

AMPHIBIAN SURVEYS

IN

BANFF NATIONAL PARK

and adjacent areas

2005

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February, 2006

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Summary and Recommendations

This report contains a compilation of our observations of amphibians in Banff National Park – and nearby areas - in 2005. Several sightings of the park's only known reptile – wandering garter snake (*Thamnophis elegans*) – from Carrot Lake also are included. Observations of amphibians and snakes by Brenda and Dwayne Leptizki, primarily from the Cave & Basin area are presented in separate attachments. It represents the continuation of surveys begun in 1992 which are intended to provide a better understanding of the distribution of amphibians in this part of the Rocky Mountains. (See McIvor and McIvor, annual reports from 1994 to 2005.) These observations include random/opportunistic sightings but primarily are from surveys conducted for the specific purpose of collecting information about amphibians.

Early in the season there was an attempt to locate adult frogs and toads by the sound of their calling at breeding sites. Later efforts involved more concerted searches for egg masses, larvae and young-of-the-year. A variety of wetlands - marshes, ponds, lakes, backwaters of the Bow and other rivers - were surveyed in afternoons or evenings, some on several occasions. Some areas we have visited in past years were checked less frequently or not at all this year because other people were monitoring them.

Direct evidence of breeding in the form of egg masses, larvae, or metamorphosed young was found for all 4 species of amphibian known to occur in Banff National Park. The earliest activity we detected in the spring was 10 days later than the previous year: wood frogs were calling at Muleshoe Flats – including Goose Pond – Amphibian World, and North Old Dump Wetland on April 19. The next day, we found our first Columbia spotted frog egg masses for the year at Johnson Lake, 10 days earlier than the year before. Although we saw a boreal toad at Horse Pond on April 22 and heard it calling tentatively, our first sighting of boreal toad egg strings was on April 27 at Prism Springs Wetland, 2 days earlier than the first sighting the previous year. And the long-toed salamander egg masses recorded at Moose Meadow Pools on April 25 were a day earlier than the year before at the same site.

Most years, by the time September arrives, amphibian observations are few and far between. This year was no exception: a quick check of Sunshine Wetlands on September 2 turned up 3 adult wood frogs and a few more boreal toads of varying ages; the final record was a small toadlet at Carrot Lake on September 24th.

We continue to find new wetlands to visit in the Bow Valley, many containing evidence of breeding by one or more amphibian species. Exploring some small wetlands between the railway tracks and the Bow River downstream from Five Mile Bridge we found wood frog egg masses at Sparrow Pond and long-toed salamander egg masses at Blue Sedge Pool. Double Oxbow Island in the river above Muleshoe had some promising looking sites but although we heard several wood frogs calling we did not see any egg masses. East of Lizard Lake (Pilot Pond), not far from Powerline Pond, we came across Coltsfoot Pond - named for the arrow-leaved plant growing in abundance - with long-toed salamander egg masses and a wood frog egg mass.

A beautiful subalpine wetland east of the Protection Mountain trail, Protection North Pond had 3 adult wood frogs as well as tadpoles of that species and of long-toed salamander. In a wet meadow area – Protection Wetland – below the pond we saw 2 adult boreal toads but no sign of breeding activity. Below Crowfoot Glacier, in the Bow Lake area there were boreal toad tadpoles in Crowfoot Wetland and 2 adult Columbia spotted frogs in Tall Sedge Pond west of the Bow Lake Outlet Pools, the first time we have found this species north of the Lake Louise area.

Other observations of interest include: the addition of Columbia spotted frog as a breeding species at Taylor Pond and the addition of wood frog and long-toed salamander as breeding species at Prism Springs Wetland; our first Columbia spotted frog adults and egg masses at Johnson Lake although we have heard from people who have seen young individuals of this species at this site in past years; not far from Top-of-the-Bow Wetland we saw several clumps of low sandwort (*Arenaria longipedunculata*), a provincially rare plant that occurs at a very small number of locations in the park; the first place we have seen the tiny flowering plant, small bladderwort (*Utricularia minor*) was at Protection North Pond; there was one Western red damselfly (*Amphiagrion abbreviatum*) at Protection Wetland and many of this species of damselfly in the Great Swamp in the Yamnuska, outside the park, where there was also a prolific display of linear-leaved (slender-leaved) sundew (*Drosera linearis*), another rare plant; and on one visit to Carrot Lake, 5 wandering garter snakes were encountered within a fairly small area at the base of the slope, 2 of which were no more than 30 cm. in length, again suggesting the probability that this species breeds at this site.

As our inventory of wetlands with amphibian populations in Banff National Park continues to grow it is worth noting that our efforts have been confined, for the most part, to areas within a relatively short distance of park roads. We encourage Parks Canada to make a concerted effort to expand this inventory to include much better representation of wetlands in the backcountry. Knowledge gained from this work could be used to identify additional sites that would be suitable for long term monitoring. We are pleased to recognize the monitoring that has occurred in recent years and would like to see, at least on a small scale, the program expanded to include the range of elevations at which wetlands – and amphibians – are found in the park.

We also offer the observation that our detection of amphibians at various sites cannot obscure the fact that knowledge of the ecological character of individual wetlands is extremely limited despite their multitude of fascinating attributes. Obviously it would be a daunting, if not impossible task to conduct thorough ecological inventories of each wetland in the park, but it would be useful to select a few at which a complete, integrated description – geology, water chemistry, vegetation, invertebrates, vertebrates etc – could be attempted. These sites then could serve as benchmark wetlands.

Our final recommendation for this year requires a more direct, more physical response. In recent years, the Canadian Pacific Railway has been eliminating the poles that parallel its main line through the park. Apparently this is a multi-phase project in which the poles are cut down but then not actually removed until some later date. In the meantime, the poles are abandoned where they have fallen, in several instances we observed, lying at least partially in wetlands. These poles have creosote on their bases that may pose some risk to aquatic organisms. We urge Parks Canada to insist that CPR undertake removal of all fallen, contaminated poles as a priority for their operations this coming season.

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AMPHIBIAN SURVEYS IN BANFF NATIONAL PARK AND ADJACENT AREAS, 2005

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Abbreviations used in this report for amphibians (as per Macdonald, C., W.E. Roberts, D.M. Ealey, *The Vertebrate Species of Alberta*, Alberta Naturalist, Vol. 23, No. 3, Federation of Alberta Naturalists)

TISA tiger salamander (*Ambystoma tigrinum*, Green)
LTSA long-toed salamander (*Ambystoma macrodactylum*, Baird)
BOTO boreal toad (also known as western toad) (*Bufo boreas boreas*, Baird and Girard)
BCFR boreal chorus frog (*Pseudacris triseriata maculata*, Agassiz)
WOFR wood frog (*Rana sylvatica*, Le Conte)
SPFR spotted frog (*Rana pretiosa*, Baird and Girard), reclassified as Columbia Spotted Frog (*Rana luteiventris*), Green et al. 1997
WGSN wandering garter snake (*Thamnophis elegans vagrans*, Baird and Girard)

CODES FOR WIND SPEED AND SKY CONDITIONS

Temperature, wind and sky conditions (T.W.S.) are indicated using numbers: Temperature in degrees Celsius; wind speed according to the Beaufort Scale; and sky conditions using Weather Bureau code numbers as is done for Breeding Bird Surveys.

WIND SPEED CODES:

Beaufort #'s	Wind Speed in miles/hr.	Indicators of Wind Speed
0	Less than 1	Smoke rises vertically
1	1 to 3	Wind direction shown by smoke drift.
2	4 to 7	Wind felt on face; leaves rustle.
3	8 to 12	Leaves, small twigs in constant motion; light flag extended.
4	13 to 18	Raises dust and loose paper; small branches are moved.
5	19 to 24	Small trees in leaf sway; crested wavelets on inland waters.

SKY CONDITION CODES:

0 - Clear or a few clouds
1 - Partly cloudy (scattered) or variable sky
2 - Cloudy (broken) or overcast
4 - Fog or smoke
5 - Drizzle
7 - Snow
8 - Showers



AREAS IN BANFF NATIONAL PARK

BOW VALLEY EAST

LOCATION: Carrot Creek Area and east.

SITE DESCRIPTION:

East Boundary Pond (UTME: 612493 – UTMN: 5668961) located north of Banff east gate, just west of the boundary line.

Horse Pond (UTME: 612420 – UTMN: 5667497) located north of Banff east gate, west of the boundary line, on a bench at the base of Mt. Charles Stewart.

Carrot Lake (UTME: 608864 - UTMN: 5668641) located south of the TCH, west of Carrot Creek. It is a large pond with beaver channels.

Wolfwillow Wetland (UTME: 607563 – UTMN: 5669211) located west of Carrot Lake. A series of channels and pools between Carrot Lake and CP tracks.

DATE	TIME	H2O °C	T/W/S	SPECIE	egg mass	larvae	young	adult	NOTES	seen by
05/04/22	1500	9	16/1/0						East Boundary Pond. Pond now exposed on S side due to forest thinning work. Nothing found. Water deep.	M&DM
05/04/22	1300 – 1430	14	16/1/0	BOTO				1	Horse Pond. Heard several times coming from ice free area on S side of pond. Pond was mostly still covered with ice. No eggs found.	M&DM
05/05/15	1130	11	14/1/2	WGSN				1	Carrot Lake. Seen at edge of bay in NW corner	MM
05/06/19	1145	17	13/2/1	BOTO		200+			Carrot Lake. Seen dispersed in NW corner.	MM
05/07/01	1200		13/2/1	BOTO WGSN		100+		1	Carrot Lake. BOTO tadpoles seen in NW corner. WGSN small.	MM
05/07/31	1200	16	25/1/0	BOTO WGSN		50+	11 toadlets 2	3	Carrot Lake. Tadpoles large with hind legs showing. Toadlets small. WGSN: 3 – 60+cm. and 2 – 30 cm., seen near water. All seen in NW corner.	MM
05/08/14	1300 – 1335	18	22/2/1	BOTO WGSN			47 toadlets 1 juv.	1	Carrot Lake. Toadlets seen on both sides of peninsula. Juv. and many toadlets found in thick green algae on edge of water on S side of peninsula. WGSN 45-60 cm. long, seen on S side of peninsula on gravelly shore, moved in to the algae.	MM
05/08/31	1300		14/1/1	BOTO			12 toadlets		Carrot Lake. 11 Toadlets seen on S side of peninsula, 1 on N side.	MM
05/09/24	1455		12/0/0	BOTO			1 toadlet		Carrot Lake. Small, seen 1 metre from water at NW corner.	MM

LAKE MINNEWANKA LOOP

LOCATION: 2-JACK LAKE AREA.

SITE DESCRIPTION: Lakeside Pond, (UTME: 604521 – UTMN: 5676112) pond full of emerging vegetation on east side of road, near north end of 2 Jack Lakeside Campground.

DATE	TIME	H2O °C	T/W/S	SPECIE	egg mass	larvae	young	adult	NOTES	seen by
05/05/04	0730								Lakeside Pond. Dry	MM

LOCATION: North Old Dump Wetland (UTM: PG038742).

SITE DESCRIPTION: shallow pond choked full of reeds and sedges, north of road through old dump site on Lake Minnewanka road loop.

Vernal Pool (UTME: 603823 – UTMN: 5674319) Small pool east of North Old Dump Wetland.

DATE	TIME	H2O °C	T/W/S	SPECIE	egg mass	larvae	young	adult	NOTES	seen by
05/04/19	1815 – 1830	15	15/0/0	WOFR				40+	North Old Dump. Heard a chorus. Seen in NW corner. Water levels high.	M&DM
05/04/20	0750								North Old Dump. Heard same chorus.	M&DM
05/04/20	1755								Vernal Pool. Still nothing heard.	M&DM

LOCATION: Amphibian World

SITE DESCRIPTION: shallow sedge marsh below the old dump site south of Lake Minnewanka Loop (also called South Old Dump Wetland).

Main Pond (UTME: 603840 – UTMN: 5674021)

West Pond (UTME: 603805 – UTMN: 5673888), separated from Main Pond at low water levels.

DATE	TIME	H2O °C	T/W/S	SPECIE	egg mass	larvae	young	adult	NOTES	seen by
05/04/19	1855	12	14/0/0	WOFR				40+	Main Pond. Major chorus heard and seen in mid north shore in very shallow water and at E end.	M&DM
05/04/19	1855	12	14/0/0	WOFR				20+	West Pond. Heard a chorus on N side. Ice shelf on S side. Water levels high.	

LOCATION: Johnson Lake Area

SITE DESCRIPTION: Johnson Lake (UTME: 605623 – UTMN: 5672719)

DATE	TIME	H2O °C	T/W/S	SPECIE	egg mass	larvae	young	adult	NOTES	seen by
05/04/20	1715 – 1730	12	16/0/2	SPFR	29			9	Johnson Lake. First reported by Rosemary Power yesterday. Egg masses in a cluster and adults calling nearby in marshy area, N side of Muskrat Bay.	M&DM

VERMILION LAKES AREA

LOCATION: Cave & Basin & Vermilion Lakes complex, See attachments: Reptile Sightings 2005, B & D Lepitzki
Amphibians Sightings 2005, B & D Lepitzki

LOCATION: 5 Mile Riverbend (UTM: NQ943689).

SITE DESCRIPTION: mixed habitat in big riverbend with a series of backwater arms, ponds and a series of open sedge meadows.

Sparrow Pond (UTME: 594096 – UTMN: 5669323) one of a series of small open sedge meadows. Access is 200 m. east along CP tracks from 5 Mile Bridge and 150 – 200 m. S of tracks.

Muddy Backwater (UTME: 594152 – UTMN: 5669984) wide backwater reached by following a narrow stream from Sparrow Pond.

Blue Sedge Pool (UTME: 593948 – UTMN: 5669321) small pool at end of small stream between Sparrow Pond and river.

DATE	TIME	H2O °C	T/W/S	SPECIE	egg mass	larvae	young	adult	NOTES	seen by
05/05/04	1400 – 1430	11	15/1/2	WOFR	7				Sparrow Pond. Egg masses: 1 of 6 with hatchlings and elongated embryos found near open pool in middle of wetland, 1 of 1 (fresh) closer to open pool.	M&DM
05/05/04	1500								Muddy Backwater. Water very low. Nothing seen or heard.	M&DM
05/05/04	1530		15/0/2	LTSA	12+				Blue Sedge Pool. Eggs with elongated embryos floating to the surface above fresh egg masses.	M&DM

SUNSHINE WETLANDS

LOCATION: Sunshine Wetlands

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

Pond #1 (UTME: 590698 – UTMN: 5668431)

West of Pond #1 (UTME: 590649 – UTMN: 5668471).

Pond #2 (GPS: UTME: 590748 – UTMN: 5668484).

Pond #3 (GPS: UTME: 590801 – UTMN: 5668586)

Pond #4 (Ochre Pond) (UTME: 590786 – UTMN: 5668621).

Ochre Minor (UTME: 590786 – UTMN: 5668629)

Backswamp (UTME: 590663 – UTMN: 5668822), extensive wetland on south side and adjacent to Bow River, immediately west of Sunshine Wetlands.

DATE	TIME	H2O °C	T/W/S	SPECIE	egg mass	larvae	young	adult	NOTES	seen by
05/09/02	1200 – 1400		20/1/1	BOTO			5 toadlet		Pond #1.	M&DM
05/09/02	1200 – 1400			BOTO			4 toadlet 1 juv.	1 3	Pond #3.	M&DM
05/09/02	1400			WOFR					Pond #4. water levels high.	M&DM

BOW VALLEY PARKWAY

LOCATION: BVP Wetland.

SITE DESCRIPTION: North Pond (UTME: 583198 – UTMN: 5669710) located north of CP tracks and south of Bow Valley Parkway just west of 5 -Mile Interchange.

DATE	TIME	H2O °C	T/W/S	SPECIE	egg mass	larvae	young	adult	NOTES	seen by
05/04/25	1645								Gory Creek running. North Pond still dry.	M&DM

LOCATION: Muleshoe Area

SITE DESCRIPTION: west and east of Muleshoe - series of wetlands, ponds that are described as from east to west:

Hole-in-the-Wall Pond (UTME: 589550 – UTMN: 5670212), an old channel of the Bow River located just east of Muleshoe pond and on south side of railway tracks.

Pond #1 (UTME: 589094 – UTMN: 5670779) small wetland (choked with reeds) just west of Trans Alta fenced area, on north and beside CP tracks.

Pond #2 (UTME: 588917 – UTMN: 5670920) small pools (1 square) between "Goose Pond" and Pond #1.

Pond #3 (UTME: 589017 – UTMN: 5670796) opposite Pond #1, below and on south side of track - channel that runs along track and south to Primrose Pond.

Pond #4 (UTME: 588923 – UTMN: 5670819) located west of Pond #3, on south side of track.

Channel West (UTME: 588915 – UTMN: 5677079) running parallel and on both side of railway track from Pond 2 to Goose Pond.

Goose Pond (UTME: 588900 – UTMN: 5671231) west of Muleshoe - floating bog north of CP track (just east of Stunted Spruce).

DATE	TIME	H2O °C	T/W/S	SPECIE	egg mass	larvae	young	adult	NOTES	seen by
05/08/09	1525		22/1/1	BOTO				1	<u>Hole-in-the-Wall Pond</u> . Seen 2 m. from water near NW corner of pond.	MM
05/04/19	1725	16	15/0/0	WOFR				2	<u>Goose Pond</u> . Heard 2 in SW corner. Water shallow. Mosquito larvae. Some ice on surface. Picture	M&DM
05/04/19	1700	12.5	15/0/0	WOFR				2	<u>Pond #1</u> . Heard tentative calls. Ice covering area on E side where egg masses are usually found. Picture	M&DM
05/04/19	1720								<u>Pond #2</u> . Nothing heard. Picture.	M&DM
05/04/19	1715								<u>Pond #3</u> . Nothing heard. Picture.	M&DM
05/04/19	1730	15	15/0/0	WOFR				1	<u>Pond #4</u> . Heard. Ground frozen not far below water. Water levels high. CP poles floating in water. Willows cut along tracks. One muskrat.	M&DM

LOCATION: Stunted Spruce Pond (UTME: 588827 – UTMN: 5671613).

SITE DESCRIPTION: small pond (wetland) west of Muleshoe on south side of Bow Valley Parkway - boggy area with stunted trees around pond.

DATE	TIME	H2O °C	T/W/S	SPECIE	egg mass	larvae	young	adult	NOTES	seen by
05/04/25	1620		23/1/0	WOFR				Few	Heard from roadside.	M&DM
05/05/05	1545	15	20/1/1	WOFR LTSA	1 11			4	Egg masses: 1 of 1 elongating at E end. WOFR adults: 1 at E end, 3 heard and seen at W end. LTSA egg masses: all on N side, all elongating, silted, attached to sticks and sedges at bottom.	M&DM
05/05/11	1430		13/0/2						Nothing new. Walked around pond.	M&DM

LOCATION: Double Oxbow Island Area (GPS: UTME: – UTMN:).

SITE DESCRIPTION: Double Oxbow (GPS:) located on north side of island. This island is located between two channels of the river downstream from Ranger Creek.

Island Stream (UTME: UTMN:) meanders through island south of Double Oxbow..

Snail Pond (UTME: 587334 – UTMN: 5671893) located near middle of island towards east side. Wetland shaped like a doughnut, ringed with snail shells.

Kinglet Pond (UTME: 587317 – UTMN: 5671703) located near S/E corner of the island.

DATE	TIME	H2O °C	T/W/S	SPECIE	egg mass	larvae	young	adult	NOTES	seen by
05/05/05	1100 – 1215	4 8	12/1/1						Double Oxbow. Checked the outside oxbow and part of the inside oxbow. Water levels low. Nothing seen or heard. Pictures.	M&DM
05/05/05	1300		12/1/1	WOFR				Few	Island Stream. Walked along deep stream. Heard WOFR at junction with a small pond.	M&DM
05/05/05	1515	15	20/1/1	WOFR				4+	Snail Pond. Heard calling: 1 on S side, 3 on N side. No egg masses found.	M&DM
05/05/05	1330 – 1500	15	20/1/1	WOFR				2	Kinglet Pond. Tentative calls, No egg masses found.	M&DM

LOCATION: Ranger Creek Willow Flats, (UTME: 587232 – UTMN: 5673394).

SITE DESCRIPTION: flooded willow stand located 1 km. west of Skull Creek. below pull-off on south side of Bow Valley Parkway (BVP).

Ranger Creek Beaver Pond (UTME: 587223 – UTMN: 5672919) large pond formed by recent beaver dam at south end of willow flat.

DATE	TIME	H2O °C	T/W/S	SPECIE	egg mass	larvae	young	adult	NOTES	seen by
05/04/25	1550								Nothing heard.	M&DM

LOCATION: Hillsdale Area

SITE DESCRIPTION: Hillsdale Wetland: (UTME: 584723 – UTMN: 5676019) series of calcareous pools located northwest of Hillsdale Meadows.

DATE	TIME	H2O °C	T/W/S	SPECIE	egg mass	larvae	young	adult	NOTES	seen by
05/07/30	1315	23	22/1/1	BOTO		250+			Hillsdale Wetland. Seen in small shallow pools.	M&DM

LOCATION: Garonne Area

SITE DESCRIPTION: Frog Hollow (UTME: 583222 – UTMN: 5676037), small "kettle" pond east of Lizard Lake and south side of Bow Valley Parkway.

Coltsfoot Pond (UTME: 583063 – 5875885), located 150 m. west of north end of Powerline Pond. Vernal pool covered with coltsfoot.

Powerline Pond. (UTME: 583155 – UTMN: 5675852), small pond between Frog Hollow and Lizard Lake south of Bow Valley Parkway.

DATE	TIME	H2O °C	T/W/S	SPECIE	egg mass	larvae	young	adult	NOTES	seen by
05/04/25	1550								Frog Hollow. Nothing heard from roadside.	M&DM
05/05/11	1415		13/1/2	WOFR				Few	Frog Hollow. Heard tentative calls from roadside.	M&DM
05/05/21	1530	15	9/1/1	WOFR LTSA	1 12				Frog Hollow. WOFR egg mass slightly elongated. LTSA egg masses: mostly elongated, 1 with half dead embryos/half elongated, 1 fresh, scattered through pond.	M&DM
05/05/21	1615 – 1630	14	9/0/1	WOFR LTSA	1 7				Coltsfoot Pond. WOFR egg mass large, slightly elongated seen at W end. LTSA egg masses: some elongated, some slightly elongated, found in N/W corner.	M&DM
05/05/21	1640 – 1705	14	9/0/1						Powerline Pond. Walked all around pond. Nothing seen or heard.	M&DM

LOCATION: Prism Springs Wetland. (UTME: 581988 – UTMN: 5676526).

SITE DESCRIPTION: Prism Springs Wetland located south of Bow Valley Parkway between Lizard Lake and Johnson Creek, next to powerline.

DATE	TIME	H2O °C	T/W/S	SPECIE	egg mass	larvae	young	adult	NOTES	seen by
05/04/24	1500 – 1620	14 20	8/1/1	WOFR BOTO	6			4 10	WOFR: 1 heard and seen at E end, 3 heard (tentative calls) in channel S of Prism Pool. BOTO: 2 pairs in amplexus plus 3 individuals heard and seen on N side, 2 heard at E end (1 female seen). BOTO strings: 1 long on N side, 2 long, silted, farther into pond, 1 long silted in mid pond, 1 fresh, still attached to pair in amplexus, 1 near this one. Water temp. near BOTO strings was 20° C. Water levels very low.	M&DM
05/05/15	1440	11 15	17/1/2	WOFR BOTO	13 1 new	2000+		2	WOFR egg masses: 1 of 1, 1 of 2 elongated at E end, in channel: 1 of 4 (elong.), 1 of 2 (elong. few hatchlings), 1 of 1 (fresh), 1 of 3 (slightly elong.) One dead adult with partial egg mass outside body. BOTO: 1 new egg mass since last visit. All hatchlings towards E end, small tadpoles in shallow water in middle of area. Adult: 1 at E end calling, 1 near mid area and on N side. Water temp. near new string 15 C.	MM
05/07/30	1445	24	24/1/1	WOFR LTSA		2 1			WOFR tadpoles large. No sign of BOTOs? LTSA tadpole medium size.	M&DM

LOCATION: Hidden Cliffs Wetland. (UTME: 581756 – UTMN: 5877636).

SITE DESCRIPTION:

Upper Hidden Cliffs Wetland located above Hidden Cliffs Wetland on a higher bench, a large wetland with calcareous pools at west end and deep pond (Barred Pond) at east end.

DATE	TIME	H2O °C	T/W/S	SPECIE	egg mass	larvae	young	adult	NOTES	seen by
05/06/24	1200 – 1300	12	10/0/2	WOFR BOTO LTSA		1500+ 2		2 2	Upper Hidden Cliffs Wetland. WOFR adult: 1 small, 1 large seen at W end of Barred Pond in amongst vegetation in shallow water. BOTO: small tadpoles in small shallow pool at W end towards the N side. Breeding has been in a different pool each of 3 years. LTSA: larvae found on S side of Barred Pond and adults under a log at E end.	M&DM

LOCATION: Moose Meadow Wetland.

SITE DESCRIPTION: series of ponds just west of Johnston Creek in a rehabilitated site (old gravel pit) between CP tracks and river.

South Channel: (UTME: 579321 – UTMN: 5677835) natural channel relatively undisturbed on south side of disturbed area.

Moose Meadow Pools (UTME: 580073 – UTMN: 5678616) small pools located at northern edge of the meadow, south of Bow Valley Parkway.

DATE	TIME	H2O °C	T/W/S	SPECIE	egg mass	larvae	young	adult	NOTES	seen by
05/05/11	1100 – 1230	12 13	8/1/0 14/1/0	WOFR SPFR BOTO	6 4			1	South Channel. South Side. WOFR e.m.: 1 fresh in bay with deep water, 1 (elong.) in next bay, 1 (fresh) and 2 (elong.) in same bay, 1 (fresh) farther E. SPFR e.m.: 1 silted, slightly elongated in a depression made by an ungulate, half way down the S side, 3 with hatchlings in bay on N side of channel. BOTO heard in same bay as 2 nd sighting of WOFR e.m. Small fish in this channel.	M&DM
05/04/25	1545		23/1/0	LTSA	26				Moose Meadow Pools. 6 fresh egg masses in North Pool, 20 in South Pool.	M&DM
05/05/11	1400	14	13/1/2	WOFR LTSA	1 26				Moose Meadow Pools. WOFR egg mass quite fresh in North Pool. LTSA same as last.	M&DM
05/05/14				WOFR	2				Moose Meadow Pools. One egg mass missed on the 11 th .	M&DM

LOCATION: Castle Junction Area.

SITE DESCRIPTION: Vista Lake (UTME: 568417 – UTMN: 5678957) located at bottom of slope east side of Kootenay Parkway, north of Altrude Lakes.

Boom Lake Trailhead (UTME: 568257 – UTMN: 5677854) small pools located on east side of Kootenay Parkway across from Boom Lake Parking Lot.

DATE	TIME	H2O °C	T/W/S	SPECIE	egg mass	larvae	young	adult	NOTES	seen by
05/08/19	1700		21/2/0	BOTO				1	Vista Lake. Large adult near trail 400 m. below trailhead.	M&DM
05/04/25	1450								Boom Lake Trailhead. Ice free.	M&DM
05/06/01	1830			BOTO	2				Boom Lake Trailhead. Strings with hatchlings.	M&DM

LOCATION: Bow Valley Parkway west of Castle Junction.

Site Description: Protection Wetland (GPS: UTME:) access is from the Protection Mtn. Trail, from the junction of 2 creeks, following the east drainage up to the wetland.

Protection North (UTME: 567068 – UTMN: 5688645) same access as above and north of wetland.

Protection South (UTME: 567430 – UTMN: 5688292) same access as above and south east of Protection North.

Allium Pond (UTME: 562123 – UTMN: 5692419) located west of Baker Creek, on the north side of the Bow Valley Parkway, under power line.

Cranberry Pond (UTME: 569303 – UTMN: 5695774) located west of Corral Creek, south of Bow Valley Parkway.

DATE	TIME	H2O °C	T/W/S	SPECIE	egg mass	larvae	young	adult	NOTES	seen by
05/07/14	1441			BOTO				2	Protection Wetland. Small adults.	M&DM
05/07/14	1230 – 1345	19	18/1/1	WOFR LTSA		20+ 2		3	Protection North. Large WOFR tadpoles found on N side, adults on N side. LTSA larvae 40 mm. long at E end.	M&DM
05/07/14	1415 – 1430		18/1/1						Protection South. Walked around. Nothing found.	M&DM
05/05/21	1430	13	9/1/1						Allium Pond. Walked around pond. Nothing found.	M&DM
05/05/21	1200	5	5/2/2						Cranberry Pond. Walked around pond. Lots of pond life especially water striders. 5 springs feed this pond. Possibly too cold for breeding amphibians.	M&DM

LAKE LOUISE AREA

LOCATION: Lake Louise Area and west

SITE DESCRIPTION: Solitary Pond (UTME: 567590 – UTMN: 5683794) located 1 km. south of TCH and southeast of Taylor Lake Trail.

Taylor Pond (UTME: 566814 – UTMN: 5684324) located 1/2 km. south of TCH and west of Taylor Lake Trail.

DATE	TIME	H2O °C	T/W/S	SPECIE	egg mass	larvae	young	adult	NOTES	seen by
05/05/14	1350	12 16	13/1/2	WOFR SPFR BOTO	4 6 2	few			Solitary Pond. WOFR egg masses: 1 of 1, 1 of 1, 1 of 1 all slightly elongated, near inlet, 1 of 1 near SPFR egg masses. SPFR egg masses on W side: 3 large masses with hatchlings 1 slightly elongated, 2 smaller masses floating too far away to see stage of embryos. BOTO strings: mostly hatchlings with a few tiny tadpoles in shallow water on the edge of pond (water temp. 16C), one string more disintegrated.	M&DM
05/05/14	1130	14	13/0/2	WOFR SPFR	34 3			2	Taylor Pond. WOFR egg masses: 1 of 12 with hatchlings on W side, the rest on E side: 1 of 1, 1 of 1, 1 of 1, 1 of 1, 1 of 1, 1 of 1, 1 of 1, 1 of 1, (all elongated) 1 of 7 elongated, 1 of 1 fresh, 1 of 1 fresh, 1 of 1 slightly elongated, 1 of 4 slightly elongated, 1 of 1 fresh. WOFR adults seen in small pool at W end of pond SPFR egg masses: elongated, found in shallow edge of pond on N side.	M&DM

ICEFIELDS PARKWAY

LOCATION: Icefields Parkway (from south to north).

Bow Lake Outlet (UTME: 539606 – UTMN: 5722879) located at south end of Bow Lake.

Tall Sedge Pond (UTME: 539372 – UTMN: 5722807) located on the west side of Bow Lake Outlet, north of large outlet pool.

Crowfoot Wetland (UTME: 539412 – UTMN: 5722250) located west and upslope of Bow Lake Outlet, at the base of Crowfoot Glacier

Num-Ti-Jah Pools – East Pool (UTME: 537043 – UTMN: 5726368)

West Pool (UTME: 536904 – UTMN: 5726336) both located just across the lakeshore trail from Bow Lake.

Top-of-the-Bow Wetland (UTME: 538184 – UTMN: 5727898) located south of Gravel Pool and on the south side of creek running across Icefields Parkway.

Bow Summit Pond (UTME: 534971 – UTMN: 5730164) located on east side of Bow Summit, beside old abandoned road. Elevation 2070 m.

DATE	TIME	H2O °C	T/W/S	SPECIE	egg mass	larvae	young	adult	NOTES	seen by
05/08/05	1525		22/2/1	BOTO		6			Bow Lake Outlet. Found in usual area, at E edge of outlet pool.	M&DM B&DL
05/08/05	1600	20	23/2/1	SPFR				2	Tall Sedge Pond. Observed amongst the sedges in the water of this deep pool. Our first sighting of frogs of either species north of the Lake Louise area.	M&DM B&DL
05/08/05	1430	26	20/1/0	BOTO		300+			Crowfoot Wetland. Tadpoles medium size, seen in shallow pool at N end of meadow.	M&DM B&DL
05/08/27	1030		12/0/0	BOTO		14	50+ toadlets		Num-Ti-Jah Pools. East Pool. All tadpoles showed hind legs with a few showing all legs. Toadlets: small, just emerging from water.	M&DM
05/08/27	1100	10	7/1/2	BOTO		1200+			Top-of-the-Bow Wetland. Found in two different pools.	M&DM
05/06/27	1000	10	7/1/2	BOTO		2000+			Bow Summit Pond. Scattered in shallows on E side.	M&DM

AREAS IN KOOTENAY NATIONAL PARKS

LOCATION: Kootenay National Park.

SITE DESCRIPTION: Simpson Mineral Lick (UTM: NG733496) located 1.2 km. north of Simpson River Trailhead, on east side of Kootenay Parkway.

Simpson South (UTM: NG733496) approximately 400 m. north of Simpson River Trailhead, on the west side of Parkway and on the other side of a low ridge with culvert separating it from Simpson North.

DATE	TIME	H2O °C	T/W/S	SPECIE	egg mass	larvae	young	adult	NOTES	seen by
05/04/25	1450			SPFR	2				Simpson Mineral Lick. Main Pond. SPFR egg masses: 1 fresh, 1 fresh covered in silt.	M&DM
05/04/25	1440								Simpson South. Pond filling up (half full 2 days earlier) Nothing found.	M&DM

AREAS IN THE BOW VALLEY EAST OF BANFF NATIONAL PARK

LOCATION: Yamnuska Natural Area

SITE DESCRIPTION: at the base of Mt. Yamnuska and Mt Loder north of Seebe.

Duck Pond: (UTME: 634022 – UTMN: 5664068).

Meadow Lake: (UTME: 633306 – UTMN: 5664491)

New Beaver Pond: (UTME: 634012 – UTMN: 5664913) (also reported as East End Beaver Pond), New Beaver Pond Upper (UTME: 633620 – UTMN: 5664891)

Stony Meadow Pond: (UTME: 633369 – UTMN: 5663892)

Willow Pond: (UTME: 633872 – UTMN:5663881).

Yellowleg Pond: (UTME: 633716 – UTMN: 5663722), beaver activity including lodge (1996).

Yellowleg West: (UTME: 633627 UTMN:5663647) located west of Yellowleg Pond.

DATE	TIME	H2O °C	T/W/S	SPECIE	egg mass	larvae	young	adult	NOTES	seen by
05/04/21	1345	11	16/1/2	WOFR				few	Duck Pond. Heard tentative calls at W end in vegetated area. Lots of whirligigs. Pond was ice free on April 10 th .	M&DM
05/04/21	1620	13	16/0/1	WOFR SPFR	7 2			6+ 2	Meadow Lake. WOFR egg masses: 1 of 6 (fresh) on W side, 1 of 1 in a beaver run at N/W Corner, near a SPFR e.m. WOFR: heard and saw 6 +, a few heard in N/W corner and some on E side. SPFR egg masses: both found in a beaver run at N/W corner with a WOFR e.m. SPFR adults: calling from area on W side where WOFR adults and egg masses were. Pond was ice free on April 10 th .	M&DM
05/04/21	1155	12/1/2	16/0/1	WOFR SPFR	2			few few	New Beaver Pond. WOFR egg masses: 1 of 1, 1 of 1, both fresh at N/W end of main pond. WOFR adults heard on S side, a few (2 seen) at N/W side and middle of S side in the upper pond. SPFR: a few heard at W end of main pond and a few in middle of upper pond at N/W end. Pond was ice free on April 10 th .	M&DM
05/04/21	1530	12	16/1/2	WOFR SPFR	35 1			few	Stony Meadow Pond. WOFR egg masses: 1 of 33 (fresh) found on N side, 1 of 1, 1 of 1, both fresh, close to each other, found farther W on same side. Few WOFR adult heard in area of egg masses. SPFR egg mass: fresh, near the WOFR egg cluster. Pond was ice free on April 10 th .	M&DM
05/04/21	1415	12	16/1/2	WOFR	90			many	Willow Pond. Full chorus on N side. Saw 6 adults. 1 of 90 fresh (2 masses with dead eggs), in shallow water. Pond was ice free on April 10 th .	M&DM
05/04/21	1450	9	16/1/2	WOFR				few	Yellowleg Pond. Heard at E end.	M&DM
05/04/21	1510	10							Yellowleg West. Nothing found. Pond was ice free on April 10 th .	M&DM

Table 1. Presence of amphibians in specific sites visited in Banff National Park, 1992-2005 (In alphabetical order)

UTME	UTMN	UTM	Specific sites	Area	BOTO			WOFR			SPFR			LTSA			
					A	Y	E-L	A	Y	E-L	A	Y	E-L	A	Y	E-L	
582123	5892419	NG617934	Allium Pond	Bow Valley P.West	X												
570461	5677454	NG686758	Altrude Lakes	Castle Junction	X	X											
567023	5676719	NG671765	Altrude Lakes Area	Castle Junction	X	X	X										
603840	5674021	PG040738	Amphibian World, Main P	Minnewanka Loop	X	X		X	X	X							
603605	5673888		Amphibian World, West P	Minnewanka Loop	X	X		X	X	X				X			X
604136	5674076		Amphibian World, East P	Minnewanka Loop	X		X										
589198	5669809	NG894697	Antler Pond	Muleshoe				X									
503321	5771811	NH039709	Asphodel Pond	Icefields Parkway		X	X							?			
593198	5669718	NG937694	BVP North Pond	BVP Wetland				X		X				X			X
593286	5669579	NG936693	BVP South Pond	BVP Wetland				X	X	X							X
590663	5668822	NG907688	Backswamp	Sunshine Wetland	X	X	X	X		X	X	X	X				
579689	5677696	NG795785	Barenaked Pond	Moose Meadow Wtld		X					X	X					
606123	5672919	PG062727	Beaver Pond	Johnson Lake				X			X						
613823	5618919	PG139187	Belgium Lake	Upper Spray	X		X										
604479	5676244	PG045759	Black Pond	Minnewanka Loop													X
556123	5697719	NG562975	Blackpoll Ponds	Lake Louise									X				
593948	5669321		Blue Sedge Pool	5-Mile Riverbend													X
564538	5679239	NG643791	Boom Lake	Castle Junction	X	X	X										
568257	5677854	NG683777	Boom Lake Trailhead	Castle Junction		X	X										
539606	5722873	NH395228	Bow Lake Outlet	Icefields Parkway	X	X	X										
534971	5730164	NH350298	Bow Summit Pond	Icefields Parkway	X	X	X										
611523	5667319	PG116671	Busy Pond	Carrot Creek				X	X	X							X
610411	5670481		Carrot Ck.Sulphur Spring	Carrot Creek	X	X		X	X	X							
608864	5668641	PG092678	Carrot Lake	Carrot Creek	X	X	X	X									
596323	5692119	PG964919	Cascade Beaver Pond	Cascade	X	X	X				X		X				
574889	5680858	NG748807	Castle Cliffs Wetland	B.V. Parkway					X	X							X
598501	5669636	NG985695	Cave & Basin	Cave & Basin	X			X	X		X						
588915	5677079	NG890705	Channels West	Muleshoe				X									
605789	5673616	PG057732	Cold Pond	Johnson Lake				X	X	X			X				X
583063	5675685		Cotsfoot Pond	B.V. Parkway						X							X
575212	5679434	NG752792	Copper Lake	Castle Junction				X	X	X							
592901	5669346	NG934693	Cory Pond	B.V. Parkway													X
559303	5695774	NG595954	Cranberry Pond	B.V. Parkway							X						
553999	5700968	NH542007	Crowberry Pond	Icefields Parkway													X
539412	5722250		Crowfoot Wetland	Icefields Parkway			X										
572723	5678619	NG728784	Curve Pond	Castle Junction				X		X			X				
611423	5667019	PG115672	Cutline Pond	Carrot Creek				X		X							X
603150	5669819	PG031696	Devil's Cauldron	Banff Golf Course												X	
554739	5699263	NG546973	Divide Ponds (S)	Lake Louise							X	X	X				

* A = adult, Y = young, E-L = eggs, larvae (tadpoles), X = Present. (does not include random sightings of amphibians away from breeding sites)

Table 1. Presence of amphibians in specific sites visited in Banff National Park, 1992-2005 (in alphabetical order) continued...

UTME	UTMN	UTM	Specific sites	Area	BOTO			WOFR			SPFR			LTSA		
					A	Y	E-L	A	Y	E-L	A	Y	E-L	A	Y	E-L
612493	5666961		East Boundary Pond	Carrot Creek				X								X
594223	5669019	NG943688	5-Mile Riverbend	Bow River	X			X								
593290	5668958	NG933687	5-Mile Wetland Pond 1	5 m. W. of Banff				X								
598750	5671280	NG967709	Fenland Trail	Vermilion Lakes				X		X						
595281	5669873	NG954695	Fingers	Vermilion Lakes						X						X
571102	5681128	NG713808	Floating Pond	West of Castle Jct.							X	X	X			
583222	5676037	NG834755	Frog Hollow	B.V. Parkway	X			X		X						X
554623	5713219	NH547130	Glacier Lake	Sask. Crossing	X											
558223	5687219	NG583870	Goldeneye Pond	Lake Louise	X						X					
588900	5671231	NG891706	Goose Pond	Muleshoe				X		X						
536137	5728324	NH356288	Gravel Pool	Icefields Parkway	X		X									
553976	5699955		Griz 59 Pond	Lake Louise						X						
597072	5669853	NG971696	Hayfield Channel	Vermilion Lakes						X						
597183	5669914	NG973696	Hayfield Pond	Vermilion Lakes	X			X	X	X			X			
595609	5668552	NG956683	Healy Fireroad Pond	Cave & Basin				X								
591473	5668544	NG919680	Healy Pit Wetland S/W	Sunshine Wetland	X	X	X	X	X	X						
591474	5668708		Healy Pit Wetland N/W	Sunshine Wetland												X
591644	5668892		Healy Pit Wetland N/E	Sunshine Wetland			X	X						X		
554120	5701254	NH541011	Herbert Lake	Icefields Parkway				X								
		PG026806	Hermit Ponds	Cascade Valley			X									
581666	5677530		Hidden Cliff Wetland	B.V. Parkway				X								
612323	5667419	PG101690	Hidden Pond	Carrot Creek				X					X	X	X	
584723	5676019	NG848758	Hillsdale Wetland	B.V. Parkway			X									X
589550	5670212		Hole-in-the-Wall Pond	Muleshoe	X	X	X									
598823	5669119	NG992699	Horse Barns	Cave & Basin				X								
612323	5667519	PG124673	Horse Pond	Carrot Creek	X	X	X	X	X	X						X
604404	5678657	PG047785	Horsetail Wetland	L. Minnewanka			X									
584823	5677520	NG847773	Ishbel Wetland	B.V. Parkway	X	X	X							X		
581531	5694115	NG617934	Island Lake	B.V. Parkway	X			X	X	X						
			Island Stream	Double Oxbow Island				X								
605730	5673058	PG057725	Johnson Lake	Johnson Lake				X			X		X	X		
575154	5681611		Junco Wetland	BVP w. of Castle			X									
558172	5695790	NG583957	Kingfisher Lake	Lake Louise				X		X						
587317	5671703		Kinglet Pond	Double Oxbow Island				X								
605700	5673300	PG057734	Lake of the Sticks (N)	Johnson Lake	X			X	X	X			X			
605745	5673889	PG057733	Lake of the Sticks (S)	Johnson Lake	X		X	X	X	X	X	X	X			X
604521	5676112	PG046758	Lakeside Pond	Minnewanka Loop				X		X				X		X
609123	5668019	PG097684	Lily Pond	Carrot Creek				X	X	X						
		NH674040	Little Baker Lake	Skoki	X											
554423	5700319	NH545001	Little Herbert Lake	Icefields Parkway				X								
582796	5676009	NG830757	Lizard Lake	B.V. Parkway				X		X				X		X

* A = adult, Y = young, E-L = eggs, larvae (tadpoles), X = Present. (does not include random sightings of amphibians away from breeding sites)

Table 1. Presence of amphibians in specific sites visited in Banff National Park, 1992-2005 (in alphabetical order) continued...

UTME	UTMN	UTM	Specific sites	Area	BOTO			WOFR			SPFR			LTSA		
					A	Y	E-L	A	Y	E-L	A	Y	E-L	A	Y	E-L
			*													
550474	5702575		Lost Lake	Lake Louise	X											
601149	5668503		Lower Spray River	Lower Spray		X										
603223	5638519	PG033383	Marvel Lake	Upper Spray											X	X
598823	5669119	NG989889	Middle Springs	Cave & Basin	X											
580073	5678616	NG802783	Moose Meadow Pools	B.V. Parkway	X			X	X	X		?				X
557823	5688619	NG579884	Moraine Creek Wetland	Lake Louise		X	X				X		X			
594152	5668984		Muddy Backwater	5-Mile Riverbend	X											
			Muleshoe Area	Muleshoe		X										
589486	5670481	NG895702	Muleshoe Pond	Muleshoe	X	X	X	X						X		X
589413	5670366		Muleshoe Riverside	Muleshoe	X	X										
599341	5671896	NG991715	Norquay Pond	Vermilion Lakes										X		X
599308	5671869		Norquay Channel	Vermilion Lakes												X
603723	5674419	PG038742	North Old Dump	Minnewanka Loop				X		X				X		X
537043	5725357	NH370253	Num-Ti-Jah Pools East	Icefields Parkway		X	X									
536903	5725334	NH370253	Num-Ti-Jah Pools West	Icefields Parkway			X									
590757	5668629	NG907686	Ochre Minor	Sunshine Wetland	X			X	X	X						X
558848	5695420	NG589952	Old Rock Pond	B.V. Parkway				X								
610023	5668519	PG101683	Openside Pond	Carrot Creek				X		X						X
604468	5673730	PG048735	Osprey Pond	Minnewanka Loop	X	X		X	X	X	X	X	X	X		X
552457	5702123		Pine Point Wetland	Lake Louise	X		X	X	X		X		X			
604600	5675700	PG045757	Pipe Traps	Minnewanka Loop										X	X	
589094	5670779	NG892705	Pond #1	Muleshoe				X		X						X
588917	5670920	NG892706	Pond #2	Muleshoe				X		X						
589017	5670796	NG891705	Pond #3	Muleshoe				X	X	X						X
588923	5670819	NG890706	Pond #4	Muleshoe				X		X						
590698	5668430	NG907682	Pond #1	Sunshine Wetland	X	X	X	X	X	X						X
590748	5668484	NG907683	Pond #2	Sunshine Wetland	X	X	X	X	X	X						
590801	5668586	NG908685	Pond #3	Sunshine Wetland	X	X	X	X	X	X		X				X
590786	5668621	NG907685	Pond #4 (Ochre)	Sunshine Wetland	X	X		X	X	X		X		X		X
583155	5675652	NG830755	Powerline Pond	B.V. Parkway	X					X						X
588900	5670716	NG891704	Primrose Pond	Muleshoe	X			X		X						
581988	5676526		Prism Springs Wetland	B.V. Parkway	X	X	X	X		X						X
567068	5688645		Protection North	B.V. Parkway				X		X						X
			Protection Wetland	B. V. Parkway	X											
599499	5669596	PG035745	Quiet Pond	Minnewanka Loop		X		X	X	X						X
603354	5674668		Quiet Pond, S/W	Minnewanka Loop	X					X						X
603574	5674699		Quiet Pond, (East of)	Minnewanka Loop				X		X						
596623	5669219	NG963692	Rainy Bay	Cave & Basin		X										
509123	5765319	NH092651	Ramparts Backwater	Icefields Parkway			X									
555542	5690224	NG558989	Ramshorn Pond	Icefields Parkway				X	X							X
587223	5672919	NG873727	Ranger Ck. B. Pond	B.V. Parkway	X											

* A = adult, Y = young, E-L = eggs, larvae (tadpoles), X = Present. (does not include random sightings of amphibians away from breeding sites)

Table 1. Presence of amphibians in specific sites visited in Banff National Park, 1992-2005 (In alphabetical order) continued...

UTME	UTMN	UTM	Specific sites	Area	BOTO			WOFR			SPFR			LTSA			
					A	Y	E-L	A	Y	E-L	A	Y	E-L	A	Y	E-L	
587232	5673394	NG872733	Ranger Creek Willow Flats	B.V. Parkway	X			X		X							X
596748	5670084	NG968698	Rathole	Vermilion Lakes	X	X	X	X	X	X							
605423	5669919	PG055697	Ravens' Point Wetland	Tunnel Mountain				X									
557929	5686397	NG581962	Red-tail Pond	Lake Louise				X	X	X							
549038	5699683		Ross Pond	Lake Louise													?
610923	5667319	PG110669	Rundlevie Pond	Carrot Creek				X		X							X
529123	5738419	NH292382	Silverhorn Pond, Lower	Icefields Parkway			X										
		NG773811	Silverton Pond	Castle Junction					X								
574653	5679170		Smith Lake Lower Pond	Castle Junction				X	X								
574734	5678797	NG750780	Smith Lake Upper Pond	Castle Junction				X	X	X	X	X	X				
587334	5671893		Snail Pond	Double Oxbow Island				X									
567590	5683794		Solitary Pond	West of Castle Jct.	X		X	X	X	X		X	X				
598308	5670305	NG983701	Sora Pond	Vermilion Lakes	X			X		X							X
579321	5677835	NG795785	South Channel	Moose Meadow Wtld.	X	X	X	X	X	X	X	X	X				
594096	5669323		Sparrow Pond	5-Mile Riverbend						X							
562723	5681910	NG629919	Split Level Pond Lower	B.V. Parkway				X	X	X							
562631	5681853	NG628918	Split Level Pond Upper	B.V. Parkway				X	X								
571702	5678703	NG715783	Strider Pond	Castle Junction				X		X							
588827	5671613	NG889713	Stunted Spruce Pond	B.V. Parkway	X			X	X	X							X
598819	5689941	NG987697	Sundance Pond	Cave & Basin area				X		X							X
506259	5768632	NH063684	Sunset Pond	Icefields Parkway			X										
506233	5768628	NH063684	Sunset West	Icefields Parkway			X										
539372	5722807		Tall Sedge Pond	Icefields Parkway							X						
595046	5669670		Tall Willow Wetland	Vermilion Lakes						X							X
566814	5684324		Taylor Pond	Lake Louise				X	X	X			X				
596530	5670016	NG965697	Teardrop Pond	Vermilion Lakes				X		X							
554651	5699756	NG547998	Tiny Herbert Lake	Icefields Parkway				X		X							X
536194	5727897		Top-of-the-Bow Wetland	Icefields Parkway	X	X	X										
574871	5681822	NG745817	Trackers Wetland	B.V. Parkway			X	X									
579347	5677856	NG795776	Turquoise Pond	Moose Meadow Wtld.			X		X								
575429	5681312	NG754810	Upper Castle Cliffs Wetl.	B.V. Parkway			X	X		X	X						X
581756	5677636		Upper Hidden Cliffs Wetl	B.V. Parkway			X	X	X					X			X
612923	5623019	PG130228	Upper Spray Wetland	Upper Spray	X		?				X		?				
598523	5670419	NG984705	VL-1	Vermilion Lakes	X	X		X	X								
			VL-1 & VL-2	Vermilion Lakes				X									
597523	5670719	NG976705	VL-2	Vermilion Lakes	X			X	X								
596964	5670268		VL-2 & VL-3	Vermilion Lakes		X											
595623	5670119	NG957699	VL-3	Vermilion Lakes	X			X			X						
595223	5670019	NG953698	VL-3 West	Vermilion Lakes	X	X		X									
603823	5674319	PG039741	Vernal Pool	Minnewanka Loop	X		X	X	X	X							
568417	5676957	NG685767	Vista Lake	Castle Jct. Area	X		X										
588123	5670319	NG882701	WL-4	TCH - west				X		X							X

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Table 1. Presence of amphibians in specific sites visited in Banff National Park, 1992-2005 (in alphabetical order) continued...

UTME	UTMN	UTM	Specific sites	Area	BOTO			WOFR			SPFR			LTSA		
					A	Y	E-L	A	Y	E-L	A	Y	E-L	A	Y	E-L
			*													
586423	5672519	NG865723	WL-6	TCH - west				X		X						
583395	5675231	NG834749	WL-7 (Boto Pond)	TCH - west	X	X	X	X		X						
583324	5675339		WL-7 (West End Pond)	TCH - west					X	X						
520723	5758719	NH208585	Warden Lake Area	Icefields Parkway	X	X	X									
555723	5884919		Wenkchemna Pool	Moraine Lake			X									
550223	5700819	NH503006	West Boundary Ponds	TCH - west								X				
590648	5668471		West of Pond #1	Sunshine Wetland	X		X	X		X						
555423	5700719	NH555005	Whitehorn Lake	Lake Louise			X	X		X		X			X	
607563	5669211	PG075690	Wolfwillow Wetland	Carrot Creek	X		X		X							
611223	5667019	PG113668	Zapped Pond	Carrot Creek				X		X					X	

* A = adult, Y = young, E-L = eggs, larvae (tadpoles), X = Present. (does not include random sightings of amphibians away from breeding sites)

Table 2. Wetlands identified in Banff National Park where amphibians have yet to be found.

UTME	UTMN	UTM	Specific sites	Area
			*	
		NG558988	BJ Pond	TCH West
		NH527984	Big Cut Pond	TCH West
		NH504009	Bath Pond	TCH West
		NG668853	Bog Birch Pools	Lake Louise
574754	5679999	NG747797	Castle Bridge Wetland	Castle Junction
578154	5679145	NG783788	Castle Pond	Castle Junction
598136	5669592	NG982694	Cave & Basin West Ponds	Cave & Basin Area
		PG058712	Darned Pond	Bow Valley East
		NH504007	Deep Pit	TCH West
			Double Oxbow Wetland	Bow Valley Parkway
		PG113657	East Gate Wetland	Bow Valley East
553915	5699749		Echo Pond	Lake Louise
593237	5668796		5-Mile Wetland Pond 2	Vermilion Lakes
593358	5668749		5-Mile Wetland Pond 3	Vermilion Lakes
		PG055716	Green Pond	Bow Valley East
553773	5700054		Heron Pond	Lake Louise
		PG065703	Lower Duthill	Bow Valley East
558676	5695330	NG587952	McNair Pond	BVP west of Castle Jct.
550561	5701988		Missing Lake	Lake Louise
489130	5784520	MH890843	Moonwort Wetland	Icefields Parkway
		NG797784	Moose Meadow Beaver Pond	Moose Meadow Wetland
		NH350295	Peyto Pool	Icefields Parkway
567430	5688292		Protection South	Bow Valley Parkway
565607	5685862		Sera Pond	Lake Louise

cont...

Table 2. Wetlands Identified in Banff National Park where amphibians have yet to be found cont...

UTME	UTMN	UTM	Specific sites	Area
			*	
		NH293379	Silverhorn Pond North (Upper)	Icefields Parkway
		NG750780	Smith Lake	Castle Junction
		NG683840	TCH 54.5, TCH 60, TCH 60.3	TCH West
		NG655876	TCH 60	TCH West
		NG652878	TCH 60.3	TCH West
		NG647884	TCH 61	TCH West
		NG641888	TCH 62.1	TCH West
		PG058712	TCH Wetland	Bow Valley East
		PG062708	2 Culvert Pond	Bow Valley East

Table 3. Presence of amphibians in specific sites visited in Kootenay National Park 1992-2005 (In alphabetical order)

UTME	UTMN	UTM	Specific sites	BOTO			WOFR			SPFR			LTSA		
				A	Y	E-L	A	Y	E-L	A	Y	E-L	A	Y	E-L
			*												
566223	5675619	NG663754	Kerr Ponds		X	X									
566955	5637271		Kootenay Lodge Ponds			X						X			X
573223	5649819	NG674380	Kootenay Pond										X	X	
559171	5667460		Numa Pool East			X									
559133	5667437		Numa Pool West			X									X
		NG?	Rescue Pond												X
573223	5649819	NG733496	Simpson Mineral L.	X	X	X						X			X
			Simpson Pool & Channel												X
573123	5649619	NG732494	Simpson North	X		X									X
573223	5649819	NG733496	Simpson South	X						X	X	X	X		X
			Violet Pond									X			

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Table 4. Presence of amphibians in specific sites in Canmore, Bow Valley Provincial Park, Yamnuska, Peter Lougheed Provincial Park and Kananaskis Country 1992-2005 (in alphabetical order).

UTME	UTMN	UTM	Specific sites	Area	BOTO			WOFR			SPFR			BCFR			LTSA			TISA		
					A	Y	E-L	A	Y	E-L	A	Y	E-L	A	Y	E-L	A	Y	E-L	A	Y	E-L
			Bow V. S. Borrow Pit	B.V. P.P.				X		X				X								
		PG160363	Buller Pond	K-Country							X	X	X									
		PG129596	Canmore Creek	Canmore		X	X														X	
		PG358591	Chilver Lake	B.V.P.P.	X			X		X				X								
632623	5662519	PG327623	Coyote Lake	Yam.				X		X												
632434	5662761	PG323625	Crescent Lake	Yam.				X	X													X
634022	5664068	PG342639	Duck Pond	Yam.				X						X								
		PG353063	Elk Pass	P.L.P.P.				X														
			Elbow River	K-Country				X														
		PG358612	Flowing Waters	B.V.P.P.				X														
632959	5663361	PG331631	Great Swamp	Yam.				X			X	X										
632868	5662748	PG328624	Hilltop Pond	Yam.				X		X												
633452	5663667	PG334632	Little Stony Pond	Yam.				X														
634417	5664437	PG344643	Loony Pond	Yam.						?			?									
		PG322593	Many Springs	B.V.P.P.	X																	
633306	5664491		Meadow Lake	Yam.				X		X	X		X									
		PG335598	Middle Lake	B.V.P.P.				X						X								
633005	5664166	PG332645	Muir Pond	Yam.				X			X			X								
634012	5664913	PG339645	New Beaver Pond	Yam.	X			X		X	X		X									
633820	5664891		New Beaver Upper P.	Yam.				X			X											
633323	5663719	PG334635	Old Beaver Pond	Yam.				X			X	X									X	
		PG137597	Quarry Lake	Canmore	X		X	X		X								X	X	X		
634311	5664043	PG343648	Roadside Pool	Yam.										X								
			Rundle Canal Pond	Canmore				X													X	
		PG345614	Salamander Ponds	B.V.P.P.	X		X	X		X				X				X	X	X		
633389	5663692	PG333632	Stony Meadow Pond	Yam.				X		X	X		X									
633872	5663881	PG339636	Willow Pond	Yam.				X		X	X		X	X	?							
633716	5663722	PG340638	Yellowleg Pond	Yam.				X		X	X		X									
633627	5663647	PG337634	Yellowleg West	Yam.				X	?	X	X	?	X									

* A = adult, Y = young, E-L = eggs, larvae (tadpoles), X = Present. (does not include random sightings of amphibians away from breeding sites) + B.V.P.P. = Bow Valley Provincial Park.

Table 5. Definite breeding sites in areas visited inside Banff National Park, 1992-2005 (presence of eggs &/or larvae &/or young).

Boreal Toad (total:65 sites)	Altrude Lakes, Altrude Lakes Area, Asphodel Pond, Amphibian World, Backswamp, Barenaked Pond, Belgium Lake, Boom Lake, Boom Lake Trailhead, Bow Lake Outlet, Bow Summit Pond, Carrot Creek Sulphur Spring, Carrot Lake, Cascade Beaver Pond, Crowfoot Wetland, Gravel Pool, Healy Pit Wetland, Hermit Ponds, Healy Pit Wetland, Hillsdale Wetland, Hole-in-the-Wall Pond, Horse Pond, Horsetail Wetland, Ishbel Wetland, Junco Wetland, Lake of the Sticks South, Lower Spray River, Moraine Creek Wetland, Muleshoe Area, Muleshoe Pond, Muleshoe Riverside, Num-Ti-Jah Pools, Osprey Pond, Pine Point Wetland, Prism Springs Wetland, Quiet Pond, Rainy Bay, Ramparts Backwater, Rathole, Silverhorn Pond (lower), Solitary Pond, South Channel (Moose Meadows), Sunset Pond, Sunset West, Sunshine Wetland: Pond #1 & West, Pond#2, Pond#3, Pond#4 (Ochre Pond), Top-of-the-Bow Wetland, Trackers Wetland, Turquoise Pond, Upper Castle Cliffs Wetland, Upper Hidden Cliffs Wetland, VL-1, VL2 & VL3, VL3 West, Vernal Pool, Vista Lake, WL-7 (Boto Pond), Warden Lake Area, Wenkchemna Pool, Whitehorn Lake, Wolfwillow Wetland.
Wood Frog (total:82 sites)	Amphibian World, Backswamp, Bow Valley Parkway North Pond, Bow Valley Parkway South Pond, Busy Pond, Carrot Creek Sulphur Spring, Castle Cliffs Wetland, Cave & Basin, Cold Pond, Coltsfoot Pond, Copper Lake, Curve Pond, Cutline Pond, Fenland Trail, Fingers, Frog Hollow, Goose Pond, Griz 59 Pond, Hayfield Channel, Hayfield Pond, Healy Pit Wetland, Horse Pond, Island Lake, Kingfisher Lake, Lake of the Sticks North, Lake of the Sticks South, Lakeside Pond, Lily Pond, Lizard Lake, Moose Meadow Pools, Muleshoe: Pond #1, Pond #2, Pond #3 & Pond #4, North Old Dump, Ochre Minor, Openside Pond, Osprey Pond, Pine Point Wetland, Sunshine Wetland: Pond #1 & West, Pond #2, Pond#3, Pond #4, Powerline Pond, Prism Springs Wetland, Primrose Pond, Protection North, Quiet Pond, Quiet Pond West, Quiet Pond East, Ramshorn Pond, Ranger Creek Willow Flats, Rathole, Red-tail Pond, Rundlevie Pond, Silvertown Pond, Smith Lake Area, Solitary Pond, Sora Pond, South Channel (Moose Meadows), Sparrow Pond, Strider Pond, Sundance Pond, Lower Split Level Pond, Upper Split Level Pond, Stunted Spruce Pond, Tall Willow Wetland, Taylor Pond, Teardrop Pond, Tiny Herbert Lake, Upper Castle Cliffs Wetland, VL1, VL2, Vernal Pool, WL-4, WL-6, WL-7 (Boto Pond), WL-7 (West End Pond), Whitehorn Lake, Wolfwillow Wetland, Zapped Pond.
Spotted Frog (total:22 sites)	Backswamp, Blackpoll Ponds, Cascade Beaver Pond, Cold Pond, Curve Pond, Divide Ponds South, Floating Pond, Hayfield Pond, Johnson Lake, Lake of the Sticks North, Lake of the Sticks South, Moraine Creek Wetland, Osprey Pond, Pine Point Wetland, Smith Lake Area, Solitary Pond, South Channel (Moose Meadows), Sunshine Wetland: Pond #3, Pond #4 (Ochre), Taylor Pond, West Boundary Ponds, Whitehorn Lake.
Long-toed Salamander (total:54 sites)	Amphibian World, BVP North Pond, BVP South Pond, Black Pond, Blue Sedge Pool, Busy Pond, Castle Cliffs Wetland, Cold Pond, Coltsfoot Pond, Cory Pond, Crowberry Pond, Cutline Pond, Devil's Cauldron, East Boundary Pond, Fingers, Frog Hollow, Healy Pit Wetland, Hidden Pond, Hillsdale Wetland, Horse Pond, Ishbel Pond, Lakeside Pond, Lake of the Sticks South, Lizard Lake, Marvel Lake, Moose Meadow Pools, Muleshoe Pond, Norquay Pond, North Old Dump, Osprey Pond, Openside Pond, Muleshoe area: Pond #1, Pond #3, Ochre Minor, Powerline Pond, Prism Springs Wetland, Protection North, Quiet Pond, Quiet Pond S/W, Ramshorn Pond, Ranger Creek Willow Flats, Rundlevie Pond, Sora Pond, Stunted Spruce Pond, Sundance Pond, Sunshine Wetland: Pond #3, Pond #4 (Ochre Pond), Tall Willow Wetland, Tiny Herbert Lake, Upper Castle Cliffs Wetland, Upper Hidden Cliffs Wetland, WL-4, Whitehorn Lake, Zapped Pond.

Table 6. Probable breeding sites in areas visited inside Banff National Park, 1992-2005 (adults present during breeding season, frogs and toads vocalizing).

Boreal Toad (total:21 sites)	Allium Pond, Cave & Basin, Frog Hollow, Glacier Lake, Goldeneye Pond, Hayfield Pond, Island Lake, Lake of the Sticks North, Little Baker Lake, Lost Lake, Middle Springs, Muddy Backwater, Ochre Minor, Primrose Pond, Protection Wetland, Quiet Pond West, Ranger Creek Beaver Pond, Ranger Creek Willow Flats, Sora Pond, Stunted Spruce Pond, Upper Spray Wetland.
Wood Frog (total:22 sites)	Antler Pond, Beaver Pond at Johnson Lake, Carrot Lake, East Boundary Pond, 5-Mile Wetland, Herbert Lake, Healy Fireroad Pond, Hidden Cliffs Wetland, Hidden Pond, Horse Barns, Island Stream, Johnson Lake, Kinglet Pond, Little Herbert Lake, Muleshoe Pond, Old Rock Pond, Raven's Point Wetland, Snail Pond, Turquoise Pond, Upper Hidden Cliffs Wetland, VL-3 West, VL-3.
Spotted Frog (total:7 sites)	Beaver Pond at Johnson Lake, Cave & Basin, Goldeneye Pond, Sora Pond, Tall Sedge Pond, Upper Spray Wetland, VL-3.

Table 7. Definite breeding sites in areas visited in Jasper and Kootenay National Parks, 1992-2005 (presence of eggs &/or larvae &/or young).

Boreal Toad	Kerr Ponds, Kootenay Lodge Ponds, Numa Pools, Simpson Mineral Lick, Simpson North.
Spotted Frog	Kootenay Lodge Ponds, Simpson Mineral Lick, Simpson South, Violet Pond.
Long-toed Salamander	Horseshoe Lake, Kootenay Lodge Ponds, Kootenay Pond, Numa Pools, Rescue Pond, Simpson Mineral Lick, Simpson North, Simpson Pool & Channel, Simpson South.

Table 8. Definite breeding sites in areas visited in the Bow Valley east of Banff National Park and areas in Kananaskis Valley, 1992-2005 (presence of eggs &/or larvae &/or young).

Boreal Toad	Chilver Lake, Elbow River, Elk Pass, Salamander Ponds, Quarry Lake.
Wood Frog	Bow Valley South Borrow Pit, Canmore Creek, Coyote Lake, Crescent Lake, Hilltop Pond, Meadow Lake, New Beaver Pond, Quarry Lake, Salamander Ponds, Stony Meadow Pond, Willow Pond, Yellowleg Pond, Yellowleg West.
Spotted Frog	Buller Pond, Great Swamp, Meadow Lake, New Beaver Pond (Yamnuska), Old Beaver Pond, Stony Meadow Pond, Willow Pond, Yellowleg Pond, Yellowleg West.
Long-toed Salamander	Quarry Lake, Salamander Ponds.
Tiger Salamander	Crescent Lake.

Table 9. Probable breeding sites in areas visited in the Bow Valley east of Banff National Park and areas in Kananaskis Valley, 1992-2005 (adults present during breeding season, frogs and toads vocalizing).

Boreal Toad	Many Springs, New Beaver Pond (Yamnuska).
Boreal Chorus Frog	Bow Valley South Borrow Pit, Middle Lake, Chilver Lake, Duck Pond, Muir Pond, Roadside Pool, Salamander Ponds, Weigh Station, Willow Pond.
Wood Frog	Beaver Ponds near CP tracks, Chilver Lake, Duck Pond, Flowing Waters, Little Stony Pond, Middle Lake, Muir Pond, Old Beaver Pond (Yamnuska), Sheep River.
Spotted Frog	Muir Pond.
Long-toed Salamander	Old Beaver Pond (Yamnuska).



Amphibian Sightings 2005 B&DLepitzki

Codes:

Wind: 0: calm, smoke vertical; 1: direction by smoke drifts; 2: felt on face, leaves rustle; 3: leaves in constant motion, extends a light flag; 4: raises dust, small branches move; 5: small trees sway, crested wavelets.

Sky: 0: clear or a few clouds; 1: partly cloudy, scattered or variable; 2: broken cloud or overcast; 4: fog or smoke; 5: drizzle; 6: showers; 7: snow.

Species: BOTO Boreal Toad; CATO Canadian Toad; LTSA Long-toed Salamander; TISA Tiger Salamander; WOFR Wood Frog; SPFR Spotted Frog; CHFR Boreal Chorus Frog; LEFR Northern Leopard Frog; UNKN unknown (*frog, toad, salamander, describe in detail*)

Calls: 1: one; 2: a few; 3: several overlapping calls; 4: large number in a chorus.

"SVL" is snout to vent length

Location	UTM	Date dd/mm/yr	Time	H ₂ O t°C	T/W/S	Spp. Code	#Eggs/ Masses	# Larvae	# Young	# Adults	Comments (Calls?, etc.)	Photo #
Quiet Pond south shore		26/04/05	10:35		8/1/2	WOFR				unkn	1 or 2 calling (code #2) only occasionally	
Quiet Pond north shore		28/04/05	11:00		8/1/2	LTSA				2	Under bucket trap on top of ice plug	1574
Amphibian World main pond		26/04/05	13:00		8/1/2	WOFR BOTO				unkn unkn	call code #3 call code #2	
Amphibian World west pond		26/04/05	13:30		8/1/2	LTSA				1	Found dead melted into top of ice in pond, with some eggs. No external trauma noticed.	1577
Johnson Lake Muskrat Bay		28/04/05	14:10		10/2/2	SPFR UNKN				2 3	1 calling (code #1), in water near shore couldn't tell if WOFR or SPFR, in water near shore	
C&B Basin outflow at marsh (temp. 8)	11U 0598318E 5669635N +/- 5.8m	17/05/05	13:11	28	12/2/2	SPFR			1 (not young of year)		In water next to bank, dark coloured, motionless	1704, 1705
C&B Upper Spring		30/05/05	08:15	32	5/0/0	BOTO				1	Big (7-9cm snout-vent), at edge of water, went into water when we arrived, moved onto shore again, dark green colour	1804,'05,'0 7,'08
C&B Upper Spring		31/05/05	08:17		9/0/0	BOTO				1	Big (same individual as above), resting on ground btw fencepost	1821

											and bank	
Basin outflow pool west bank		08/06/05	16:47		12/1/2	BOTO				1	Big (6-8cm SVL), greenish yellow, sitting at edge of thermal water	2-1893, 1894
Basin outflow pool west bank		10/06/05	09:36		7/0/2	BOTO				1	Big (6-8cmSVL), in shallow water next to bank - same individual as 2 days ago	2-1895
Basin outflow pool west bank		14/06/06	12:50		17/1/2	BOTO				1	Big, same indiv. as above, on wet ground next to bank	2-1907, 1908
Basin outflow near marsh (Temp 7)		14/06/05	13:25	28	16/1/2	WOFR				3	1 sitting on cress jumped in water, 1 on moss on bank jumped in water, 1 very light colour on wet moss in stream	2-1910
3 rd Vermilion lake, west spring		15/06/05	15:50	18	14/3/2	SPFR UNKN				1 1	Big (6-8cm SVL), resting on top of Chara in water near shore big splash, frog jumped into spring at west origin, didn't see	2-1934 - '35, '36
Basin outflow pool west bank		20/06/05	12:10		20/1/0	BOTO				1	Big, sitting on dry land 20 cm from water, ate something, possibly same indiv. here before	2-1977, - '78
Basin outflow pool west bank		21/06/05	08:14	28	10/0/0	BOTO				1	6-8 cm SVL, sitting in shallow water at edge of pool	2-1984, - '85
***Basin outflow pool west bank		22/06/05	08:45		12/2/1	BOTO				1	6-8 cm SVL, same indiv. as yesterday, sitting in shallow water under branches ***see note at end of table	2-2001
C&B Upper Spring		24/06/05	08:17	27	5/0/0	BOTO				1	6-8 cm SVL, jumped into water then swam to right side out of sight	2-2053
C&B Upper Spring		26/06/05	08:15	27	9/0/2	BOTO				1	6-8 cm, dots on head form sideways "C", in water by b'walk	2-2071
C&B Carex marsh		27/06/05	08:19		10/0/2	WOFR				1	sitting on wet moss & Chara	
C&B Upper Spring		29/06/05	09:06	28	9/0/0	BOTO				1	"Big C" in water btw shore and b'walk	2-2115

C&B Upper Spring		30/06/05	08:53	28	15/1/1	BOTO				1	"Big C" in water by shore and post, only head visible	
C&B Upper Spring		01/07/05	09:50	28	11/1/1	BOTO				1	"Big C" in water btw shore and b'walk	
C&B Billy's Pool BW4 (North)		02/07/05	09:07	27	11/1/1	WOFR				1	sitting on Chara in water by b'walk post	2-2127
C&B Billy's Pool BW4 (North)		02/07/05	09:07	27	11/1/1	BOTO				1	Big, 6-8 cm SVL, reddish-brown, in water, went under b'walk as we arrived	2-2127,-'29,-'30
Basin outflow pool west bank		02/07/05	09:35		11/1/2	BOTO				1	6-8 cm SVL, Survivor of snake encounter! Sitting on wet ground next to water	2-2131
C&B Billy's Pool BW3 (South)		04/07/05	08:23	24	11/0/2	BOTO				1	6-8cm SVL, in water, moved across to BW2 by sandbags	2-2141
Basin outflow origin pool		04/07/05	10:05		19/1/2	BOTO				1	Big, snake "Survivor", in wet area next to stream in a hollow	2-2146
Basin outflow origin pool		05/07/05	08:42		14/2/2	BOTO				1	Big, Survivor, in same wet area next to stream in a hollow (easily identified by markings)	
C&B Billy's Pool		06/07/05	08:15		20/2/2	BOTO				1	Big (6-8cm SVL), "Big Red" reddish-brown, in water on Chara below sign	2-2149
Basin outflow pool west bank		06/07/05	08:49		20/3/2	BOTO				1	Big, Survivor, in wet area next to stream	
C&B Upper Spring		08/07/05	08:47		10/2/1	BOTO				1	Big C, in water between post and shore, only head visible	
Bow Lake, pond by lake		08/07/05				BOTO		"Many hundred"			"black tadpoles swimming in shallow water, pond between lake & trail to lake", told to us by Mark & Leslie Degner	
C&B Billy's Pool		10/07/05	09:39		9/1/1	BOTO				1	Big Red, in water next to fence post BW4 (N)	
C&B Upper Spring		10/07/05	09:46		10/1/1	BOTO				1	Big C, in water between post and shore	

C&B Billy's Pool		11/07/05	08:30		11/1/1	BOTO				1	Big Red, in water under boardwalk	
C&B Upper Spring		11/07/05	08:34		11/1/1	BOTO				1	Big C in water between post and shore, same as yesterday	
Basin outflow pool west bank		11/07/05	09:52		13/1/1	BOTO				1	Survivor, sitting (flattened) on wet ground next to bank	
C&B Upper Spring		13/07/05	08:23		10/0/0	BOTO				1	Big C, in water between post and shore, Dwayne saw her eat a mosquito	
Middle Springs Trail closed area (snail survey)		13/07/05	14:50		20/2/2	BOTO				1	Big (6-8cmSVL), reddish-brown with white stripe to nose, in tall, thick veg. by wet area, moved up hill as we approached	
Third Vermillion Lake, West spring		13/07/05	16:06	15	21/2/1	SPFR				1	Big (6-8cmSVL), sitting on wet Chara in sun, west of bushes	
C&B Billy's Pool		14/07/05	08:58		12/0/1	BOTO				1	Big Red, sitting on Chara in water by BW4 (N) next to b'walk, disappeared when family arrived	
C&B Upper Spring		14/07/05	09:05		12/0/1	BOTO				1	Family told us a big toad jumped into water as they arrived & looked at spring - we did not see a toad anywhere	
Basin outflow pool west bank		14/07/05			14/1/1	BOTO				1	Survivor, on wet ground next to bank	
C&B Billy's Pool BW4		15/07/05			11/0/2	BOTO				1	Big Red, just under b'walk sitting on edge of sandbag, half in water	2-2227
C&B Billy's Pool BW4		16/07/05			14/0/1	BOTO				1	Big Red, sitting on edge of sandbag like yesterday, partly in water	
Basin outflow pool west bank		16/07/05			14/0/2	BOTO				1	Survivor, on wet ground between bank & stream	

C&B Billy's Pool BW4		18/07/05	08:16		10/1/0	BOTO				1	Big Red, sitting on sandbag next to post	
Basin outflow pool west bank		18/07/05	08:36		10/1/0	BOTO				1	Survivor, on wet ground btw bank & stream	
Basin outflow pool west bank		20/07/05	09:14		11/1/1	BOTO				1	Survivor, under stick at edge of bank on wet ground, hunkered down	
C&B Billy's Pool BW4		22/07/05	08:22		11/0/1	BOTO				1	Big Red, in water next to Chara	
C&B Upper Spring		22/07/05	08:26		11/0/1	BOTO				1	Big C, in water btw post & shore	
C&B Upper Spring		23/07/05	09:18		12/1/1	BOTO				1	Big C, in water btw post & shore	
C&B Upper Spring		24/07/05	09:13		10/1/1	BOTO				1	Big C, resting in water btw post & shore	
C&B Billy's Pool		27/07/05	08:29		7/1/0	BOTO				1	Big Red, sitting on sandbag in water, in fold of pool liner	
Basin outflow pool west bank		28/07/05	08:48		10/0/1	BOTO				1	Survivor, on wet ground next to shore under a stick	
Basin outflow pool west bank		31/07/05	09:34		18/1/1	BOTO				1	Survivor, on wet ground next to shore under a stick	
Basin outflow pool west bank		01/08/05	11:20		25/4/1	BOTO				1	Survivor, on higher dry ground next to stream	
Basin outflow pool west bank		05/08/05	08:26		9/0/1	BOTO				1	Survivor, in wet hollow next to bank	2-2298
Basin outflow pool west bank		19/09/05	10:31	32	10/1/2	BOTO				1	Survivor, in wet hollow next to shore, has bacterial mat on her back	2-2950
Basin		20/09/05	08:50	32	0/1/1	BOTO				1	Survivor, on wet ground under	

outflow pool west bank											branch next to shore
Basin outflow pool west bank		21/09/05	09:37	32	0/0/0	BOTO				1	Survivor, on wet ground under branch next to shore, same as yesterday
Basin outflow pool west bank		22/09/05	09:23	32	1/1/2	BOTO				1	Survivor, on wet ground under branch, same as yesterday, facing stream(east)
Basin outflow pool west bank		23/09/05	09:34	32	1/0/2	BOTO				1	Survivor, on wet ground under branch, same as yesterday, facing shore (west)
Basin outflow pool west bank		24/09/05	09:03	32	-2/0/0	BOTO				1	Survivor, on wet ground under branch, same as yesterday, facing shore (west)

*** Later this day (22 June 2005) C&B staff (Scott, Lori, Alix) watched a large WGSN trying to eat this toad at this location (Basin outflow pool area) and Scott took a series of three photos ("snake-toad" in our files)

Lori reported that after a while the snake gave up and went away, and that the toad appeared to have the back legs paralysed. She did not see the toad again. Our first sighting of this toad after this event was 02 July 2005, and it appeared to have full use of the back limbs, and it was at the same location. Named "Survivor".

Reptile Sightings 2005 B&DLepitzki

Codes:

Wind: 0: calm, smoke vertical; 1: direction by smoke drifts; 2: felt on face, leaves rustle; 3: leaves in constant motion, extends a light flag; 4: raises dust, small branches move; 5: small trees sway, crested wavelets.

Sky: 0: clear or a few clouds; 1: partly cloudy, scattered or variable; 2: broken cloud or overcast; 4: fog or smoke; 5: drizzle; 6: showers; 7: snow.

Species: WASN Wandering Garter Snake; RUBO Rubber Boa

Location	UTM	Date dd/mm/yr	Time	H ₂ O °C	T/W/S °C/codes	Spp. Code	# Young	# Adults	Comments	Photo #
C&B Cave outflow east, origin		25/01/05	13:05	33	7/1/1	WGSN	1		"Shoelace" size (20 cm), brown, resting on tufa above water	
C&B outflow east, opposite base of falls	0598501E 5669636N +/- 5.5m	07/04/05	9:20		0/0/1	WGSN		1	30-50 cm, moved through grass to water under b'walk, light sandy brown colour	2-1454, -'55, -'56
C&B outflow west, opposite base of falls	0598501E 5669624N +/- 8.5m	09/04/05	10:15		2/0/1	WGSN		1	30-50 cm (same individual as above?), in water slowly moving to veg towards forest	
C&B, path from washroom to Basin outflow	11U 0598436 5669587	25/04/05	12:17		20/1/0	WGSN		1	Big (60-75 cm), moving down asphalt path, smelling with tongue all the way	2-1565, -'67, -'68
C&B, below horsebridge 2		05/05/05	08:47		12/0/0	WGSN		1	40 cm, lying in veg next to stream then went into water	1658
C&B outflow east, base of falls	0598501E 5669636N +/- 5.5m	07/05/05	09:36	30	7/1/1	WGSN		1	50cm, in water, moving up and downstream, light brown	1667, - '68
C&B Basin outflow	598427E 5669624N +/- 4.1m	09/05/05	09:40		6/0/5	WGSN		1	40 cm, on bank in veg near b'walk, motionless	1674
C&B Basin outflow below S bend, across from temp2		17/05/05	12:45	32	12/2/2	WGSN	1		20 cm, ~2cm diameter, moving slowly in water along shore, brown	1699, 1700, -'01, -'02
C&B Basin outflow below temp2 above waterfall		17/05/05	12:52	32	12/2/2	WGSN	1		Small, thin, head visible, coiled in hole in bank in water, brown	
C&B Basin outflow		17/05/05	13:00	32	12/2/2	WGSN	1		Small, thin, head not visible, coiled btw rock	

C&B Basin outflow across from temp3		17/05/05	13:00	32	12/2/2	WGSN	1		Small, thin, head not visible, coiled btw rock and bank in water, brown	
C&B horsebridge 2		28/05/05	08:25		5/0/0	WGSN		1	Big (60-80 cm), 2.5-3 cm diameter, moved from water to veg uphill on land	
C&B horsebridge 2		30/05/05	09:30		14/0/0	WGSN		1	Big (60-80 cm) (same individual as above?), resting in veg in sun below path	2-1809
C&B outflow west by b'walk		09/06/05	8:59		10/1/2	WGSN			1 skin in water, very big	
C&B outflow east by b'walk		09/06/05	09:00		10/1/2	WGSN			1 skin in water by bank, very big	
C&B outflow east base of falls		10/06/05	09:44	31	7/0/2	WGSN		1	Big, 40-60 cm long, moving from water onto bank, uphill through veg. then into water downstream. Skin in water here also	2-1896
C&B outflow east Flats 1		11/06/05	09:56	30	10/0/1	WGSN		3	1 big (40-60 cm) on shore in veg., 1 about 40 cm and 1 about 30 cm both in water	2-1897, '98, - '99
C&B outflow east opposite Flats 1		12/06/05	09:59		10/1/1	WGSN		1	Big (40-60 cm) resting in wet veg (Scirpus) and moss, smelling with tongue occasionally	2-1901
C&B outflow west by b'walk		14/06/05	10:49		16/1/0	WGSN		2	1 about 40-60 cm, 1 about 40 cm, both moving slowly through veg in sunny patch	2-1904, '05 first 2-1906 second
Basin outflow Temp 3 to 4		14/06/05	13:17		16/1/2	WGSN			2 large skins in water, 1 entire and 1 in two pieces	
Basin outflow stream horsebridge 2		14/06/05	13:17		16/1/2	WGSN			1 entire large skin in water and on bank, 1 partial skin below	
Basin outflow origin pool		20/06/05	12:10		20/1/0	WGSN		1	60-80 cm long, lying motionless on veg on bank next to thermal pool	2-1979
C&B outflow east base of falls		20/06/05	12:17		20/1/0	WGSN		1	60-80 cm motionless below b'walk on ground	2-1980
Basin outflow below origin pool		21/06/05	08:46	30	10/0/0	WGSN		1	40 cm long, resting in water next to bank downstream of b'walk	2-1987
C&B outflow east base of falls		02/07/05	09:42		11/1/2	WGSN			1 fresh skin on veg and in water	
C&B Snake Stroll		03/07/05	10:12		14/2/1	WGSN		1	60-80 cm long, ~3 cm diameter, resting in	2-2135

at start								veg in sunny patch		
C&B btw outflow east and west		03/07/05	10:22		18/2/1	WGSN		1	60-80 cm long, ~3 cm diameter, resting in veg below b'walk, smelling w/ tongue, head wet, in sunny patch	2-2139
C&B outflow east base of falls		03/07/05	10:24		18/1/1	WGSN		1	60-80 cm long, moving downstream in water	
Snake Stroll 3m from start		03/07/05	10:29		18/1/1	WGSN		1	60-80 cm long, on a log, moving east slowly (hunting?)	2-2140
Snake Stroll at start		04/07/05	10:00		19/1/2	WGSN		1	60-80 cm long, stub tail, moving slowly through veg by stump in sunny patch	2-2145
C&B outflow east base of falls		05/07/05	08:52		15/1/2	WGSN		1	60-80 cm long, 3cm diameter, in water, motionless across stream, brownish	2-2148
C&B outflow east base of falls		08/07/05	09:29		15/1/1	WGSN		1	40cm long, in water motionless, and 1 big skin in water upstream	2-2151
Basin outflow origin pool		10/07/05	10:42		14/1/1	WGSN		1	40 cm long, in water next to west bank	
Snake Stroll at start		12/07/05	10:43		19/1/1	WGSN		1	40-80 cm long, coiled on stump in sun, very camouflaged	
Basin outflow stream		12/07/05				WGSN			2 big skins, one along stream Temp 3 to 4 and another along stream below Temp 4 (horsebridge 2)	
Cave outflow east base of falls		14/07/05			14/1/1	WGSN		1	40 cm long, in water, moving down below platform	
Cave outflow east below base of falls		14/07/05			14/1/1	WGSN		2	60 cm long, in water, dark colour, moving downstream 40 cm long, in water resting under branches, very light brown	2-2208 2-2220
Cave outflow east base of falls		15/07/05			12/1/2	WGSN		2	40 cm long, in water moving downstream slowly as if hunting, smelling with tongue 40 cm long, in water resting downstream of falls	2-2229 2-2230
Snake Stroll at start		17/07/05	12:02		19/1/1	WGSN		1	60-80 cm long, stub tail, in veg in sun by path, moving slowly along log	
Basin outflow origin pool east bank		17/07/05	12:05		19/1/1	WGSN		1	40 cm long, in water in sun at edge of water	

Cave outflow east base of falls		18/07/05	08:40		10/1/0	WGSN	1		20 cm long, in water moving downstream slowly	
Basin outflow origin pool west bank		19/07/05	09:00		13/1/0	WGSN		1	40 - 60 cm long, in water next to bank upstream of sticks, motionless	
Cave outflow east base of falls		19/07/05	09:05		13/1/0	WGSN	1		20 cm long, in water motionless	
C&B Billy's Pool		20/07/05	08:23		12/1/1	WGSN	1	1	20 cm long, in water & veg BW3 (downstream) 40 cm long in water & veg BW4 (north)	2-2259 2-2258
Basin outflow origin west side of stream		21/07/05	08:55		15/0/1	WGSN		1	40-60 cm long, lying in water facing downstream	
C&B Billy's Pool		24/07/05	09:10		10/1/1	WGSN	1		20 cm long, lying in water near BW4 (north)	
Snake Stroll		30/07/05	09:20		17/1/1	WGSN	2		15 cm long, at start of path, lying along timber in sun, moved along edge 15 cm long, about 3m down path, lying along timber in sun, moved along edge	
Snake Stroll at start		31/07/05	09:25		18/1/1	WGSN	2		"Shoelace", v. small (15cm long or under), on pavement next to timber in sun, moved under timber	2-2292
Cave outflow east base of falls		01/08/05	11:24		25/4/1	WGSN	2		"Shoelace" (10-15 cm long), in water, moving	
Snake Corner		03/08/05	09:30		10/1/0	WGSN		1	20-30 cm long, lying in veg in sun at split in timbers	2-2296
Snake Stroll		04/08/05	08:36		6/0/1	WGSN	1		10-15 cm long, lying between upper & lower timbers in sun, moved into crack when we cast a shadow	
Cave outflow east base of falls		04/08/05	08:43		6/1/1	WGSN	1		Small, swam across stream into veg	
Cave outflow east base of falls		05/08/05	08:26		9/0/1	WGSN			1 big skin, on rock, veg, and in water	
C&B path between horsebridge 1 & 2		08/08/05	09:59		17/1/1	WGSN		1	40 cm long, lying at edge of path in dirt in sunny patch, moved to veg when we arrived	2-2363
C&B marsh fish platform		09/08/05	11:10	27	20/1/1	WGSN	1		15-20 cm long, on wet Chara, slowly moving through veg and Chara (hunting?)	2-2370

C&B marsh bird blind		09/08/05	11:17		20/1/1	WGSN		1	Very big, thick tail, only tail visible, was lying on boardwalk then went into veg	
Basin outflow stream Temp 3		09/08/05	13:10		20/1/1	WGSN		1	40 cm long, moved upstream in veg next to stream	
Basin outflow stream Temp 8		09/08/05	13:28		20/1/1	WGSN		1	40 -60 cm long, just above Temp 8 (marsh), in water under veg that overhangs the stream	
C&B Upper & Lower outflow pipe		09/08/05	13:45		20/1/1	WGSN	2		Small, 1 on bank above pipe, 1 on rock next to stream, both swam downstream in water when we arrived	
Snake Stroll		13/08/05	10:05		10/2/0	WGSN		2	40 cm long, moving in veg along timber to under trees, then half way down path another large, coiled on ground in sun under tree	
Snake Stroll		14/08/05	09:43		14/1/1	WGSN	2		10-15 cm long, on ground next to timber another small, only head visible, lying in crack between timbers	
Snake Stroll		15/08/05	12:24		15/2/2	WGSN	2	1	Both 10-15 cm long, at start of path lying on timber, went into crack between two timbers one 20-30 cm long, lying in veg above timber	2-2447
Snake Stroll		15/08/05	12:30		15/2/2	WGSN	1		10-15 cm long, lying in vertical crack in timber	2-2448
Cave outflow east base of falls		16/08/05	08:45		9/0/2	WGSN	1		10-15 cm long, in water moving upstream along rock edge	
Snake Stroll		21/08/05	09:09		12/1/0	WGSN	1		15 cm long, moving along edge of 2 timbers in sun	
Snake Stroll		22/08/05	11:36		14/2/2	WGSN		1	50-60 cm long, half way down path, partly coiled in grass	2-2660
Snake Stroll		27/08/05	09:30		6/1/0	WGSN	3	3	3 under 15 cm long, on ground in sun next to timber 3 at 30 cm long, on ground in sparse grass in sun next to timber	
Snake Stroll		28/08/05	09:45		15/1/0	WGSN	3	4	3 under 15 cm, moving along edge of timber 1 at 20cm long, on pavement at start 3 at 30 -40 cm long, lying in veg in sun	
Snake Stroll		29/08/05	10:15		15/2/0	WGSN	2	5	2 at 15-20 cm long, along edge of path next	

									to timber and in crack between timbers 5 at 30-40 cm long, on ground by timber under trees	
Basin outflow stream		02/09/05	09:32	32	10/0/1	WGSN	1		15-20cm long, in water next to bank	
Basin outflow stream		04/09/05	09:55	32	10/0/2	WGSN	1		15-20 cm long, in water next to bank	
Snake Stroll		05/09/05	11:06		10/2/2	WGSN	3	1	3 at 15-20 cm long, lying between timbers in sun 30-45 cm long, lying along top of timber in sun	
Cave outflow east base of falls		05/09/05	11:15		10/1/2	WGSN		1	30-40 cm, moved from veg to water, motionless in water	
Caved outflow east pipe		06/09/05	10:50		10/2/0	WGSN			1 large fresh skin lying in water	
Cave outflow east base of falls		06/09/05	11:06	30	8/0/0	WGSN		1	30-40 cm long, moving upstream in water	
Basin outflow stream origin pool		06/09/05	12:35	32	15/1/0	WGSN		1	40 cm long, on shore then into water just below outflow pool, west bank	
C&B Upper & Lower outflow falls		06/09/05	13:37		15/1/0	WGSN	1		15-20 cm long, in wet veg in sun, moved away	
C&B Upper & Lower outflow pipe		06/09/05	13:40		15/1/0	WGSN	1		15-20 cm long, moving along veg on top of pipe then hid in veg	
Snake Stroll		06/09/05	13:54		18/1/0	WGSN		1	40-50 cm long, lying on ground in veg in sun, moved away into shade	
Snake Stroll Horsebridge 1		06/09/05	14:00		17/1/0	WGSN	1		15-20 cm long, on path, moved across to veg	
Snake Stroll		08/09/05	09:55		10/1/1	WGSN	1	1	15-20 cm long, in crack between timbers in sun 30-40 cm long, on ground in sun next to hole in timbers	
Marsh boardwalk at start, just beyond Snake Corner		11/09/05	10:00		4/0/2	WGSN	1		15-20cm long, dead on top of b'walk, squished flat by a foot, probably yesterday	
Snake Stroll		12/09/05	12:40		4/0/2	WGSN	1		15-20 cm long, resting between timbers,	

								sun just coming out after rain	
Basin outflow		18/09/05	14:15		14/2/2	WGSN		1	30-40 cm long, on bank near pipe, moving up hill
Snake Stroll		25/09/05	10:40		12/3/1	WGSN	1		15-20 cm long, lying in crack between timbers in sun
Snake Stroll		25/09/05	10:52		12/3/1	WGSN	2		Both 15-20 cm long, one at start of path on timbers, one at end of timbers (start of b'walk), both motionless
Basin outflow Temp 2		04/10/05	13:15		7/2/1	WGSN			1 medium skin in water along edge of bank past corner
Basin outflow Temp 4		04/10/05	13:25		7/2/1	WGSN			1 medium skin in water along edge of bank
Cave outflow west base of falls		14/10/05	09:52		2/0/2	WGSN	1		15-20 cm long, in water just below falls, swam across to other bank
Basin outflow		13/12/05	10:38	30	-5/3/1	WGSN	1		10-15 cm long, on wet ground then moved into water near pipe

