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AMPHIBIAN SURVEYS
IN
BANFF NATIONAL PARK
and adjacent areas

1998

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January 1999

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Summary and Recommendations

This report contains a compilation of observations of amphibians in Banff National Park in 1998. It represents the continuation of surveys begun in 1992 which are intended to provide a better understanding of the distribution of amphibians in this part of the Rocky Mountains. (See McIvor, 1994, McIvor and McIvor, 1995, McIvor and McIvor, 1996, McIvor and McIvor 1997). These observations include random/opportunistic sightings as well as those from surveys conducted somewhat informally, but for the specific purpose of collecting information about amphibians.

Early in the season there was an attempt to locate adult frogs and toads by the sound of their calling at breeding sites. Later efforts involved more concerted searches for egg masses, larvae and young-of-the-year. A variety of wetlands - marshes, ponds, lakes, backwaters of the Bow and other rivers - were surveyed in afternoons or evenings, some on several occasions.

Many places that had been visited in previous years were re-visited. Some other potential breeding sites were checked for the first time, including Hillsdale Wetland, Whitehorn Lake and Moraine Creek Wetland. Areas beside the Parkway in Kootenay National Park were checked again this year and several wetlands in the Yamnuska Natural Area were visited as well.

The earliest records for 1998 were of wood frogs calling on April 20 at Vermillion Lakes. This was 9 days earlier than the previous year and slightly later - 3 days - than in 1996. Spotted frogs and wood frogs were heard calling on April 23 at the Yamnuska, and egg masses of both species were found, some close together in the same ponds. Boreal toads were heard on April 28 at Vermillion Lakes.

Direct evidence of breeding in the form of egg masses, larvae or metamorphosed young was found for all 4 species of amphibian known to occur in Banff National Park. (Whitehorn Lake, which was visited for the first time this year, itself produced all 4 species, incidentally confirming the range extension for long-toed salamanders to the area just north of Lake Louise, noted in 1996.) In some cases, new evidence of breeding by certain species was detected at sites that had been surveyed in previous years. For example, a spotted frog egg mass was found for the first time at Sunshine Wetlands which has been carefully surveyed each year since 1993. It is not known whether this represents a new occurrence, a reoccurrence after several years of absence, or whether similar evidence simply was missed in the past.

The summer of 1998 was very warm and dry causing some ponds to shrink and some even to dry up completely. For example, Lakeside Pond near 2 Jack Lake, which was much reduced in size and depth early in the season compared to previous years, held a large number of wood frog and long-toed salamander egg masses on May 5, but by May 16, the pond was dry. There was no sign of the long-toed salamander eggs while the wood frog eggs lay in desiccated mats on the ground.

Water levels at North Old Dump Wetland dropped as well. By May 10, some of the wood frog egg masses here were hatching but others were stranded and drying on sedge stems above the water. At Moose Meadows, a tiny pool which contained a few small frog and salamander tadpoles on July 1, was completely dry by July 22.

The warm, dry season may have contributed to more rapid hatching of eggs and metamorphosis from the larval to adult stages. Certainly, there were no late records that could begin to compare with those of last year. For example, Ishbel Pond, where boreal toad tadpoles were observed into late October in 1997, was checked on September 5 and only 2 small toadlets could be found.

In the shallow pond across the highway from the Boom Lake trailhead, boreal toads were metamorphosing by July 22 this year whereas tadpoles were still in evidence well into September in 1997. And at the outlet of Boom Lake, where some boreal toad tadpoles were still not showing any legs on September 20 last year, a careful search on September 6 this year found only 1 toadlet. This turned out to be the latest date recorded for any amphibians for the year.

This would have been a particularly interesting year, because of the effects of weather conditions on wetlands, to have tracked the relative success/failure of amphibian reproduction through a focussed program of monitoring at a variety of sites. Unfortunately, our volunteer efforts, which involve an opportunistic approach to these surveys, cannot be guaranteed to produce information in a systematic fashion throughout the season. Although we managed to visit a number of sites early in the year, in many cases we did not have an opportunity to return to those areas as the season progressed.

Questions will remain unanswered about the effects of a year such as 1998 on amphibians in this part of the Rockies, as well as about how these effects will manifest themselves in subsequent years. This situation serves to re-emphasize the recommendations we have offered in previous reports with respect to the need for long term monitoring supported by Parks Canada. Such a program should be directed towards gathering quantitative data to enable analysis of productivity and survivorship of amphibians, and ecological change. We have made other recommendations over the years in this series of annual reports. We look forward to seeing those recommendations followed, or at the very least, some response from Parks Canada with respect to their merit.

For a complete report of all the surveys see: Amphibians Surveys in Banff National Park and adjacent areas, 1992-1998, Diane & Mike McIvor, January 1999.

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AMPHIBIAN SURVEYS IN BANFF NATIONAL PARK AND ADJACENT AREAS, 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, Federation of Alberta Naturalists)

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

CODES FOR WIND SPEED AND SKY CONDITIONS

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

WIND SPEED CODES:

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

SKY CONDITION CODES:

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

AREAS INSIDE BANFF NATIONAL PARK

BOW VALLEY EAST

LOCATION: Carrot Creek Area and east.

SITE DESCRIPTION:

Roadview Pond (UTM: PG 110669)

Zapped Pond (UTM: PG: 113668)

Cutline Pond (UTM: PG: 115672)

Busy 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.

Horse 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.

Oreaside 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
98/05/06	14:20	15	19/0/0	WOFR LTSA	53 100+			1	Roadview 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 6 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
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
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
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	1	Horse Pond. Walked around it. Saw BOTO and WOFR mostly on N side.	M&DM

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: PG045758) 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
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
98/05/05	14:00		19/1/0						Black 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: 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: PG039741) Small pool east of North Old Dump Wetland.

DATE	TIME	H2O °C	T/W/S	SPECIE	egg mass	larvae	young	adult	NOTES	seen by
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
98/4/28	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. None calling first. All calling later. Found 1 of 3 egg masses N of first site, opposite islet 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
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: PG040738).

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
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	19			120+	West Pond. A lot of activity in N/W corner. Very vocal. Counted the adults from slope. Found 1 of 18 and 1 of 1 egg masses at 25 cm. depth, on north side.	M&DM
				WOFR	25			20+	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.	

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
98/05/05	14:40	21	20/1/0	LTSA	50			8	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.	M&DM
				WOFR	67			3	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. Seen on N side; 1 of 1, 1 of 1, 1 of 1. Saw and heard 8 WOFR. LTSA eggs seen beside WOFR egg mass on N side. (Picture)	
				SPFR	2					

LOCATION: Johnson Lake Area (UTM: PG057725).

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

Lake of the Sticks North and South (UTM: PG057734, PG057735) 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
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
98/04/26	14:00		12/1/1						Lake of the Sticks South. Still frozen.	M&DM
98/05/05	16:36	22	20/2/0	WOFR	84			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
				SPFR	11					
				BOTO	1					
98/05/05	17:00	16	20/2/0	WOFR	84				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
				LTSA	many					

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: NG989689) 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: NG967690) 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
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
98/04/28	21:15		10/0/0	WOFR				6	Horse Barns. Heard WOFR up and down the channel N of barns.	M&DM

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
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: NG973696), S of CP Rail and S. of VL2

Rathole (UTM: NG988698), W of VL2

Teardrop Pond (UTM: NG985697), W. of VL2

Fingers (UTM: NG954695), 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: NG987699).

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
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
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
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
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

LOCATION: 5 Mile Wetland (UTM: NG983667).

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
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 NG919690).

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
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

SUNSHINE WETLANDS

LOCATION: Sunshine Wetlands. (UTM: NG906682).

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: NG906685).

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

Ochre Minor (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
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
98/05/31	14:00		17/1/2	BOTO WOFR		100+		1	Pond #1.	MM
98/08/02	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
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
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
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
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
98/08/02	16:00	28	26/1/2						Pond #4 (Ochre Pond). 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

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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: NG892708) 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: NG) located west of Pond #3, on south side of tracks.**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
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
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
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
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: NG899713).**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
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: NG872733).**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: NG873727) 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
98/05/03	17:40		20/1/0	WOFR				2+	A few heard from the road	M&DM

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
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	28	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: 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
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: NG830757).**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
98/05/14	14:30- 16:40	15	15/0/2 15/0/5	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).**Terrestrial 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:** (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
98/07/01	13:30	22	24/2/1	TFR LTSA		12+ 12+			Moose Meadow Pool. Found in small vernal pool (4 m. in diam.), water 15-20 cm. Pictures.	M&DM
98/07/22			16/0/2						Moose Meadow Pool. 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.

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

Altrude Lakes (UTM: NG666758) 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
98/05/07	16:30	17 19	19/0/0	WOFR	15			6+	Copper Lake. Heard at W end, E end and S side. Found egg masses at N/W end; mostly fresh, some with embryos elongated.	M&DM
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
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
98/08/09	16:00		28/1/0	BOTO				1	Vista Lake. Seen in puddle near lakeshore	HD
98/07/22	10:45	18	15/0/2	BOTO		25+			Boom Lake. Small tadpoles in shallow water at edge of outlet stream.	MM
98/09/08	10:30	15.5	18/0/0	BOTO			1		Boom Lake. Seen on the edge of outlet stream. Breeding site dried up.	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. 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: NG628918) 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: NG595954) located west of Corral Creek, south of Bow Valley Parkway.

Old Rock Pond (UTM: NG589982) located east of McNair Pond at the "oldest rock" interpretive sign.

McNair Pond (UTM: NG587982) 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
98/06/07	16:00		20/1/0						Allium Pond. Bone dry.	M&DM
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
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

LAKE LOUISE AREA

LOCATION: Lake Louise Area.

SITE DESCRIPTION: **Floating Pond** (UTM: NG713806) located 1/2 km. west of Mannix Pt, 1/2 km. S of TCH.

Kingfisher Lake (UTM: NG563957) 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: NG583870) located below Consolation Lakes below the creek crossing where the Panorama Ridge trail takes off. Elevation: 1890 m.

Whitehorn Lake (UTM: NH555006) 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
98/06/25	13:30	13	15/1/2	WOFR		36+	6+	2	Red-tail Pond. Adult and young seen as we walked around pond. Large size tadpoles seen in N/E corner.	M&DM
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
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

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LOCATION: Icefield 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: NH356288) 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: NH350296) 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: NH206585) 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: NH069684) 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
98/05/07	13:40	14	18/1/0	WQFR				2	Ramshorn Pond. Heard at least 2 in N end. Picture of pond from N/E corner.	M&DM
98/6/25	11:00		15/1/2						Gravel Pool. Nothing seen or heard.	M&DM
98/6/25	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
98/07/02	15:50		21/2/2	BOTO		1000+			Ramparts Backwater. Found tadpoles in backwater Tadpoles small to very small.	M&DM
98/07/02	15:50	29	21/2/2						Sunset Pond. Nothing seen. Water levels higher than past years.	M&DM
98/07/02	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

REPTILE RECORDS

DATE	TIME	H2O °C	T/W/S	SPECIE	young	adult	NOTES	seen by
98/02/01	12:15	27	-5/-/-	WGSN		1	Cave & Basin. Cave Spring outflow stream.	MM
98/02/08	9:15		-6/-/-	WGSN		2	Cave & Basin. Cave Spring outflow. Together, 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	8/-/-	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		25/1/2	WGSN		1	Lake Minnewanka. (PG096814) LM8 campsite. In tall grass, eating a small rodent. Picture.	HD

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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	larvac	young	adult	NOTES	seen by
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
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
98/05/03	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 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

AREAS IN THE BOW VALLEY EAST OF BANFF NATIONAL PARK

LOCATION: Yamnuska Natural Area.

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

Coyote Lake: (UTM: PG327023). **Crescent Lake:** (UTM: PG329025). **Duck Pond:** (UTM: PG342639). **Hilltop Pond:** (UTM: PG328624). **Loony Pond:** (UTM: PG344643) located. **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. **Road Lake:** (UTM: PG331623). **Roadside Pools:** (UTM: PG349645). **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
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
98/04/27	18:45		17/2/0						Crescent Lake. Water level low. Nothing seen or heard.	M&DM
98/04/27	18:35	18	18/2/0	WOFR	4			2	Hilltop Pond. Water level 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
98/04/23	18:35		16/0/1	SPFR				1	New Beaver Pond. Heard on S side of lower 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
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	18/1/1	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
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 going 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

Yamnuska Area continued...

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 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