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AMPHIBIAN SURVEYS

IN

BANFF NATIONAL PARK

and adjacent areas

1992-1998

Diane & Mike McIvor

Box 114 • Banff, AB • TOL OCO

January 1999

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AMPHIBIAN SURVEYS IN BANFF NATIONAL PARK AND ADJACENT AREAS, 1992-1998

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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,

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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 INSIDE BANFF NATIONAL PARK

UPPER SPRAY

LOCATION: Upper Spray Area

SITE DESCRIPTION: south end of Banff National Park

Upper Spray Wetland: large wetland complex above Leman Lake.

DATE	TIME	H2O °C	T/W/S	SPECIE	egg mass	larvae	young	adult	NOTES	seen by
97/06/24	17:00			SPFR				1	Bryant Creek (UTM: PG082399). Seen in ponds in meadow 500m. upstream from Bryant Cabin.	KH
97/07/01	09:30			BOTO				1	Bryant Creek/Allenby Pass (UTM: PG011419). Seen at trail junction.	KH
97/07/24	20:00			BOTO				1	Bryant Creek (UTM: PG083382). Seen along creek, 1 km. upstream of Trail Centre Cabin.	CS
97/07/24				BOTO				1	Bryant Creek (UTM: PG083382). Seen 100 m. further along from above site..	CS
97/08/12	18:00			BOTO				1	Bryant Creek (UTM: PG022411). Seen in ponds along creek, 1 km. NW Bryant cabin.	KH
97/09/05	21:20			BOTO				1	Bryant Creek (UTM: PG056398). Seen on west side of meadow near Bryant cabin.	KH
97/09/30	10:30		12/-/-	BOTO				1	Bryant Creek (UTM: PG039398). Small adult seen in ground squirrel burrow under log.	KH
97/07/18	18:00			SPFR				5	Marvel Lake (UTM: PG036386). Seen in shallow lake NE of Marvel Lake.	KH
97/07/25	14:00		12/0/1	LTSA		few	few		Marvel Lake (UTM: PG033383). Saw metamorphosing larvae.	CP
97/08/13	11:20			BOTO				1	Marvel/Aurora Pass (UTM: NG998341). Seen in wet meadows below pass.	KH
97/07/02				BOTO				1	Allenby Pass (UTM: PG014425). Seen 1 km. up trail from Bryant Creek.	KH
97/06/25	13:30			BOTO				2	Allenby Pass (UTM: PG016445). 200 m. below treeline on Bryant side	KH
97/06/25	15:00			BOTO				1	Allenby Pass (UTM: NG997479). Seen at top of steep switchbacks, Brewster Ck. side.	KH
97/07/21	13:00			BOTO				1	Sundance Pass (UTM: PG005628). Seen on south side of the pass.	KH
97/06/26	10:30			BOTO				1	Brewster Creek (UTM: NG947592). Seen 1.5 km. above 10 mile lodge.	KH
97/07/14	17:00			?FR				1	Brewster Creek (UTM: NG994528). Clicking, light underside.	HR
97/07/26	15:00			BOTO				1	Brewster Creek (UTM: NG998504). Seen 1 km. down valley from Brewster's Halfway Hut.	CS
97/08/01	13:30			BOTO				2	Brewster Creek (UTM: NG990541). Seen near Nasswald Ck.	KH
97/08/11	17:20			BOTO				1	Brewster Creek (UTM: NG971509). Seen on Nasswald Ck., 4 km. SW of Brewster Creek.	KH
96/08/09				BOTO				1	Palliser Trail (UTM: PG095346). Seen 1 km. up Palliser Trail from Bryant Creek junction.	CS
96/08/28				BOTO				4	Palliser Trail (UTM: PG095346). Seen near start of trail. Hot, dry day.	DMK
92/06/02				BOTO			100+		Upper Spray Wetland (UTM: PG130228) - small toads (1.5 cm.long) seen about 3 km. above Leman Lake in moose track depressions in boggy area (about 30 per depressions)	DH
96/08/17	16:30			BOTO				5	Upper Spray Wetland (UTM: PG135215). Seen in upper Spray above Leman Lake, along 2 km. of trail	KH
96/08/17	17:30			SPFR				3	Upper Spray Wetland (UTM: PG137211). Seen in wetlands of upper Spray above Leman Lake at 1920 m.elevation.	KH
96/08/17	17:30			?		many			Upper Spray Wetland (UTM: PG137211). Seen in wetlands of upper Spray above Leman Lake at 1920 m.elevation. (BOTO or SPFR?)	KH
97/06/07	15:00			BOTO				1	Upper Spray (UTM: PG032578). Seen 2 km. above Sundance Pass Jct.	KH
97/07/08	14:00		-/3/2	BOTO				1	Upper Spray (UTM: PG097303). Black.	HR
97/08/14	17:10			BOTO				1	Upper Spray (UTM: PG097297). Seen at junction of Spray River/Whiteman Creek.	KH
97/08/19	17:00		0/-/-	BOTO				1	Upper Spray (UTM: PG101289). Seen on muddy trail.	KH
97/07/16	12:15			BOTO				2	Upper Spray (UTM: PG124408). Seen on Fortune slide paths.	KH
97/08/04	19:00			BOTO				2	Upper Spray (UTM: PG124408). Same location as above record.	KH
97/08/18	11:00			BOTO				1	Upper Spray (UTM: PG103282).	HR
97/08/24	21:20			BOTO				2	Upper Spray (UTM: PG124409). Fortune slide paths.	KH
97/08/21	16:00			BOTO				1	Upper Spray (UTM: PG102288). Seen in meadow 2 km. below Palliser cabin.	KH

Upper Spray Area continued...

97/07/09	13:00		?/3/2	SPFR				1	Upper Spray (UTM: PG112267).	HR
97/08/02	10:30		10/0/0	BOTO				1	Upper Spray (UTM: PG110270). Seen approx. 25 m. from pond margins, in an excavated hole near Palliser Cabin.	CP
97/06/21	12:00		15/1/2	BOTO				5	Upper Spray (UTM: PG184215). Seen along trail, above Lemna Lake turnoff.	BF
97/07/16	17:00			BOTO				1	Upper Spray (UTM: PG105279). Seen near US 15 campground.	HH
97/07/17	17:40			BOTO				2	Lemna Lake (UTM: PG114235). Seen on avalanche slopes, north shore of lake.	KH
97/07/17	11:30			BOTO	some			1	Belgium Lake (UTM: PG189187). Seen in wetland (2070 m.) adjacent to Belgium Lake, Palliser Pass.	KH
97/08/15	10:15			BOTO				1	Palliser Pass (UTM: PG138198). Seen at top of headwall on Spray side of Palliser Pass.	KH
97/08/15	12:40			BOTO				2	Palliser Pass (UTM: PG153170). Seen on steep descent into Palliser River valley from pass.	KH
97/08/03	09:15			BOTO				2	Wonder Peak (UTM: PG014375). Seen on slide paths of Wonder Peak.	KH
97/08/03	16:45			BOTO				1	Owl Creek (UTM: PG019335). Seen on slide path of Marvel Peak, Owl Creek drainage.	KH
97/08/03	17:30			SPFR				1	Owl Lake (UTM: PG033360). Seen in small ponds at N end of Owl Lake.	KH
97/08/14	10:00			BOTO				1	Currie/"Red Man" Creeks (UTM: PG08291). Seen at the junction of the creeks.	KH
96/08/27				BOTO				1	Spray River (UTM: PG093356). Seen by river near Bryant Creek Warden Cabin. Hot, dry day.	DMK
97/08/24	09:10			BOTO				1	Spray Lake (UTM: PG096347). Seen on rim of canyon above Spray Lakes.	KH
97/08/24	10:40			BOTO				3	Spray Lake (UTM: PG194310). Seen along trail, at top of second canyon, Upper Spray.	KH

BOW VALLEY EAST

LOCATION: areas along TCH from east gate to Minnewanka interchange.

SITE DESCRIPTION: East Gate Wetland (UTM: PG113657) wetland immediately west of park gate, beside TCH.

Lower Duthill (UTM: PG085703) pond at km. 6.7, on south side of TCH connected to Duthill Creek.

2 Culvert Pond (UTM: PG082708) pond at km. 7.9, on south side of TCH with double culvert under CP tracks.

Dammed Pond (UTM: PG086712) pond with beaver dam at km. 8, opposite TCH Wetland, on south side of TCH, flows into 2 Culvert Pond.

TCH Wetland (UTM: PG086712) wetland north of TCH, east of Anthracite formed by Chinaman Creek.

Green Pond (UTM: PG085716) small pond at km. 8.7, choked full of green algae, on south side of TCH.

DATE	TIME	H2O °C	T/W/S	SPECIE	egg mass	larvae	young	adult	NOTES	seen by
96/07/03	15:30		25/2/1						East Gate Wetland. Checked south side of pool on the north side of TCH and walked to the channel on the south side of TCH. Nothing seen. Water cold.	M&DM
97/05/21									East Gate Wetland. Nothing.	TC
97/05/28	14:30	18	18/2/2						East Gate Wetland. Checked both sides. Nothing found.	DM, TC
97/05/12	14:50	17	20/1/0						Lower Duthill. No sign of amphibians. A lot of good size trout.	M&DM
97/05/12	14:40	12	20/1/0						2 Culvert Pond. No sign of amphibians. Appears to be good habitat for them. No sign of pond life.	M&DM
97/05/12	14:35	13-15	20/1/0						Dammed Pond. No sign of amphibians. Saw a few large trout. Water below beaver dam was warmer at 15°.	M&DM
96/04/29	19:00		8/3/2						Stopped to listen at TCH Wetland. Nothing heard.	M&DM
97/05/02	13:30	6 8.5 9	13/2/2						TCH Wetland. Also checked pond on south side of TCH and west of TCH Wetland, and pond on south side of highway opposite and connected by a culvert to TCH Wetland. Nothing heard or seen.	M&DM
97/05/12	14:00	7	20/1/0						Green Pond. No sign of amphibians. Saw large trout swim away.	M&DM

LOCATION: Carrot Creek Area and east.

SITE DESCRIPTION:

Rundlevie Pond (UTM: PG 110669)
Zapped Pond (UTM: PG: 113668)
Cullins Pond (UTM: PG: 115672)
Bury Pond (UTM: PG 116671).

The 4 ponds above are located quite close to each other on a bench above TCH just west of East Gate.
Home Pond (UTM: PG 124673) located N of Banff east gate, along the boundary line, on benches at the base of Mt. Charles Stewart.
Carrot Lake (UTM: PG092678) is located south of the TCH, west of Carrot Creek. It is a large pond with beaver channels.
Hidden Pond (UTM: PG101690) is north of TCH and 1km west of Carrot Creek. It is covered with sedges.
Lily Pond (UTM: PG097684) is south/east of Hidden Pond and between power line and TCH.
Openside Pond (UTM: PG101683) is east of Lily Pond and immediately on south side of power line.

The 3 ponds above are located above the TCH, on west side of Carrot Creek.

DATE	TIME	H2O °C	T/W/S	SPECIE	egg mass	larvae	young	adult	NOTES	seen by
97/05/10	14:00		25/3/0	WOFR				20+	(UTM: PG125672). Seen in wet sedge meadow between ridges near BNP east boundary.	MH
97/05/14	10:00		26/3/0	WOFR				5+	(UTM: PG112681). Seen in small sedge meadow between small ridges.	MH
97/05/14	11:00		26/3/0	WOFR				5+	(UTM: PG112695). Seen in small stream between ridges.	MH
97/05/19									Rundlevie Pond. Nothing.	TC
97/05/29	12:30	17 17-20	18/0/1	WOFR LTSA	8 6	200+ few		4	Rundlevie Pond. Found WOFR on S side of pond. Many hatchlings near old egg masses. Tadpoles swimming around. Activity at E end near a pool free of vegetation and all over the W end of the pond. Found many empty LTSA eggs at E end and on the N side, a few hatchlings in a pool free of vegetation at E end. Half a dozen egg masses with elongated embryos at W end.	M&DM
97/06/06				WOFR LTSA	some	some some		some	Rundlevie Pond. LTSA eggs half hatched.	TC
98/05/06	14:20	15	19/0/0	WOFR LTSA	53 100+			1	Rundlevie Pond. Found the eggs where the water was approx. 30 cm. deep, near the small pools that are free of vegetation. Centre pool: WOFR egg masses; 1 of 16, 1 of 1 mostly hatchlings, a few dead embryos. LTSA egg masses; 50+ mostly elongated larvae. East pool: WOFR egg masses; 1 of 1, 1 of 1 (elongated), 1 of 2 (mostly hatchlings), 1 of 8 beside a large cluster of hatchlings (est. 20+ old egg masses). Eggs and hatchlings near surface. 2 pools at W end: WOFR egg masses; 1 of 1, 1 of 2 (fresh) and 1 of 1 (slightly elongated). LTSA egg masses; estimated 3 doz.+ in pond farthest E and 6+ egg masses in other pond. Water levels much lower than last year.	M&DM

Carrot Creek Area continued...

Carrot Creek Area continued...

97/05/19									Zapped Pond. Nothing seen or heard.	TC
97/05/29	13:00	17	18/0/1	WOFR LTSA	7 1	few		2	Zapped Pond. Found 3 single WOFR egg masses on S side and 2 single egg masses at E end. Odd looking (tight mass with dead embryos) Heard one calling at E end and one on N side. Tadpoles seen in pool free of vegetation on N side. 2 old egg masses free of embryos on N side. LTSA egg mass of 12 eggs (6 dead) at E end. W	M&DM
97/06/11				WOFR LTSA		some		some	Zapped Pond.	TC
97/06/25	11:00	15	15/0/0	WOFR		50		1	Zapped Pond. Found adult hopping in moss next to pond. The tadpoles were large, black bodies.	D&BL
98/05/06	14:50	14	19/0/0	WOFR LTSA	60+ 30+				Zapped Pond. Found the eggs where the water was approx. 12 cm. deep, near the small pools that are free of vegetation. Water much shallower than last year. Pool at west end under powerline: WOFR egg masses 50 + mostly hatchlings near surface + 1 of 1, 1 of 1, 1 of 1 of mostly elongated larvae. East end pools: 1 of 1 WOFR fresh egg mass. Pool under powerline: a few LTSA eggs. Pools close to north side: WOFR egg masses: 1 of 3 (slightly elongated), 1 of 1 mostly hatched. LTSA egg masses: 24. Central N/W pool: WOFR egg masses: 1 of 1 (hatchlings), 1 of 1 (hatchlings). LTSA egg masses: a few.	M&DM
97/05/19				WOFR	some				Cutline Pond.	TC
97/05/29	15:00	17	18/0/2	WOFR LTSA	26 12	1000+		5	Cutline Pond. Heard WOFR on S side. Saw 4 at W end. One cluster of 25+ egg masses with hatchlings (some dead embryos) on N side. Some tadpoles nearby. One single egg mass with hatchlings on N side. LTSA eggs at W end. Some elongated embryos, some dead ones and mostly empty eggs. Water depth 25-30 cm.	M&DM
97/06/06				WOFR LTSA	some	some		some	Cutline Pond.	TC
97/06/25	11:30	16	15/0/0	WOFR		20		1	Cutline Pond. Adult seen in pond. Tadpoles large and black.	D&BL
98/05/06	15:20	15	20/0/0	WOFR LTSA	33 12+				Cutline Pond. Found the eggs where the water was approx. 15 cm. deep, near the small pools that are free of vegetation. Water level much lower than last year. West end: WOFR egg masses: 1 of 1, 1 of 1 (fresh), 1 of 31 (elongated). LTSA egg masses: 12+.	M&DM
97/05/19				WOFR	some				Busy Pond.	TC
97/05/29	16:00 - 16:50	19 18	18/0/2	WOFR LTSA	58 some	2000+		3	Busy Pond. Heard WOFR at E end. Saw 2 on S side and near centre of pond. Found 7 fresh single egg masses at N end near a pool free of vegetation close to centre of pond. One egg mass had all dead embryos. One cluster of 50+ egg masses with 1000+ hatchlings and tadpoles nearby. (Pictures). Found some fresh LTSA egg masses in N/W corner and close to E end. Found old empty egg masses in same area as cluster of WOFR egg masses and more in S/E corner.	M&DM
97/06/06				WOFR LTSA	some	some		some	Busy Pond. LTSA eggs half hatched.	TC
98/05/06	15:30	14.5 - 15	20/0/0	WOFR LTSA	150 100+				Busy Pond. Found the eggs where the water was approx. 13 cm. deep, near the small pools that are free of vegetation. Water levels much lower than last year. West end: WOFR egg masses: 1 of 3 (fresh), 1 of 1 (fresh). LTSA egg masses: estimated 100+ mostly fresh, some dead embryos, some elongated. East end: WOFR egg masses: large cluster of 140 egg masses mostly elongated larvae, a few hatchlings, some dead embryos, some fresh eggs and 1 of 1, 1 of 1, 1 of 1 (elongated), 1 of 1, 1 of 1 (fresh). WOFR egg masses very near surface. LTSA submerged.	M&DM
98/08/27	13:45 15:15	17	21/1/2	WOFR BOTO				12 2	Horse Pond. Walked around it. Saw BOTO and WOFR mostly on N side.	M&DM
94/07/23	14:30			WOFR				1	Carrot Creek (UTM: PG092674). Seen upstream of Bow River. Weather: hot, 30°C.	HD
96/05/18	12:30 - 16:30	10 - 12	10/2/1						Carrot Lake. Walked all around and checked some of the beaver channels. Nothing. It should be productive?	M&DM

Carrot Creek Area continued...

93/08/20	11:40			LTSA			1		Hidden Pond. Seen near pond.	MP & co.
93/08/29	15:00			WOFR				1	Hidden Pond. Heard calling in the east bay of pond. Weather: cool with sunny periods.	M&DM
96/07/12	14:00	22	23/1/0	WOFR				12+	Hidden Pond. On shore of north and west side of pond (the other sides were not checked)	M&DM
96/07/12	14:00	22	23/1/0	LTSA		2			Hidden Pond. Found on a submerged log covered with moss. Could see hind and forelegs.	M&DM
97/05/14	18:10 19:15	21	20/2/1	LTSA WOFR	100+			9 few	Hidden Pond. Found 8 adult LTSA under a short log on north shore, close to large submerged log in mid section of pond. Found single LTSA west of above under a small log. Started seeing the eggs near the submerged log and west, close to shore. Found a lot of dead embryos in one particular cluster. Took 2 pictures. The eggs were attached to submerged brown reeds (different from vegetation around). Water 30-60 cm deep. The WOFR were heard and a few seen at W end. Water too deep at that end for chest waders. Did not find eggs. Light is poor in early evening. Took 2 pictures of the pond.	M&DM
96/07/12	15:00	20	23/1/0	WOFR		12+	2	4+	Lily Pond. The biggest tadpoles we have seen this summer. (body size of a loony + tail). Also saw a few smaller ones. Seen on north side in shallow 7 cm. deep water. Young and adult on shore, hopped in the pool.	M&DM
97/05/14	16:30	19	24/1/0	WOFR	4			1	Lily Pond. Heard at W end. Eggs in 2 clusters of 2 egg masses each also at W end. Took 2 pictures of pond.	M&DM
96/07/12	16:00		23/1/0	WOFR		12+			Openside Pond. Only checked north side. Larvae in shallow water, large like the ones found in Lily Pond.	M&DM
97/05/14	17:05	19	24/1/0	WOFR LTSA	11 100+			1	Openside Pond. Heard WOFR at W end. Eggs in 1 cluster of 7 egg masses at W end and 4 single egg masses on N side. LTSA egg masses mostly found in same area as WOFR egg masses in pool mostly free of vegetation. Saw more LTSA egg masses as we moved staying close to N shore; 1 cluster of 50+ egg masses, 2 cluster of 6 egg masses, 1 cluster of 24 egg masses and 1 cluster of 12 egg masses. Some embryos elongated and moving inside yolk. Some dead embryos. Water 45 cm. deep. Took one picture of pond.	M&DM

LOCATION: Ravens Point Wetland (UTM PG055697).

SITE DESCRIPTION: wetland east of Hoodoos Ridge, below Douglas Fir plateau, south of gas line.

DATE	TIME	H2O °C		SPECIE	egg mass	larvae	young	adult	NOTES	seen by
95/05/10	14:15			WOFR				6+	Calling from pond in last year's horsetail - pond ringed with reeds. Temp. 15C. - third day of same temp.	M&DM

LOCATION: Devil's Cauldron (UTM: PG031696).

SITE DESCRIPTION: pool in middle of Banff Springs Golf Course.

DATE	TIME	H2O °C		SPECIE	egg mass	larvae	young	adult	NOTES	seen by
93/05/04	20:00			LTSA				1	Pond very dry. Weather: clear/warm 20°C	HD
93/05/29	21:00			LTSA				17	Seen in the cauldron. Weather: cool/clear	HD
93/06/01	20:30			LTSA				10	Seen in the cauldron. Weather: wet/miserable	DWA
95/05/16	20:30			LTSA				21	Amongst boulders and logs on s/w side. Temp. 18°C. clear	HD
95/06/01	a-noon			LTSA				32	Amongst boulders and logs on s/w side. Weather: clear/warm	DW
95/06/07				LTSA				36	Amongst boulders and logs on s/w side.	DW

LAKE MINNEWANKA LOOP

LOCATION: 2-JACK LAKE AREA.

SITE DESCRIPTION: the "pipe traps" (UTM: PG045757) boxes (3) over water line north of the Lakeside Campground. One on either side of Minnewanka road and a third near 2 Jack Lake.

Black Pond (UTM: PG045759) small pool on west side of road and between road and 2 Jack Lake Campground.

Lakeside Pond, (UTM: PG046758) pond full of reeds on side of road, north end of 2 Jack Lakeside Campground and south of "pipe trap".

DATE	TIME	H2O °C	T/W/S	SPECIE	egg mass	larvae	young	adult	NOTES	seen by
92/10/22				LTSA				1	"pipe trap". At the bottom of the 1.5 m hole. Weather: warm.	PDA
95/05/24	21:00			LTSA				7	"pipe trap". At the bottom of the 1.5 m hole. (Field trip with Larry Powell). Temp. 1°C.	M&DM & co.
95/09/08	a-noon			LTSA				8	"pipe trap". At the bottom of the 1.5 m hole. Temp. 18°C.	M&DM
95/09/17	08:00			LTSA				8	"pipe trap". At the bottom of the 1.5 m hole. Temp. sunny/warm	MM
95/10/01	08:30			LTSA				8	"pipe trap". At the bottom of the 1.5 m hole. Temp. -3°C.	MM
95/10/05	08:30			LTSA				5	"pipe trap". At the bottom of the 1.5 m hole. Temp. 8°C.	MM
95/10/29	08:45			LTSA				4	"pipe trap". At the bottom of the 1.5 m hole. Temp. -5°C.	MM
95/11/05	08:15			LTSA				3	"pipe trap". At the bottom of the 1.5 m hole. Temp. -3°C.	MM
96/04/20	7:45		-3/0/0	LTSA				8	"pipe trap" At the bottom of the 1.5 m hole.	MM
96/05/19	7:30		3/0/1	LTSA			3		"pipe trap" Yearlings? (juveniles?) approx. 5 cm. long. No adults.	MM
96/05/28	13:00		10/3/1	LTSA				7	"pipe trap" At the bottom of the 1.5 m hole. (5 adults, 2 juveniles).	M&DM
96/06/13	10:00		20/?/?	LTSA				9	"pipe trap" At the bottom of the 1.5 m hole.	HD
96/07/03	15:30		25/2/1	LTSA			4	5	"pipe trap". At the bottom of the 1.5 m hole. Also checked trap on west side. Nothing.	M&DM
96/10/20				LTSA				10	"pipe trap". At the bottom of the 1.5 m hole.	KW
96/10/23				LTSA				5	"pipe trap". At the bottom of the 1.5 m hole. One of those was on the west side pipe trap.	KW & PP
97/05/04	08:00		0/1/0	LTSA			6	6	"pipe trap" At the bottom of the 1.5 m hole. One was found in the trap across the road.	MM
97/05/08	16:00		25/2/1	LTSA				9	"pipe trap" Varying sizes seen at bottom of trap.	MH
97/05/09	17:00		15/3/2	LTSA			3	5	"pipe trap" Found 2 (1 a. 1 y.) in W trap and 6 (4 a. 2 y.) in E trap.	M&DM
97/06/15	17:30		20/2/1	LTSA				4	"pipe trap" Seen at bottom of trap. (varying sizes).	M&DM
97/06/09	18:35		20/1/1	LTSA			3	2	"pipe trap" Seen at bottom of trap. Also saw 17 drowned in trap close to lake which had 30 cm. of water. Joanne Cairns reported a week earlier.	M&DM DL
98/05/05	13:15		19/1/0	LTSA			2	1	"pipe trap" Seen in trap E of road. The trap closer to 2 Jack Lake had nothing. Didn't check the trap W of road. 1 juvenile seen in it yesterday.	MM
98/05/23	7:30		9/0/2	LTSA			2	1	"pipe trap" Seen in box on W side of road. None seen in the other 2.	MM
96/04/20	15:30		8/2/2						Checked Black Pond and Lakeside Pond. Nothing seen or heard.	M&DM
96/05/18	17:15	10	11/2/1						Black Pond. Nothing seen or heard.	M&DM
96/06/13	16:00	14	20/1/2	LTSA	1				Black Pond. Egg mass attached to grass in middle of pond. Embryos (30+) elongating (crescent shape) inside egg.	M&DM
96/07/03	14:30		25/2/1						Black Pond. Nothing seen or heard. Pool nearly dry. A few puddles left.	M&DM
97/05/09	18:40	10	15/3/2						Black Pond. Nothing seen or heard.	M&DM
97/05/15	16:50	16	20/2/1	LTSA	1				Black Pond. One egg mass of 6 fresh eggs in middle of pond, attached to a broken branch. Pond shallow.	M&DM
97/06/09	18:30		20/1/1						Black Pond. Pond dried up.	M&DM
98/05/05	14:00		19/1/0						Black Pond. Dry.	M&DM

2-Jack Lake Area continued...

96/05/18	17:30	14.5	11/2/1	WOFR	51	many			Lakeside Pond. Found egg masses mostly in middle of pond in 2 sites. Hatchlings swimming around the egg masses. One fresh egg mass at north end.	M&DM
96/05/19	7:00		3/0/1	WOFR	20				Lakeside Pond. Found these new egg masses (only 1 old) at south end of pond.	MM
96/06/19	16:30	15	20/1/2	WOFR		100+			Lakeside Pond. Swimming all through pond. Quite small.	M&DM
96/07/03	15:00	20	25/2/1	WOFR		50+		7	Lakeside Pond. Adult on edge of pond. Larvae mostly on east side in water 20-25 cm. deep. Still quite small.	M&DM
96/07/03	15:00	20	25/2/1	LTSA		24+			Lakeside Pond. Seen in same area as larvae WOFR above. Size varies from small to medium. Saw 2 that were 40 mm. long.	M&DM
96/09/02	5:00		15/?/?	WOFR				2	Lakeside Pond. Seen on mossy ground.	DW
97/05/09	18:30	14	15/3/2	WOFR	51			6+	Lakeside Pond. Saw and heard 6+ WOFR near large cluster of 40 egg masses. The rest of the egg masses were in 3 separate areas.	M&DM
97/05/15	17:00	19 18	20/2/1	WOFR LTSA	67 100+			7+ 1	Lakeside Pond. Pool shallower than last visit. Found more WOFR eggs at N end and on W side, most in single egg masses. Most appear to be a few days old with embryos elongating, some fresh and a few dead ones. Heard WOFR at S end and 4 seen at N end. LTSA eggs at S end in water 40 cm. deep. One area with a large grouping of egg masses near surface and some at bottom of pond. Most with elongated embryos, some fresh. Saw one adult under a log at N end.	M&DM
97/06/09	18:00	21	20/1/1	WOFR LTSA	25+	100+			Lakeside Pond. Saw small WOFR tadpoles all through pond. Found new LTSA egg masses with elongated embryos at S end. Did not find previous egg masses or larvae. Poor light for finding them.	M&DM DL
97/08/10									Lakeside Pond. Dry.	M&DM
98/05/05	13:35	15	19/1/0	WOFR LTSA	103 2			1	Lakeside Pond. Only water left is a small pool at S end. One cluster of 80 WOFR egg masses at N end of pool was almost dried up. (Picture). Rest of egg masses at N end: 1 of 2, 1 of 1, 1 of 1. At S end: 1 of 3, 1 of 2, 1 of 11, 1 of 1, 1 of 1, 1 of 1 in water 10 cm. deep. LTSA egg masses were mostly in 2 large clusters of 500+ eggs at opposite side, E and W of pond.	M&DM
98/05/16									Lakeside Pond. Bone dry. WOFR egg masses desiccated on dry ground. No sign of LTSA eggs. Picture.	MM

LOCATION: Quiet Pond (UTM: PG035745).

SITE DESCRIPTION: small pond south east of Bankhead.

DATE	TIME	H2O °C	T/W/S	SPECIE	egg mass	larvae	young	adult	NOTES	seen by
83/08/20	18:00			WOFR			1		Seen 15 m. away from pond. Weather; warm/overcast.	M&DM
95/05/19	18:15	16		WOFR	2				In small wetland S/W of Quiet Pond - in water 30 cm. deep - close to small pool - embryos starting to elongate. Temp. 13°C - cool/sunny/cloudy.	M&DM
95/05/19	17:00	17		LTSA	1				On west side of pond - cluster of 12 eggs attached to a blade of grass - 2.5 cm from surface - bottom depth 30 cm - 4 dead embryo (white) - others have elongated - white on one side. Walked around the whole pond. Temp. same as above.	M&DM
95/08/10	a-noon			WOFR			12+		Near edge of pond - mostly on north and east side. Temp. 5-20°C. - sun/cloudy periods	M&DM
96/06/12	16:00-17:00		20/2/0	LTSA	3				Seen on west side, old egg masses, only 1 embryo left in one egg. No sign of larvae outside egg.	M&DM
96/06/12	17:30		20/2/0	WOFR			12+	1	Young seen on south side, some young and one small adult seen in small wetland south/west of Quiet Pond.	M&DM
97/06/09	15:00-16:00	23, 29 30	21/1/1	WOFR		6	23	13	Seen in small ponds around Quiet Pond. 3 Y, 5 A in small wetland W of Quiet Pond. (almost dried up). Water temp. 23°. 3Y, 3 A along the outlet creek (mostly dry) and pools near the creek. Water temp. 29°. 9Y, 4 A in bay on S/W corner of Quiet Pond. 6 L, 8 Y, 1 A in small wetland S/W of Quiet Pond.	M&DM, DL

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 (UTM: PG038741) Small pool east of North Old Dump Wetland.

DATE	TIME	H2O °C	T/W/S	SPECIE	egg mass	larvae	young	adult	NOTES	seen by
92/05/04	19:30			WOFR				4	North Old Dump. Calling at far end (middle and east side of pond), stopped calling as we moved closer and started again when we got farther away. Weather; clear/warm wind.	M&DM
92/05/05	22:30			WOFR				4	North Old Dump. Same as above. Weather; clear/warm wind.	M&DM
93/05/01	22:00			WOFR				20+	North Old Dump. Calling. Weather; clear/warm.	HD
94/04/19	16:05			WOFR				36+	North Old Dump. Saw and heard. (able to see them thru the binoculars.). A group of 8 together plus others scattered. Stopped calling and disappeared when we got close - seen at far north end and east side of wetland - some mating. Weather; 16°C. warm/partly cloudy after 4 warm days.	M&DM
94/04/20	18:00			WOFR				30+	North Old Dump. Calling. Weather; warm/clear.	HD
94/04/22	16:00			WOFR	63			60+	North Old Dump. Calling - 30 + seen in one site while others were calling from 3 other areas - eggs in one big cluster. Weather; warm, 15°C.	M&DM
94/04/23	13:15			WOFR	70			30+	North Old Dump. Calling - the cluster above had increased to 70 masses - 2 of the masses had dead (white) embryos. Weather; 13°C.	M&DM
94/04/29	16:30			WOFR				6+	North Old Dump. Calling from 3 areas - the egg masses (above) have come to the surface - 12+ have dead embryos - others have elongated embryos. Weather 10-12°C.	M&DM
94/05/03	21:15			WOFR				1+	North Old Dump. Possibly more than 1 calling - did not check egg masses. Weather; clear/cool.	M&DM
94/05/06	13:00			WOFR	above			1	North Old Dump. Calling at far (north) end of pond - embryos wiggling - some eggs unhatched and submerged - a lot of embryos were near the surface in the middle of the cluster which appeared to be drying out - water striders seem to be feeding on them - took picture - water level lower. Weather; sunny, 15°C.	M&DM
94/05/10	19:00			WOFR		12+			North Old Dump. Egg masses have dried up - water level low - more embryos dried up - hatchlings swimming freely near the egg masses. Weather; overcast/warm 13°C.	M&DM
95/03/31									North Old Dump. 90% ice free. Nothing heard or seen. Temp. 12°C.	M&DM
95/04/05	22:05	3							North Old Dump. Nothing heard or seen. Calm, cloudy.	M&DM
95/04/16		8							North Old Dump. Nothing heard or seen. Calm, cloudy.	M&DM
95/04/22		8							North Old Dump. Pool full of stonefly larvae. Temp. 10°C.	M&DM
95/04/23		8							North Old Dump. Elk in the pond - nothing heard or seen. Temp. 12°C.	M&DM
95/04/26	14:00								North Old Dump. Nothing heard or seen. Temp. 8°C. - unsettled.	M&DM
95/05/01	14:45	8							North Old Dump. Nothing heard or seen - few stonefly larvae. Cold north wind. 12°C.	M&DM
95/05/09	20:30	11		WOFR				100+	North Old Dump. Calling from 3 sites - observed 60+ mating. One site had 12+ close together. Temp. 17°C. (2nd warm day this spring.)	M&DM
95/05/10	16:30	11		WOFR				100+	North Old Dump. Same 3 sites as above - plus 12+ seen in back bay. Temp. 15°C - clear, cloudy periods.	M&DM
95/05/11	17:00	11.5		WOFR	89			12+	North Old Dump. A few calling from back bay (no eggs) and site near road - most of the eggs on east side - (est. 500+ eggs/mass). 20% dead (white embryo) - site close to road had 9 masses in water 60 cm. deep. Temp. 10°C. - raining - cleared till noon - cooled to 9°C by 18:00.	M&DM
95/05/19	17:00	14	13/2/0	WOFR	117			1	North Old Dump. As seen above - embryos are moving. Hatchlings staying around the mass. 30-40% dead (white embryo). Some still at black dot stage - + 1 new egg mass in back bay - (black dot stage) - in 5 cm. of water - 1 adult vocal in middle of pond.	M&DM
96/04/17	17:00	11.5	10/1/1						North Old Dump. Ice gone. Nothing seen or heard.	M&DM
96/04/18	16:55	11.5	10/1/1	WOFR				few	North Old Dump. Heard several, saw 4.	M&DM
96/04/20	15:45		8/2/2						North Old Dump. Nothing seen or heard.	M&DM
96/04/30	16:30	10	10/2/1	WOFR				6+	North Old Dump. Heard mostly on east side. Stopped as we got near.	M&DM

North Old Dump Wetland continued..

96/05/04	17:00-18:00	8.5 - 11	10/1/2	WOFR	172			many	North Old Dump. Quite vocal. Stopped as we got near. Found eggs in 3 locations on E side of pond and close to shore. One site closer to road had 1 cluster of 5 egg masses in water temp. of 10°. One N of above had 1 cluster of 67 egg masses in water temp. of 11° and last one N of above had 100 egg masses and 1 mating pair in water temp. of 11°. Could hear individuals calling mainly at S end from middle to E side. Water temp. in a bay with slush on surface was 8.5°. 10% of the embryos were dead.	M&DM
96/05/05	17:00	12	9/1/2	WOFR	29			many	North Old Dump. New egg masses seen in same area as above. 5 new egg masses in first site, 5 new ones in second site and 19 new ones in last site mentioned above. Many calling. The older egg masses showed more dead embryos (approx. 10% more).	M&DM
96/05/18	17:00	16	11/2/1	WOFR	old ones	1000+		2	North Old Dump. All larvae swimming freely around the egg masses. Heard one adult on west side and one at north end.	M&DM
96/06/08	16:10		sunny	WOFR				8+	North Old Dump. Jumped in pond.	DW
96/06/16	17:40-18:00	14	20/1/1	LTSA WOFR	1	6+ many			North Old Dump. Found LTSA egg mass with elongated embryos (7) in the N/E back bay. Tadpoles seen on E side. WOFR seen in same area as LTSA larvae, in the general area of the egg cluster site. Mostly larger larvae. Water temp. felt warmer than in the bay.	M&DM
97/04/18	16:00	8	11/1/1						North Old Dump. Pond mostly frozen. Nothing seen or heard. Overnight -5°.	M&DM
97/04/22	16:00	8							North Old Dump. East side of pond open. Nothing seen or heard.	M&DM
97/04/28	16:00	7 - 10	9/2/1						North Old Dump. Pond ice free. Nothing seen or heard.	M&DM
97/04/29	17:30	14	11/1/1						North Old Dump. Ice under water below muck. Nothing seen or heard.	M&DM
97/05/02	17:30	14	13/2/2	WOFR	1			many	North Old Dump. Heard from usual area on E side. Saw one egg mass near the surface and saw 10 adults and could hear others.	M&DM
97/05/03	18:15	10	13/3/2	WOFR	1				North Old Dump. Same egg mass as yesterday. Found a dead WOFR with puncture wound in stomach. Nothing else seen or heard.	M&DM
97/05/06	16:15	14	10/4/2	WOFR	14			11+	North Old Dump. Heard and saw at least 11 adults near a cluster of egg masses. The first egg mass seen May 2 had several dead embryos.	M&DM
97/05/08	19:20	15	15/2/0	WOFR	96			few	North Old Dump. A few heard calling on W and N end. None calling near egg masses. Found 23 egg masses in the area of first mass found this spring. Found 72 fresh egg masses in one cluster N of first one, near dead spruce standing in water. The clusters appear to be in water too shallow if water levels were to go down.	M&DM
97/05/15	18:15		20/2/0	WOFR LTSA	5+ 1				North Old Dump. Water level dropped since last visit. The old egg masses are near surface and drying. Most eggs have elongated embryos. Found 5 clusters of single fresh WOFR egg masses. Checked all of E side and into middle of pond. Found 1 LTSA mass of 20+ eggs on E side.	M&DM
97/06/09	17:00		21/1/1	WOFR				1	North Old Dump. Checked the N end. Saw only one adult. Water levels quite low. Poor light and thick aquatic vegetation made it difficult to see.	M&DM DL
98/04/17	16:10	6.5	9/1/0						North Old Dump. Nothing seen or heard. A few stonefly larvae.	MM
98/04/20	15:30	9	14/1/0						North Old Dump. Nothing seen or heard. A few stonefly larvae. Small ice shelf at N. end. Frost under water. Water levels very low. First day this warm. Frost in the morning.	M&DM
98/04/20	22:25		9/0/0	WOFR				2-3	North Old Dump. Tentative calls coming from usual area on east shore.	M&DM
98/4/26	14:50 16:45	9 - 9.5	12/2/1	WOFR	17			100+	North Old Dump. Found 1 of 14 egg masses (2 with dead embryos) in usual site. None calling at first stop. All calling later. Found 1 of 3 egg masses N of first site, opposite inlet of dead trees. Estimated 60+ at first egg site and 40+ at second site. The water had warmed up to 12-13° C.	M&DM

North Old Dump Area continued...

96/04/17	17:35	14	10/1/1	WOFR				3+	Vernal Pool. Calling from patch of reeds at west end.	M&DM
96/04/18	17:05	14	10/1/1	WOFR				1	Vernal Pool. Heard at least one at west end.	M&DM
96/04/20	15:50		8/2/2	WOFR				1-2	Vernal Pool. Heard at west end.	M&DM
96/05/04	17:00	11	10/1/2	WOFR				6+	Vernal Pool. Heard at west end. Checked for eggs. None found. Water the highest it has been in this pool.	M&DM
96/05/05	17:15	12	9/1/2	WOFR	5				Vernal Pool. Found egg masses farther into the pool. 2 were old egg masses with hatchlings nearby. 3 were fresh egg masses.	M&DM
96/05/18	17:10	16	11/2/1	WOFR		100+			Vernal Pool. Hatchlings wriggling near old egg masses.	M&DM
96/06/16	17:30	21	20/1/1	WOFR		2			Vernal Pool. Seen at the west end. Quite small.	M&DM
97/04/18	16:30	9.5	11/1/1						Vernal Pool. Pond mostly frozen. Nothing seen or heard.	M&DM
97/04/22	16:30	10							Vernal Pool. Pond open. Nothing seen or heard.	M&DM
97/04/28	16:30	13.5	9/2/1						Vernal Pool. Pond ice free. Mosquito larvae and other aquatic life. Nothing seen or heard.	M&DM
97/04/29	17:15	15	11/1/1						Vernal Pool. Ice in muck under water. Nothing seen or heard.	M&DM
97/05/02	17:40	17	13/2/2	WOFR	1			2+	Vernal Pool. Found egg masses in the deeper water in centre of pool. Heard at least 2 calling.	M&DM
97/05/03	18:25	13	13/3/2	WOFR	2				Vernal Pool. One new egg mass.	M&DM
97/05/06	16:30	15.5	10/4/2	WOFR	5			few	Vernal Pool. Heard at least 3 and found 3 new single egg masses.	M&DM
97/05/08	19:30	16	15/2/0	WOFR	5			few	Vernal Pool. Same egg masses reported earlier. A few WOFR calling near eggs.	M&DM
97/05/13	09:00		23/3/0	WOFR				5	Vernal Pool. Seen.	MH
97/05/15	18:45 - 19:00	22	20/2/0	WOFR BOTO	3+ 4			2 1	Vernal Pool. New WOFR eggs in same area as before. The old masses have hatched, hatchlings near mass. BOTO egg strings found in shallow (10 cm.) water at N/E end. 2 fresh strings, 2 old with hatchlings near strings. Heard one adult in same area.	M&DM
97/05/18	18:00	18-19	10/1/2	BOTO	6				Vernal Pool. 2 were new strings. 3 strings were still at egg stage, 3 had hatched and hatchlings were lying still on the bottom of shallow water. Took picture.	M&DM
97/06/09	17:30	29	21/1/1	BOTO WOFR		100+ 500	1	2	Vernal Pool. BOTO tadpoles at E end in extremely shallow water. WOFR tadpoles and young at W end in deeper water. Heard 2 adults calling in same area.	M&DM DL
97/07/03	16:30	24	20/1/2	WOFR		many		1	Vernal Pool. Large tadpoles (SVL= 2 cm). Took pictures. Found in shallow (5-10 cm) water. No sign of BOTO tadpoles or young. One WOFR adult seen in water.	M&DM
97/08/10									Vernal Pool. Dry.	M&DM
98/04/26	15:00	14	12/2/1						Vernal Pool. Water very shallow. Walked across. Nothing seen or heard.	M&DM
98/05/05	15:00		19/1/0						Vernal Pool. Dry.	M&DM
98/07/01	8:15	16	9/1/0	BOTO		100+			Vernal Pool. Shallow water. Tadpoles small to very small	MM

LOCATION: Amphibian World (UTM: PG040739).

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

DATE	TIME	H2O °C	T/W/S	SPECIE	egg mass	larvae	young	adult	NOTES	seen by
92/05/04	20:30			BOTO WOFR				4 3	2 BOTO calling from second pond, 2 from middle of main pond on south side, stopped and started every 5 min. at same time as WOFR. WOFR calling in the direction of power line at west end and around an island of rush. Weather: clear/warm wind	M&DM
92/05/05	22:30			WOFR BOTO				3 4	Same as May 4 above.	M&DM
93/05/01	10:00			WOFR				10	Calling. Weather: clear/warm.	HD
93/05/06	21:00			WOFR BOTO				some some	WOFR and BOTO calling around the three separate pools, stopped when we got close and didn't start calling again until we got back to the bank. Weather: warm, rained earlier in the day, full moon.	LP & gang
94/04/23	13:30			WOFR				36+	Calling from 2 separate sites (far west pond and on the far side of the mid area. Weather 13°C.	M&DM
95/05/09	21:00	11		WOFR BOTO				100+ 3-12	WOFR calling, 60+ in small pond west, 60+ in west end of larger pool. BOTO calling at far east end of larger pool. Temp. 17°C. (2nd warm day this spring.), cooled to 7°C.	M&DM
96/04/17	17:25	13	10/1/1	WOFR				3-4	Calling from an ice-free area just below hill on north side. Ice covers 60% of wetland.	M&DM
96/04/18	17:20	13	10/1/1						Nothing heard or seen.	M&DM
96/04/26	16:00	9	7/2/1						Walked around entire area and down along the outlet creek. Nothing seen or heard.	M&DM
96/04/30	17:00	11	10/2/1	WOFR				12+	Calling from one site in middle amongst reeds. Shallow water but impossible to get at to check for egg masses.	M&DM
96/05/05	16:00- 16:45	9	9/1/2	WOFR				many	Calling from same area as above. Walked around west end pool and heard at least 3 calling on south side of it. No eggs found.	M&DM
96/06/08	15:30		sunny	BOTO			1		Seen in mud.	DW
96/06/16	14:00		20/1/1	WOFR BOTO		few	6 8	2	Larvae WOFR seen at west end pool. Size from small to medium. Adults and young seen at east end, most closer to edge of trees than the edge of water. BOTO seen at east end in the tall grass and same area as WOFR above. Size from sm (6), 1 med. and 1 large.	M&DM
97/04/18	17:00		11/1/1						Small open area on S side. Nothing seen or heard.	M&DM
97/04/22	17:30	14							N edge open. Nothing seen or heard.	M&DM
97/04/28	17:00	11.5	9/2/1						Wetland ice free. Nothing seen or heard.	M&DM
97/04/29	18:00	15	11/1/1	WOFR				3+	Calling from pool at W end. Ice under water gone. Low infrequent calls.	M&DM
97/05/06	16:45	16	10/4/2						Checked the E pond extensively. Nothing seen or heard.	M&DM
97/05/13	09:00		23/3/0	WOFR				10	Seen.	MH
97/05/18	15:00- 17:30	14.5- 15	11/1/2	WOFR LTSA	71 100+			2	Found WOFR egg masses in W pond mostly in one cluster of 33 egg masses on N side and one of 34 egg masses plus 4 single egg masses close by on S side. Water 30 cm. deep. The N side cluster was a mix of hatchlings and tadpoles (picture) The south side cluster was a mix of embryos and hatchlings (picture) The single egg masses were not as advanced. Very few dead embryos. Heard 2 WOFR near an island in middle of main pond. Found LTSA eggs E of WOFR eggs and in deeper water and more towards centre of pond. They were attached to old horsetail stalks. Larvae elongated and moving. Could see gills. Also found one cluster of 30+ eggs on S side and towards E end. Checked the entire wetland.	M&DM
97/08/17	16:05		15/1/1	WOFR				1	Seen at edge of pond.	M&DM
98/04/17	16:25	8	9/1/0						Nothing seen or heard. A few stonefly larvae.	MM
98/04/20	15:40	13.5	14/1/0						West end pond open. Ice shelf on S side. Mosquitoe and stonefly larvae. Main pond still frozen.	M&DM
98/04/26	15:20	12	14/2/1	WOFR WOFR	19 25			120+ 20+	West Pond. A lot of activity in N/W corner. Very vocal. Counted the adult from slope. Found 1 of 18 and 1 of 1 egg masses at 25 cm. depth, on north side. Main Pond. Heard on N side in 2 separate areas. Estimated 12 at one site and 8 at another site. Found 1 of 12, 1 of 1, and 1 of 1 egg masses at one first site and 1 of 6, 1 of 5 at second site. Water 12 cm. deep. 2 of the egg masses had dead embryos.	M&DM

LOCATION: Osprey Pond (UTM: PG048735).

SITE DESCRIPTION: located east of Amphibian World and north of surge tower, west of re-located Osprey nest.

DATE	TIME	H2O °C	T/W/S	SPECIE	egg mass	larvae	young	adult	NOTES	seen by
96/04/26	15:00	9	7/2/1	WOFR				6+	Nothing heard at 15:00. Started calling at 17:00 in amongst the reeds.	M&DM
98/05/05	14:40	21	20/1/0	LTSA WOFR SPFR	50 67 2			8 3	LTSA egg (elongated) masses seen on all sides of pond. WOFR egg masses were mostly in S/E corner. Half of the ones in the big cluster had hatched, rest were elongated embryos. SPFR egg masses seen near WOFR egg mass. One large, 2 medium size SPFR seen in same area. One was vocal. (picture) Fresh WOFR egg masses seen along S side; 1 of 5, 1 of 5, 1 of 2, 1 of 3. Egg masses seen on N side; 1 of 1, 1 of 1. Saw and heard 8 WOFR. LTSA eggs seen beside WOFR egg mass on N side. (Picture)	M&DM

LOCATION: Johnson Lake Area (UTM: PG067725).

SITE DESCRIPTION: Beaver Pond (UTM: PG062727) dammed pond north (over ridge) of Johnson Lake.

Lake of the Sticks North and South (UTM: PG057734, PG057733) are old shallow beaver ponds north of Beaver Pond.

Cold Pond (UTM: PG057732) pond south/west (over ridge) of Lake of the Sticks South. Part of drainage that feeds the Beaver Pond.

DATE	TIME	H2O °C	T/W/S	SPECIE	egg mass	larvae	young	adult	NOTES	seen by
93/05/02	14:00			WOFR				some	Lake of the Sticks. Heard from the Beaver Pond. Weather; cool/cloudy.	HD&KW
94/06/03	a-noon		15/7/0	BOTO				3	Lake of the Sticks North. 2 calling from far side of pond, 1 on trail just east of pond.	M&DM
95/05/19	15:30	21	13/1/2	WOFR SPFR	41?			14	Lake of the Sticks North. WOFR calling mostly from middle of pond - stopped as we got close. SPFR egg masses at west end in shallow water - eggs larger than WOFR eggs - mass is approx. 15 cm. - floating - unattached. Embryos (crescent shape) are moving inside egg. Some ice on the shore at the south end.	M&DM
96/05/05	11:30	9.5	6/1/2	WOFR	6			13	Lake of the Sticks North. Adults seen in middle of pond near egg masses.	M&DM
96/05/19	8:00		4/1/1	SPFR	3				Lake of the Sticks North. Seen at west end.	M&DM
96/05/23	17:15	19	12/2/1	WOFR SPFR	37+ ?			1	Lake of the Sticks North. 1 adult seen on west shore. I heard (possibly same one) 7 old egg masses floating on west shore. Larvae out and clinging to egg mass. (might have been SPFR egg masses but the diam. was only 7 cm. across?) The WOFR egg cluster made of 23 masses seen on 96/05/05 was still there. Also 7 separate masses near it.	M&DM
96/06/13	14:00	14	20/1/2	WOFR		50+		1	Lake of the Sticks North. Saw tadpoles scattered in the reeds at west end. Assumed to be WOFR tadpoles. Adult quickly disappeared in bottom. Tadpoles were of 2 sizes but still quite small.	M&DM
96/17/06	11:00- 13:30	13.5	16/3/1	WOFR		20+	1	1	Lake of the Sticks North. Adult seen near channel at east end. 1 young or small adult? on a log at west end. Tadpoles seen at west end from very small to medium to large. Assumed to be WOFR larvae.	M&DM
97/05/08	19:00		16/3/1	WOFR				10	Lake of the Sticks North. Approx. 10 heard.	MH
97/05/08	16:50	19.5	17/2/0	WOFR	2			45	Lake of the Sticks North. Heard and seen, most in middle of pond. Others close to N shore beside 2 single egg masses. Very vocal and active.	M&DM
97/06/17	11:30		13/3/2	WOFR	2			2	Lake of the Sticks North. Seen.	MH
97/07/03	14:30		20/1/2	WOFR				3	Lake of the Sticks North. Seen amongst tall reeds on N and S side.	M&DM
98/04/26	14:00		12/1/1						Lake of the Sticks North. Mostly frozen. Open area on N side.	M&DM
98/05/05	16:10	20	20/2/0	WOFR	63			1	Lake of the Sticks North. Found fresh egg masses on N side; 1 of 60, 1 of 1, 1 of 1, 1 of 1. All very near the surface of the water. Water depth, 30 cm.	M&DM

Johnson Lake Area continued...

95/05/19	15:30	16	13/1/2	WOFR SPFR	1 28			5	Lake of the Sticks South. (pool deeper than north pond). WOFR calling on south and east side - fresh eggs SPFR egg masses floating on surface and moved by the wind.	M&DM
95/05/24	20:00		1/?/?	WOFR SPFR	1 12+	some			Lake of the Sticks South. Fresh WOFR egg mass. Larvae at bottom of pond. SPFR egg masses seen on south shore. (Trip with Larry Powell).	M&DM & co.
95/07/27	16:30		16/?/5	WOFR			1	3	Lake of the Sticks South. Seen in the reeds near shoreline.	M&DM
96/05/05	11:35	9.5	6/1/2	WOFR				3+	Lake of the Sticks South. Heard.	M&DM
96/05/23	17:45 - 17:50	14	12/2/1	SPFR WOFR	16 8				Lake of the Sticks South. 12 SPFR egg masses had elongated embryos and 4 with hatchlings near mass. WOFR old egg masses, with hatchlings.	M&DM
96/05/26	10:30		10/3/1	WOFR				1	Lake of the Sticks South. Heard.	M&DM
96/06/13	15:00	16	20/1/2	SPFR & WOFR		100+			Lake of the Sticks South. Concentrated at west end. Egg masses of both SPFR and WOFR were seen earlier.	M&DM
96/07/06		10.5 - 14	16/3/1	SPFR WOFR		40+		5 1	Lake of the Sticks South. Saw 20+ SPFR tadpoles swimming in sedges in south bay. Water temp. cold (10.5). 3 adults on dead floating grass on N/W side (pictures). 20+ tadpoles at west end of north bay (temp. 14°) and 2 adults on NW side. Saw WOFR adult on dam at east end of Lake of the Sticks South.	M&DM
97/05/06	17:20	19.5	17/2/0	WOFR SPFR	3			10+	Lake of the Sticks South. Heard and saw WOFR in S/E corner. The SPFR egg masses were in mid-E end. Also heard 2 WOFR in N/W bay.	M&DM
97/07/03	15:00		20/1/2	WOFR				1	Lake of the Sticks South. Found on S shore.	M&DM
98/04/28	14:00		12/1/1						Lake of the Sticks South. Still frozen.	M&DM
98/05/05	16:35	22	20/2/0	WOFR SPFR BOTO	84 11 1			6?	Lake of the Sticks South. Heard WOFR and saw 6 unidentified frogs from a distance. All egg masses were found in S/E corner; fresh WOFR egg masses of 1 of 82, 1 of 1, 1 of 1. SPFR egg masses closer to shore except for 1 egg mass found in the large WOFR egg cluster (picture). Embryos elongating. 1 fresh BOTO string found beside a SPFR egg mass in water 10 cm. deep above the muck.	M&DM
96/05/05	12:10	5.5	6/1/2	WOFR	1			3	Cold Pond. Found egg mass submerged 3 cm. in water 30 cm. deep. One pair mating (picture). Pond choked with reeds and deep in middle. Water high and murky.	M&DM
96/06/13	15:30	15 17	20/1/2	LTSA WOFR		20+ 1		1	Cold Pond. Saw LTSA on west side very near shore. Larvae at mid stage of development (gills showing, no legs, quite small). One small WOFR larvae with LTSA larvae and one large adult seen.	M&DM
97/05/08	17:50	11 13 13	17/2/0	WOFR SPFR LTSA	21 6 100+				Cold Pond. WOFR eggs seen in shallow water on S side in one cluster. No calls. SPFR eggs seen at E end close to outlet. LTSA eggs found near shore line on N side below clump of spruce. A few dead embryos.	M&DM
97/07/08	15:15	18	20/1/2	WOFR LTSA		many 20+			Cold Pond. Both WOFR and LTSA larvae found all through the pond. The LTSA larvae were small to medium in size, and WOFR tadpoles medium size.	M&DM
97/08/17	14:00 - 15:00	18	15/1/1	WOFR			1		Cold Pond. Pond very shallow. Saw young on the muddy E side bank.	M&DM
98/05/05	17:00	16	20/2/0	WOFR LTSA	84 many				Cold Pond. Found WOFR egg masses in N/W corner; 1 of 1, 1 of 1, 1 of 11, 1 of 70 and 1 of 1 on N side. Egg masses close to the surface in water 25 cm. deep. LTSA egg masses on N and S side. Estimated 1000+ eggs. Some found beside WOFR egg masses. Water lower than last year. Shade made it hard to see.	M&DM
93/05/02	14:00			WOFR				10	Beaver Pond. Calling at west and east end. Weather cool/cloudy.	HD&KW
94/04/20	18:20			WOFR				10	Beaver Pond. Calling at east end. Weather; warm/clear.	HD
94/04/23	10:00			WOFR				16+	Beaver Pond. 10+ calling at east end, 6+ calling at north end. Weather; cool/cloudy.	HD
94/06/13	a-noon			WOFR?				1	Beaver Pond. Seen in the pond.	PD
95/04/28		8.5	8/?/2	SPFR				1-2	Beaver Pond. Calling in channel on north side of pond.	M&DM
96/05/05	12:30	6	6/1/2						Checked beaver channels and Beaver Pond. Nothing seen or heard.	M&DM
96/06/26	9:45		10/3/1	WOFR				1-2	Beaver Pond. Heard.	M&DM
93/04/24	15:00			WOFR				6-10	Johnson Lake. Calling from the north-west bay. Weather; cool, almost snowing.	HD&KW
93/06/29			16/?/2	LTSA				1	Johnson Lake. Under log in forested area on the north side of lake.	HD&KW
94/04/20	18:20			WOFR				2-4	Johnson Lake. Calling in "Muskrat Bay". Weather; warm/clear.	HD
94/07/20	15:30			WOFR				1	Johnson Lake. At the beach - child had it in a pail of water. Weather; hot.	CFO
95/06/23	a-noon		23/?/0	SPFR				3	Johnson Lake. Described as being red underneath.	BR
96/07/11	morn.			SPFR				3	Johnson Lake. Seen near boardwalk.	BR

CASCADE VALLEY

LOCATION: Cascade Valley and adjacent areas.

SITE DESCRIPTION: Hermit Ponds (UTM: PG028806), located approx. 3 km. up Cascade fireroad, 2 ponds (Upper and Lower) with deep channel in between. Old beaver activity.

Stoney Creek. (UTM: PG596500), Pond 2.5 km. nnw of Stoney Creek bridge.

Cascade Beaver Ponds (UTM: NG964919), located west of Stoney Creek, on west side of Cascade fireroad.

DATE	TIME	H2O °C	T/W/S	SPECIE	egg mass	larvae	young	adult	NOTES	seen by
96/06/23	16:00	18.5	16/1/2	BOTO		100+			Hermit Ponds. Found tadpoles in a shallow pool beside channel (water barely covering them) - halfway between the 2 ponds. Brook Trout in the ponds.. Temp. of water in the ponds was 13° in Lower and 14.5°C in Upper. Took picture.	M&DM
96/06/09				SPFR				1	Stoney Creek. (UTM: PG596500) Seen 2.5 km. nnw of Stoney Creek bridge at edge of a pond in valley bottom. Large size.	JW
96/07/20	16:00			BOTO				5	Stoney Tributary (UTM: NG998911). Seen throughout valley on south facing slopes below 1830 m. - 2040 m. elevation.	KH
96/07/21	08:30			BOTO				3	Stoney Creek. (UTM: NG968901). Seen along Dormer Pass trail.	KH
97/07/24	12:00		20/2/1	BOTO				2	Stoney Creek (UTM: PG007037). 2 seen on trail within 50 m. of each other.	SM
96/06/28	16:00			BOTO				1	Elk Lake Trail (UTM: NG956806). Seen.	CN
96/07/24	10:30			BOTO				2	Elk Pass/Elk Lake Trail (UTM: NG947827). Seen along trail.	KH
97/07/10	11:00		15/2/5	BOTO				1	40-Mile Creek (UTM: NG906802). Seen crossing trail.	SM
97/07/11	13:00		15/3/8	BOTO				1	40-Mile Creek (UTM: NG998828). Seen crossing trail.	SM
97/07/30	13:00		20/3/2	BOTO				1	40-Mile Creek (UTM: NG907803). Seen beside trail.	SM
97/08/26	11:00		18/1/1	BOTO				1	40-Mile Creek (UTM: NG903822). Seen crossing trail.	SM
96/07/25	10:30			BOTO				3	Sawback Lake Trail (UTM: NG864596). Seen along trail.	KH
97/08/06	14:00		30/1/0	BOTO				6	Sawback Creek (UTM: NG872912). Saw 6 within 5 min. and a few hundred metres from each other.	SM
97/08/20	11:00		21/1/0	BOTO				1	Sawback Creek (UTM: NG866933). Seen crossing trail.	SM
97/09/06	15:00		13/2/2	BOTO				1	Sawback Creek (UTM: NG872922). Seen crossing trail.	SM
97/08/11	16:00		20/1/5	BOTO				2	Flints Park. (UTM: NG888970).	MH
97/08/11	17:00		18/1/5	BOTO				1	Flints Park. (UTM: NG880973).	MH
97/08/12	11:00		18/2/4	BOTO				1	Flints Park (UTM: NG894972).	MH
97/06/12	14:00		25/2/4	BOTO				3	Flints Park (UTM: NG887976).	MH
97/06/12	17:00		20/2/4	BOTO				1	Flints Park (UTM: NG880973).	MH
97/06/13	18:00		15/2/3	BOTO				1	Flints Park (UTM: NG960924).	MH
97/08/11	12:00		25/0/0	BOTO				1	South of Cuthead. (UTM: NG926948).	MH
97/08/18	10:30		15/0/1	BOTO				1	Cuthead (UTM: NG920960). Seen at the Cuthead Jct. with fireroad.	MH
97/07/11	08:15		15/1/2	BOTO				1	Cuthead (UTM: NG918961). Seen along trail near cabin.	BF
97/07/08	08:00		8/0/2	BOTO				1	Cuthead (UTM: NG917961). Seen along trail near cabin.	CP
97/08/20	17:00		12/3/2	BOTO				1	Elk Trap (UTM: NG 938934).	MH
97/06/19	12:30		15/3/1	BOTO SPFR		1000+ 100	2	10	Cascade Beaver Ponds. (UTM: NG964919). Saw 2 kinds of tadpoles. Certain about BOTO tadpoles but SPFR need to be confirmed. Tadpoles being eaten by Bull Trout.	MH
97/05/31	09:00			BOTO				1	Panther River (UTM: NH964179). 1 km. upstream from Barrier Cabin.	KH
97/06/29	13:00		6/2/5	BOTO				1	Panther River (UTM: NH974155). Seen near trail. Motionless.	SM
97/07/15	12:30		20/0/0	BOTO				1	Panther River (UTM: NH944174). Seen on the edge of Panther River (prescribed burn 1990).	HD

VERMILION LAKES AREA

LOCATION: Cave & Basin Area (UTM: NG985695).

SITE DESCRIPTION: marsh complex fed by a sulphur spring.

Horse Barns (UTM: NG993700) located adjacent to Warner's Stables, north of Cave & Basin.

Middle Springs (UTM: NG989669) located below Sulphur Mountain Hot Springs and above Middle Springs housing development.

West Ponds (UTM: NG982694) beaver ponds and wetlands located south/west of Cave & Basin.

Rainy Bay (UTM: NG987690) backwater of the Bow River upstream from Cave & Basin.

DATE	TIME	H2O °C	T/W/S	SPECIE	egg mass	larvae	young	adult	NOTES	seen by
94/07/07	8:15	11.5		WOFR			2		Cave & Basin. Seen at edge of dry pond on Horse Barns' side of berm. UTM NG985695.	M&DM
95/06/10	23:00	8.5	8/0/0	WOFR				2	Cave & Basin. Calling at west end of marsh. Half moon.	M&DM
95/06/29	13:30	17		?FR				1	Cave & Basin. Unknown frog sp. west of berm.	PD
95/06/15	10:00	11		WOFR				1	Cave & Basin. East of berm.	PD
95/06/30	09:30	14		?FR				1	Cave & Basin. Unknown frog sp. east of berm.	PD
95/06/30	09:30	14		SPFR				1	Cave & Basin. On east side of berm.	PD
95/07/03	11:15	14		WOFR				2	Cave & Basin. On east side of berm.	PD
95/07/16	10:00	14		WOFR				3	Cave & Basin. On east side of berm.	PD
95/08/04	10:15	14		WOFR				3	Cave & Basin. On east side of berm.	PD
96/06/31		25		WOFR				1	Cave & Basin. Seen on mat of Chara in upper spring of outflow stream, below falls.	D&BL
96/07/11				SPFR				1	Cave & Basin. On east side of berm.	PD
96/08/23		29		WOFR				1	Cave & Basin. Seen in upper spring of outflow stream top of falls.	D&BL
96/10/04		29		WOFR				1	Cave & Basin. Seen in vegetation, jumped in water near where stream enters marsh.	D&BL
97/05/02	09:45			WOFR				1	Cave & Basin. Heard in water S of Billy's pool.	D&BL
97/05/08	14:55		16/2/0	WOFR				1	Cave & Basin. Heard from small pool in first pond W of Cave & Basin.	MM
98/04/28	21:00		10/0/0	WOFR				some	Cave & Basin. Walked along the dike at north end. WOFR calling from wetland N. of dike.	M&DM
98/05/18	10:30			SPFR				1	Cave & Basin. Heard near dike towards Horse Barns.	HD, KW
95/06/10	22:45	8	8/0/0	WOFR				few	Horse Barns. Calling from 3 areas: front of barns, east and west of barns. Half moon.	M&DM
96/05/14	22:30		7/1/8	WOFR				few	Horse Barns. Calling from 2 areas, some from channel at north end of barns, the others in wet hay meadow at east end.	M&DM
97/04/29	21:35		8/1/1	WOFR				many	Horse Barns. Calling from wet hay meadow at S end and behind barns.	M&DM
98/04/28	21:15		10/0/0	WOFR				6	Horse Barns. Heard WOFR up and down the channel N of barns.	M&DM
95/05/11	16:30	13							West Ponds. (west of Cave & Basin). Walked all around them. Nothing seen or heard. Temp. 10°C, showers.	M&DM
95/08/12				BOTO			2		Rainy Bay. On the banks of the Bow adjacent to Rainy Bay, moving through grass. Temp. cool/rain showers/sunny periods.	DMK
97/06/12	13:00	31		BOTO				1	Middle Springs. Large BOTO soaking and swimming in hot spring.	D&BL

LOCATION: Norquay Pond. (UTM: NG991715).

SITE DESCRIPTION: pond located just E of Norquay Interchange on N side of TCH. The pond is choked with reeds and sedges.

DATE	TIME	H2O °C	T/W/S	SPECIE	egg mass	larvae	young	adult	NOTES	seen by
96/04/29	e-ning		8/3/2						Nothing heard from TCH.	M&DM
96/05/18	17:45 - 18:45	14.5	10/2/1	LTSA	100+				Found egg masses attached to sedges 5-15 cm. deep, bottom depth 30cm. Most of the masses were in mid-area and north. The egg masses had 3-4 eggs and as many as 12. Embryo elongated and white on one side.	M&DM
96/06/21	16:00	15	15/2/2	LTSA		many			Found in water 45-60 cm. deep and choked full of sedges. Larvae size from small to one showing front legs. Took pictures.	M&DM
97/04/28	18:15	8.5	9/2/1						Pond ice free. Some aquatic life. Can feel ice under water. Nothing seen or heard.	M&DM
97/05/09	17:15	10	12/2/2	LTSA	1000+				Saw first grouping of egg masses 1/3 of the way into pond from W end. Water depth 30 cm. Same general area as 1996. Saw scattered egg masses farther W and another grouping 2/3 of the way into pond. A few scattered egg masses beyond. The canal between the fence and the TCH had 1000's of egg masses, most found just W of Banff sign. Water 60-75 cm. deep. More scattered masses along the length of canal in deeper water.	M&DM
97/05/21									Nothing.	TC
97/05/23	13:34	9 - 11	11/2/2	LTSA	1000+			1 dead	Snow just melted from major snowfall on May 20th. Same egg masses as found on May 9th. Some dead embryos. Rest of embryos had elongated.	M&DM
97/05/28	13:30	11-13	18/2/2	LTSA	1000+				Not much change. Checked S side of TCH. Nothing found.	DM, TC, KWe
98/05/16	8:30			LTSA	54+				Water level very low. Found 40+ egg masses in pond and 6-8 along the canal (mostly elongated embryos).	MM

LOCATION: Vermilion Lakes complex. Major wetland forming 3 lakes in BNP west of town of Banff and south of TCH.

SITE DESCRIPTION:

Sora Pond (UTM: NG983701), S/W of VL1
 Hayfield Pond (UTM: NG973896), S of CP Rail and S. of VL2
 Rathole (UTM: NG986898), W of VL2
 Teardrop Pond (UTM: NG986897), W. of VL2
 Fingers (UTM: NG984895), S. of CP Rail and S. of VL3
 First Riverside (UTM: NG987702), Third Riverside (UTM: NG981696).
 (All above areas are accessible from CP tracks.)

1st Vermilion Lake (VL1) (UTM: NG984705).

2nd Vermilion Lake (VL2) (UTM: NG976705).

3rd Vermilion Lake (VL3) (UTM: NG987899).

Other sites include area between VL1 & VL2 and Fenland Trail east of First Vermilion Lake.

DATE	TIME	H2O °C	T/W/S	SPECIE	egg mass	larvae	young	adult	NOTES	seen by
94/06/09	8:30	10		WOFR?				1	First Riverside. Basking in sun on log between river and VL1.	PD
95/06/15	11:15	7		?		1			First Riverside. CPR TRACKS. VL1 - unknown larva.	PD
95/07/06	07:00	17		WOFR				1	First Riverside. CPR TRACKS. Riverside of VL1.	PD
96/04/16				SPFR				1	First Riverside. Found dead on CPR tracks near VL1.	PD
96/06/04				WOFR				1	First Riverside. Heard.	PD
96/07/05				WOFR				1	First Riverside.	PD
96/09/02				?FR				1	First Riverside. Jumped in river.	PD
96/09/24				?FR				1	First Riverside. Found dead. Unable to tell specie.	PD

Vermilion Lakes Area continued...

94/07/01	8:00			?		2			Second Riverside. One with leg development - found in culvert of the CPR track - VL2 on the riverside.	PD
95/05/11	07:40	10	6/0/0	WOFR	15				Second Riverside. Pond near culvert and marshy area S of tracks at west end of hayfield.	MM
95/05/18	07:30	11		WOFR	many				Second Riverside. Pond - numerous dead embryos in masses.	PD
95/05/25	07:15	9		?		1			Second Riverside. Pond - unknown larva.	PD
95/07/06	08:30	16		?		1			Second Riverside. Pond - large unknown larva.	PD
96/05/08									Cold 2 days. Low of -5°C and high of 0°C. Snowed. Lakes partially frozen.	M&DM
95/05/09	22:40-22:35	10		WOFR BOTO				3+ many	VL1. WOFR calling from wetland E of VL1 at bend on the road. BOTO calling from far end of VL1 and around Osprey point and also at the start of Willow Creek. Temp. 17° C. during the day, cooled to 7°C.	M&DM
95/05/28	a-noon	15:30		BOTO				1	Calling from N/E corner of VL1. Temp. 24°C.	M&DM
96/05/14	10:10		7/1/8	WOFR BOTO				many few	WOFR heard in west bay at VL1. BOTO heard at east end of VL1.	M&DM
96/05/19	11:30	14	8/2/1						Walked on east side of VL1. Nothing seen or heard.	M&DM
96/06/04				WOFR				3	East of VL1 west of Echo Creek. Seen by Banff Grade 5 class on an aquatic field trip.	PD
96/07/04	11:00-12:00			WOFR BOTO		1 2		1 1	Both seen by enclosure at VL1 (UTM:NG 986707). Young WOFR swam amongst grasses, adult WOFR on log.	CN
97/04/29	21:20		8/1/1	WOFR				some	VL1. Heard in W bay.	M&DM
97/05/12	21:10		19/1/0						VL1. Nothing heard.	M&DM
98/04/20	21:00		9/0/0						VL1. Nothing heard. Lake mostly frozen	M&DM
98/04/28	22:20		10/0/0	WOFR BOTO				many 3+	VL1. Heard WOFR in west bay and 1 on E side. BOTO heard on E side in mud flats area.	M&DM
95/05/09	22:30	10		WOFR				1	VL1 & VL2. Calling from west end of channel between VL1 and VL2. Temp same as above.	M&DM
95/05/09	22:20	10		WOFR BOTO				12 1	VL2. WOFR calling from channel around beaver pond at VL2. BOTO calling from west end of VL2 around mud flats beyond beaver pond. Temp. 17° C. during the day, cooled to 7°C.	M&DM
96/05/14	21:45-22:05		7/1/5	WOFR BOTO				many few	Heard many WOFR just west of VL2 Beaver Pond, heard a few at each end of beaver pond and a few near channel outlet of VL2 in shallow pools. BOTO heard in area west of VL2 beaver pond but closer to CP tracks.	M&DM
96/07/08				WOFR				1	Found dead on CP tracks 100 m. west of VL2.	PD
96/10/11				BOTO				1	VL2 (UTM: NG 986702). Found in small pond west of Beaver Pond. Might have been a juvenile.	PD
97/05/12	21:00		19/1/0	WOFR				few	VL2 Heard a few from W side and a few from E side.	M&DM
98/04/20	21:00		9/0/0						VL2. Nothing heard. Lake half frozen.	M&DM
98/04/28	22:15			WOFR				some	VL2. Heard some on E side and in in channel to the east.	M&DM
95/05/09	22:15	10		WOFR BOTO				100+ many	VL2 & VL3. WOFR calling from wetland between VL2 and VL3. BOTO calling from wetland between VL2 and VL3 behind WOFR and closer to tracks. Temp. 17° C. during the day, cooled to 7°C.	M&DM
				BOTO				many	Temp same as above.	M&DM
95/05/12	20:00	7-10							Nothing heard or seen. Walked all around wetland between VL2 & VL3. Temp. 4°C. - cooled off overnight - rain all night - turned to snow during the day.	M&DM
95/05/28	a-noon	15:30		BOTO				2	One near channel between VL2 & VL3. and one farther west. Temp. 24°C.	M&DM
95/06/03	14:00			WOFR				2	seen on the side of small beaver runs, off the main channel between VL2 & VL3. Temp. 17°C, showers/sunny periods.	M&DM
96/06/10	14:00			WOFR				1	VL2 & VL3. Seen by enclosure between VL2 and VL3 (UTM: NG986700).	CN
96/06/29	14:00			WOFR				3	VL2 & VL3. Seen off beaver channel between VL2 and VL3 (UTM: NG967701).	CN
97/06/25	16:30			WOFR		1			Scen along N shore of channel between 2nd & 3rd.	D&BL
97/04/29	21:10		8/0/1	WOFR				few	Heard from beaver channel between 2nd & 3rd. (UTM: NG967701).	M&DM
98/04/20	21:00		9/0/0	WOFR				many	VL2 & VL3. Heard in area between channel and tracks - 2 groups - 1 near Rathole. 1 to the east.	M&DM
98/04/28	22:05		10/0/0	WOFR				many	VL2 & VL3. Very vocal coming from N side and behind channels	M&DM

Vermilion Lakes Area continued...

92/04/27	21:30	12		WOFR				many	VL3. Calling from east end - several calling from west end. Weather; windy/overcast.	HD & KW
92/05/04	21:00			WOFR				6-8	VL3. Calling from south of lake and west of beaver channels. Weather clear/warm.	HD & KW
92/06/12	20:00			WOFR				1	VL3. Calling from west end. Weather; clear/warm.	HD & KW
93/04/29	21:00			WOFR				13+	VL3. 3 calling at east end in sedge meadow area - 10+ calling from west end near beaver channels. Weather; cool/clear.	HD
95/05/10	22:30		8/0/0	WOFR BOTO				many many	WOFR calling from wetland west of VL3 BOTO calling from same area - seem to be more BOTO than WOFR Half moon.	M&DM
95/05/18	20:30	8							Nothing heard or seen. Walked all around the beaver channel west of VL3 to beaver house, across the dam to tracks, through wetland below dam, checked the ponds on south side of tracks. Temp. 10°C. cool, west wind.	M&DM
96/07/12		19		WOFR				1	VL3. Seen in vegetation along lakeshore, near cool spring.	D&BL
97/04/29	20:50	11.5	8/0/1						VL3. Also listened in area W. Nothing seen or heard.	M&DM
97/05/12	20:35		19/1/0	WOFR				few	VL3. Heard in beaver pond W of VL3 from TCH. Nothing from VL3. Aspen leaves on a few trees.	M&DM
98/04/20	21:00		9/0/0						VL3. Nothing heard. Lake mostly free of ice.	M&DM
98/04/28	21:55		10/0/0	WOFR				some	VL3. Heard along east shore	M&DM
96/05/13		14		WOFR BOTO	1			few	Sora Pond. WOFR egg mass in a ball. Heard BOTO calling.	D&BL
96/05/19	13:00	14	10/2/1	WOFR BOTO LTSA	14	30 1000+		3 3	Sora Pond. Saw WOFR egg masses on W, S and E side. One cluster of 29 old egg masses with hatchlings near mass, and 1 egg mass near surface with mostly dead embryos, 4 with elongating embryos, 2 clusters of 5 each and 1 other old mass with hatchlings. Heard BOTO calling on E side. LTSA same size as WOFR larvae above but totally hatched. Clinging to reeds. Gills showing. Found on W side and close to edge of open deeper pool.	M&DM
97/05/03				WOFR				1	Sora Pond. Heard at least one.	D&BL
97/05/07	09:30	12	9/4/1	WOFR LTSA	10+ 1			1	Sora Pond. Adult WOFR calling.	D&BL
97/05/29	11:15 13:30 15:00	17 22 22	15/1/1 24/1/1 24/1/1	WOFR BOTO SPFR		50+		1 3+ 1	Sora Pond. Saw and heard adult WOFR. BOTO calling within 30 cm. of us. SPFR heard.	D&BL
97/07/10	11:25	17	18/2/2	WOFR		1		*	Sora Pond. Found dead, floating SVL = 2.8 cm, with tail = 3.4 cm, hind legs showing, hemorrhage on belly - Goldeneye family may have caught it.	D&BL
96/05/15		15		WOFR	many				Hayfield Pond. Many egg masses seen.	D&BL
96/05/19	16:20	14	12/2/1	WOFR SPFR BOTO	14 4			few	Hayfield Pond. Single WOFR egg masses found all around pond, mostly fresh, a few old with hatchlings. A few egg masses with dead embryos. Found SPFR egg masses on S side near inlet channel, floating on surface quite close to each other. Egg masses as wide as plates. Embryos crescent shaped. (Picture). BOTO calling at N end, near CP tracks and one calling in a channel W of pond.	M&DM
96/06/06		11 12		? BOTO		1			Hayfield Pond. Small (1.0 cm.) ? larvae seen. Unable to tell specie. Small BOTO (5.0 cm.) seen in vegetation.	D&BL
96/08/29		19		WOFR				1	Hayfield Pond. Heard calling on far side.	D&BL
97/05/03				WOFR				1	Hayfield Pond. Adults calling.	D&BL
97/06/08	12:00	9	9/4/0	WOFR	3				Hayfield Pond.	D&BL
97/08/22	15:20		24/4/1	WOFR				1	Hayfield Pond. Seen hopping by willow bushes.	D&BL

Vermilion Lakes Area continued...

95/08/04	08:00			BOTO			1		Rathole. East of 3rd lake - on CP tracks - south side.	PD
96/05/14		13 - 15		WOFR	7	many		few	Rathole. Larvae just hatching from a ball of eggs + 7 egg masses. A few adults heard.	D&BL
96/05/14		13		BOTO				few	Rathole. Heard some calling.	D&BL
96/05/19	17:20		12/2/1	BOTO				few	Rathole. Heard.	M&DM
96/05/24		9		WOFR		some			Rathole. Larvae swimming near egg mass.	D&BL
96/05/24		9		BOTO				few	Rathole. A few heard.	D&BL
96/05/05		19		BOTO	1+				Rathole. At least 1 string of eggs and larvae close to hatching.	D&BL
96/06/26		12		BOTO				2	Rathole. Heard calling.	D&BL
96/06/26		15		BOTO		12			Rathole. Black larvae swimming 2.0 cm. long (body 0.8 cm.).	D&BL
96/06/26		20		?		5			Rathole. Larvae swimming by. One was small (1.0 cm.).	D&BL
96/08/07		19-24		WOFR				2	Rathole. Heard.	D&BL
96/08/28				BOTO			1		Rathole. Pond is dry. Small (5.0 cm.) seen in vegetation.	D&BL
97/06/04	10:40	14	-/-/8	WOFR				1	Rathole. Adult heard.	D&BL
97/06/25	14:45	21		BOTO				1	Rathole. Heard calling.	D&BL
97/07/16	12:40	21	20/3/1	BOTO		1			Rathole. Black, about 3 cm. long, swimming.	D&BL
96/05/19	17:40		12/2/1	WOFR	1				Teardrop Pond. One small fresh egg mass found on north side.	M&DM
97/08/08	14:00	25	28/2/1	WOFR				1	Teardrop Pond. Heard calling in sedges at water's edge.	D&BL
96/05/19	17:40		12/2/1	WOFR	2				Hayfield Channel. Found in channel beside CP tracks west of Hayfield Pond. One egg mass close to surface had mostly dead embryos. 1 farther west also near surface had a few dead ones and some elongating embryos. Water depth: 35 cm.	M&DM
96/05/19	18:00	14	12/2/1	WOFR	2			few	Third Riverside. Adults heard nearer to west end. Elongating embryos.	M&DM
95/06/04	a-noon			WOFR		many			Fingers. (series of ditches beside tracks on riverside opposite west end of VL3).	M&DM
96/05/19	18:30	15	12/2/1	WOFR	12				Fingers. Found scattered along Fingers and some just below CP tracks. Some dead embryos, some dot stage, some elongating embryos.	M&DM
92/04/27	22:00			WOFR				1	Fenland Trail. Calling from middle of wetland. Weather; windy/overcast.	HD & KW
94/07/20	9:15			WOFR				1	Fenland Trail. Seen in the grass along trail in the spruce woods. Weather; sunny/hot.	MM
96/06/04	10:00		sunny	FR?				3	Seen in vegetation along Fenland Trail. Possibly SPFR?	DW

LOCATION: Bow River UTM: NG

SITE DESCRIPTION: section of river from 5 Mile bridge to Bow Ave. bridge.

DATE	TIME	H2O °C	T/W/S	SPECIE	egg mass	larvae	young	adult	NOTES	seen by
92/06/20				WOFR			1		10 min. downstream of 5-Mile bridge at picnic site - found in the grass beside river. Weather; warm/clear.	BW
92/06/21	20:00			WOFR				1	North side of Peyto Island downstream of 5 Mile bridge - found near dock area. Weather; sunny with clouds.	BW
94/07/04	10:30	9		WOFR				1	River bank directly south of VL3.	PD

LOCATION: 5 Mile Riverbend UTM: NG943688.

SITE DESCRIPTION: mixed habitat in big riverbend with a series of backwater arms.

DATE	TIME	H2O °C	T/W/S	SPECIE	egg mass	larvae	young	adult	NOTES	seen by
95/05/26	15:16	22		BOTO				1	Calling near the end of the biggest backwater arm in the area - water 5 cm. to 20 cm. deep. Temp. 18°C - warming up after a few cold days - snow 3/4 way down mountains.	M&DM
97/08/28	11:00		20/1/1	WOFR				1	Seen near an almost dry channel in middle of area.	M&DM

LOCATION: 5 Mile Wetland (UTM: NG933687).

SITE DESCRIPTION: large, deep pools (old gravel pit) on south side of TCH and west of 5 Mile Bridge.

DATE	TIME	H2O °C	T/W/S	SPECIE	egg mass	larvae	young	adult	NOTES	seen by
95/05/01		10							Nothing heard or seen. Water deep (60 cm.).	M&DM
95/05/10	22:30			WOFR				2	Calling from west end. Temp. 15°C mid-day, 8°C late evening.	M&DM
97/05/09	17:50	13	15/3/2						Nothing seen or heard. Water deep.	M&DM
98/05/04	17:35	15.5	18/1/0						Pond full and deep. Water temperature taken in shallows. Nothing seen or heard.	M&DM

LOCATION: Healy Pit Wetland (UTM NG919680).

SITE DESCRIPTION: located east of Sunshine Wetland at the Sunshine TCH interchange. Series of pools in a reclaimed gravel pit.

DATE	TIME	H2O °C	T/W/S	SPECIE	egg mass	larvae	young	adult	NOTES	seen by
96/07/20	15:30-17:30	14 - 11 18 - 21	14/2/2	WOFR		100+	1	3	Walked around 4 of 5 separate basin with pools. Found most of the activity on W side of the S/W basin, in shallow water. The coldest pools (11° - 14°) had no sign of "pond life". Adults were 2 small and one large size. The S/W pond 18° to 21°.	M&DM
97/06/04	16:00			WOFR				1	Saw adult hopping along forest edge.	D&BL
97/06/12	16:30	23 22 19	20/0/2	WOFR BOTO? LTSA		many ?		5 1	Saw 2 WOFR and found tadpoles on north shore of S/W Pond. Some very small ones in water 4" deep and some larger ones in water 8" deep. Saw a sprintail feeding on a tadpole. A high concentration in arm on north side of main pond. One very shallow area black with tadpoles. Possibly BOTO but did not confirm. Checked N/W Pond. Nothing seen or heard. Water was 22°. Found a small LTSA young (or small adult) under a piece of wood at the north end of Blad Wetland. Saw 2 WOFR adult jump in pond and found one under a log. The main pool (deepest) has small fish 6" long in it.	M&DM
98/05/20	16:00	23.5 22	18/1/1	WOFR BOTO LTSA	1 2 3	1		2 4	Found in S/W Pond 1 WOFR empty egg mass and only 1 tadpole in the N pool (low water had divided the S/W pool in 2). BOTO hatchlings near one old egg string in water 2 cm. deep on E side and one on N side in deeper (5 cm.) water. Water in all the pools much lower than last year. In N/W Pond found 3 LTSA egg masses in deep (45 cm.) water near middle of pool, larvae elongated. Around N/E Pond found 4 LTSA (+ 1 dead) under logs at N end (1 under each log). Also saw 1 WOFR under a log and 1 on shore in tall sedges. Checked all the pools including one on E side of dirt track.	M&DM

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SUNSHINE WETLANDS

LOCATION: Sunshine Wetlands (UTM: NG908682).

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

Pond #1 & W (UTM: NG907682).

Pond #2 (UTM: NG907683).

Pond #3 (UTM: NG908685).

Pond #4 (Ochre Pond) (UTM: NG907685).

Ochre Miner (UTM: NG907686).

Backswamp (UTM: NG907688), 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
93/06/20	12:00			WOFR BOTO		1000+		1	Edge of the 5 ponds - in shallow lukewarm water - 2 different stage of black larvae; 1 small, 1 larger with legs showing (BOTO) and fewer of a large brown larvae with spots also showing legs (WOFR) - an adult? hopped away. Weather; warm/sunny/windy.	M&DM
93/07/04	11:00			WOFR BOTO		12+ 100+	50+		Edge of PONDS. 100+ black tadpoles (BOTO), 1/2 of them with legs showing, some with tail still on - 12+ large (13mm. wide, 20 mm. long incl. tail) brown tadpoles (WOFR) - 50+ young, 7 mm. long showing dots on top, found on the shore and in the mud near shallows, some were in small depressions, on land - had to watch where you stepped. Took pictures. Weather; overcast, 8-16°C.	M&DM
93/07/24	13:00			WOFR BOTO			1 3		Edge of PONDS. 1 WOFR; line and sign of mask forming - smooth compared to BOTO and slightly bigger. No spots on back or feet - hopped more while being held. 3 BOTO; some 30 cm. away from ponds, others as far as 6.5 m. away - faint white dorsal line - orange dots on back - orange dots on hind feet. Weather; cloudy/rain.	M&DM
94/05/05	16:00			BOTO WOFR	8			6	BOTO calling, 1 from Pond #2, 1 from Pond #3 and 1 from canal west of Pond #3, 1 seen near shore in Pond #2 (responding to my imitation), 1 pair (1 bigger = male & female) in Pond #1, close to each other. 5 WOFR egg masses (black dot stage) in Pond #2 clinging to a dead submerged tree, 2 (black dot stage) in Pond #4 clinging to submerged grasses, 1 (elongated embryos in a crescent shape) in Pond #1 attached to a twig. Weather; sunny periods, 13°C.	M&DM
94/05/10	20:30			BOTO WOFR		12+		2	BOTO calling; 1 from far end of Pond #3, 1 on strip between Pond #1 and #2. WOFR hatchlings near the 5 egg masses found in Pond #2 on May 5. Weather; overcast/warm, 13°C.	M&DM
94/05/29	16:00			BOTO?		1000+			Seen in shallow lukewarm water on edge of Pond #1, #2, #3. Weather; cool, cloudy, 10°C.	M&DM
95/05/01	a-noon	14							Pond #1. Ice free. Temp. 12°C, cold north wind, has yet to warm up this spring - nothing heard or seen.	M&DM
95/05/10	20:20	11-15		WOFR BOTO	1			4 8+	Pond #1. Edge of pond - 2 WOFR seen calling on east side - stop and start with long periods of no calling, one calling at south end, one calling under an overhang, below our feet, on east side. WOFR egg mass seen around a small twig (100+ eggs) where the first two were calling. BOTO at edge of pond - one across from WOFR calling (above) - stopped and started in sync. with WOFR - one male seen at the site of the first 2 WOFR and near their egg mass - saw others swimming farther in the pond - one mating pair spotted with flashlight. Temp. 15°C mid-day, 8°C late evening.	M&DM
95/05/13	14:15	19		WOFR BOTO	15+ 1			1	Pond #1. WOFR at east edge of pond - single masses of 500+ eggs on four sites around the n/e bay - one cluster of 12 masses - no sign of dead eggs - all eggs submerged in 15 cm. Our first string of BOTO eggs found in east bay where they were calling on May 10 - silt covered the eggs - 60 cm from shore in shallow water (7.5 cm) est. 1000+ eggs - no sign of dead eggs. One calling under hummock along shoreline. Temp. 12-16°C. clear, sunny. Yesterday was wet (rain, snow) and cold (4°C).	M&DM
95/05/28	18:30			BOTO		1000+			Pond #1. Black tadpoles - swimming in shallows. Temp. 24°C. hot day.	M&DM

Sunshine Wetland continued...

95/06/17	16:00	23		BOTO WOFR		1000+		8+	Pond #1. The east and south shore are black with BOTO tadpoles (a few on west side) - water only 2.5 cm. deep - tadpoles at different stages - most were 1.5 cm. long incl. tail - came to the surface to feed - could see legs (pads formed), eyes, and sides bulging where front leg would emerge. WOFR seen near shore - varying in size - black mask present - white line on back not always showing. Temp. 16°C, showers, mostly cloudy with sunny periods.	M&DM
95/07/27	12:30			WOFR BOTO			50+ 100+	12 1	Pond #1. WOFR near east shoreline - majority within 1 m. of water, young were up to 15 mm. in size. Young BOTO near east shoreline - in moist areas - majority within 1 m. of the water - did not find any further than 3-4m. Temp. 16°C, overcast, showers. Took pictures.	M&DM
96/05/23	14:30	14 - 15	13/1/1	LTSA BOTO WOFR	3 4		3		Pond #1. First time for LTSA sign in the Sunshine Wetlands. Found egg masses (total of 36 eggs) on east side of north bay, attached to 2 branches at the bottom of pool which is 12-15 cm. deep. Small juveniles BOTO (2 cm. long) on shore, in same area as LTSA above. Found WOFR on west side of north bay. 3 egg masses were old with hatchlings clinging to mass, 1 egg mass had elongated embryos.	M&DM
96/06/25	15:30	18-19	16/1/1	BOTO WOFR		500+	4 1	1	Pond #1. Adult and young BOTO on east side. BOTO tadpoles found on west side. WOFR found on east side - 60 cm. from water.	M&DM
96/07/30	14:00		24/1/1	BOTO WOFR			63 sm 9 med. 1 sm.		Pond #1. BOTO seen all around but mostly east and west. WOFR seen on east side.	M&DM
96/08/29	12:30		12/	BOTO				1	Pond #1. On shore - size: approx. 50 mm.	MM
97/05/02	16:00	10 - 10.5	13/2/2						Pond #1. Pond ice free but still an ice shelf on shoreline. Nothing seen or heard.	M&DM
97/05/09	14:30 16:05 17:15	17 - 19.5	18/3/2	WOFR BOTO	4			few 7	Pond #1. Heard WOFR at S end, near inlet and on W side. Heard 3 BOTO calling - one in N/E bay, 2 on W side on either side of channel. Saw one mating pair with string in the inlet on W side. Took 3 pictures. Saw another pair in amplexus in shallow S end bay exposed to TCH. 2 strings on either side (one older) of pair and one string emerging from female. Took 2 pictures. Water levels low. Ice in hummocks around pond.	M&DM
97/05/23	14:50		11/2/2	BOTO	1	1000+			Pond #1. Found tadpoles where egg were on May 9th. One new string was in the S bay below TCH. It had elongated embryos.	M&DM, KWe
97/07/05	14:00	28	24/1/1	WOFR BOTO		1000+	1 4	3	Pond #1. WOFR seen close to water's edge. Jumped in. Young hopped on land. BOTO found mostly in N/E corner in water 3 cm. deep. Hind legs showing. 4+ metamorphosed, tail not resorbed.	M&DM
97/08/03	14:30	26	27/1/0	WOFR BOTO			2 23	1	Pond #1. Adult WOFR and 1 froglet seen at N end and 1 young on W side. Most young BOTO on E side within a metre of water.	MM
97/09/27	15:00	12	12/2/2						Pond #1. Nothing seen.	MM
98/05/04	14:15	19	18/1/0	BOTO WOFR	4 9			19 3+	Pond #1. Heard and saw BOTO in S/W bay (below TCH), in W bay, in N bay and on a point at N end. Mated pair seen plus egg strings in S bay in water 5 cm. deep. A lot of interaction and moving around and some floating still. 3 seen near W bay. One BOTO had left hind foot missing. WOFR heard at N end (1 seen) and more heard on W side (1 seen). Found WOFR egg masses on W side of point at N end (1 of 1, 1 of 1, 1 of 3, 1 of 4). Embryos elongated and 1 hatchling. 1 of 1 egg mass seen on far W side where 1 WOFR was seen.	M&DM
96/05/31	14:00		17/1/2	BOTO WOFR		100+		1	Pond #1.	MM
96/08/02	14:30	33	26/1/2	BOTO WOFR			4 2		Pond #1. BOTO toadlets in S/E corner. 1 WOFR froglet seen at N end and 1 in area between Pond #1 and Pond #2.	MM

Sunshine Wetland continued...

96/05/23	16:30	23-26	13/1/1	BOTO	3				West of Pond # 1. Very long strings found in 3 shallow pools (7.5 cm. deep).	M&DM
96/06/25	17:00		13/1/1	BOTO WOFR		500+ few			West of Pond #1. Found BOTO tadpoles where strings were reported on May 23rd, and a few WOFR tadpoles in same place.	M&DM
96/07/30	16:45		24/1/1	BOTO			10 sm.		West of Pond #1. Brief look - driven out by mosquitoes. Found BOTO near pools.	M&DM
97/05/09	16:30	18	18/3/1	BOTO WOFR	2 1			2 1	West of Pond # 1. Two BOTO strings found in 2 of the 3 shallow pools (7.5 cm. deep). One adult male BOTO near one string. Water depth 4.5 cm. Took pictures including habitat shot. Heard one WOFR near egg mass located beside one of the BOTO string. All eggs were fresh.	M&DM
97/05/23	16:00	19.5	11/2/2	BOTO		1000+			West of Pond #1. Tadpoles all over pools where eggs were.	M&DM, KWe
97/07/05	16:30		24/1/1	BOTO		500+			West of Pond #1. Tadpoles smaller than ones found in Pond 1 but at same stage of development. No sign of WOFR.	M&DM
97/08/03	16:00		27/1/0	BOTO			1		West of Pond #1. One very small toadlet.	MM
97/09/27	16:00		12/2/2						West of Pond #1. Nothing seen.	MM
98/05/04	15:45	26	18/1/0	BOTO WOFR	3 1				West of Pond #1. Found BOTO strings (1 old, 2 fresh) in water 4 cm. deep. Shallow pools mostly dried up. Found 1 of 1 WOFR fresh egg mass on grass stem in water 10 cm. deep in pool N/W of first site.	M&DM
98/05/31	14:30		17/1/2	BOTO		100+			West of Pond #1.	MM
95/05/01	a-noon	12							Pond #2. 75% ice free. Temp. 12°C, cold north wind, has yet to warm up this spring. Nothing seen or heard.	M&DM
95/05/10	21:00	15		BOTO				5	Pond #2. Edge of pond - 2 calling from west side - 3 males seen near island (1 calling). Temp. 15°C mid-day, 8°C late evening.	M&DM
95/05/13	14:40			BOTO				1	Pond #2. Calling - stopped as we got closer. Temp. 12-16°C. clear, sunny. Yesterday was wet (rain, snow) and cold (4°C).	M&DM
95/05/28	18:30			BOTO		1000+			Pond #2. Black tadpoles - swimming in shallows. Temp. 24°C. hot day.	M&DM
95/06/17	16:00	23		BOTO		1000+			Pond #2. The east and south shore are black with tadpoles (a few on west side) - water only 2.5 cm. deep - tadpoles at different stages - most were 15 mm. long incl. tail - came to the surface to feed - could see legs (pads formed), eyes, and sides bulging where front leg would emerge. Temp. 16°C, showers, mostly cloudy with sunny periods.	M&DM
96/06/25	16:00	19	16/1/1	BOTO		100+	1		Pond #2. Small to large tadpoles mostly found on east side, 20+ on west side.	M&DM
96/07/30	15:00		24/1/1	BOTO WOFR			2 sm. 1 med.		Pond #2. Both BOTO and WOFR seen on east side.	M&DM
97/05/09	14:50	18	18/3/2	WOFR BOTO				1 1	Pond #2. Heard WOFR on W side. Saw one male BOTO swimming at bottom of pond.	M&DM
97/05/23	15:00	16	11/2/2	BOTO			1		Pond #2. One juvenile found under a log on W side of pond.	M&DM, KWe
97/07/05	14:30		24/1/1	WOFR				1	Pond #2. Seen on W side.	M&DM
97/08/03	14:45		27/1/0	WOFR			2	1	Pond #2. Adult dove in. Froglets on edge of outlet.	MM
97/09/27	15:15	12	12/2/2						Pond #2. Nothing seen.	MM
98/05/04	14:40	23.5	18/1/0	BOTO WOFR	3			3	Pond #2. BOTO strings in E bay. At least 3 WOFR heard on S/W side.	M&DM
98/08/02	15:00	28	26/1/2	BOTO WOFR			1 1		Pond #2. Both seen on W side.	MM

Sunshine Wetland continued...

95/05/10	20:00	13		BOTO WOFR				15+ 4-6	Pond #3. BOTO found in east bay - 10 calling - one mated pair - female twice the size - got more active as it got dark - bits of ice left on shore. WOFR calling from far north side.	M&DM
95/05/13	15:30	21	12/1/1- 16/1/1	WOFR BOTO	2			1	Pond #3. WOFR calling from west side at north end. 2 BOTO strings near tiny inlet on east side where mated pair was seen May 10 - in shallow water 7.5 cm. in peatier bottom than Pond #1 site. Yesterday was wet (rain, snow) and old (4°C).	M&DM
95/06/28	18:30			BOTO		1000+			Pond #3. Black tadpoles - swimming in shallows. Temp. 24°C. hot day.	M&DM
95/06/17	16:00	23	16/?/2	BOTO		1000+			Pond #3. The east and south shore are black with BOTO tadpoles (a few on west side) - water only 2.5 cm. deep - tadpoles at different stages - most were 1.5 cm. long incl. tail - came to the surface to feed - could see legs (pads formed), eyes, and sides bulging where front leg would emerge. WOFR seen near shore - black mask present.	M&DM
96/06/23	15:00	19	13/1/1	BOTO	3				Pond #3. Old egg masses, larvae outside clinging to egg mass.	M&DM
96/06/25	16:15	23	16/1/1	BOTO WOFR		1000+	4 12	2 2	Pond #3. BOTO mostly found on east side, sizes small to large. 50+ on west side, 100+ on west side close to TCH. Adults found on east side, young found on east and west side. 8 young WOFR on east and 4 on west side. 2 adults on east side.	M&DM
96/07/30	15:30		24/1/1	BOTO WOFR			17 sm. 6 sm-me 25 med. 15 sm. 7 med.		Pond #3. BOTO found all around pond. WOFR found on north and west side.	M&DM
96/09/29	12:55 13:15		12/	WOFR				4	Pond #3. Seen in 4 separate sites - size approx. 20 mm.	MM
96/10/12	16:00		12/2/2	BOTO				1	Pond #3. Approx. 40 mm. long. Seen on east side.	MM
97/05/09	15:06	18	18/3/2						Pond #3. Nothing heard or seen.	M&DM
97/05/23	15:15	17	11/2/2						Pond #3. Nothing heard or seen.	M&DM, KWe
97/07/05	15:00		24/1/1	BOTO		500+	3	3	Pond #3. BOTO beach in E bay. Tadpoles smaller than ones found in Pond 1. A lot of them not showing hind legs. Adults and young found on N side and area between Ochre Pond and Pond 3.	M&DM
97/08/03	14:50	26	27/1/0	WOFR BOTO			11 4 med. 14 small	4 1	Pond #3. WOFR froglets and adults at W end opposite Ochre Pond. BOTO toadlets found on E and W side. Adult BOTO at N end and juvenile on W side.	MM
97/09/27	15:30		12/2/2						Pond #3. Nothing seen.	MM
98/05/04	14:55	24	18/1/0	BOTO	1				Pond #3. Found BOTO string in S/E bay.	M&DM
98/08/02	15:30	25.5	26/1/2	BOTO WOFR			7 6		Pond #3. BOTO toadlets seen on W side (1 very green). WOFR mostly between Ochre Pond & Pond #3.	MM

Sunshine Wetland continued...

95/05/13	16:00			WOFR	14			2	Pond # 4 (Ochre Pond) (small pool west of Pond #3). Egg masses in 4 different sites on north and west side - clinging to grasses, barely submerged - one adult calling from west side, one seen on north side - took picture. Temp. 12-16°C, clear, sunny. Yesterday was wet (rain, snow) and cold (4°C).	M&DM
95/06/17	16:00	20	16/?/2	WOFR BOTO WOFR		100+ 100+	4	4	Pond # 4 (Ochre Pond). WOFR tadpoles mottled, flecks of gold - bigger, wider than black BOTO tadpoles - fast moving - come to surface to feed - blend with bottom of pond-water 15 cm. deep. WOFR young seen near shore - varying in size - black mask present - white line on back not always showing. BOTO seen on shore north side about 60 cm. from edge of pond.	M&DM
96/05/23	15:30	15	13/1/1	WOFR LTSA	12 12+				Pond # 4 (Ochre Pond). WOFR found all around pond. Some old egg masses with hatchlings nearby and some egg masses with a mix of elongated embryos and hatchlings and 1 egg mass with all embryos elongated. Took picture. First time for signs of LTSA here too - found on west side - elongated embryos inside eggs. Took picture.	M&DM
96/06/25	18:30	19	13/1/1	WOFR LTSA		100+ 12+			Pond # 4 (Ochre Pond). Good size WOFR tadpoles - fast moving - come to surface to breathe - mottled brown, light underneath. LTSA swimming through vegetation at bottom of pond. Able to see hind legs - wary.	M&DM
96/07/30	16:00		24/1/1	LTSA WOFR		13		5 sm.	Pond # 4 (Ochre Pond). LTSA swimming through vegetation at bottom of pond as above. Larvae approx. 5 cm. long including tail. WOFR young found on south side - 2 still had tail. Took picture.	M&DM
97/05/09	15:20	18	18/3/2	WOFR	2			1	Pond # 4 (Ochre Pond). Saw adult on S side. Took pictures in net. Measured SVL= 4.5 cm. The 2 fresh egg masses were on submerged broken sedge. This pond and Ochre Minor pond have no fish.	M&DM
97/05/23	15:40	15	11/2/2	WOFR LTSA	1 12+	100+			Pond # 4 (Ochre Pond). Saw 9 WOFR empty egg masses mostly on S side. Tiny tadpoles all over pond. Saw LTSA egg masses on W side, all in same area, a total of 100+ eggs.	M&DM, KWe
97/07/05	16:15	25	24/1/1	WOFR LTSA BOTO		100+ 8+	2	1 2	Pond # 4 (Ochre Pond). Large WOFR tadpoles (SVL= 2cm) all through pond. 2 very small young just out of water. Saw 8 LTSA with all legs showing. Difficult to see them hidden in bottom vegetation. BOTO seen on N and W side.	M&DM
97/08/03	15:10		27/1/0	WOFR BOTO			6 2		Pond # 4 (Ochre Pond). WOFR froglets found on N and S side of pond. BOTO tadpoles on S side. No sign of LTSA. Water level down. Mosquitoes wild.	MM
97/09/27	15:30		12/2/2						Pond # 4 (Ochre Pond). Nothing seen.	MM
98/05/04	15:15	20	18/1/0	SPFR WOFR LTSA	1 18 24+			4	Pond # 4 (Ochre Pond). Found fresh SPFR egg mass on S side. (first record for Sunshine Wetlands) WOFR egg masses on S side; 1 of 2, 1 of 1, 1 of 1, 1 of 1. Found more on W side; 1 of 7, 1 of 5 and found 1 of 1 on N side. Only 1 egg mass with dead embryos. LTSA egg masses found in same area as last year, on west side beside 2 clusters of WOFR egg masses.	M&DM
98/06/02	16:00	28	26/1/2						Pond # 4 (Ochre Pond). Nothing seen.	MM
96/06/25	16:40		13/1/1	WOFR		100+	2	1	Ochre Minor. Tadpoles swimming all over pond. Young and small adults found on north side.	M&DM
97/05/09	15:35	15	18/3/2						Ochre Minor. Nothing seen or heard. The channel to the W was 18°.	M&DM
97/09/27	15:50		12/2/2						Ochre Minor. Nothing seen.	MM
98/05/04	15:25	17.5	18/1/0	WOFR	1				Ochre Minor. 1 of 1 egg mass in water 20 cm. deep.	M&DM
93/04/30	23:00			WOFR				10+	Backswamp. Calling. Weather; clear/warm.	HD & KW
93/05/01	14:00			WOFR				20+	Backswamp. Calling - heard from canoe on Bow River. Weather; cool/cloudy.	HD & KW
95/05/13	16:15			WOFR BOTO				few 1+2	Backswamp. WOFR calling from middle and west side. BOTO calling from s/w end. Temp. 12-16°C, clear, sunny. Yesterday was wet (rain, snow) and cold (4°C).	M&DM
95/06/06	08:00			?		many			Backswamp. Unknown larvae in s/w bay.	PD
95/06/17	18:00	20		WOFR BOTO		100+	2	2	Backswamp. Small WOFR - black mask present - swimming in east channel. BOTO young seen along east channel - on south side - about 25 mm. long. Took pictures. BOTO tadpoles seen at east end of east channel - in shallow (15 cm) to deeper water.	M&DM
96/06/19	12:00			BOTO				1	Backswamp. Seen.	CN
96/06/22	17:00			BOTO				1	Backswamp. Seen.	CN
95/05/01	a-noon	14.5							Beaver Pond - (north of Sunshine Wetlands and east of Backswamp). No ice. Temp. 12°C, cold north wind, has yet to warm up this spring.	M&DM

LOCATION: TCH WEST

SITE DESCRIPTION: WL-4. (km. 29.9) (UTM: NG862701) wetland on north side of TCH. One channel running parallel with TCH. Directly north of channel is first pond and second pond (beaver made).

WL-6. (km. 33.4 - 33.9) (UTM: NG865723) wetland on north side of TCH. Creek (cold) below and running parallel with TCH. In mid area, and north of creek, a pond choked with sedges runs east/west. At west end, above beaver dam, another wetland with small drainage channels running east/west. At east end of pond full of reeds, a lower shallow channel runs north/south.

WL-7 (Boto Pond) (km. 36.8 - 37.5) (UTM: NG834749) large gravel pit with pond at east end of disturbed area. Has drainage channel to the Bow River on north side.

TCH 64.5 (UTM: NG683840) U-shaped pond on south side of TCH. 2 sets of 3 rocks blocking old road. Shallow gravel pit. *563300/568400*

TCH 60 (UTM: NG655876) located on north side of TCH. Old gravel pit. Rocky bottom. *565500 5687600*

TCH 60.3 (UTM: NG682878) located on north side of TCH. Old gravel pit. Seepage at S/W corner. *563200 5627800*

TCH 61 (UTM: NG647894) located on north side of TCH. Old shallow gravel pit choked with algae. *564700 5688400*

TCH 62.1 (UTM: NG641888) located on north side of TCH. Backwater *564100 5688800*

BJ Pond (UTM: NG558986) wetland south of TCH just east of Icefields Parkway intersection. *555800 5698800*

Big Cut Pond (UTM: NH527994) wetland on north side of TCH and east of big cut above CP tracks. *552700 5799400*

Bath Ponds (UTM: NH504009) wetland on north side of TCH and west of Bath Creek. *550400 5700900*

Deep Pit (UTM: NH504007) located on south side of TCH, east of West Boundary Ponds. Old gravel pit, quite deep. Drainage channel on east side. *550400 5700700*

West Boundary Ponds (South: UTM: NH503006) (North: UTM: NH531993) large wetland complex on north and south side of TCH but mostly on south side at the west boundary of Banff National Park. CP underpass under the TCH *550200 5700600 S*

553100 5799300 N? wrong UTM

DATE	TIME	H2O °C	T/W/S	SPECIE	egg mass	larvae	young	adult	NOTES	seen by
97/05/12	16:00-17:20	17-18	20/1/0	WOFR LTSA	13 2			few	WL-4. Found the WOFR egg masses in 1st pond, on N side. Water 45 cm. deep. The area had less sedges than found in the rest of wetland. Eggs near surface, a few dead ones. Heard at least 1 WOFR from 2nd. pond. Found 2 LTSA egg masses in same area as the WOFR egg masses. Larvae elongated. One mass had 10 eggs, other had 23. Lots of minnows.	M&DM
97/05/02	16:30	9.5	13/2/2	frog sp.				1	WL-6. Jumped in still pool off to side of stream.	M&DM
97/05/12	17:35-18:50	18-19	20/1/0	WOFR	16			19	WL-6. Saw and heard 3 WOFR in pond below beaver dam. Found 1 cluster of 5 egg masses, 1 single egg mass and 1 cluster of 7 egg masses. Eggs mostly fresh. Water 10-15 cm. deep. Found one dead frog. No sign of injury. In deeper pool (30-60 cm. deep) above beaver pond, we saw 13 WOFR and found 1 fresh egg mass, and 1 cluster of 2 older egg masses. In channel, E of middle pond choked with reeds, we saw and heard 3 WOFR. The water temp. in this shallow water was 19°. No sign of amphibians in cold creek below TCH.	M&DM
97/05/28	16:15	16.5	18/2/2	WOFR		many			WL-6. Many hatchlings in site W of beaver dam. Water levels down so low that the eggs found in area E of beaver dam are high and dry. Checked backwater of the Bow River to the west. Nothing new.	DM, KWe
97/05/28	17:40	20.5 17	18/2/2	BOTO	5000+	many		2	WL-7 (Boto Pond). Found miles of fresh egg strings and mating pair on S side towards E end. Found older strings with elongated embryos W of above; some with hatchlings at bottom. The water on first site was 7-10 cm. and at other site 30 cm. deep and temp. 17°.	DM, KWe
97/06/11				BOTO		many			WL-7 (Boto Pond).	TC
98/05/04	17:00		18/1/0						WL-7 (Boto Pond). Pond very shallow. New man-made pond at west end (picture) quite full. Nothing seen or heard.	M&DM
97/07/25	14:30	11.5	18/1/1						TCH 64.5. No sign of aquatic life.	M&DM
97/07/25	15:00	13	18/1/1						TCH 60. Rocky bottom. No sign of amphibians.	M&DM
97/07/25	15:15	9	18/1/1						TCH 60.3. Rocky bottom. Seepage on S/W corner. No sign of amphibians.	M&DM
97/07/25	15:20	14.5	18/1/1						TCH 61. The pond is full of floating algae. Shallow. Snails. Picture from S/W corner. No sign of amphibians.	M&DM
97/07/25	15:40	11	18/1/1						TCH 62.1. Backwater. Minnows and snails. No sign of amphibians.	M&DM
97/06/02	18:45	13							BJ Pond. Pond quite deep and shaded at all times. Nothing seen or heard.	M&DM
97/07/25	17:00								BJ Pond. Water still too deep for chest waders. No sign of amphibians on checking the edge of pond.	M&DM
97/06/02	18:00	17							Big Cut Pond. Lots of pond life. Nothing seen or heard.	M&DM
97/07/25	16:00	15	18/1/1						Big Cut Pond. Nothing seen.	M&DM

TCH West continued...

97/08/02	17:00	17								Bath Pond. S pond deep and N pond shallow. Nothing seen or heard.	M&DM
97/07/25	16:40		18/1/1							Deep Pit. Water has gone down dramatically. Snails. No amphibians.	M&DM
97/06/02	16:00	16-17		SPFR	3					West Boundary Ponds South. Found SPFR egg masses with hatchlings in the S pond, close to old rock on W side of main pond. A lot of Brook Trout in the deeper water of the main pond.	M&DM TC
97/06/02				SPFR	1					West Boundary Pond North. Seen at E end, 10 m. from easternmost culvert at CP ballast. Egg mass 10 cm. diam. on bottom, embryos elongated.	TC
97/07/25	16:30		18/1/1							West Boundary Ponds. Checked N and S side. No amphibians.	M&DM

BOW VALLEY PARKWAY

LOCATION: RVP Wetland.

SITE DESCRIPTION: series of ponds on **North** (UTM: NG937694) and **South** side (NG936693) of CP tracks at the start of the Bow Valley Parkway.

Cory Pond (UTM: NG934693) is located west of South Ponds on south side of CP tracks.

550505 5700948

email McIvors.

DATE	TIME	H2O °C	T/W/S	SPECIE	egg mass	larvae	young	adult	NOTES	seen by
95/05/26	17:30	18		LTSA WOFR	30 6+			5 1	North Pond. LTSA egg masses from middle to south end and mostly on east side - adults found under logs below tracks, along damp channel on east side of pool and one on west side of pool. One was found under a pail below tracks. 1 WOFR calling from middle of pond - WOFR egg masses in middle to south end of pond. Temp. 18°C.	M&DM
96/05/21									North Pond. Pond is still dry.	M&DM
96/05/28	17:30		7/1/8	WOFR				some	North Pond. Calling close to CP tracks. The pond filled up on the 25th or 26th. It was totally dry until then.	M&DM
96/06/01	17:30		20/1/1	WOFR				some	North Pond. Calling at south end and west side of pond.	M&DM
96/06/21	17:30	14.5	15/2/2	WOFR LTSA	2 many	many			North Pond. Small WOFR larvae on east and west side amongst reeds. 2 old egg clusters covered with green algae, larvae swimming near it. Some old LTSA egg masses with green algae, many with elongated embryos.	
96/09/02	11:45								North Pond. Pond almost dry.	MM
97/05/05									North Pond. Pond is still dry.	M&DM
97/05/12	20:20		20/1/0						North Pond. Cory Creek is running and is just starting to fill North Pond at S end.	M&DM
97/05/31	17:00			WOFR				1	North Pond. Heard from road.	M&DM
97/06/05	15:30	13	17/0/2	WOFR LTSA	9 16	few			North Pond. Found the WOFR egg masses with half hatchlings/half tadpoles on E side and near centre of pond. Water quite high. Egg masses were submerged in water 20-75 cm. deep. The LTSA egg masses (embryos elongated) were found on E side and only one on W side. Very hard to find in high water full of floating debris and no sun. The LTSA eggs were submerged at 60 cm. depth.	M&DM
98/06/14	17:30								North Pond. Still dry. The creek (Cory) started to run a week ago.	M&DM
95/05/26	18:00	18		LTSA WOFR	100+ 2+				South Ponds. LTSA egg masses mainly at north end (below tracks) in all the ponds - embryos starting to elongate - some at black dot stage. WOFR eggs at black dot stage. Temp. 18°C - hot day!	M&DM
95/06/13	16:15			LTSA WOFR		12+ 30+	12+		South Ponds. LTSA larvae and WOFR tadpoles found in shallow warm water. Young WOFR seen around the edge of pond. Took picture. Temp. 22°C. - mosquitoes wild!	M&DM
96/09/02	11:45			?FR		2			South Ponds. Tadpoles seen in small shallow pools, the pond is almost dry.	MM
97/06/05	15:40	14	17/0/2	LTSA	5				South Ponds. Found LTSA egg masses (quite a few dead eggs) on north side of pool, below CP tracks. Eggs submerged at 30 cm. depth. Water felt a lot colder than surface water. Silty water made it hard to see through.	M&DM
96/06/21	17:00	14	15/2/2						Cory Pond. Nothing seen or heard. The pond is quite shallow and not much aquatic vegetation. Muddy bottom. Also checked 3 pools near the track, between South Ponds and Cory Pond.	M&DM
98/08/22	11:30	14	15/1/2	LTSA		3			Cory Pond. Water depth from 5 - 20 cm. Tadpoles: 2 very large, all had 4 legs.	MM

55300 57933

LOCATION: Muleshoe Area

SITE DESCRIPTION: west of Muleshoe - series of wetlands, ponds that are described as:

Muleshoe Pond: (UTM: NG895702) large pond, river meander cut off by railway tracks.

Goose Pond (UTM: NG891706) west of Muleshoe - floating bog north of CP track (just east of Stunted Spruce).

Pond #1 (UTM: NG892705) small wetland (choked with reeds) just west of Trans Alta fenced area, on north and beside CP tracks.

Pond #2 (UTM: NG892706) small pools (1 square) between "Goose Pond" and Pond #1.

Pond #3 (UTM: NG891706) opposite Pond #1, below and on south side of track - channel that runs along track and south to beaver pond complex.

Pond #4 (UTM: NG890706) located west of Pond #3, on south side of track.

Primrose Pond (UTM: NG891704) is the beaver pond complex mentioned above.

DATE	TIME	H2O °C	T/W/S	SPECIE	egg mass	larvae	young	adult	NOTES	seen by
92/06/07	a-noon			LTSA				1	Crossing road above Muleshoe heading towards river.	CR
93/05/09	16:30								Muleshoe. Nothing seen or heard. Weather; cloudy/sunny periods.	M&DM
93/06/28	14:00			BOTO				1	on Muleshoe Trail in area of 1993 prescribed burn. Weather; warm, 20°C.	MP
95/04/23	a-noon			LTSA				1	Crossed the road west of Muleshoe. Temp. 12°C. Warmest day in April.	CK
96/05/18				LTSA				1	Muleshoe Pond. Seen on the south side.	PD
96/05/24	14:30	19	17/1/1	LTSA	few				Muleshoe Pond. Seen at east end among horsetail. Embryo barely elongated.	M&DM
96/06/07						7			Muleshoe Pond. Specie unknown.	PD
96/07/06						2			Muleshoe Pond. Specie unknown (no legs apparent).	PD
96/07/16	10:15	20	17/0/1	BOTO		20+			Muleshoe Pond. Seen on west side swimming close to shore. Water still high.	MM
96/07/18	15:30		17/2/2	BOTO		100+			Muleshoe Pond. Seen on shoreline - in shallow water at various stages of metamorphosis. Took pictures.	M&DM
96/07/20	13:00-15:00	18	14/2/2	BOTO		200+	some		Muleshoe Pond. Walked around entire pond - found most on west side and on south side just below CP tracks in both arms of the Muleshoe. Still at different stages of metamorphosis. Saw a few on shore with tails at various stages of resorbition.	M&DM
97/05/06	15:45	15.5	10/4/2						Muleshoe Pond. Nothing seen or heard.	M&DM
97/05/11	18:50		20/1/0	BOTO				1	Muleshoe Pond. Heard near tracks, in E arm from BVP.	M&DM
97/05/12	20:20		20/1/0	WOFR				1	Muleshoe Pond. Heard one on W side of W arm.	M&DM
97/06/26	10:30	16		BOTO				1	Muleshoe Pond. Saw adult on shore.	D&BL
97/07/17	10:30	18	16/2/0	BOTO		2			Muleshoe Pond. black, approx. 4 cm. long, seen on N side.	D&BL
95/04/23	18:45			WOFR				many	Goose Pond. Calling from pond. Temp. 12°C.	M&DM
95/04/24	19:30								Goose Pond. None heard or seen. Temp. 7°C. - flurries.	M&DM
95/04/26	15:30	14		WOFR				24+	Goose Pond. Calling amongst reed in pond - stopped as we got near.	M&DM
95/06/08	17:30	11		WOFR				many	Goose Pond. Calling from pond. Temp. 15°C. - warmest day in 6 weeks.	M&DM
95/05/15	18:10	19		WOFR	10				Goose Pond. Cluster with 10 masses - yellowed - no sign of embryos inside eggs? Weather: overcast, windy, showers.	M&DM
96/04/20	15:00		8/2/2						Goose Pond. Nothing heard from BVP.	M&DM
96/04/28	16:45		7/1/2	WOFR				many	Goose Pond. Heard from BVP.	M&DM
96/05/08			-5						Goose Pond. Cold 2 days. Low of -5°C and high of 0°C. It snowed. Goose Pond is frozen.	M&DM
96/05/10	17:00								Goose Pond. Snowing - nothing heard from BVP.	M&DM
96/05/13	17:00		12/2/2	WOFR				many	Goose Pond. Heard from BVP.	M&DM
97/05/05	17:30		10/1/2	WOFR				few	Goose Pond. Heard from BVP.	M&DM
97/05/06	15:15		10/4/2	WOFR				few	Goose Pond. Heard from BVP.	M&DM
97/05/11	18:40		20/1/0						Goose Pond. Nothing heard from BVP.	M&DM
97/05/12	19:45		20/1/0	WOFR				few	Goose Pond. Heard from BVP.	M&DM
98/04/22	15:15	16	19/1/1	WOFR				2-3	Goose Pond. Tentative calls. Water very shallow.	M&DM
98/04/29	17:15		19/1/1	WOFR				some	Goose Pond. Heard while checking Stunted Spruce Pond.	M&DM

Muleshoe Area continued...

95/04/28	17:30	10		WOFR			8	Pond #1. Heard and saw 8 - stopped calling as we approached. Temp. 6-8°C - unsettled.	M&DM
95/05/14	17:10	19		WOFR	50			Pond #1. Single cluster of 50 egg masses in middle of pond. Temp. 14°C - cloudy - sprinkling. Temp. 15°C - cloudy/showers.	M&DM
95/05/24	16:30	16		WOFR		many		Pond #1. Pond almost dried up - hatchlings on top of vegetation in very little water in a big wiggly mass - moved to the pool of water left by my boot as I tried to get closer. Temp. 15°C. sunny/windy.	M&DM
96/04/18	15:30	11	10/1/1					Pond #1. Area flooded - willow flats under water.	M&DM
96/05/06	16:30		7/3/2					Pond #1. Area from Goose Pond to Pond #1 is still flooded.	M&DM
96/05/13	17:15		12/2/2	WOFR	many		12+	Pond #1. Adults seen and heard. The water has gone down.	M&DM
97/05/06	15:30	12	10/4/2	WOFR	5		4	Pond #1. Found egg masses, saw and heard adults on E side close to shore and below a deep snowbank beside willow.	M&DM
97/05/12	19:50		20/1/0	WOFR	44		few	Pond #1. 44 egg masses in original cluster. Heard several adults in same area.	M&DM
97/06/06	17:00	16	17/0/2	WOFR LTSA	1	100+		Pond #1. Found WOFR tadpoles on E side in same area where egg masses were found earlier. The pond is choked with vegetation. Were able to see tadpoles as they swam over our boots. Found 1 LTSA egg mass with 4 eggs (barely elongated embryos). The egg mass came to the surface as I stepped on vegetation.	M&DM
98/04/22	14:35	14	19/1/1	WOFR			2	Pond #1. Tentative calls in area below bank on east side. One small snowpatch left on bank. Water level very low. Ice at bottom of muck. Lots of aquatic life (boatman, water striders, water beetles ...).	M&DM
98/04/29	17:20	17	19/1/1	WOFR	50		12+	Pond #1. Eggs near surface. Water shallow (12.5 cm) Saw 1 of 9, 1 of 1, 1 of 1, 1 of 1, 1 of 2, 1 of 1, 1 of 9, 1 of 26. A few (2+) egg masses with dead embryos.	M&DM
96/05/14	17:00			WOFR			1	Pond #2. Jumped in water as we approached. Temp. 15°C cloudy/showers.	M&DM

Muleshoe Area continued...

95/05/14	17:30	19		LTSA WOFR	many 7				Pond #3. LTSA egg masses clinging to horsetails at bottom of pool (15cm. deep) - embryos elongating. WOFR ind. masses - in shallow water (15 cm. deep to 30 cm.). Temp. 15°C cloudy/showers.	M&DM
95/05/15	18:20			LTSA WOFR	30 5				Pond #3. LTSA egg masses on reeds at 10 cm deep - embryos elongating - in deep pools. Single WOFR egg masses in 2.5 cm. deep - attached to reeds. Weather: overcast/windy/showers.	M&DM
95/05/24	17:00	16	15/2/0	WOFR LTSA		many many			Pond #3. Appears to be 2 kinds of tadpoles? - all WOFR egg masses hatched. All LTSA eggs masses have hatched except for 1 mass with 12 eggs. embryos elongated - showing gills. Walked to beaver pond - nothing seen or heard.	M&DM
95/08/09	14:00			WOFR		6+	25	2	Pond #3. Saw 2 adults - 6 large larvae, hind legs showing in algae bloom along channel - 25 young jumped in water as we walked along Pond #3 to the beaver pond and backwaters east - no sign of salamanders. temps 18°C., sunny after several days of showers - water level very high - area flooded.	M&DM
96/05/06	16:30	10	7/3/2	WOFR				3+	Pond #3. Heard and one seen.	M&DM
96/05/13	17:20		12/2/2	WOFR				12+	Pond #3. Heard and seen. Didn't find the eggs.	M&DM
96/05/21	18:00	16	12/2/1	WOFR				1	Pond #3. Jumped in and down to bottom of pond - did not search for eggs.	M&DM
96/05/24	15:30	19	17/1/1	LTSA WOFR	few 19				Pond #3. LTSA egg masses attached to horsetail at bottom of pond - most in area close to CP tracks. A few seen in the channel leading to beaver pond (Primrose Pond) at south end. 10 WOFR egg masses seen in larger part of pond and near CP tracks. 9 in the channel with LTSA eggs (above). Egg masses at different stages from "dots" to half elongated embryos, to hatchlings clinging to egg mass. A few dead embryos.	M&DM
97/05/06	15:35	14	10/4/2						Pond #3. Coltsfoot in bloom. One Mourning Cloak. Nothing seen or heard.	M&DM
97/05/12	20:00		20/1/0	WOFR LTSA	17 4			few	Pond #3. Heard WOFR at S end and down the channel towards Primrose Pond. Saw 1 cluster of 16 egg masses and a single egg mass on E side of main pool. LTSA egg masses in main pond, close to tracks. Poor light for seeing the eggs.	M&DM
97/06/05	17:30	16	17/0/2	WOFR LTSA	13	100			Pond #3. Saw approx. 100 WOFR tadpoles at N end coming to surface or swimming over our boots. Poor light for finding them. LTSA egg masses found at N end, attached to horsetail, most eggs empty, a good number of dead eggs. One egg mass had 10 elongated embryos. Did not find any larvae.	M&DM
98/04/22	14:50	14.5	19/1/1						Pond #3. Water very low. Beaver channels dry. Lots of snails.	M&DM
98/04/29	17:35	16	19/1/1	LTSA	3				Pond #3. Found only 3 egg masses in a very small pool. Water levels have not come up. All beaver channels still dry.	M&DM
98/04/30	16:45	17	20/0/0	WOFR	21			17+	Pond #3. WOFR egg masses found in deep pool below the dam N of Primrose Lake, the only place left with enough water. Beaver channels still high and dry. Eggs were clinging to a dead branch submerged. Saw 5 WOFR near the eggs, plus 12 along channels of Pond #3.	M&DM
98/04/30	16:30	15	20/0/0	WOFR	3			2-3	Pond #4. Seen and heard in small pool across tracks from Pond #2. Found 1 of 2. 1 of 1 egg masses near surface along a deep canal in part of the pond.	M&DM
96/05/24	16:30	19	17/1/1	WOFR				2	Primrose Pond. Walked on south and west side - large complex. No eggs found. Heard the 2 at south end.	M&DM
97/06/05	18:00		17/0/2	WOFR	1				Primrose Pond. Checked S shore only. Water high. Muskrat encounter. Old egg mass and no sign of tadpoles.	M&DM
98/04/29	17:40		19/1/1	WOFR				some	Primrose Pond. Heard while checking Pond #3.	M&DM
98/04/30	17:00	19	20/0/0	WOFR	1			many	Primrose Pond. Heard many at S/E end, some on N side where 1 was seen near 1 of 1 egg mass attached to horsetail and near surface. A few more calling in very east bay.	M&DM

LOCATION: Stunted Spruce Pond (UTM: NG669713).

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
92/07/06	14:20			BOTO				1	On boggy edge of pond. Weather: overcast/intermittent rain.	M&DM
93/05/09	18:30								Nothing seen or heard. Weather: cloudy/sunny periods.	M&DM
93/05/23	16:30								Nothing seen or heard. Weather: overcast/sunny periods. 16C.	M&DM
94/05/06	15:45								Nothing seen or heard. Weather: cloudy, sunny periods. 13°C.	M&DM
96/06/29	18:00	20	19/3/1	WOFR			6+		Seen on north side in shallow water. Did not check other sides.	M&DM
97/05/08	18:00		10/1/2						Nothing seen or heard.	M&DM
97/05/06	15:00	14-15	10/4/2						The small pool at E end was 15". Nothing seen or heard.	M&DM
97/05/11	18:35		20/1/0	WOFR				1	Heard.	M&DM
97/05/12	19:40		20/1/0	WOFR				2+	Heard at least 2 at W end of pond.	M&DM
98/04/29	16:40	16-17	19/1/1	WOFR LTSA	4 50+			20+	5 WOFR heard at E end and 15+ at W end. Saw a mating pair. 4 fresh egg masses at W end, on N shore where mated pair was. LTSA egg masses mostly found at W end, on N shore and some at E end, on N shore. Frost in ground all around pond.	M&DM

LOCATION: Ranger Creek Willow Flats, (UTM: NG672733).

SITE DESCRIPTION: flooded willow stand located 6 km. west of Skull Ck. below pull-off on south side of Bow Valley Parkway (BVP).

Ranger Creek Beaver Pond (UTM: NG673727) 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
95/05/14	17:00	15		WOFR	4			3	Adults calling - egg masses at east end of wetland. Temp. 15°C, cloudy, showers.	M&DM
96/05/10	18:00								Stopped to listen. Nothing heard. Snowed.	M&DM
96/05/13	16:35		12/2/2						Nothing heard from BVP.	M&DM
97/05/06	14:45	5	10/4/2						Some ice left. Strong west wind. Nothing seen or heard.	M&DM
97/05/11	18:30		20/1/0						Nothing heard from BVP.	M&DM
97/05/12	19:30		20/1/0	WOFR				2+	Heard from BVP. One in channel close to BVP, one in channel running N/S.	M&DM
97/05/19	15:30 17:00	10	10/0/2	WOFR LTSA BOTO	1 1			few	Found 1 WOFR egg mass on N side. Some dead embryos. 1 LTSA egg mass part way down the channel. Heard a few BOTO close to large beaver pond at S end.	M&DM
98/05/03	17:40		20/1/0	WOFR				2+	A few heard from the road	M&DM
97/06/01	10:00		20/2/2	BOTO				3	<u>Ranger Creek Beaver Pond</u> . One pair in amplexus, 1 sneaker male nearby.	MH

LOCATION: Hillsdale Area

SITE DESCRIPTION: Ishbel Wetland: (UTM: NG847773) wetland with creek and pond at the base of open slopes on Mt. Ishbel.

Hillsdale Wetland: (UTM: NG848758) series of calcareous pools located in the N/W corner of Hillsdale Meadows.

DATE	TIME	H2O °C	T/W/S	SPECIE	egg mass	larvae	young	adult	NOTES	seen by
97/09/28	11:30	11	12/3/2	BOTO		400+	6		Ishbel Wetland. Seen mostly on N side of pond. Some tadpoles quite small, no legs showing, some with hind legs, a few with all legs and tail. Toadlets on edge of pond.	MM
97/10/11	13:30	5	5/2/2	BOTO		300+			Ishbel Wetland. Tadpoles under thin layer of ice. Some motionless, many moving under ice. A few with all legs, quite a few with hind legs, a few with no legs.	MM
97/10/13	13:00		8/2/1	BOTO		300-			Ishbel Wetland. Fewer moving than 2 days ago. (Pictures).	M&DM
97/10/26	13:00	2	7/2/2	BOTO		35+			Ishbel Wetland. Under the ice, a few moved when we tapped on the ice, others motionless.	M&DM
98/05/23	15:00	22	19/0/1	BOTO	5			1	Ishbel Wetland. Heard BOTO calling. Egg strings found in water 8 cm. deep in N/E corner and N side, some hatchlings, some elongated larvae, some fresh eggs.	MM
98/09/05	13:45	20	22/0/0	BOTO			2		Ishbel Wetland. Seen on N side, 2 metres from water's edge.	MM
98/05/23	16:45	26	20/0/1	BOTO LTSA	200+ 5		1		Hillsdale Wetland. Found BOTO small tadpoles (near old egg string) and LTSA (elongated) eggs clinging to a submerged twig in one pool, 2 metre in diameter, located on W side of wetland complex. The water was 5 cm. deep. The small BOTO (approx. size, 2 cm.) was found near this pool.	MM
98/07/01	14:30	26	22/0/2	BOTO		75+			Hillsdale Wetland. BOTO tadpoles, hind legs showing. No sign of LTSA	M&DM
98/09/05	14:15		22/0/0						Hillsdale Wetland. Nothing seen.	MM

LOCATION: Powerline Pond. (UTM: NG830755).

SITE DESCRIPTION: 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
93/06/11	14:00			BOTO				1	Seen at edge of pond - hopped in as we got near. Weather; raining.	M&DM
97/05/19	13:50	8.5	10/0/2	WOFR LTSA	19 1				One cluster of 9 WOFR egg masses at edge of pool, at E end of wetland. 2 egg masses with mostly dead embryos were opposite first one. One cluster of 7 egg masses and 1 single egg mass on E side closer to shore. 2 of those were mostly dead embryos. Rest had embryos just elongating. One LTSA egg mass of 12 eggs found next to the first WOFR egg mass mentioned above. Took picture of pond.	M&DM

LOCATION: Frog Hollow (UTM: NG834755).

SITE DESCRIPTION: small "kettle" pond east of Lizard Lake and south side of Bow Valley Parkway.

DATE	TIME	H2O °C	T/W/S	SPECIE	egg mass	larvae	young	adult	NOTES	seen by
93/05/09	16:30			WOFR	3				1 old (cloudy) egg mass, 1 fresh, 1 large cluster of many masses partially submerged with larvae moving inside egg. Weather; cloudy/sunny periods.	M&DM
93/05/23	16:15			WOFR LTSA?	10 few?	3		3	1 WOFR calling (twice as we were leaving), 2 seen as they disappeared in the muck. tadpoles seen near egg mass found 2 weeks ago - quickly disappeared in the reeds - 6 egg masses in smallest pool, 4 in large pool attached to reeds - some at black dot stage. Some single detached one had elongated embryos, possibly LTSA eggs? Took pictures. Weather; overcast/sunny periods, 16°C.	M&DM
93/06/04	18:00			BOTO WOFR	4			1	1 BOTO at edge of pond - jumped in as we got close, old egg masses of WOFR in warm water. Weather; overcast/sunny periods, 16°C.	M&DM
94/05/05	15:00			WOFR	36+				One cluster of 30+ egg masses, 2 others together and one alone - mostly submerged but a few near surface with dead (white) embryos - all eggs at black dot stage. Weather; cloudy/sunny periods, 13°C.	M&DM
95/05/14	16:10	16		WOFR	31			3	Adult were calling - one cluster of 30 masses - one mass near the surface of the water in middle of pond. Temp. 16°C., cloudy, showers.	M&DM
96/05/10	17:30								Partially frozen.	M&DM
96/05/13	16:40		12/2/2						Nothing heard from BVP.	M&DM
96/05/19	17:20		12/2/1	WOFR				few	Heard from BVP. Snow patch left on south side.	M&DM
96/06/01	17:15		20/1/1						Nothing heard from BVP.	M&DM
97/05/11	18:25		20/1/0	WOFR				few	Heard from BVP. Snow/ice on S shore.	M&DM
97/05/12	19:25			WOFR				few	Heard from BVP.	M&DM
97/05/19	13:00	10	10/0/2	WOFR LTSA	27 6				Found WOFR eggs mostly on N side. One cluster of 22 egg masses, rest in single egg masses. Larvae elongated. LTSA egg masses close to WOFR egg masses. Larvae elongated.	M&DM
98/05/03	17:35		20/1/0	WOFR				2+	A few heard from parkway.	M&DM
98/05/09	17:45		15/0/5						Nothing heard from parkway.	M&DM

LOCATION: Lizard Lake (UTM: NG830787).

SITE DESCRIPTION: pond located in deep gully along the Bow Valley Parkway. Also known as Pilot Pond.

DATE	TIME	H2O °C	T/W/S	SPECIE	egg mass	larvae	young	adult	NOTES	seen by
92/05/15	20:55			LTSA				6	Seen at Lizard Lake. Weather; 16°C.	CF & ST
93/04/30	11:00			WOFR				3+	Heard from road. Weather; clear/warm.	HD
93/05/05	20:00			WOFR LTSA				12 1	WOFR calling - 1 LTSA seen under a log at east end of lake. Weather; clear/warm.	HD
93/05/09	14:00			WOFR LTSA	3?			20+ 1	WOFR calling all around lake - egg masses at west end (masses size of golf balls) - LTSA (female) seen at same location as above. Weather; cool.	HD
95/05/14	13:00	10-13		WOFR LTSA	7 many			16+ 1	6 adult WOFR calling - most activity was at west end, both sides in N/W corner, 1 from N/E, 1 seen in N/W corner, 1 in N/E - egg masses in the reeds in N/E corner (3 near the surface, rest submerged half way down at 15 cm). Adult LTSA under a rotten log near lakeshore at west end. Took pictures. - LTSA egg masses attached to reeds in loose clusters of 4 to 50 large eggs - appear to be double yolked - most at west end in north corner. Temp. 16°C - cloudy - showers.	M&DM
95/05/18	19:00			LTSA				1	Found dead under a log at west end. Weather, sunny/cool.	HD & KW
95/05/18	19:00			WOFR				7	3 calling from west end, 3 from east end and 1 in N/E corner. Weather, sunny/cool.	HD & KW
95/05/21	12:00			LTSA				2	Under logs. Weather, sunny and cool.	CF
96/05/10	17:00								Lizard Lake still frozen and it snowed.	M&DM
96/06/15	17:30		20/1/0	WOFR LTSA	1			4	Only checked the N/W corner. Adults WOFR jumped in water. LTSA embryos were all dead.	M&DM
97/06/02	14:30		17/2/1	WOFR				1	Heard. Checked 1/8 of N/W shore. Did not find egg masses.	JH
97/06/05	17:00	16-17	15/1/5	LTSA WOFR	1	1		2	1 LTSA hatchling beside egg mass. 2 WOFR seen, 2cm. and 4 cm. long.	D&BL
97/06/28	16:30	17		WOFR				1	Saw adult on shore.	D&BL
98/05/14	14:30- 16:40	15	15/0/2 15/0/3	WOFR LTSA	1 108			3 3	WOFR seen on shore and jumped in as we approached; 1 in N/W corner, 1 on W side and 1 on N side. Lots of LTSA egg masses on all sides and close to shore in approx. 25 cm. deep. Saw single egg masses and groupings of 17+ egg masses. Mostly elongated embryos, a few fresh eggs. Found 3 adult LTSA under logs; 1 on W side, 1 on S shore and 1 on N shore.	M&DM

LOCATION: Moose Meadow Wetland. (UTM: NG795785).

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

Turquoise Pond: natural pond relatively undisturbed at S/W end of disturbed area.

South Channel: natural channel relatively undisturbed on south side of disturbed area.

Moose Meadow Pool (UTM NG802783) small pool located at northern edge of the meadow, below BVP.

DATE	TIME	H2O °C	T/W/S	SPECIE	egg mass	larvae	young	adult	NOTES	seen by
93/05/09	17:00								Nothing seen or heard. Weather: cloudy with sunny periods.	M&DM
93/05/23	16:30		16/?/1						Nothing seen or heard.	M&DM
93/05/30	16:00			WOFR				1	On shore of <u>Turquoise Pond</u> - jumped in as we got near. Weather: warm/clear day.	M&DM
97/05/27	14:30	10	15/1/2						<u>Turquoise Pond</u> . Nothing seen or heard.	M&DM
97/05/27	17:00	13	15/1/2	WOFR BOTO	22+ 4	many			<u>South Channel</u> . Found 7 WOFR egg masses half way down channel, on S side, in area full of reeds. Mostly hatchlings with a few tadpoles. Found another area to the E with one large cluster of egg masses too broken down to count. Hatchlings getting to be a fair size. Found another 14 single egg masses with hatchlings, some eggs with elongated embryos. Water 20 cm. deep. Found BOTO eggs in same area as WOFR in 2 different bays but closer to shore in shallower water (2 - 5 cm.) Many hatchlings and still some elongated embryos. One egg string was very close to being out of the water.	M&DM
97/06/28	14:00	17	15/2/2	BOTO				1	Big BOTO hopping in the bush S of <u>Moose Meadows</u> .	D&BL
98/07/01	13:30	22	24/2/1	?FR LTSA		12+ 12+			<u>Moose Meadow Pool</u> . Found in small vernal pool (4 m. in diam.), water 15-20 cm. Pictures.	M&DM
98/07/22			16/0/2						<u>Moose Meadow Pool</u> . Dry.	MM

LOCATION: Castle Junction Area.

SITE DESCRIPTION: Castle Pond (UTM: NG783788). Pond located east of Silver City.

Castle Bridge Wetland (UTM: NG747797). Backwater of the Bow River south/west of Castle Bridge.

Copper Lake (UTM: NG752792) small lake just east of Castle Junction, on south side and beside the TCH.

Smith Lake (UTM: NG750780) south of Copper over a ridge and at higher elevation. Small Pools West of Smith Lake located near crest of hill before reaching Smith Lake.

Vieta Lake (UTM: NG685767) located at north end and on east side of Kootenay Parkway, north of Altrude Lakes.

Altrude Lakes (UTM: NG686758) at the head of Altrude Creek, on the Banff/Kootenay National Park border.

Boom Lake (UTM: NG643791) at the outlet of the lake.

Boom Lake Trailhead (UTM: NG683777) 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
96/05/13	16:30		12/2/2						<u>Castle Pond</u> . Nothing heard or seen.	M&DM
96/05/21	21:00	5 - 8 - 14.5	12/2/1						<u>Castle Pond</u> . The pond is spring fed and cold. Walked on W and E side. Nothing seen or heard.	M&DM
96/07/21	13:00	8	18/1/1						<u>Castle Pond</u> . Nothing. Water still cold. No sign of "pond life". Has minnows.	M&DM
96/07/21	12:00		18/1/2						<u>Castle Bridge Wetland</u> . Checked area closest to river and road. Nothing seen.	M&DM
92/05/14	20:45	15	15/1/0	WOFR	2			4	<u>Copper Lake</u> . WOFR at east end on sunnyside of lake.	BW
92/05/21	21:05	7		WOFR		100+			<u>Copper Lake</u> . At south end of lake. Weather: snowy/overcast.	BW
92/05/28	21:30	14	17/1/0	WOFR		100+		2	<u>Copper Lake</u> . Calling at south/east end of lake - larvae in same area.	BW
92/06/01	21:45	12							<u>Copper Lake</u> . Nothing seen or heard. Weather: snowing.	BW
95/07/08	13:00		23/?/1	WOFR		many	many	50+	<u>Copper Lake</u> . in shallow water on north, east and west side - nothing on south side.	M&DM
97/05/26	21:30		10/3/3	WOFR				20+	<u>Copper Lake</u> . Heard several evenings over the roar of the TCH.	MH
97/06/05	12:00	16	15/0/2	WOFR		?		2	<u>Copper Lake</u> . Seen on N/E shore. Small black tadpoles (BOTO?).	D&BL
97/06/28	15:00	17		WOFR				1	<u>Copper Lake</u> . Adult on shore.	D&BL
98/05/07	16:30	17 19	19/0/0	WOFR	15			6+	<u>Copper Lake</u> . Heard at W end, E end and S side. Found egg masses at N/W end; mostly fresh, some with embryos elongated.	M&DM

Castle Junction Area continued...

95/07/06	15:00		23/?/1	WOFR SPFR		50+	3	3 1	Smith Lake Area. WOFR in 2nd small pool west of Smith Lake. Large SPFR adult floating in middle of pond, pink underneath - dark spots with light centres - larvae all around pond - looked different and smaller than larvae in Copper Lake - pink under belly.	M&DM
95/07/06	15:00		23/?/1	WOFR			1		Smith Lake Area. In 1st small pond west of Smith Lake.	M&DM
95/07/06	15:30								Smith Lake. Walked around the lake - nothing!	M&DM
96/06/15	18:00			SPFR			1		Smith Lake Trail (UTM NG742785). Seen on trail.	KH
97/06/03	19:00		17/0/2	WOFR	22	few		1	Smith Lake Area. Seen in 2nd small pond on the way to Smith Lake. All single egg masses on N/W side with hatchlings and a few tadpoles. One WOFR seen on N/W corner.	M&DM
97/07/18	15:30	21	22/1/1	WOFR SPFR		50+ 50+	2	1 1	Smith Lake Area. Upper Pond. Saw 100+ tadpoles of both kinds.	MM
97/08/04	14:30	24	30/0/0	WOFR SPFR		50+ 50+		2	Smith Lake Area. Upper Pond. Saw 100+ tadpoles of both kinds as on previous visit. Several with hind legs. Adults SPFR jumped in pond.	MM
97/08/07	12:45	15	18/2/2	WOFR unden.		6+	2		Smith Lake Area. Upper Pond. Large tadpoles, grayish, no limbs yet near edge of pond. Saw the WOFR hopping across trail, ~ 4 cm. long.	D&BL
97/09/20	14:45	13	12/1/0	WOFR SPFR			10+ 10+	2	Smith Lake Area. Upper Pond. WOFR froglets seen in grassy margins of pond up to 3 m. from water. One had a partial hind leg on one side. SPFR adults in water. SPFR froglets on edge of pond, some in water, some on shore and two with tail still on.	MM
97/09/28	14:30	9	15/3/1	WOFR SPFR			10+ 10+		Smith Lake Area. Upper Pond. Not much changed since last visit.	MM
98/05/23	12:45	14	16/0/1	WOFR	27	500+		1	Smith Lake Area. Upper Pond. Hatchlings near egg masses mostly on N side in water 30 cm. deep. Small tadpoles were also near egg masses but down near the bottom and some along submerged log.	MM
98/08/25	12:50	13	20/0/0	WOFR SPFR			1	2	Smith Lake Area. Upper Pond. Froglet seen on S side of pond. Large adult SPFR seen at W end and 1 on N side.	MM
97/07/18	16:15	14	22/1/1	WOFR				1	Smith Lake Area. Lower Pond. Only one adult seen.	MM
98/05/23	13:15	10	16/0/1						Smith Lake Area. Lower Pond. Nothing seen.	MM
98/08/25	13:00	13	20/0/0						Smith Lake Area. Lower Pond. Nothing seen.	MM
97/08/07	15:45		21/2/2	BOTO		36+		2	Vista Lake. Adults seen approx. 5 m. apart in veg/rocks near shore near outlet. Tadpoles seen swimming along a log, in shallow bay near outlet. Hind legs showing.	D&BL
98/08/09	16:00		28/1/0	BOTO				1	Vista Lake. Seen in puddle near lakeshore	HD
96/06/03	16:00	4-8 9-11	19/2/1	BOTO				4	Altrude Lakes. Walked along north shore of both lakes. Appeared to be large females. No sign of eggs. Water was warmer where they were seen 9° in upper lake and 11° in lower lake.	M&DM
97/06/05	13:00	9-11		BOTO				2	Altrude Lakes. Seen between middle and most westerly lake - in amplexus on shore.	D&BL
97/07/17	15:55	17	22/1/1	BOTO			4		Altrude Lakes. Seen hopping in sedges next to water. Only 1-2 cm. long.	D&BL
97/08/04	13:45	18	30/0/0	BOTO		5			Altrude Lakes Area. (UTM: NG671765) Found in small pool beside a small creek between 3rd. Altrude Lake and Kootenay Parkway.	MM
97/08/06	12:00- 13:30	24	29/0/0	BOTO		200+		1	Boom Lake. Saw adult on trail, 3m. from lakeshore. Tadpoles small to very small in shallow water on the edge of the outlet creek.	MM
97/09/20	12:00	13	11/1/0	BOTO		200+			Boom Lake. Most showing hind legs. Some with no legs. Found in same area.	MM
98/07/22	10:45	18	15/0/2	BOTO		25+			Boom Lake. Small tadpoles in shallow water at edge of outlet stream.	MM
98/09/06	10:30	15.5	18/0/0	BOTO			1		Boom Lake. Seen on the edge of outlet stream. Breeding site dried up.	MM

Castle Junction Area continued...

97/08/06	15:30	28	29/0/0	BOTO		1000+			Boom Lake Trailhead. Found in shallow pools. (2.5 cm. deep) A few tadpoles with hind legs.	MM
97/08/07	15:00			BOTO		1000+			Boom Lake Trailhead. Same as above. A few had fully metamorphosed. Took picture of one metamorphosed beside a tadpole. Found a few more in smaller pool south of first site.	M&DM
97/08/23	16:20		21/1/8	BOTO		100+	1		Boom Lake Trailhead. Main pond still full of tadpoles. Most do not have legs yet, some with hind legs only, one froglet in water with tail resorbing.	M&DM
97/08/27	16:00			BOTO		20+			Boom Lake Trailhead. In same pond as above. Observing from the car. Active. Probably missed some viewing only from car.	M&DM
97/09/06	18:00		13/1/1	BOTO		12			Boom Lake Trailhead. In same area as Aug. 27. Observed from car.	M&DM
97/09/13	18:30		13/1/1	BOTO		8+			Boom Lake Trailhead. Same as above but not very active. No sign of hind legs.	M&DM
97/09/20	14:15		12/1/0	BOTO		100+			Boom Lake Trailhead. All showing legs, a few showing all legs.	MM
97/09/28	14:00	13	15/3/0	BOTO		100+			Boom Lake Trailhead. All showing hind legs, some with all legs.	MM
97/10/11	14:30		06/2/2	BOTO		4			Boom Lake Trailhead. Three moving, other motionless.	MM
98/05/09	17:30	17	15/0/5	BOTO	3				Boom Lake Trailhead. Found 3 fresh strings in water 2 cm. deep at S end of pool.	M&DM
98/05/17	17:00		5/1/5			many			Boom Lake Trailhead. At hatchlings stage.	M&DM
98/06/18	15:45			BOTO		100+			Boom Lake Trailhead.	MM
98/07/22	12:00	22	16/0/2	BOTO		600+	50+		Boom Lake Trailhead. Many tadpoles showing hind legs, some with all legs. Toadlets around the edge of pool.	MM

LOCATION: Bow Valley Parkway west of Castle Junction.

Site Description:

Allium Pond (UTM: NG622922) located west of Baker Creek, on the north side of the Bow Valley Parkway, under power line.

Split Level Ponds, Upper (UTM: NG629918) **Lower** (UTM: NG629919) located west of Island Lake, north of BVP, about 4 km. W of Baker Creek.

Island Lake (UTM: NG617934) located approximately 1 km. north of BVP, just east of Outlet Creek.

Cranberry Pond (UTM: NG599954) located west of Corral Creek, south of Bow Valley Parkway.

Old Rock Pond (UTM: NG599952) located east of McNair Pond at the "oldest rock" interpretive sign.

McNair Pond (UTM: NG597952) located at the far end of the dead end section of the old Bow Valley Parkway.

DATE	TIME	H2O °C	T/W/S	SPECIE	egg mass	larvae	young	adult	NOTES	seen by
95/07/22	16:30			BOTO				1	Allium Pond. West of Baker Cr. on north side of BVP, under power line - adult seen in shrubby area near the large pond. Temp. 18°-22° C., overcast.	M&DM
98/08/01	18:50		20/1/1						Allium Pond. Nothing seen or heard from road.	M&DM
97/06/01	17:00	10	17/2/1						Allium Pond. Pond overflowing. Checked all around. Nothing found.	M&DM
98/05/07	16:00		20/1/0						Allium Pond. Bone dry.	M&DM
97/07/06	14:45	28	19/2/1	WOFR			7	1	Split Level, Upper. Found on N and W side.	MM
97/08/08	10:55		19/1/2	WOFR			12		Split Level, Upper. Seen hopping in moss.	D&BL
97/07/06	15:30	24	19/2/1	WOFR		20+	7	1	Split Level, Lower. Tadpoles in open pool at E end of wetland. Adult in open pool at W end. Young, 6 at open pool at E end and 1 in between open pools.	MM
92/07/19	noon			WOFR			14+		Island Lake. In tall grasses on edge of small pools just south of Island Lake - disappeared in mud at bottom of pools. Weather: cloudy morning/gradual clearing, 10-21°C.	M&DM
97/06/01	15:00-16:00	16.5-17	17/2/1	WOFR	1	some			Island Lake. Found egg mass with hatchlings at the top of the outlet, on E side of creek. Did not go around pond.	M&DM
97/09/25	14:30	13	22/1/0	SPFR				2	Cranberry Pond. Seen on E side along grassy outlet. Hopped in water from the edge. They were 15 m. apart.	MM
98/06/07	14:45	13	19/1/0						Cranberry Pond. Nothing heard or seen. Walked around pond. Picture from N/E corner.	M&DM
95/07/22	15:00								Old Rock Pond. Nothing seen or heard. Temp. 18°-22° C., overcast.	M&DM
98/06/01	18:30		20/1/1	WOFR				1-2	Old Rock Pond. Heard at south end near the deep pool.	M&DM
97/05/18	20:15		5/1/2	WOFR				2	Old Rock Pond. 1-2 heard.	JH
98/05/07	15:00	6	20/1/0	WOFR				3+	Old Rock Pond. Heard one at S end and 1-2 in pool across road from Old Rock. Temp. taken in that pool.	M&DM
95/07/22	14:30								McNair Pond. Nothing heard or seen. Temp. 18°-22° C., overcast.	M&DM
95/07/22	17:00								Channel running on both side of BVP just west of Castle Cliffs Viewpoint. Nothing!	M&DM
96/06/01	18:15		20/1/1						McNair Pond. Nothing heard or seen from road.	M&DM

LAKE LOUISE AREA

LOCATION: Lake Louise Area.

SITE DESCRIPTION: Floating Pond (UTM: NG713808) located 1/2 km. west of Mannix Pit, 1/2 km. S of TCH.

Kingfisher Lake (UTM: NG583957) located just east of Lake Louise on the north side and close to TCH.

Red-tail Pond (UTM: NG581962) located west of Kingfisher Lake.

Divide Ponds (UTM: NG546973 **South Pond**) (UTM: NG547974 **North Pond**) located on highway 1A west of Lake Louise approx. 1.5 km. from road junction.

Moraine Creek Wetland (UTM NG) outlet creek of Moraine Lake.

Goldeneye Pond (UTM: NG583670) located below Consolation Lakes below the creek crossing where the Panorama Ridge trail takes off. Elevation: 1890 m.

Whitehorn Lake (UTM: NH555005) located at the base of Whitehorn. Access is along X-country ski trail starting at the Pipestone Horse Corral.

DATE	TIME	H2O °C	T/W/S	SPECIE	egg mass	larvae	young	adult	NOTES	seen by
98/07/28	12:30	23	23/0/1						Floating Pond. Nothing seen.	MM
94/05/08	e-ning			WOFR				1	Kingfisher Lake. Small lake on north side of TCH and east of Village Lake Louise - calling - (on May 3 the lake was almost completely frozen). Weather; cool/cloudy.	JH
96/06/01	16:00	14.5	20/1/1	WOFR	1			few	Kingfisher Lake. Heard 1 or 2 at west end and found the fresh egg mass at west end close to shore.	M&DM
97/05/28	19:30		15/0/1	WOFR				1	Kingfisher Lake. Heard.	JH
97/07/06	13:15	21	18/2/1	WOFR		100+	1		Red-tail Pond. Found mostly at W end.	MM
98/06/25	13:30	13	15/1/2	WOFR		36+	6+	2	Red-tail Pond. Adults and young seen as we walked around pond. Large size tadpoles seen in N/E corner.	M&DM
93/07/23	15:50			BOTO				1	Lake Louise Area (UTM: NG529951). On the trail at back (south) end of Lake Louise. Weather; cool/intermittent sun/cloud.	NF
94/05/15	22:45			BOTO				1	Village Lake Louise (UTM: NG572973). Crossing Village Road. Weather; cloudy, after heavy rain.	JH
96/06/08	13:00	21	20/1/1	SPFR	2				Divide Ponds. South Pond (s. of Hwy. 1A). Seen in shallow pools at east end of main pond. The egg masses were floating on surface of water that was 13 cm. deep. Embryos elongating inside eggs. Took pictures.	M&DM
96/06/26	15:00			SPFR		1		1	Divide Ponds. South Pond. One small tadpole swimming in pool where eggs were found June 6. Adult leaped in outflow creek of main pool.	M&DM
96/07/08	16:00		21/1/1	SPFR				1	Divide Ponds. South Pond. Found in same area as one above. Took pictures. No sign of tadpoles.	M&DM
97/06/10	20:00	23	19/1/0	SPFR	2				Divide Ponds. South Pond (s. of Hwy. 1A). Found one egg mass on E side and one on W side with hatchlings.	M&DM
97/06/27	15:00	16	10/2/2	SPFR		2			Divide Ponds. South Pond. Two small tadpoles on S/W corner, where eggs found. Hard to see them.	M&DM
97/09/21	15:20	18	20/1/0	SPFR			1		Divide Ponds. South Pond. Found on E side, hopped towards water from approx. .5 m. away. Still had most of its tail.	MM
98/06/25	12:30		15/1/2						Divide Ponds. South Pond. Nothing seen or heard.	M&DM
98/07/23	11:00 - 11:35	16 - 21.5	18/0/0	BOTO		200+		1	Moraine Creek Wetland. Adult BOTO seen near creek. Tadpoles in creek channel on west side of main creek.	M&DM CS
96/06/08	15:00 16:00	14.5 20	18/2/1	BOTO SPFR				1-2 1-2	Goldeneye Pond. Heard BOTO on south side. Heard SPFR in shallow pools at west end. In some places the ground was still frozen and snow covered.	M&DM
98/05/24	15:00	19-20	19/1/2	BOTO WOFR SPFR LTSA	2 3 2 20+	many many some		1	Whitehorn Lake. Walked along the S side and E end only. Found BOTO hatchlings near 2+ old egg masses. Saw adult WOFR in same shallow pool at E end of lake. Found 3 WOFR egg masses with hatchlings in shallow pool closer to lake and 2 SPFR egg masses with hatchlings in same area at E end of lake. The LTSA egg masses (elongated embryos) were found near outlet on S side of lake in water 25 cm. deep.	M&DM G&MP

INDIANHEAD DISTRICT

Location: **North End of Banff National Park.**

DATE	TIME	H2O °C	T/W/S	SPECIE	egg mass	larvae	young	adult	NOTES	seen by
97/07/03	14:00		14/2/1	BOTO				1	Red Deer (UTM: NH752228). Seen beside trail in area between McConnell Creek and Horseshoe Lake.	AL
97/07/03	17:00 17:20		14/2/1	BOTO				2	Red Deer (UTM: NH732185). Saw one beside trail ay Horseshoe Lake and one near Sandhills Cabin.	AL
97/07/09	10:30		15/1/2	BOTO				2	Red Deer (UTM: NH731183). Seen in mosquito infested area near trail.	EO
97/07/10	10:00		10/1/2	BOTO				1	Red Deer (UTM: NH744222). Seen crossing trail.	EO
97/07/16	17:30		20/1/1	BOTO				1	Red Deer (UTM: NH637484). Seen on trail below Indianhead tent camp.	AL
97/07/24	11:00		17/3/1	BOTO				1	Clearwater (UTM: NH661428). Seen crossing trail.	EO
97/07/24	12:10		17/3/1	BOTO				2	Clearwater (UTM: NH619394). Seen crossing trail.	EO
97/07/28	11:00		23/0/0	BOTO				1	Clearwater (UTM: NH504285). Seen between Clearwater and Pipestone Pass.	AL
97/07/28	12:00		23/0/0	BOTO				1	Clearwater (UTM: NH518318). Seen in water filled hoof print at Devon Lakes.	AL
97/07/28	13:00		23/0/0	BOTO				1	Clearwater (UTM: NH538312). Seen near grazing area SC 12, Upper Clearwater Lake.	AL
97/07/28	13:20		23/0/0	BOTO				1	Clearwater (UTM: NH545312). Seen below SC 12.	AL
97/07/28	13:40		23/0/0	BOTO				1	Clearwater (UTM: NH564323). Seen on trail near mud hole. (about 2 cm. in size).	AL
97/07/28	14:00		23/0/0	BOTO				1	Clearwater (UTM: NH567320). Seen near creek, on trail, near Clearwater Cabin.	AL
97/07/28	14:20		23/0/0	BOTO				1	Clearwater (UTM: NH568334). Seen near creek, on trail, near Clearwater Cabin.	AL
97/08/06	09:00		10/1/2	BOTO				1	Clearwater (UTM: NH711419). Seen crossing trail.	EO
97/08/19	18:00		20/8/1	BOTO				1	Clearwater (UTM: NH677427). Seen on Clearwater gravel bar above Peter's Creek.	AL
97/08/24	13:30		15/5/2	BOTO				1	Clearwater (UTM: NH564323). Seen on trail near first creek west of Clearwater Cabin.	AL
97/08/24	14:20		15/5/2	BOTO				1	Clearwater (UTM: NH585312). Seen on trail near horse camp below Devon Lakes.	AL

ICEFIELDS PARKWAY

LOCATION: Icefields Parkway (from south to north).

- Ramshorn Pond** (UTM: NG558989) located at south end of rock slab on east side of Icefield Parkway, 200 m. from TCH Junction.
Tiny Herbert Lake (UTM: NG547998) located south of Little Herbert Lake, on east side and beside Icefield Parkway.
Little Herbert Lake (UTM: NH545001) located 5 km. up the Icefield Parkway.
Herbert Lake (UTM: NH541011) located 6 km. up the Icefield Parkway.
Bow Lake Outlet (UTM: NH395228) located at south end of Bow Lake.
Gravel Pool (UTM: NH350288) located 2 km. south of Bow Summit, on west side and 50 metres from Icefield Parkway.
Peyto Pool (UTM: NH350295) located south of weather station on Peyto Lookout Drive at Bow Summit.
Bow Summit Pond (UTM: NH350298) located on east side of Bow Summit, beside old abandoned road. Elevation 2070 m.
Silverhorn Ponds North & South (UTM: NH293379 upper) (UTM: NH292382 lower) located south of Silverhorn Creek and on west side of Icefield Prky. Upper one can be seen from Prky.
Warden Pond (UTM: NH208585) wetland located at the Trail Junction (sign 400 yards) to Warden Lake.
Ramparts Backwater (UTM: NH092651) located between Ramparts Ck. campground and the N. Saskatchewan River.
Sunset Pond (UTM: NH063684) located beside parking lot for Sunset Pass trail.
Asphodel Pond (UTM: NH039709) located 11 km. north of Rampart Creek Campground, on east side of Icefield Parkway.

DATE	TIME	H2O °C	T/W/S	SPECIE	egg mass	larvae	young	adult	NOTES	seen by
97/06/27	14:00		10/2/2	WOFR			3	1	Ramshorn Pond. Saw adult at N end, near shore and 3 young at same end, approx. 12 m. away from water.	M&DM
97/08/08	13:05		19/1/1	WOFR				1	Ramshorn Pond. Seen.	D&BL
98/05/07	13:40	14	18/1/0	WOFR				2	Ramshorn Pond. Heard at least 2 in N end. Picture of pond from N/E corner.	M&DM
96/06/01	17:35	15	20/1/1 20/1/1	WOFR LTSA	2 many			1	Tiny Herbert Lake. Adult WOFR heard and seen on east side. Egg mass had mostly dead eggs. LTSA seen mostly on east side in water approx. 45 cm. bottom depth, attached to reeds. Some dead eggs, rest had elongated embryos.	M&DM
96/06/26	12:30		16/1/1						Tiny Herbert Lake. Nothing seen.	M&DM
96/07/06	15:00	19	20/1/1	LTSA		1			Tiny Herbert Lake. Small tadpole seen in water 90 cm. deep. Walked through pond.	M&DM
97/05/18	19:45		5/1/2	WOFR				1	Tiny Herbert Lake. Heard.	JH
97/06/10	19:30	20	19/1/0	LTSA WOFR	100+	1 6			Tiny Herbert Lake. Found LTSA egg mass on E side. Many eggs were dead and the rest had elongated embryos, a few empty eggs. Saw one small LTSA larvae on the bottom of pool. The WOFR tadpoles were small and found on E side.	M&DM
97/08/18	17:00	15	15/2/2						Tiny Herbert Lake. Water levels way down. Water left in the section of the pond without the sedges. (picture). Nothing seen.	M&DM
96/06/01	17:15	11 - 17	20/1/1	WOFR				few	Little Herbert Lake. Heard a few in inlet. Also checked east side of lake. No eggs found.	M&DM
96/06/01	17:00	11	20/1/1						Herbert Lake. Checked below picnic area. Nothing seen or heard	M&DM
97/05/18	19:30		5/1/2	WOFR				1	Herbert Lake. Heard one calling at S end.	JH
97/06/27	16:45	17	15/4/7	BOTO		100+			Bow Lake Outlet. Small tadpoles seen at S/E end of outlet.	D&BL
95/06/29	14:00			BOTO				1	Bow Lake Willow Flat - large adult in the willows. Temp. 12°C. - sunny/cloudy	M&DM
96/06/26	11:00	15	16/1/1	BOTO	1				Gravel Pool. string of 1000+ eggs. Hatchlings clinging to egg string. Few embryos still in eggs.	M&DM
96/07/07	12:30		18/1/1	BOTO		100+			Gravel Pool. Found in same area as eggs above.	M&DM
97/06/10	16:00	22	19/1/0	BOTO				1	Gravel Pool. Heard BOTO call twice. No sign of eggs.	M&DM
97/06/27	12:30	11	9/3/1						Gravel Pool. Nothing seen or heard.	M&DM
98/6/25	11:00		15/1/2						Gravel Pool. Nothing seen or heard.	M&DM
97/06/10	16:15	16	19/1/0						Peyto Pool. Nothing seen or heard.	M&DM

Icefield Parkway continued...

96/06/26	9:45	11	16/1/1	BOTO	1				Bow Summit Pond. 1 string of 1000+ eggs. Hatchlings clinging to egg string.	M&DM
96/07/08	13:30		20/1/1						Bow Summit Pond. Nothing seen.	M&DM
97/06/10	17:00	22	20/1/0	BOTO			4+		Bow Summit Pond. Heard at least 3 BOTO on W side and one on E side. Did not find eggs.	M&DM
97/06/27	10:00	9	9/3/1	BOTO		1000+			Bow Summit Pond. Tadpoles are small and found at bottom of pool in water 18 cm. deep. Found in S/E corner of main pool.	M&DM
97/08/08	14:35	16	14/1/1	BOTO		36			Bow Summit Pond. Seen in ditch running parallel to gravel road.	D&BL
97/08/18	13:00 - 13:30		15/2/1						Bow Summit Pond. Very low water levels. Most of the main pond dry (picture). Surveyed all the ponds. Also checked Peyto Pool. It was dry. Walked down to the outlet of Bow Lake and checked the E side. Nothing.	M&DM
96/6/25	10:30	13.5	10/1/2	BOTO		100+			Bow Summit Pond. Seen in channel near gravel road and on the edge of main pond.	M&DM
96/07/08	12:00 - 13:00	19	20/1/1	BOTO		1			Silverhorn Ponds. Walked around both ponds and only saw one tadpole in lower pond. Looked promising.	M&DM
97/06/10	17:30	21-22	21/1/0						Silverhorn Ponds. Walked around both ponds. Thought we heard SPFR on N side of North Pond. Could not confirm.	M&DM
97/06/27	11:30		9/3/1						Silverhorn Ponds. Nothing seen or heard. Also checked a wetland on E side of Icefield Parkway and just S of Silverhorn Ponds.	M&DM
97/07/07	16:00	17	12/2/2	BOTO		1000+	1	1	Warden Pond. Found tadpoles all through pond. A concentration of them at N end. Varied in size from small to large (no legs showing). Water depth 5 cm. to 30 cm. but most found in shallow water. Young and adult at S end. Warden Lakes too big and deep for us to search.	M&DM
98/07/02	15:50		21/2/2	BOTO		1000+			Ramparts Backwater. Found tadpoles in backwater. Tadpoles small to very small.	M&DM
96/07/07	18:15	26	20/1/1	BOTO		500+			Sunset Pond. Found tadpoles swimming all through shallow pool and channel. There were Brook Trout in the channel also.	M&DM
97/06/15	15:00			BOTO		20+			Sunset Pond. Seen.	D&BL
97/07/08	12:00	16-19	14/1/1	BOTO		1000+			Sunset Pond. Found tadpoles mostly in shallow pools (3 cm. deep) and channel. (60cm. deep) Brook Trout in the channel.	M&DM
98/07/02	15:50	29	21/2/2						Sunset Pond. Nothing seen. Water levels higher than last year.	M&DM
96/07/07	17:30	24	20/1/1	BOTO ?FR		500+ 12+	9	1	Asphodel Pond. Saw BOTO young and adult close to road, a distance away from ponds, on mossy wet ground. The tadpoles were feeding in shallow (7.5 cm.) area of pond full of bottom algae. Saw ?FR with BOTO tadpoles. They were light brown. Possibly SPFR but could not confirm.	M&DM
97/07/08	11:00	16 14.5 11.5	12/0/2	BOTO		100+			Asphodel Pond. Found in main pool and in smaller pools (same areas as last year). Found 4 dead tadpoles in a small pool (bluish blotches on body, one predacious beetle feeding on one) The tadpoles were small to medium in size and most showing hind legs. S of Asphodel but in small complex, another group of 50+ in very small pool (water 14.5") The pool drained into a creek flowing S and eventually to 'Dryas Flats'. Found 1 BOTO tadpole in the creek. Water was 11.5".	M&DM
96/07/02	15:30	29	21/2/2	BOTO		150+			Asphodel Pond. Found in small shallow pool 100 metres S of Asphodel pond. Small tadpoles. Water depth 5 cm. 2 BOTO tadpoles in larger pond at N end.	M&DM

Other sightings in Banff National Park

DATE	TIME	H2O °C	T/W/S	SPECIE	egg mass	larvae	young	adult	NOTES	seen by
92/08/30				BOTO				1	Seen on Hillsdale Slide Trail below Mt. Inabel. (UTM: NG648771)	KW
93/05/24	13:00			BOTO				1	Glacier Lake (UTM: NH547130). Seen at east end of lake. Weather; sunny, 20°C.	JH, NF, MP
93/06/05	a-noon			BOTO				1	Glacier Lake. In bush on lakeshore. Weather; sunny/hot, 25°C.	HD
93/07/17	18:00			BOTO				1	Glacier Lake. Seen. Weather; cloudy	NL
93/06/13	15:50			BOTO				1	Arnica Lake (UTM: NG697755). On trail 2.7 km. from start. Weather; cloudy/cool/sunny periods.	JH & NF
93/07/28	10:00			BOTO				1	Arnica Lake. On trail about halfway between Vista Lake and Arnica Lake. Weather; mostly sunny/cloudy periods - nicest day in 3 weeks	M&DM
93/07/19	10:30			BOTO				1	Totem Creek (UTM: NE234457). Seen. Weather; warm, 15°C.	MP
93/07/24	17:30			BOTO				2	Cirque Lake (UTM: NE255402). On the trail. Weather; clear/cloudy periods	JH
94/07/09				BOTO				1	Siffleur Valley (UTM: NH493300). Seen on trail. Weather; warm/partly cloudy, cool breeze.	DMK
95/06/30				BOTO				1	40 Mile Creek. Half way to Mystic Cabin - one seen. Weather, overcast	WB
95/08/10				BOTO				1	Little Baker Lake (N.E. shore). Jumped out of marshy edge into shallow lake. Weather, sunny/warm.	HD & JC
95/08/01				BOTO		some			Pools near outlet of Weakahemna Glacier. Weather, raining.	GK
96/06/23	14:00			BOTO				3	Edith Trail. (UTM: NG935737). Seen over 2 km. distance on trail below Mount Edith slabs to Edith Pass.	KH
96/07/28	09:30			BOTO				10	Mystic Pass Trail (UTM: NG867834). Seen at 2200 m. elevation.	KH
97/08/22			20/0/1	LISA				1	Town of Banff. Someone reported finding one in a drain pipe at the Banff Day Care Centre.	CP
97/07/29	22:00		29/1/1	BOTO				1	Skull Canyon. (UTM: NG881725). Seen along dry creek bed S of canyon entrance. Medium size.	M&DM
97/07/20	16:20		28/1/0	BOTO				1	Rockbound Lake Trail (UTM: NG768815). Seen along trail.	JH
97/06/10	14:00			BOTO				1	Baker Creek (UTM: NG653900). Seen along trail.	CS
97/07/19	12:45		22/0/0	BOTO				1	Hector Lake (UTM: NH465134). Seen under a log of an old fire pit in meadows near Hector Lake.	HD
97/08/08	14:00		17/2/2	BOTO				1	Mosquito Creek. (UTM: NH461198). Large BOTO hopping in bushes near creek.	D&BL

REPTILE RECORDS

DATE	TIME	H2O °C	T/W/S	SPECIE	young	adult	NOTES	seen by
97/01/15	12:00			WGSN		1	Cave & Basin. Cave Spring outflow W. Snake in hole under pipe.	D&BL
97/01/15	13:00			WGSN		1	Cave & Basin. Basin Spring outflow. Snake in water (29° C.)	D&BL
97/02/25	13:45			WGSN		1	Cave & Basin. Cave Spring outflow. E. Snake near outflow pool.	D&BL
97/03/19	13:30			WGSN		1	Cave & Basin. Cave Spring outflow W. Snakeskin in water and snake near outflow pool.	D&BL
97/03/19	14:30			WGSN		1	Cave & Basin. Basin Spring outflow. Snake on bank above water about 3 m. upstream from horse bridge. Found dead 3 weeks later in same spot.	D&BL
97/05/03	10:00		15/2/1	WGSN		1	Cave & Basin. Seen near hole in embankment along walkway.	MH
97/05/23	10:35			WGSN			Cave & Basin. Cave Spring outflow W. Snake skin below falls.	D&BL
97/05/23	12:30			WGSN			Cave & Basin. Basin Spring outflow. Snake skin in water.	D&BL
97/05/23	12:35			WGSN		1	Cave & Basin. Basin Spring outflow. Snake by log.	D&BL
97/05/23	13:00			WGSN		2	Cave & Basin. Basin Spring outflow. Snakes in grass downstream of horse bridge.	D&BL
97/05/23				WGSN		2	Cave & Basin. Snake Corner. Snakes on ground.	D&BL
97/06/09				WGSN		1	Cave & Basin. Cave Spring outflow E. Snake in water by boardwalk.	D&BL
97/06/13	12:35			WGSN		1	Cave & Basin. Basin Spring outflow. Snake in water (33°C), outflow pool.	D&BL
97/06/13	12:40			WGSN	2		Cave & Basin. Basin Spring outflow. 2 small snakes (approx. 15 cm.) on bank & in grass.	D&BL
97/06/13	13:10			WGSN		1	Cave & Basin. Basin Spring outflow. Snake in grass below horse bridge.	D&BL
97/06/13				WGSN		1	Cave & Basin. C&B near asphalt path. Snake in grass	D&BL
97/07/04	10:20			WGSN		1	Cave & Basin. C&B near asphalt path. Snake in grass	D&BL
97/07/04	10:50			WGSN			Cave & Basin. Basin Spring outflow. Snake skin, approx. 60 cm. long by path.	D&BL
97/07/04	10:50			WGSN		1	Cave & Basin. Basin Spring outflow. Snake behind a tree.	D&BL
97/07/25	10:45			WGSN		2	Cave & Basin. Basin Spring outflow. Snakes on flat area W of outlet pipe, both approx. 60 cm. long.	D&BL
97/07/25	11:00			WGSN		1	Cave & Basin. Snake in grass, approx. 1 metre long.	D&BL
97/07/25	11:15			WGSN		1	Cave & Basin. Snake in grass and one snake skin.	D&BL
97/08/04	20:00			WGSN		1	Cave & Basin. Marsh Loop Trail. Adult snake in water below 2nd bridge (from E) in stream flowing out of C&B marsh.	D&BL
97/08/21	20:45			WGSN		1	Cave & Basin. Sundance Trail. Snake on asphalt about half way between C&B buildings & Marsh Loop Trail intersection.	D&BL
97/08/28	14:00		20/1/1	WGSN		1	Cave & Basin. Seen crossing Marsh Loop Trail. (UTM: NG986697)	BF
97/09/05	10:35			WGSN		6	Cave & Basin. C&B near asphalt path. Found in grass.	D&BL
97/09/05	11:20			WGSN		1	Cave & Basin. Basin Spring outflow. Snake along stream and 3 snake skins in water.	D&BL
97/08/14	12:30			WGSN			Middle Springs. Snake skin, approx. 30 cm. long in Lower Middle Spring outflow stream below culvert.	D&BL
97/09/25	13:45			WGSN		1	Middle Springs. Snake in grass below road below Lower Middle Spring outflow stream.	D&BL
97/08/23	13:30		22/0/0	WGSN		1	Lake Minnewanka (UTM: PG053794). Sunning on branch, slipped into Lake Minnewanka when alarmed and swam around.	JB
98/02/01	12:15	27	-5/-/-	WGSN		1	Cave & Basin. Cave Spring outflow stream.	MM
98/02/06	9:15		-6/-/-	WGSN		2	Cave & Basin. Cave Spring outflow. Seen together, both about 60 cm. long.	MM
98/02/27	14:45		0/-/-	WGSN		1	Cave & Basin. Cave Spring outflow. 1 snake skin in area as well.	MM
98/02/28	13:30	27	-1/-/-	WGSN		2	Cave & Basin. Cave Spring outflow. About 7 m. apart.	MM
98/03/01	8:45		-9/-/-	WGSN		1	Cave & Basin. Cave Spring outflow.	MM
98/04/04	14:35	30.5	6/-/-	WGSN		1	Cave & Basin. Cave Spring outflow.	MM
98/04/17	15:40		8/-/-	WGSN		1	Cave & Basin. Cave Spring outflow.	MM
98/07/31	13:30		25/-/-	WGSN		1	Lake Minnewanka. (PG098814) LMS campeite. In tall grass, eating a small rodent. Picture.	HD

AREAS IN KOOTENAY, YOHO, JASPER NATIONAL PARKS

LOCATION: Kootenay National Park

SITE DESCRIPTION: **Simpson Mineral Lick** (UTM: NG733496) located 1 km. north of Simpson River Crossing, on east side of Banff-Windermere Highway.
Simpson North (UTM: NG732494) located opposite side of highway from Simpson Mineral Lick, and slightly south.
Simpson South (UTM: NG733496) located south of above, on the other side of a low ridge with culvert.
Rescue Pond (UTM: NG) located on west side of Kootenay Parkway and South of Kootenay River Crossing.

DATE	TIME	H2O °C	T/W/S	SPECIE	egg mass	larvae	young	adult	NOTES	seen by
97/06/30	15:30			BOTO		1000+			Simpson Mineral Lick. Found in shallow (2-5 cm.) water in a couple of ponds. The tadpoles in one pond are bigger, some with hind legs, smaller ones found in other pool. (pictures).	M&DM
97/07/14	16:30			BOTO		500+	few		Simpson Mineral Lick. About 75% of tadpoles are now with hind legs showing, 25% with all legs and tail, a few with tail resorbed but still in water.	M&DM
97/07/20				BOTO		500+			Simpson Mineral Lick. The tadpoles are moving onto land, a few tads had resorbed the tail.	M&DM
98/05/03	16:00	25-28	20/1/0	BOTO LTSA	2 6			6	Simpson Mineral Lick. Saw 2 mating pair of BOTO and 2 more. One pair with a string and one other string in water 5 cm. deep. Picture of pair. Found LTSA egg masses at S end in same water depth.	M&DM
98/05/09	16:35	20.5	20/2/2	BOTO	10			1	Simpson Mineral Lick. Found 7 strings in water 4 cm. deep. Mostly hatchlings except for 1 string of elongated embryos. Found another 3 strings in E pool; 1 of hatchlings, 1 of half elongated embryos, half hatchlings and 1 of elongated embryos. The adult seen N of pools at the edge of trees.	M&DM
97/07/14	16:40			BOTO		1000+			Simpson North. Tadpoles in shallow areas of pond running N/S for approx. 200 m. Tadpoles not as developed as ones in mineral lick. No legs showing.	M&DM
97/07/20				BOTO		1000+			Simpson North. The tadpoles are still in water.	M&DM
98/05/03	16:30	26	20/1/0	BOTO				2	Simpson North. Heard 1 BOTO at N end and 1 at S End. Took picture of 1 vocalizing. Snow patches at N end. Water 10 cm. deep.	M&DM
98/05/09	16:20	20	20/2/2	BOTO	1				Simpson North. Hatchlings at S end in water 6.5 cm. deep.	M&DM
97/07/14	17:00			SPFR LTSA		12+ 36+		2	Simpson South. Large SPFR tadpoles (hind legs barely showing) at N end. Tadpoles have very long & wide tail, light underneath, gold specks on sides. The adults were on E side, jumped in water and lay still at bottom of pool. LTSA found on W side. Most motionless at bottom, moved like a fish as we got near. Legs showing. Size from small to full grown?	M&DM
97/07/20				SPFR LTSA		few few			Simpson South. There doesn't appear to be any changes from last check.	M&DM
97/08/09	16:15			SPFR LTSA		12+ 12+			Simpson South. Saw SPFR on N side. Scooped 2 in my hands. One very large, hind legs barely showing. Other one same size, hind legs fully showing but one leg was covered with slime and very red at the joint. LTSA were also found on N side in shallow water. 3 very large and others same size as last seen in July.	M&DM
97/08/23	15:30	warm	25/1/2	SPFR LTSA		12+ 20+	6+	1	Simpson South. Adult SPFR under a 2X4 where previously seen. Jumped in pond. Froglets on E shore. Also jumped in pond. The tadpoles on W side in shallow water close to shore. One tadpole had all legs and tail. Others with hind legs only. No sign of one with red joint and slime on leg. LTSA except for two were in the process of resorbing tail. The rest of the larvae appear at the same stage as seen on last visit.	M&DM
98/06/03	15:30	18.5	20/1/0	SPFR LTSA	3 1			1	Simpson South. SPFR egg masses seen on E side; 1 of 1 and 1 of 2. Picture of single egg mass at bottom of pond. Embryos starting to elongate. 1 small LTSA egg mass in middle of pond, water 15 cm deep. 1 adult seen at bottom of pond at 20 cm. depth. (Picture)	M&DM
98/05/09	16:00	20	20/2/2	SPFR LTSA	1 1			2	Simpson South. Mostly hatchlings. 1 LTSA egg mass with elongated embryos. 2 LTSA adult on bottom of pond on W side. 10 cm. depth. (Picture of adult and SPFR hatchlings).	M&DM
98/05/09	15:30	13	20/2/2	LTSA	1				Rescue Pond. A single egg mass of approx. 12 eggs on W side of pond.	M&DM

LOCATION: Yoho National Park.

SITE DESCRIPTION: Narao Lakes (UTM: NG455971) located 3.5 km. along trail to Lake O'Hara.

DATE	TIME	H2O °C	T/W/S	SPECIE	egg mass	larvae	young	adult	NOTES	seen by
97/07/16	a-noon		20/1/1	BOTO				1	Narao Lakes. Walked all along W side. Nothing seen or heard. Cataract Brook too deep to cross. Could not get to wetland on E side. Saw adult on trail on avalanche slope above wetland.	M&DM

LOCATION: Jasper National Park.

Horseshoe Lake (UTM: MJ415390) located on east side of Icefield Parkway, 4 km. north of Athabasca Falls.

DATE	TIME	H2O °C	T/W/S	SPECIE	egg mass	larvae	young	adult	NOTES	seen by
97/06/16	11:00			LTSA		10			Horseshoe Lake. Found in marshy area at N/E end of lake.	D&BL

AREAS IN THE BOW VALLEY EAST OF BANFF NATIONAL PARK

LOCATION: Bow Valley East of Banff National Park.

SITE DESCRIPTION: Flowing Waters Beaver Pond. (UTM: PG356613). Beaver pond east of 1X hwy. near park boundary.

Middle Lake (UTM:). Shallow kettle lake; perimeter surrounded by successional plant species.

Many Springs (UTM: PG322594). Slow trickling ponds fed by spring water.

Chilver Lake (UTM: PG355362/595)

Salamander Ponds (UTM: PG341611) 12 still water ponds/puddles in abandoned borrow pit trenches.

Bow Valley South Borrow Pit (UTM:). Old borrow pit adjacent to service road.

Beaver Ponds by railway tracks (UTM: PG345614). Open water ponds 400 m. X 100 m.

DATE	TIME	H2O °C	T/W/S	SPECIE	egg mass	larvae	young	adult	NOTES	seen by
92/05/05	21:00								Flowing Waters Beaver Pond. Nothing seen or heard. Weather clear, mild.	MK, GM
92/05/28	21:53			WOFR				1	Flowing Waters Beaver Pond. Seen in shallow water near shore, swam away. Weather; clear, mild.	MK, GM
92/06/03	20:30 - 20:50			WOFR				7	Flowing Waters Beaver Pond. Seen on west and N/W edge of pond. 2 small (3cm.) 4 large (6-8 cm.). Weather; clear, mild.	MK, GM
92/06/11	20:30								Flowing Waters Beaver Pond. Nothing seen or heard. Weather; steady rain, cool.	MK, GM
92/06/17	21:05			?FR				1	Flowing Waters Beaver Pond. Moved too quickly to identify. Weather; partially overcast.	MK, GM
93/06/21			17/?/2						Flowing Waters Beaver Pond. Search perimeter of entire pond. No sightings.	BO
96/04/29	18:30		8/3/2						Flowing Waters Beaver Pond. Stopped to listen. Nothing heard.	M&DM
92/05/14	21:47			WOFR				1	Middle Lake. Seen in shallow water near shore. Weather; overcast.	MK, GM
92/05/22	20:15								Middle Lake. Nothing seen or heard. Weather; clear, mild.	MK, GM
92/05/28	8:45 21:00			WOFR BCFR				1 1	Middle Lake. One WOFR seen in shallow water near shore. One BCFR seen in shallow water near shore. Weather; partially overcast.	MK, GM
93/06/12	21:00		5/1/5	WOFR				1	Middle Lake. Seen on N/W side of lake where vegetation is most dense. Jumped in from shore.	CJ
93/06/22	21:45		?/4/2	BCFR				some	Middle Lake. Heard singing at north end of lake.	RR
94/05/07	21:00				?				Middle Lake. Nothing seen or heard. Long egg masses or algae string seen on east shoreline?	CJ
94/05/13	20:12		12/2/2	?	some				Middle Lake. Egg masses seen mixed with algae strings on eastern shore.	CJ
94/05/24	20:45		22/2/?						Middle Lake. Nothing seen or heard. Mosquito larvae.	RS
94/06/09	22:05								Middle Lake. Nothing seen or heard.	CJ
92/05/17	22:30		15/0/0	BOTO				2	Many Springs. Seen in small still water puddle with grass/sedge edges. Swam away.	CJ
92/05/24	21:15 22:04		15/1/0	WOFR BCFR BOTO				2 13 2	Chilver Lake. WOFR seen in sedges. Jumped towards shore. Heard one at 22:04. BCFR - one seen in tuft of grass next to water, 5 m. from actual bank. Jumped in water. Heard the others and heard BOTO's.	CJ
92/05/30	21:50		14/2/2		?				Chilver Lake. Saw grey lumpy egg mass? Storm approaching.	KHK
92/06/11	20:30		?/?/8						Chilver Lake. Nothing seen or heard in boat dock area and 500 m. west.	KHK
92/06/19	22:17		22/0/1	BCFR				2	Chilver Lake. One seen in beach area at east end of lake. One seen in large reed patch at eastern shore. Both hopped in and swam away.	KHK
93/06/07	21:40		?/0/2	WOFR BCFR		50+?		2 2	Chilver Lake. Heard both. The tadpoles were swimming in sandy bar area protected by reed grass, in still water. Rain coming.	CJ
93/06/20	21:30		15/0/0	BCFR				8+	Chilver Lake. Heard in reed grass 5 m. offshore. 3-4 on south side of lake.	CJ
93/06/22	21:15		7/3/2						Chilver Lake. Nothing seen or heard. Storm approaching, waves hitting shore.	CJ
94/05/01	19:50		20/1/0						Chilver Lake. Nothing seen or heard.	CJ
94/05/16	21:10		10/2/?						Chilver Lake. Nothing seen or heard.	CJ
94/05/28	20:20		10/?/?						Chilver Lake. Nothing seen or heard.	CJ
94/06/05	21:20		15/?/?						Chilver Lake. Nothing seen or heard.	CJ

Bow Valley east of Banff National Park continued...

92/05/31	20:30 - 22:00		15/0/0	BOTO LTSA WOFR	some some	1000+ some	6	1 2	Salamander Ponds. BOTO, adult calling and tadpoles in Pond #1, some tadpoles in Pond #12. LTSA; 1 young under rock in Pond #2, 5 young + tadpoles in Pond #12. WOFR near Pond #5.	PV
92/06/01	13:39 - 13:55		15/0/0	WOFR LTSA				2 1	Salamander Ponds. WOFR; one seen in dry gully with grasses and shrubs. One jumped from Pond #2 towards shrubs. LTSA under rock 20 m. from water puddle.	CJ
92/06/08	22:07 - 22:24		15/1/0	WOFR BOTO				4 1	Salamander Ponds. WOFR; 2 seen near Pond #3, 1 north of Pond #6, 1 near Pond #7. BOTO heard near Pond #6.	CJ
92/06/21	21:00 - 21:40		20/0/0	BOTO LTSA BCFR ?FR		100+	1	1 some	Salamander Ponds. BOTO tadpoles seen in Pond #1 and one adult heard calling. LTSA; one young under a rock near Pond #2. BCFR heard. One ?FR jumped in Pond #2. The water level is twice as high as it was in May, in all 12 ponds.	CJ
93/05/17	21:00 - 22:00		7/1/1	BOTO WOFR		50+		2	Salamander Ponds. BOTO; tadpoles recently hatched in Pond #1. Some big head tadpoles ? in Pond #6. WOFR; one in Pond #2, one in Pond #6.	CJ
93/06/11	21:25 - 22:15		12/0/1	WOFR LTSA BOTO		25 20		1	Salamander Ponds. WOFR; one adult seen. BOTO; tadpoles in Pond #1 & 3 (black heads, small tail). LTSA; larvae in Pond #8 & 9 (small head, more flattened).	CJ
93/06/22	22:00		7/2/2	WOFR LTSA BOTO		some 20		1	Salamander Ponds. WOFR; one seen in Pond #2. LTSA; larvae smaller than BOTO, brown, pectoral fin showing, seen in Pond #3. BOTO larvae seen in Pond #1.	CJ
94/05/06	13:05 - 14:00		15/1/0	WOFR				1	Salamander Ponds. Seen.	CJ
94/05/29	13:35 - 14:10		20/??/?	WOFR LTSA BOTO		some some some		15	Salamander Ponds. Tadpoles of all three species seen in Pond #1, 4, 6, 8. WOFR seen in Pond #1 (1), and #2 (14).	CJ
94/06/05	17:30 - 18:15		17/??/?	WOFR BOTO LTSA		some some some		14 2	Salamander Ponds. Tadpoles of all three species seen in Pond #1, 4, 6, 8. WOFR; 3 in Pond 1, 11 in Pond 2. BOTO; 2 in Pond #2.	CJ
94/06/12	20:20 - 21:00		15/1/2	WOFR BOTO	string			17 2	Salamander Ponds. WOFR; one in Pond #1, 16 in Pond #2. BOTO; 2 in Pond #2, new string of eggs in shallows of Pond #2.	CJ
94/06/25	21:20 - 21:50		16/1/2	WOFR BOTO LTSA		some some some?		8 1 3	Salamander Ponds. WOFR; 8 in Pond #1. 3 distinct kind of larvae: some black with black tail (Boto?), some greenish with black spots and skeleton like tail (WOFR?), some greenish/somewhat translucent with fins (gills?) behind head followed by tail (LTSA?). BOTO adult in Pond #1, string of eggs in Pond #2 has hatched. LTSA under a piece of wood.	CJ
92/06/08	21:30 - 21:35		15/1/0	BCFR				2	Bow Valley South Borrow Pit. Seen in reeds adjacent to water. Was vocal.	CJ
94/05/28	19:40 - 20:10		10/??/?	WOFR	1			1	Bow Valley South Borrow Pit. Adult seen in reeds. Egg mass in amongst reeds.	CJ
94/06/05	21:50 - 22:10		15/??/?						Bow Valley South Borrow Pit. Nothing seen or heard.	CJ
92/05/18	8:55		?/4/2	WOFR				1	Beaver Ponds by railway tracks. Heard. Storm approaching from the west.	CJ

LOCATION: Yamnuska Natural Area.

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

Coyote Lake: (UTM: PG327823). **Crescent Lake:** (UTM: PG329625). **Duck Pond:** (UTM: PG342639). **Hilltop Pond:** (UTM: PG328624).

Loony Pond: (UTM: PG344643) located south of Loon Lake, beside Highway 1A. **Muir Pond:** (UTM: PG332645).

New Beaver Pond: (UTM: PG339645) (also reported as East End Beaver Pond (was reported wrong in 1995 as UTM PG332648).

Old Beaver Pond: (UTM: PG334635). **Poplar Pond:** (UTM: PG343638) located at east end, east of Loon Lake, beside Highway 1A.

Reed Lake: (UTM: PG331623). **Roadside Pool:** (UTM: PG343648). **Stony Meadow Pond:** (UTM: PG333632) **Willow Pond:** (UTM: PG339636).

Yellowleg Pond: (UTM: PG340638), new beaver activity, new lodge. **Yellowleg West:** (UTM: PG337634) located west of Yellowleg Pond.

DATE	TIME	H2O °C	T/W/S	SPECIE	egg mass	larvae	young	adult	NOTES	seen by
96/08/07	15:00		23/3/0						Coyote Lake. Checked north side. Nothing seen.	M&DM
98/04/27	19:15	14	17/2/0	WOFR	5			2	Coyote Lake. Heard WOFR on N shore and at W end. Found egg masses in both areas in water 12 cm deep. Water level lower than normal	M&DM
96/07/27	11:30		23/2/1	TISA		12+			Crescent Lake. Large (10cm. incl tall) larvae swimming fast in shallow water, most of them near outlet of lake and some seen near shoreline on N side of lake. Took pictures.	M&DM
96/08/07	14:30		23/3/0	TISA		25+			Crescent Lake. Found all of the larvae in a patch of mare's tail near outlet of lake (same site as above). They were coming to the surface for air. Took more pictures. We estimated the size of larger ones as 13cm incl tall.	M&DM
98/04/27	18:45		17/2/0						Crescent Lake. Water level low. Nothing seen or heard.	M&DM
95/05/27	8:30		24/?/?	BCFR				1	Duck Pond. Calling - one in small pond west of Duck Pond.	MM
96/07/27	10:30		23/2/1	WOFR				1	Hilltop Pond. Seen in shallow water approx. 30 cm. from shore. Dug in muddy bottom.	M&DM
96/08/07	14:00		23/3/0						Hilltop Pond. Nothing seen.	M&DM
98/04/27	18:35	18	18/2/0	WOFR	4			2	Hilltop Pond. Water very low. Heard 2 WOFR near reed patch in middle of pond. Found 1 of 4 egg masses in 12 cm. deep.	M&DM
98/05/13	17:15	21	18/0/1	FR?		some			Loony Pond. Saw 6+ unidentified tadpoles at E side.	M&DM
95/05/27	14:30		24/?/?	BCFR				1	Muir Pond. Calling.	MM
96/05/25	a-noon		21/1/1	BCFR				1	Muir Pond. Heard.	MM
92/04/19	15:00		14/?/0	SPFR WOFR				2 3	New Beaver Pond (East End Beaver Pond). SPFR calling at edge of 1st Pond - WOFR calling from middle of 1st Pond at west end, 1 at edge of grassy shoreline.	M&DM
92/05/05	9:00			WOFR				1	New Beaver Pond (East End Beaver Pond). Same location as above. Weather; clear/warm.	M&DM
96/05/11	16:00	9.5	7/1/2	SPFR	1				New Beaver Pond. Egg mass near and west of beaver house on north shore - floating - size of dinner plate - embryos crescent shaped - not moving. It snowed. Walked around entire pond. Nothing else seen or heard.	M&DM
97/05/03	16:15	13.5	14/3/2						New Beaver Pond. Nothing seen or heard. Checked lower and middle pool.	M&DM
98/04/23	18:35		16/0/1	SPFR				1	New Beaver Pond. Heard on S side of lower pond.	M&DM
94/05/18	a-noon			SPFR				1	Old Beaver Pond. Seen in one of the channel going into pond - jumped in and disappeared in muck at bottom of channel. Weather; mainly sunny/warm/windy.	M&DM
95/05/27	13:00		24/?/?	SPFR				2	Old Beaver Pond. In beaver channel on west side of old beaver pond.	MM
96/05/25	a-noon		21/1/1	SPFR				6	Old Beaver Pond. Seen in channels	MM
96/07/27	13:00		23/2/1	SPFR				10	Old Beaver Pond. Jumped in beaver channels as we got near, on west side of pond.	M&DM
98/04/23	16:10	14	19/1/1	SPFR				1	Old Beaver Pond. Faint call heard from 2nd tier at N/W corner.	M&DM
98/05/13	17:30		18/0/1						Poplar Pond. Nothing seen or heard. Water extremely low. Some shallow pools left.	M&DM
96/08/07	15:30		23/3/0						Reed Lake. Checked east and north side. Nothing seen.	M&DM
96/04/27	18:20		18/2/0						Reed Lake. Nothing seen or heard. Lake quite full.	M&DM
95/05/27	16:00		24/?/?	BCFR				1	Roadside Pool. Calling in small pond beside the road to quarry.	MM
97/05/03	16:00	16	14/3/2						Roadside Pool. Nothing seen or heard.	M&DM
93/08/22	16:00			WOFR				2	Seen in small puddles on access road parallel to HW 1A. One north of HWY IX Jct.	HD

Yamnuska Natural Area continued...

98/04/23	17:00	13	19/0/1	WOFR SPFR				2-3 1	Stony Meadow Pond. Heard	M&DM
98/04/25	16:40	15.5	9/3/1	WOFR SPFR	4 2			8?	Stony Meadow Pond. Heard and saw 8 frogs all together in the N/W corner. Did not separate the number of WOFR and the number of SPFR. Found both kinds of egg masses only 45 cm. apart, in shallow (15 cm.) water.	M&DM
98/04/27	15:55	19	20/2/0	WOFR	1			1+	Stony Meadow Pond. Nothing called while we were there but heard some later while we were checking Yellowleg Pond. Found 1 of 1 additional WOFR egg mass and caught the movement of a frog near egg mass.	M&DM
98/05/13	16:15	19.5	18/0/1	FR?		some			Stony Meadow Pond. Found some of the old egg masses, partly dried up including some of the hatchlings. Saw 3 tadpoles in bottom amongst aquatic vegetation darting in and out in water 30 cm. deep. Unable to identify the specie.	M&DM
98/04/23	17:30	18	16/1/1	WOFR SPFR	38			3 1	Willow Pond. WOFR heard at W end. Fresh egg masses found on N edge in shallow (15 cm) water. SPFR heard on S side. Picture.	M&DM
98/04/25	14:30 - 15:00	18	9/3/1	WOFR	69			30+	Willow Pond. Heard and saw WOFR all around egg masses. The cluster had 31 more egg masses. Walked around pond. No other sign of amphibians.	M&DM
98/04/27	15:15	21	19/2/0	WOFR SPFR	70 2			some 1	Willow Pond. WOFR egg masses very near the surface of the water. One SPFR egg mass 30 cm. from WOFR egg cluster. Heard one SPFR calling near a CAGO nest and found 1 fresh WOFR egg mass beside 1 fresh SPFR egg mass. Took picture.	M & DM
98/05/13	15:30		18/0/1	WOFR				1	Willow Pond. Saw 1 sm. WOFR at E end. No sign of the egg masses or tadpoles. Water levels much lower.	M&DM
96/07/27	14:00		23/2/1	SPFR				1	Yellowleg Pond. Jumped in on the north side of pond.	M&DM
98/04/23	15:25	12	19/0/1	WOFR SPFR				2-3 3	Yellowleg Pond. WOFR heard on N/E & S/W corner. Ice shelf on S/W corner. SPFR seen on E edge of pond. One heard and seen on N/E corner where the pond has flooded the trail.	M&DM
98/04/25	17:40	14	8/3/1	WOFR SPFR	1			4 4	Yellowleg Pond. Heard and seen in the flooded section of trail. Saw mating pair of SPFR in shallow water. Took pictures. One WOFR egg mass attached to a twig. Water 10 cm. deep.	M&DM
98/04/27	16:40	14	19/2/0	WOFR SPFR	19 1			2+ 10	Yellowleg Pond. At N/W corner, in an area of fallen aspen trees (beaver cut), saw 10 SPFR calling and some mating. Watched them for an hour. Saw some calling under the water and water vibrating around them. Found 1 SPFR and 2 WOFR egg masses side by side in 10 cm. deep. Heard more WOFR in different locations around the pond. The flooded trail site had 1 SPFR and 2 WOFR. Sign of a vehicle driven through it. Moved 17 of the egg masses to the edge of pond to protect them.	M&DM
98/05/13	15:40	19 21	18/0/1	SPFR	1				Yellowleg Pond. Dry where the eggs had been. Found 1 egg mass in deep beaver channel at W end. Embryos elongated and some hatchlings. No sign of tadpoles or hatchlings or young otherwise.	M&DM
98/04/25	15:20	11.5	9/3/1	SPFR				9+	Yellowleg West. Saw 9 SPFR and heard some on the W side. Heard again at 16:20. Checked for eggs. None seen.	M&DM
98/04/27	16:20	16	20/2/0	WOFR SPFR	3 1			1 3	Yellowleg West. The 3 WOFR egg masses were 60 cm away from SPFR egg mass. Heard WOFR calling in S/W corner. SPFR heard and seen at W end in same area as last time. Found 1 egg mass in water 8 cm. deep. Picture of SPFR.	M&DM
98/05/13	16:00	17	18/0/1	WOFR SPFR	1 1	some			Yellowleg West. Dry where the eggs had been. Saw 1 SPFR egg mass with hatchlings and 1 WOFR egg mass with embryos elongating in shallow water. Fresh beaver work on the dam at E end.	M&DM

Other sightings in the Bow Valley outside Banff National Park

DATE	TIME	H2O °C	T/W/S	SPECIE	egg mass	larvae	young	adult	NOTES	seen by
92/05/12	21:00			BCFR				many	Weigh Station Pond. Located west of Calgary along TCH, near parking lot on Old Heritage Road. Heard calling at dusk, nice spring evening.	SL
92/06/20	1:00			?FR				3	Quarry Lake. Heard in lake. Weather; clear warm night.	SL
92/07/07	10:00			BOTO				1	Wind Ridge. Seen on trail. Weather; hot.	SL
94/08/12	13:00		23/?/0	BOTO				2	Wind Ridge. Seen on trail (2 km. from gate).	RK
93/06/25	e-ning			BOTO		50+	3		Canmore Creek. Seen in shallow pool near creek. The young were very small. Bob saw numerous tadpoles 3 weeks earlier.	M&DM BS
94/08/01	11:00			BOTO				1	Bow River. (campsite at bridge east of Canmore). Seen on riverbank. Warm, sunny.	RK
96/08/10				SPFR				1	(UTM PG638300). seen at the confluence of Ghost and South Ghost Rivers, near a large puddle. Small size (<4cm long, head to tail).	JW

Other sightings in Alberta

DATE	TIME	H2O °C	T/W/S	SPECIE	egg mass	larvae	young	adult	NOTES	seen by
98/08/17	10:30	15.5	18/0/0	BOTO		100+			Elbow River. Seen in shallow backwater between Paddy's Flat and Elbow Launch.	MM
98/08/18	14:00			WOFR				1	Sheep River. Seen on river flats above Sandy McNabb.	DM

Table 1. Presence of amphibians in specific sites visited in BNP, 1992-1998
(in alphabetical order).

UTM	Specific sites	Area	BOTO			WOFR			SPFR			LITSA					
			A	Y	E-L	A	Y	E-L	A	Y	E-L	A	Y	E-L			
NG617934	Allium Pond	Bow Valley P. West	X														
NG666758	Altrude Lakes	Castle	X	X													
NG671765	Altrude Lks. Area	Castle	X	X	X												
NH039709	Asphodel Pond	Icefields Parkway			X												
PG040738	Amphibian World	Minnewanka Loop	X	X		X	X	X									X
NG937694	BVP North Pond	BVP Wetland				X	X	X					X				X
NG936693	BVP South Pond	BVP Wetland					X	X									X
NG907688	Backswamp	Sunshine Wetland	X	X	X	X											
PG062727	Beaver Pond	Johnson Lake				X					X						
PG139167	Belgium Lake	Upper Spray	X		X												
PG045759	Black Pond	Minnewanka Loop															X
NG643791	Boom Lake	Castle	X	X	X												
NG683777	Boom Lk. Trailhead	Castle		X	X												
NH395228	Bow Lake Outlet	Icefields Parkway			X												
NH350298	Bow Summit Pond	Icefields Parkway	X		X												
PG116671	Busy Pond	Carrot Creek				X		X									X
PG964919	Cascade Beaver Pond	Cascade	X	X	X				X		X						
NG985695	Cave & Basin	Cave & Basin				X	X				X						
PG057732	Cold Pond	Johnson Lake				X	X	X			X						X
NG752792	Copper Lake	Castle				X	X	X									
NG934693	Cory Pond	B.V. Parkway															X
NG595954	Cranberry Pond	B.V. Parkway							X								
PG115672	Cutlins Pond	Carrot Creek				X		X									X
PG031696	Devil's Cauldron	Banff Golf Course											X				
NG546973	Divide Ponds (S)	Lake Louise							X	X	X						
NG943688	5-Mile Riverbend	Bow river	X			X											
NG933687	5-Mile Wetland	5 m. W. of Banff				X											
NG987709	Fenland Trail	Vermillion Lakes				X											
NG954695	Fingers	Vermillion Lakes						X									
NG834755	Frog Hollow	B.V. Parkway	X			X		X									X
NH547130	Glacier Lake	Sask. Crossing	X														
NG583870	Goldeneye Pond	Lake Louise Area	X						X								
NG891706	Goose Pond	Muleshoe				X		X									
NH356288	Gravel Pool	Icefields Parkway	X		X												
NG971696	Hayfield Channel	Vermillion Lakes						X									
NG973696	Hayfield Pond	Vermillion Lakes	X			X	X	X			X						
NG919680	Healy Pit Wetland	Sunshine Wetland			X	X	X	X				X					X
NH541011	Herbert Lake	Icefields Parkway				X											
PG028806	Harmit Ponds	Cascade Valley			X												
PG101690	Hidden Pond	Carrot Creek				X						X	X	X			
NG848758	Hillsdale Wetland	B.V. Parkway			X												X
NG992699	Horse Barns	Cave & Basin				X											
PG124673	Horse Pond	Carrot Creek	X	X				X									
NG847773	Ishbel Wetland	B.V. Parkway	X	X	X												
NG617934	Iceland Lake	B.V. Parkway						X	X								
PG057725	Johnson Lake	Johnson Lake				X			X			X					
NG583957	Kingfisher Lake	Lake Louise				X		X									
PG057734	Lake of the Sticks (N)	Johnson Lake	X			X	X	X			X						
PG057733	Lake of the Sticks (S)	Johnson Lake			X	X	X	X	X		X						
PG046758	Lakeside Pond	Minnewanka Loop				X		X				X					X
PG097684	Lilly Pond	Carrot Creek				X	X	X									
NH674040	Little Baker Lake	Skoki	X														
NH545001	Little Herbert Lk.	Icefields Parkway				X											
NG830757	Lizard Lake	B.V. Parkway				X		X				X					X
PG033383	Marvel Lake	Upper Spray											X	X	X		
NG985689	Middle Springs	Cave & Basin	X														
NG802783	Moose Meadow Pool	B.V. Parkway															X
NG579884	Moraine Creek Wetland				X												
NG895702	Muleshoe Pond	Muleshoe	X		X	X						X	X	X			
NG991713	Morquay Pond	Vermillion Lakes										X	X	X			
PG038742	North Old Dump	Minnewanka Loop				X		X									X
NG907686	Ochre Minor	Sunshine Wetland				X	X	X									
NG589952	Old Rock Pond	B.V. Parkway				X											
PG101683	Openside Pond	Carrot Creek				X		X									X
PG048735	Osprey Pond	Minnewanka Loop				X		X	X		X						X
PG045757	"pipe trap"	Minnewanka Loop										X	X	X			
NG892705	Pond #1	Muleshoe				X		X									X
NG892706	Pond #2	Muleshoe				X											
NG891705	Pond #3	Muleshoe				X	X	X									X
NG890706	Pond #4	Muleshoe				X		X									

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

continued...

Table 1. Presence of amphibians in specific sites visited in BNP, 1992-1998
(in alphabetical order) continued...

UTM	Specific sites	Area	BOTO			WOFR			SPFR			LTSA		
			A	Y	E-L	A	Y	E-L	A	Y	E-L	A	Y	E-L
WG907682	Pond #1 & W.	Sunshine Wetland	X	X	X	X	X	X						X
WG907683	Pond #2	Sunshine Wetland	X	X	X	X	X	X						
WG908685	Pond #3	Sunshine Wetland	X	X	X	X	X	X						
WG907685	Pond #4 (Ochre)	Sunshine Wetland	X	X		X	X	X			X			X
WG830755	Powerline Pond	BV Parkway						X						X
WG891704	Primrose Pond	Muleshoe				X		X						
PG035745	Quiet Pond	Minnewanka Loop				X	X	X						X
WG963692	Rainy Bay	Cave & Basin		X										
NH092651	Ramparts Backwater	Icefields Parkway			X									
WG558989	Ramshorn Pond	Icefields Parkway				X	X							
WG873727	Ranger Ck. B. Pond	BV Parkway	X											
WG872733	Ranger Ck.W.flats	BV Parkway	X			X		X						X
WG968698	Rathole	Vermillion Lakes	X	X	X	X		X						
PG055697	Ravens' Point Wetland	Tunnel Mountain				X								
WG581962	Red-tail Pond	Lake Louise				X		X						
PG110669	Rundlevier	Carrot Creek				X		X						X
NH292382	Silverhorn Pond, Lower	Icefields Parkway		X										
WG750780	Smith Lake Area	Castle				X		X	X	X	X			
WG983701	Sora Pond	Vermillion Lakes	X			X		X						X
WG795785	South Channel	Moose Meadow W.	X		X			X						
WG629919	Split Level Pond Lo.	BV Parkway				X	X	X						
WG628918	Split Level Pond Up.	BV Parkway				X	X							
WG889713	Stunted Spruce Pd.	B.V. Parkway	X			X	X	X						X
NH063684	Sunset Pond	Icefields Parkway			X									
WG965697	Teardrop Pond	Vermillion Lakes				X		X						
WG547998	Tiny Herbert Lake	Icefields Parkway						X						X
WG795776	Turquoise Pond	Moose Meadow W.				X								
PG130228	Upper Spray Wetland	Upper Spray	X		?				X		?			
WG984705	VL-1	Vermillion Lakes	X	X		X	X							
WG976705	VL-2	Vermillion Lakes	X			X	X							
WG957699	VL-3	Vermillion Lakes	X			X								
PG039741	Vernal Pool	Minnewanka Loop	X		X	X	X	X						
WG685767	Vista Lake	Castle	X		X									
WG882701	WL-4	TCH - west				X		X						X
WG865723	WL-6	TCH - west				X		X						
WG834749	WL-7 (Boto Pond)	TCH - west	X		X									
NH208585	Warden Lake A.	Icefields Parkway	X	X	X									
	Wankohanna Pool	Moraine Lake			X									
NH503006	W. Boundary Ponds	TCH - west									X			
NH555005	Whitehorn Lake	Lake Louise			X	X		X			X			X
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. Presence of amphibians in specific sites visited in Jasper, Kootenay National Park, 1992-1998 (in alphabetical order)

UTM	Specific sites	Area	BOTO			WOFR			SPFR			LTSA			
			A	Y	E-L	A	Y	E-L	A	Y	E-L	A	Y	E-L	
MJ415390	Horseshoe Lake	Jasper N.P.													X
NG7	Rescue Pond	Kootenay N.P.													X
NG733496	Simpson Mineral L.	Kootenay N.P.	X	X	X										X
NG732494	Simpson North	Kootenay N.P.	X		X										
NG733496	Simpson South	Kootenay N.P.							X	X	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 3. Presence of amphibians in specific sites visited in the Bow Valley east of Banff National Park and K-Country, 1992-98 (in alphabetical order)

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 Val. S. Borrow Pit	B.V.P.P.+				X		X				X								
PG129596	Canmore Creek	Canmore		X	X												X			
PG358591	Chilver Lake	B.V.P.P.	X			X		X			X									
PG327623	Coyote Lake	Yamnuska				X		X												
PG323625	Crescent Lake	Yamnuska																		X
PG342639	Duck Pond	Yamnuska										X								
	Elbow River	K-Country			X															
PG358612	Flowing Waters	B.V.P.P.				X														
PG328624	Hilltop Pond	Yamnuska				X		X												
PG344643	Loony Pond	Yamnuska						?			?									
PG322593	Many Springs	B.V.P.P.	X																	
PG335598	Middle Lake	B.V.P.P.				X						X								
PG332645	Muir Pond	Yamnuska										X								
PG339645	New Beaver Pond	Yamnuska				X			X	X										
PG334635	Old Beaver Pond	Yamnuska							X											
PG137597	Quarry Lake	Canmore	X		X	X		X							X	X	X			
PG343648	Roadside Pool	Yamnuska										X								
PG345614	Salamander Ponds	B.V.P.P.	X		X	X		X				X			X	X	X			
PG333632	Stony Meadow Pond	Yamnuska				X		X	X	X										
	Weigh Station Pond	W. of Calgary										X								
PG339636	Willow Pond	Yamnuska				X		X	X	X										
PG340638	Yellowleg Pond	Yamnuska				X		X	X	X										
PG337634	Yellowleg West	Yamnuska				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 4. Definite breeding sites in areas visited inside Banff National Park, 1992-1998
(presence of eggs &/or larvae &/or young).

- Boreal Toad:** Altrude Lakes, Altrude Lakes Area, Asphodel Pond, Amphibian World, Backswamp, Belgium Lake, Boom Lake, Boom Lake Trailhead, Bow Lake Outlet, Bow Summit Pond, Cascade Beaver Pond, Gravel Pool, Healy Pit Wetland, Hermit Ponds, Hillsdale Wetland, Horse Pond, Isabel Wetland, Lake of the Sticks South, Moraine Creek Wetland, Muleshoe Pond, Sunshine Wetland: Pond #1 & West, Pond#2, Pond#3, Pond#4 (Ochre Pond), Rainy Bay, Ramparts Backwater, Rathole, Silverhorn Pond (lower), South Channel (Moose Meadows), Sunset Pond, VL-1, Vernal Pool, Vista Lake, WL-7 (BOTO Pond), Warden Lake Area, Wenkchemna Pool, Whitehorn Lake.
- Wood Frog:** Amphibian World, Bow Valley Parkway North Pond, Bow Valley Parkway South Pond, Busy Pond, Cave & Basin, Cold Pond, Copper Lake, Cutline Pond, Fingers, Frog Hollow, Goose 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, North Old Dump, Ochre Minor, Openside Pond, Osprey Pond, Pond #1, Pond #3 & Pond #4 at Muleshoe, Sunshine Wetland: Pond #1 & West, Pond #2, Pond#3, Pond #4, Powerline Pond, Primrose Pond, Quiet Pond, Ramshorn Pond, Ranger Creek Willow Flats, Rathole, Red-tail Pond, Rundleviue, Smith Lake Area, Sora Pond, South Channel (Moose Meadows), Upper and Lower Split Level Pond, Stunted Spruce Pond, Teardrop Pond, Tiny Herbert Lake, VL1, VL2, Vernal Pool, WL-4, WL-6, Whitehorn Lake, Zapped Pond.
- Spotted Frog:** Cascade Beaver Pond, Cold Pond, Divide Ponds South, Hayfield Pond, Lake of the Sticks North, Lake of the Sticks South, Osprey Pond, Smith Lake Area, Sunshine Wetland: Pond #4 (Ochre), West Boundary Ponds, Whitehorn Lake.
- Long-toed Salamander:** Amphibian World, BVP North Pond, BVP South Pond, Black Pond, Busy Pond, Cold Pond, Cory Pond, Cutline Pond, Frog Hollow, Healy Pit Wetland, Hidden Pond, Hillsdale Wetland, Lakeside Pond, Lizard Lake, Marvel Lake, Moose Meadow Pool, Muleshoe Pond, Norquay Pond, North Old Dump, Osprey Pond, Openside Pond, 'pipe trap', Muleshoe area: Pond #1, Pond #3, Pond #1, Sunshine Wetland: pond #4 (Ochre Pond), Powerline Pond, Quiet Pond, Ranger Creek Willow Flats, Rundleviue, Sora Pond, Stunted Spruce Pond, Tiny Herbert Lake, WL-4, Whitehorn Lake, Zapped Pond.

Table 5. Probable breeding sites in areas visited inside Banff National Park, 1992-1998
(adults present during breeding season, frogs and toads vocalizing).

- Boreal Toad:** Allium Pond, 5-Mile Rivervend, Frog Hollow, Glacier Lake, Goldeneye Pond, Hayfield Pond, Lake of the Sticks North, Little Baker Lake, Middle Springs, Ranger Creek Beaver Pond, Ranger Creek Willow Flats, Sora Pond, Stunted Spruce Pond, Upper Spray Wetland, VL-2, VL-3.
- Wood Frog:** Backswamp, Beaver Pond at Johnson Lake, 5-Mile Riverbend, 5-Mile Wetland, Fenland Trail, Herbert Lake, Hidden Pond, Horse Barns, Johnson Lake, Little Herbert Lake, Muleshoe Pond, Old Rock Pond, Muleshoe Area: Pond #2, Raven's Point Wetland, Turquoise Pond, VL-3.
- Spotted Frog:** Beaver Pond at Johnson Lake, Cave & Basin, Goldeneye Pond, Johnson Lake, Sora Pond, Upper Spray Wetland.
- Long-toed Salamander:** Devil's Cauldron.

Table 6. Definite breeding sites in areas visited in Jasper and Kootenay National Parks, 1992-1998
(presence of eggs &/or larvae &/or young).

- Boreal Toad:** Simpson Mineral Lick, Simpson North.
- Spotted Frog:** Simpson South.
- Long-toed Salamander:** Horseshoe Lake, Rescue Pond, Simpson Mineral Lick, Simpson South.

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Table 7. Definite breeding sites in areas visited in the Bow Valley east of Banff National Park and areas in K-Country, 1992-1998. (presence of eggs &/or larvae &/or young).

<u>Boreal Toad:</u>	Chilver Lake, Elbow River, Salamander Ponds, Quarry Lake.
<u>Wood Frog:</u>	Bow Valley South Borrow Pit, Canmore Creek, Coyote Lake, Hilltop Pond, Quarry Lake, Salamander Ponds, Stony Meadow Pond, Willow Pond, Yellowleg Pond, Yellowleg West.
<u>Spotted Frog:</u>	New Beaver Pond (Yamnuska), Stony Meadow Pond, Willow Pond, Yellowleg Pond, Yellowleg West.
<u>Long-toed Salamander:</u>	Quarry Lake, Salamander Ponds.
<u>Tiger Salamander:</u>	Crescent Lake.

Table 8. Probable breeding sites in areas visited in the Bow Valley east of Banff National Park and areas in K-Country 1992-1998. (adults present during breeding season, frogs and toads vocalizing).

<u>Boreal Toad:</u>	Many Springs.
<u>Boreal Chorus Frog:</u>	Bow Valley South Borrow Pit, Middle Lake, Chilver Lake, Duck Pond, Muir Pond, Roadside Pool, Salamander Ponds, Weigh Station.
<u>Wood Frog:</u>	Chilver Lake, Flowing Waters, Middle Lake, Beaver Ponds near CP tracks, New Beaver Pond (Yamnuska), Sheep River.
<u>Spotted Frog:</u>	Old Beaver Pond (Yamnuska).