting on water main pipe  
contained inside a wooden unit.  
Weather; warm.

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LOCATION: Johnson Lake Area. BNP. UTM PG057725  
SITE DESCRIPTION: Damned lake south of Lake Minnewanka  
OBSERVERS: Heather Dempsey, Keith Webb

April 24/93 - 15:00-16:00 - 6 to 10 Wood Frogs calling from the northwest bay.  
Weather: Cool, almost snowing.

May 2/93 - 14:00-16:00 - 10 Wood Frogs calling. Some from Johnson Lake, at the  
west and east ends of Beaver Pond located just over  
the hill from Johnson Lake, and some from the Lake  
of the Sticks.  
Weather: Cool, cloudy.

August 29/93 - no time given - 1 Long-toed Salamander under log, in a forested area on  
the north side of lake.  
Weather: Cool, overcast, 16 C.

OBSERVER: H. Dempsey

April 20/94 - 18:20 - 19:30 - 12 Wood Frogs. 2-4 calling in "Muskrat Bay" 10 calling  
at east end of beaver pond above Johnson Lake.

Weather: Warm, clear.

April 23/94 - 10:00 - 11:00 - 16+ Wood Frogs. 10+ calling at east end of beaver pond.  
6+ calling at north end of beaver pond.

Weather: Cool, cloudy.

SITE DESCRIPTION: Lake of the Sticks. UTM PG047757. Abandoned beaver pond north of Johnson Lake. Mainly dried up.

OBSERVERS: Mclvors

June 3/94 - mid-afternoon - 3 Western Toad. 2 calling far side of pond.  
1 on trail just east of pond.

Weather: Sunny. 15 C.

OBSERVER: Peter Duck

June 13/94 - 10:30 - 1 Frog (Wood?). Adult. In the Beaver Ponds.

OBSERVER: Chantal Fortier

July 20/94 - 15:30 - 15:40 - 1 Wood Frog. At the beach. Child had caught it and had it in a pail of water.

Weather: Hot, hot.

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LOCATION: Quiet Pond. BNP. UTM PG035745

SITE DESCRIPTION: Small pond south east of Bankhead.

OBSERVERS: Mike, Diane Mclvor

August 20/93 - 18:00 - 17:00. - 1 Wood Frog (young). 50' away from pond.

Weather: Warm, overcast.

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LOCATION: South Old Dump Wetland. BNP. UTM PG040738

SITE DESCRIPTION: Shallow grassy marsh below the old dump site. Lake Minnewanka Road Loop.

OBSERVERS: Mike, Diane Mclvor

May 4/92 - 20:30 - 21:00 - 4 Western Toad. Calling. 2 from second pond, 2 from pond (middle) opposite side from us. Stop and start every 5 min. at same time as Wood Frog.  
- 3 Wood Frogs. Calling. Under power line at west end and around an island of rush.

Weather; clear, warm wind.

May 5/92 - 22:30 - 23:00 - 3 Wood Frogs. Same site as May 4  
- 4 Western Toad. Same site as May 4

Weather; clear, warm.

OBSERVER: Heather Dempsey.

May 1/93 - 10:00 - 10 Wood Frogs calling  
Weather: Clear, warm

OBSERVERS: The "Banff gang" with Larry Powell

May 6/93 - 21:00 - 22:00 - Some Wood Frogs and Western Toads (no estimates).  
Some calling around the three separate pools.  
Remained silent when we got close. Didn't start calling again until we were away.  
Weather: Warm. Rained earlier in the day. Full moon when it finally came out of the clouds.

OBSERVERS: Mike, Diane McIvor

April 23/94 - 13:30 - 14:00 - 3 doz.+ Wood Frogs calling in 2 separate sites. (far west pond) and on the far side of the mid area.  
Weather: 13 C.

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LOCATION: North Old Dump Wetland. BNP. UTM PG038742

SITE DESCRIPTION: Shallow pond choked full of reeds, north of road through old dump site. Lake Minnewanka road loop.

OBSERVERS: Mike & Diane McIvor

May 4/92 - 19:30 - 4 Wood Frogs. Calling. Far end (middle and east side of pond). Stopped calling as we moved close to them and started again when we got back to road.  
Weather: clear, warm wind.

May 5/92 - 22:30 - 22:40 - 4 Wood Frogs. Same location as May 4/92.  
Weather; clear, warm wind.

OBSERVER: Heather Dempsey

May 1/93 - 22:00 - 20 + Wood Frogs calling.  
Weather: Clear, warm.

OBSERVERS: McIvors.

April 19/94 - 16:05 - 16:10 - 3 doz.+ Wood Frogs. Saw and heard. Able to see them in the binoculars. A group of 8 together plus others scattered. Stopped and disappeared when we got close. Far end and east side of wetland. Some mating.  
Weather: 16 C., after 4 consecutive days of warm, partly cloudy weather.

OBSERVER: H. Dempsey

April 20/94 - 18:00 - 18:10 - Wood Frogs. 30+ calling.  
Weather: Warm, clear.

OBSERVERS: McIvors

April 22/94 - 16:00 - 16:15 - Wood Frogs. 5 doz.+ calling. 30+ adults seen in one site while others were calling in 3 other areas. 63 egg clusters. Separated clusters but all in one big mass.  
Weather: Warm 15 C.

April 23/94 - 13:15 - 13:30 - Wood Frogs. 30+ calling. The same egg mass as above but had increased to 70 separate clusters. 2 of the clusters had white embryos (dead?).  
Weather: 13 C.

April 29/94 - 16:30 - 17:30 - Wood Frogs. 6+ calling in 3 areas. The egg mass (above) has come to the surface. A dozen clusters or so have the "dead" white embryos. The others have elongated larvae (black tips, brown in the middle).  
Weather: 10 - 12 C.

May 3/94 - 21:15 - Wood Frogs. 1, may be more calling at far end of pool. Did not check the egg mass.  
Weather: Clear, cool.

May 6/94 - 13:00 - 13:15 - 1 Wood Frog. Calling at far end of pond.  
Egg mass. Larvae wiggling. Some eggs unhatched and submerged. A lot of the larvae were near the surface in the middle of the mass. Appeared to be drying out. Water striders appeared to be feeding on them. Took a picture. Water level was lower.  
Weather: Hot, sunny. 15 C.

May 10/94 - 19:00 - 19:15 - Wood Frog egg mass has dried up. The water level lower. More larvae dried up.  
- 1 doz+ small tadpoles swimming freely near the egg mass. (size of a large pinhead).  
Weather: Overcast, warm. 13 C.

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LOCATION: Devil's Cauldron. BNP. UTM PG031696

SITE DESCRIPTION: Pool in the middle of the Banff Springs Golf Course.

OBSERVER: Heather Dempsey.

May 4/93 - 20:00 - 21:00 - 1 Long-toed Salamander. Pond very dry.  
Weather: Clear, warm, 20C

May 29/93 - 21:00 - 17 Long-toed (adults) Salamander in the Cauldron.  
Weather: Cool, clear.

OBSERVER: Don Waters

June 1/93 - 20:30 -21:00 - 10 Long-toed Salamander in the Cauldron.  
Weather: Wet and miserable.

---

LOCATION: Cave & Basin. BNP. UTM NG985695  
SITE DESCRIPTION: Small pond on Horse Barns' side of the berm.  
OBSERVERS: McIvors

July 7/94 - 8:15 - 2 Wood Frogs. (young). on edge of mostly dry pond.  
Water temp. 11.5.  
Weather: Mainly sunny, warm.

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LOCATION: Fenland Trail. BNP. UTM NG988708  
SITE DESCRIPTION: Wetland located in centre of area.  
OBSERVERS: Heather Dempsey, Keith Webb

April 27/92 - 22:00 - 22:30 - 1 Wood Frog. Calling. Centre of wetland.  
Weather; windy, overcast.

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LOCATION: Vermilion Lakes. BNP. UTM NG955701  
SITE DESCRIPTION: Major wetlands in BNP. Just west of Banff townsite below the TCH.  
OBSERVERS: Heather Dempsey, Keith Webb

April 27/92 - 21:30 - 1 Wood Frog - Calling - Third Lake (east end)  
21:45 - Several Wood Frogs. - Calling - Third Lake (west end).  
Water temp. 12 C.  
Weather; windy, overcast.

May 4/92 - 21:00 - 22:00 - 6-8 Wood Frogs. Calling. South of Third Lake (west of  
beaver channels).  
Weather: clear, warm.

May 12/92 - 20:00 -22:00 - 1 Wood Frog. Calling. West end of Third Lake.  
Weather; Clear, warm.

OBSERVER: Heather Dempsey

April 29/93 - 21:00 - 22:00 - 3 Wood Frogs calling at east end of lake; sedge meadows  
10+ adult Wood Frogs at west end of lake; beaver  
channels in the 3rd Verm. Lake.  
Weather: Cool, clear.



OBSERVER: Peter Duck

June 9/94 - 8:30 - 1 Frog (Wood?) Adult. Basking in sun on log between river and 1st. Verm. Lake. Water temp. 10 C.

July 1/94 - 8:00 - 2 herptile larvae (one with leg development). In the culvert of the CPR track, 2nd. Verm. Lake, on the riverside.

SITE DESCRIPTION: Between Fenland Trail and 1st. Verm. Lake.

OBSERVER: Mike McIvor

July 20/94 - 9:15 - 1 Wood Frog. In the grass on the side of the trail in the spruce forest.

Weather: Sunny, hot

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LOCATION: Bow River. BNP. UTM NG939687

SITE DESCRIPTION: 10 min. downstream of 5 mile bridge at picnic site.

OBSERVER: Beth Woolley.

June 20/92 - no time given - 1 Wood Frog. Small. In grass beside river.  
Weather; warm, clear.

SITE DESCRIPTION: Peyto Island. UTM ?. 1/2 hr. paddle south of 5 mi. bridge.

OBSERVER: Beth Woolley

June 21/92 - 20:00 - 22:00 - 1 Wood Frog. North side of island (dock area).  
Weather; sunny with clouds.

SITE DESCRIPTION: river bank directly south of 3rd. Verm Lake.

OBSERVER: Peter Duck

July 4/94 - 10:30 - 1 Wood Frog (adult). River temp. 9 C.

---

LOCATION: Sunshine Wetland. BNP. UTM NG908682

SITE DESCRIPTION: Calcaeorous ponds just west of Sunshine turn-off, on north side and right beside the TCH.

OBSERVERS: Mike, Diane McIvor

June 20/93 - 12.00 - 14.00. - 1 adult? at edge of pond. Hopped away.  
- 1,000 + larvae (tadpoles) on the edges of 5 different ponds, in shallow very warm water. ( 2 different stages of a black larvae: 1 very small, 1 larger with legs showing and fewer of a larger brown larvae with spots also showing on legs.

Weather: Warm, sunny, windy day. The water in the shallow edges of ponds was lukewarm.

July 4/93 - 11:00 - 12:00.

- 100 + larvae. Mostly black tadpoles. Approx. 1/2 of them with legs showing, some with tail still on.
- 50 + young (7mm. long) showing dots on top. The young were on the shore, up to 2 m. away from the ponds and in the mud near shallows. Some were in small depressions, on land. (Took pictures)
- 1 dozen + tadpoles (large, brown) (13 mm wide, 20mm long incl. tail).

Weather: Overcast. 8 C to 16 C. The water in ponds lukewarm.

July 24/93 - 13:00 - 14:00.

- 1 Wood Frog (young) . Line and sign of mask forming. Smooth compared to ones below and slightly bigger. No spots on back or feet. Hopped more while being held in my hand. (Wood Frogs?).
- 3 young (slightly bigger than 2 weeks ago. Some 30 cm. away from ponds, others as far as 6.5 m. away from waters' edge. Faint white dorsal line. Orange line or dots on back. Orange dots on hind feet. Eyes on top of head. (Western Toad?).

Weather: Cloudy, rained a bit. Water temp. very warm.

OBSERVERS: McIvors.

May 5/94 - 16:00 - 17:30

- 3 Western Toad calling.  
(16:15 - 1 from 2nd pool  
17:00 - 1 from 3rd pool  
17:15 - 1 from canal west of 3rd pool.)
- 3 Western Toad adults seen.  
1 in second pool, near shore. Seem to respond to my imitation.  
2 in first pool, close to each other. Possibly a pair. One much bigger (female?).
- 8 Wood Frog egg masses.  
5 in 2nd pool (black dots in egg centre, mass clinging to a dead submerged tree).  
2 in the Ochre pool (black dot in egg centre, mass clinging to submerged grass).  
1 in first pool (had elongated embryos in a crescent shape, mass attached to a twig).

Weather: Cloudy, sunny periods. 13 C.

May 10/94 - 20:30 pm - 21:30 pm- 2 Western Toads. Called once.

- 1 far end of 3rd pool.  
1 on strip between 1st and 2nd pool.
- Wood Frogs egg mass on the dead tree in 2nd pool have hatched. 1 doz+ small tadpoles swimming near the dead tree. (size of large pinhead).

Weather: Overcast, warm. 13 C.

May 29/94 - 16:00 -17:00 - 1000+ small black tadpoles (Wood Frogs?). Some swimming, others gathered in large groups in the shallows of Pond 1, 2 and 3.  
Weather: Cool, cloudy. 10 C.

---

LOCATION: Backswamp Viewpoint. BNP. UTM NG907688  
SITE DESCRIPTION: Extensive wetlands on south side and adjacent to Bow River  
OBSERVERS: Heather Dempsey, Keith Webb

April 30/93 - 23:00 - 10+Wood Frogs calling.  
Weather: Clear, warm.

May 1/93 - 14:00 - 20+ Wood Frogs calling. Heard from canoe on the river.  
Weather: Cool, cloudy.

---

LOCATION: Muleshoe. Bow Valley Parkway. BNP. UTM NG898703  
SITE DESCRIPTION: On the road, west of Muleshoe pull off.  
OBSERVER: Claude Rioux

June 7/92 - afternoon - 1 Long-toed Salamander. Crossing the road going towards the river.  
OBSERVER: Mike Potter

June 28/93 - 14.00 - 14.01 - 1 Western Toad (adult). On the trail in area of 1993 prescribed burn.  
Weather: Fine, warm, 20 C.

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LOCATION: Stunted Spruce Pond. BNP. UTM NG889713  
SITE DESCRIPTION: Wetland along the Bow Valley Parkway. Boggy, stunted trees around. Good size pool.  
OBSERVERS: Mike & Diane Mclvor

July 5/92 - 14.20 - 1 Western Toad. In boggy edge of pond.  
Weather; overcast, rain on and off.  
OBSERVERS: Mclvors

May 5/94 15:45 - Nothing seen or heard.  
Weather: cloudy, sunny periods. 13 C.

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LOCATION: Frog Hollow. BNP. UTM NG834755  
SITE DESCRIPTION: Small "kettle pond" in the Hillsdale landslide just below the Bow Valley Parkway, just east of Pilot Pond.  
OBSERVERS: Mike, Diane Mclvor

May 9/93 - 16:30 - 17:00 - Egg masses; 1 old larger cloudy mass  
1 small mass (golf ball size), fresh  
1 large mass partially submerged, partially floating with black larvae wriggling inside.

\*Stopped at Muleshoe, Stunted Spruce Pond and Moose Meadow Wetlands. Nothing.

Weather: Cloudy with sunny periods.

May 23/93 - 16:15 - 16:30

- 10 egg masses; 6 in smallest pool, 4 in larger pool.  
Attached to reeds. Size of garbanzo beans. Some eggs had black dots in centre. Some eggs (single detached ones) had developed into a long bodied larvae. (Took pictures) Possibly L.T. Salamanders?
- 1 Wood Frog called twice as we were leaving (short call).
- 2 Wood Frogs (adults) seen quickly as they disappeared in the muck.
- 3 tadpoles (16:20). In area where the egg masses were seen 2 weeks ago. Swam quickly through the reeds and disappeared.

\*Checked Moose Meadow Wetlands and Stunted Spruce Pond. Nothing.

Weather: Overcast, sunny periods, 16 C.

June 4/93 - 18:00

- 1 Western Toad on edge of pond. Jumped in as we got close.
- 4 old egg masses. ( Didn't have our rubber boots. Couldn't get into the pond).

Weather: Overcast, sunny periods. 16 C. Water was quite warm.

OBSERVERS: McIvors

May 5/94 - 15:00 - 15:30

- 3 doz.+ Wood Frogs' egg masses. One area had 30+.  
(2 left of dead tree, 1 by itself left of those 2).  
All eggs had black dots (not elongated). A few near the surface, most submerged. A few dead ones (white centres).

Weather: cloudy, sunny periods. 13 C.

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LOCATION: Powerline Pond. BNP. UTM NG830755

SITE DESCRIPTION: Small shallow pond south east of Frog Hollow almost directly under the powerline.

OBSERVERS: Mike, Diane McIvor

July 11/93 - 14:00.

- 1 Western Toad (adult). Edge of pond. Hopped in as we approached.

Weather: raining.

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LOCATION: Pilot Pond. BNP. UTM NG830757

SITE DESCRIPTION: Pond located in deep gully along the Bow Valley Parkway.

OBSERVERS: Shirley Truscott, Carolyn Fysh

May 15/92 - 20:55

- 6 Long-toed Salamanders. - Adults.

Weather: Pleasant. 16 C.

OBSERVER: Heather Dempsey

April 30/93 - 11:00 - 3+ Wood Frogs heard from road.  
Weather: Clear, warm.

May 5/93 - 20:00 - 21:30 - 12 Wood Frogs calling  
- 1 Long-toed Salamander at east end of lake, under a log.  
Weather: Clear, warm

May 9/93 - 14:00-16:00 - 20+ Wood Frogs calling all around the pond.  
3 egg masses at west end of pond (size of golf balls)  
- 1 Long-toed Salamander (female) (same location as above).  
Weather: Cool.

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LOCATION: Hillsdale Slide Trail. BNP. UTM NG848771

SITE DESCRIPTION: Trail goes to open slopes of Ishbel Mtn. just east of Johnson Canyon on Bow Valley Parkway.

OBSERVER: Keith Webb

August 30/92 - evening - 1 Western Toad. On trail west of summit of trail below Mt. Ishbel.  
Weather; cool, overcast.

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LOCATION: Moose Meadow Wetland. BNP. UTM NG795785

SITE DESCRIPTION: Set of ponds just west of Johnson Creek in a rehabilitated site. ( Old borrow pit).

OBSERVERS: Mike, Diane McIvor

May 30/93 - 16:00 - 16:30. - 1 Wood Frog (adult). On shore of "Turquoise Pond".  
Jumped in as we approached.  
Weather: Nice warm clear day.

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LOCATION: Copper Lake (Smith Lake). BNP. UTM NG752779

SITE DESCRIPTION: Small pond south of TCH. just east of Castle Jct.

OBSERVER: Beth Woolley

May 14/92 - 20:45 - 21:25 - 4 Wood Frogs - East end (sunnyside) of lake.  
- 2 egg masses. Water temp. 15 C.  
Weather; clear, 5 C.

May 21/92 - 21:05 - 21:45 - 100+ Wood Frog larvae. S.E. end of lake. Water temp. 7 C.  
Weather; very snowy, overcast.

May 26/92 - 21:30 - 22:15 - 2 Wood Frogs. Calling. S.E. end of lake. Water

temp. 14 C.  
- 100+ larvae. S.E. end of lake.  
Weather; clear, warm, 17 C.

June 1/92 - 21:45 - 22:00 - Nil. Water temp. 12 C.  
Weather; snowing.

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LOCATION: On the trail to Arnica Lake. BNP. UTM NG69755  
SITE DESCRIPTION: Beside the trail. Elevation about 6,000'  
OBSERVERS: Joel Hagen, Nadine Fletcher

June 13/93 - 15:50 - 15:51 - 1 Western Toad. Sunning on trail. 2.7 km from start.  
Weather: cloudy, cool, some sunny periods.

OBSERVERS: Mike, Diane McIvor

July 28/93 - 10:00. - 1 Western Toad. Beside the trail. (about half way between  
Vista Lake and Arnica Lake).  
Weather: Cloudy periods, mostly sunny. Nicest day in about 3  
weeks.

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LOCATION: Island Lake. BNP. UTM NG617934  
SITE DESCRIPTION: Small ponds just south of Island Lake. Tall grasses.  
OBSERVERS: Mike & Diane McIvor

July 19/92 - noon - - 14+ Wood Frogs (young). Jumped in pools and  
disappeared in mud at bottom of pond.  
Weather; cloudy morning, gradual clearing. 10 - 21 C.

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LOCATION: Kingfisher Lake. BNP. UTM NG583957  
SITE DESCRIPTION: Small lake on the north side of T.C.H., just east of the Village of Lake Louise.  
OBSERVER: Joel Hagen

May 8/94 - evening - - 1 Wood Frog. Singing. ( On May 3, the lake was almost  
completely frozen.)  
Weather: Cool, cloudy.

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LOCATION: Village Lake Louise. BNP. UTM NG572973  
SITE DESCRIPTION: Village Road.  
OBSERVER: Joel Hagen

May 15/94 - 22:45 - - 1 Western Toad. Crossing road.  
Weather: cloudy, after heavy rain.

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LOCATION: Lake Louise. BNP. UTM NG529951  
SITE DESCRIPTION: Very back end of Lake Louise on the trail.  
OBSERVER: Nadine Fletcher

July 23/93 - 15.50 - 15.51 - 1 Western Toad.

Weather: cool, intermittent sun/cloud.

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LOCATION: Cirque Lake. BNP UTM NH255402  
SITE DESCRIPTION: Rockbound lake above Waterfowl Lakes.  
OBSERVER: Joel Hagen

July 24/93 - 17:30 - 18:55 - 2 Western Toads. On the trail.  
Weather: clear with clouds.

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LOCATION: Glacier Lake. BNP. UTM NH547130  
SITE DESCRIPTION:  
OBSERVERS: Mike Potter, Joel, Nadine Fletcher.

May 24/93 - 13:00 - 13:15 - 1 Western Toad (adult) at east end of lake.  
Weather: Sunny, 20 C.

OBSERVER: Heather Dempsey

June 5/93 - afternoon - 1 Western Toad in bush beside lakeshore.  
Weather: Sunny, hot, 25C

OBSERVERS: Adrian, Nicole Ledrew

July 17/93 - 18:00 - 1 Western Toad.  
Weather: cloudy.

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LOCATION: Totem Creek. BNP. UTM NH234457  
SITE DESCRIPTION: ?  
OBSERVER: Mike Potter

July 19/93 - 10:30 - 10:31 - 1 Western Toad (adult).  
Weather: Fine, warm, 15 C.

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LOCATION: Siffleur Valley. BNP. NH493300  
SITE DESCRIPTION: Upper valley, near junction to Clearwater Pass  
OBSERVER: Donna McKown

July 9/94 - 1 Western Toad. On trail.  
Weather: Warm, partly cloudy, cool breeze.

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## REPTILES

LOCATION: Cave & Basin. BNP. UTM NG985696

SITE DESCRIPTION: Basin fed by hot springs. Extensive wetland.

OBSERVER: Beth Woolley

Sept. 3/92 - 14:00 - 1 Garter Snake. 1 m. long, 3 cm. diam. basking in sun on horse trail. Very reluctant to move while I observed it.  
Weather: warm. 12 C.

OBSERVER: Jason Rogers

Sept. 15/94 - - 1 Garter Snake. Eating a frog. Near the boardwalk, above the viewing scope.

OBSERVER: Peter Duck

Oct. 15/94 -19:00 - 3 Garter Snakes (young). In spring water, eating fish. Upper boardwalk below wall.  
Weather: Cloudy. 5 C.

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LOCATION: Vermilion Lakes area. BNP. UTM NG978708

SITE DESCRIPTION: 30 m. uphill, north side of TCH opposite 2nd. Vermilion Lakes viewpoint.

OBSERVER: Mike McIvor.

June 15/94 - 9:00 - 2 Wandering Garter Snake. Lying together in the grass.  
Weather: cool, cloudy.

SITE DESCRIPTION: Railway grade, s. side of tracks opposite 1st. Verm. Lake. Site of water level guage. UTM 986 702

OBSERVER: Peter Duck

June 22/94 - 20:30 - 1 Garter Snake (adult). CPR track, back of 1st. Lake. Water temp. 20 C.  
Weather: warm, sunny.

OBSERVERS: McIvors

Aug. 24/94 - 9:30 - 1 Wandering Garter Snake. At least 75 cm. long.  
Weather: sunny.

Aug. 31/94 - 9:30 - 1 Wandering Garter Snake. Possibly the same one as above.  
Weather: Clearing to sunny.

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## CONCLUSION AND MANAGEMENT CONSIDERATIONS.

The montane ecoregion of the Bow Valley is highly important to the herptiles which occur in this region of the Rocky Mountains. The Long-toed Salamander and the Wandering Garter Snake - the only reptile recorded - as well as the Boreal Chorus Frog which was reported from Bow Valley Provincial Park, all are found only in the montane. The great majority of the confirmed or probable breeding sites for the Western Toad and Wood Frog also are in the montane. Little new information about the distribution of the Spotted Frog was gathered. The only observations were in the montane of the Mount Yamnuska Natural Area.

More rigorous, long term research is required. Amphibians and reptiles are an integral part of the natural diversity of the Central Rockies Ecosystem. Their localized distribution makes their populations particularly vulnerable to habitat destruction and other disturbances. Long term monitoring would provide useful information with respect to the health of these populations and would contribute overall, to related knowledge collected in other regions of North America.

The Ecological (Biophysical) Land Classification of Banff and Jasper National Parks: Volume III: The Wildlife Inventory (Holroyd G.L. and K.J. Van Tighem, 1983) identified a number of concerns associated with herptiles. It is clear that pollution and disturbance of wetlands could significantly impair critical habitat. Directions for management provided in the Biophysical should be followed.

One participant expressed concern about the use of herbicides along the north shore of Middle Lake and the holding of the Boy Scout Jamboree adjacent to Chilver Lake in Bow Valley Provincial Park as examples of potentially damaging activities. Similar concerns must be raised about recreational activities and chemical "weed control" in Banff National Park, as well as the use of salt on highways.

A copy of a recent article in the magazine Natural History (Issue 10/94) entitled: Amphibians in a Bad Light. What is killing the eggs of Oregon's western toad? is attached to this report. Author Andrew R. Blaustein has identified UV-B radiation as a significant cause of death in the toads' eggs. His research was conducted in the Cascade Range at an elevation of 4,000 feet. He notes that the Western Toad is in decline throughout most of its range. Could a similar situation be developing in this part of the Rockies?

The amphibians and reptile of the Bow Valley have much to tell us about environmental quality and change. We would do well to give them more careful consideration.

Other locations in Alberta.

LOCATION: Wm. A. Switzer Provincial Park.

SITE DESCRIPTION: Valley trail.

OBSERVER: Mike Potter

April 20/94 - 18:00 - Wood Frogs. Calling.

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LOCATION: ? pond. JNP. UTM 166 595

SITE DESCRIPTION: Small, shallow lake north of Viri. L.

OBSERVER: Mike Potter

April 23/94 - 12:00 - 10+ Wood Frogs. Calling.  
Weather: ?

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LOCATION: Hawk Creek Trail. KNP. UTM 665 598

SITE DESCRIPTION: lower part of trail

OBSERVER: Donna, Doug McKown

Sept. 27/94 - - 1 Wood Frog. Dead, lying on trail (not squished or  
chewed).  
Weather: Warm, sunny. 12 C.

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Table I. Presence of amphibians in areas visited during the survey seasons. (92-93-94)

*	West. Toad			Wood Frog			Spotted Frog			Chorus Frog			L.T. Salaman.		
	A	Y	E-L	A	Y	E-L	A	Y	E-L	A	Y	E-L	A	Y	E-L
Flow. Waters				P											
Middle Lake				P						P					
Many Springs	P														
Chilver Lake	P		P	P						P					
Salam. Ponds	P		P	P		P				P				P	P
B.V. S. B. Pit				P		P				P					
Bea. Ponds				P											
Yamnuska				P			P								
Canmore Ck.						P									
W. Station										P					
Wind Ridge	P														
Carrot Ck.				P											
Hidden Lake				P										P	
2 Jack Lake														P	
John. Lake A.	P			P										P	
Quiet Pond					P										
S. Old Dump	P			P											
N. Old Dump				P		P									
Devil's Cauld														P	
Cave & Basin					P										
Fen. Trail				P											
Verm. L. area				P											
Bow River				P	P										
Sun. Wetland	P	P	P	P	P	P									
Backswamp				P											
Muleshoe	P													P	
St. Spruce P.	P														
Frog Hollow	P			P		P									
Powerline P.	P														
Pilot Pond				P		P								P	
Hillsdale Tr.	P														
Moose M. Wet				P											
Copper Lake				P		P									
Arnica L. Tr.	P														
Island Lake					P										
Kingfisher L.				P											
Village L.L.	P														
Lake Louise	P														
Cirque Lake	P														
Glacier Lake	P														
Totem Creek	P														
Siffleur Val.	P														

\* A = adult, Y = young, E-L = eggs, larvae (tadpoles), P = Present

Table 2. Definite Breeding Ponds.(presence of eggs &/or larvae).

Areas east of Banff National Park:

<u>Western Toad:</u>	Chilver Lake, Salamander Ponds.
<u>Wood Frog:</u>	Salamander Ponds, Bow Valley South Borrow Pit, Canmore Creek.
<u>Long-toed Salamander:</u>	Salamander Ponds.

Areas in Banff National Park:

<u>Western Toad:</u>	Sunshine Wetland.
<u>Wood Frog:</u>	North Old Dump Wetland, Sunshine Wetland, Frog Hollow, Pilot Pond, Copper Lake.

Probable Breeding Areas. (adults present during breeding season, frogs and toads vocalizing).

Areas east of Banff National Park:

<u>Western Toad:</u>	Chilver Lake, Salamander Ponds, Many Springs.
<u>Chorus Frog:</u>	Middle Lake, Chilver Lake, Salamander Ponds, Bow Valley S. Borrow Pit, Weigh Station.
<u>Spotted Frog:</u>	Yamnuska.
<u>Wood Frog:</u>	Salamander Ponds, Bow Valley South Borrow Pit, Canmore Creek, Flowing Waters, Middle Lake, Chilver Lake, Beaver Ponds near Railway Tracks, Yamnuska.
<u>Long-toed Salamander:</u>	Salamander Ponds.

Areas in Banff National Park:

<u>Western Toad:</u>	Sunshine Wetland, Johnson Lake Area (incl. Lake of the Sticks), South Old Dump Wetland, Muleshoe, Stunted Spruce Pond, Frog Hollow, Powerline Pond.
<u>Wood Frog:</u>	North Old Dump Wetland, Sunshine Wetland, Frog Hollow, Pilot Pond, Copper Lake, Johnson Lake Area (incl. Lake of the Sticks and Beaver Pond complex above lake), South Old Dump Wetland, Vermilion Lakes area, Backswamp.
<u>Long-toed Salamander:</u>	Devil's Cauldron, Pilot Pond.