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AMPHIBIAN SURVEY IN THE BOW

VALLEY

Banff National Park

1995

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compiled by Diane & Mike McIvor

February 1996

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SUMMARY

This report contains a compilation of observations of amphibians in Banff National Park in 1995. It represents the continuation of a three year monitoring project conducted from 1992 to 1994 (Amphibian Survey in the Bow Valley (including some reptile observations) and some additional observations in Banff National Park, 1992, 1993, 1994 seasons, compiled by D. McIvor). These observations were submitted to the Bow Valley Naturalists by a number of people. They include random/opportunistic sightings as well as the results of surveys done somewhat informally, but for the specific purpose of amphibian monitoring.

Early in the season there was an attempt to locate frogs and toads by the sound of their calling. Later efforts involved more rigorous searches for egg masses, larvae and young-of-the-year. Lakes, ponds, backwaters of the Bow River, and some of the small, flooded ditches near the Canadian Pacific Railway tracks were surveyed in afternoons or evenings, some on several occasions.

Adults, egg masses and larvae of all four species of amphibian known to occur in Banff National Park were found. Young-of-the-year boreal toads and young-of-the-year wood frogs were seen as well. One area, the Sunshine Wetlands, a series of ponds west of the Sunshine Interchange, between the Trans Canada Highway and Backswamp, provided the opportunity to observe a complete cycle of breeding activity for the year.

On May 10, wood frogs and boreal toads were heard calling and some adults of both species were seen. Two pairs of boreal toads were observed mating. On May 13, egg masses of both species were found. Thousands of boreal toad larvae (tadpoles) were seen on May 28. By June 17, hundreds of wood frog tadpoles and thousands of boreal toad tadpoles were present, along with 2 young toads. On July 26, more than 50 young wood frogs and more than 100 young boreal toads were observed.

The earliest records for 1995 were of wood frogs calling at the Muleshoe Area on April 23. On the same date, an adult long-toed salamander was seen crossing the Bow Valley Parkway towards Muleshoe Flats. Later sightings of adult salamanders occurred at the places they had been seen in past years - Lizard Lake (Pilot Pond) and the Devil's Cauldron on the Banff Springs golf course - as well as in the vicinity of some small ponds west of 5 Mile at the start of the Bow Valley Parkway near the railway tracks .

Young-of-the-year wood frogs were reported from several locations besides the Sunshine Wetlands including Muleshoe Flats and Copper Lake. Spotted frogs were heard calling at the large beaver pond north of Johnson Lake and egg masses were found at the Lake of the Sticks. Three adult spotted frogs were seen at Johnson Lake, one at the Cave & Basin Marsh, and one in a small pond below Smith Lake where some larvae were also present.

As in past years, a small number of random observations of adult boreal toads occurred at elevations considerably higher than the valley bottom areas of the lower Bow River in Banff National Park where most breeding pond surveys were conducted (e.g. approximate elevation of the Vermilion Lakes area or the Sunshine Wetlands is 1380 meters above sea level). A boreal toad was reported from the willow flats north of Bow Lake (approx. elevation 1950 meters a.s.l.) another from the edge of Little Baker Lake (approx. elevation 2250 meters a.s.l.). And a record of boreal toad larvae came from some pools near the outlet of the Wenkchemna Glacier (approx. elevation 1980 meters a.s.l.)

This report is organized by location and by sub-areas within locations where applicable, moving upstream along the Bow Valley or east to west into the park . Brief notes are attached where these were considered relevant. Three tables are presented to show the presence of amphibians by stage of development for each location and to indicate the probable and confirmed breeding areas. Further information may be obtained by contacting Diane or Mike McIvor at (403) 762-4160 (ph/fax).

Names of people who contributed observations and the initials by which they have been identified in the report:

Bryant Rathbone (BR), Carolyn Fysh (CF) , Christine Kraayvanger (CK), Donna McKown (DMK), Dylan Watt (DW), Greg Killin (GK), Heather Dempsey (HD), Joanne Cairns (JC), Keith Webb (KW), Mike, Diane McIvor (M&DM), Mike McIvor (MM), Peter Duck (PD), Wendy Bush (WB):

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)

LTSA	long-toed salamander (<i>Ambystoma macrodactylum</i> , Baird)
BOTO	boreal toad (also known as western toad) (<i>Bufo boreas boreas</i> , Baird and Girard)
BCFR	boreal chorus frog (<i>Pseudacris triseriata maculata</i> , (Agassiz))
WOFR	wood frog (<i>Rana sylvatica</i> , Le Conte)
SPFR	spotted frog (<i>Rana pretiosa</i> , Baird and Girard)

LOCATION: Johnson Lake Area. UTM: PG057725

SITE DESCRIPTION: dammed lake - Beaver Pond to the north - and Lake of the Sticks are old shallow beaver ponds north of Beaver Pond.

DATE	TIME	H2O °C	SPECIE	egg mass	larvae	young	adult	NOTES	seen by
95/04/26		8.5	SPFR				1-2	BEAVER POND - calling in channel on north side. Temp. 6-8°C, unsettled	M&DM
95/06/23	a-noon		SPFR				3	JOHNSON LAKE - described as being red underneath. Temp. 23°C, mainly sunny.	BR
95/05/19	15:30	16	WOFR	1			5	LAKE OF THE STICKS - south pond (pool deeper than north pond) - calling on south and east side - the eggs are fresh - Temp. 13°C. - sun/cloud/cool wind	M&DM
95/05/19	15:30	16	SPFR	28				LAKE OF THE STICKS - south pond - egg masses floating on surface and moved by the wind. Temp. same as above.	M&DM
95/05/19	15:30	21	WOFR				14	LAKE OF THE STICKS - north pond - calling mostly from middle of pond - stopped when we got close. Temp. same as above.	M&DM
95/05/19	15:30	21	SPFR	41				LAKE OF THE STICKS - north pond - egg masses at west end - in shallow water - the eggs are bigger - the mass (15 cm.) is floating - unattached - the embryos (crescent shape) are moving inside egg. Temp. same as above. - there was still some ice on the shore at the south end	M&DM
95/05/24	20:00		WOFR	1	some			LAKE OF THE STICKS - south pond - fresh egg mass - larvae at bottom of pond. Temp. 1°C - cold. (field trip with Larry Powell)	M&DM & co.
95/05/24	20:00		SPFR	12+				LAKE OF THE STICKS - south pond. Temp. 1°C - cold. (field trip with Larry Powell)	M&DM & co.
95/07/27	16:30		WOFR			2	7	LAKE OF THE STICKS - north and south pond - 2 calling in tall reeds in north pond - 5 adults and 2 youhg seen in the reeds around both ponds. Temp. 16°C - overcast/showers	M&DM

LOCATION: Quiet Pond. UTM: PG035745

SITE DESCRIPTION: small pond south east of Bankhead.

DATE	TIME	H2O °C	SPECIE	egg mass	larvae	young	adult	NOTES	seen by
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 - head forming - 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

LOCATION: Two Jack Lake Area. UTM: PG047757

SITE DESCRIPTION: the "pipe trap" box over water line is on the side of the road, north of the lakeside campground.

DATE	TIME	H2O °C	SPECIE	egg mass	larvae	young	adult	NOTES	seen by
95/05/24	21:00		LTSA				7	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	same as above. Temp. 18°C	M&DM
95/09/17	08:00		LTSA				8	same as above. Temp. sunny/warm	MM
95/10/01	08:30		LTSA				8	same as above. Temp. -3°C.	MM
95/10/05	08:30		LTSA				5	same as above. Temp. 8°C.	MM
95/10/29	08:45		LTSA				4	same as above. Temp. -5°C.	MM
95/11/05	08:15		LTSA				3	same as above. Temp. -3°C.	MM

LOCATION: North Old Dump Wetland. UTM: PG038742

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

DATE	TIME	H2O °C	SPECIE	egg mass	larvae	young	adult	NOTES	seen by
95/03/31								90% ice free. Nothing heard or seen. Temp. 12°C.	M&DM
95/04/05	22.05	3						nothing heard or seen. Calm, cloudy	"
95/04/16		8						nothing heard or seen. Calm, cloudy	"
95/04/22		8						pool full of stonefly larvae. Temp. 10°C.	"
95/04/23		8						elk in the pond - nothing heard or seen. Temp. 12°C.	"
95/04/26	14:00							nothing heard or seen. Temp. 8°C. - unsettled	"
95/05/01	14.45	8						nothing heard or seen - few stonefly larvae. Cold north wind. 12°C.	"
95/05/09	20:30	11	WOFR				100+	calling from 3 sites - observed 60+ mating. One site had 12+ close together. Temp. 17°C. (2nd warm day this spring.)	"
95/05/10	16.30	11	WOFR				100+	same 3 sites as above - plus 12+ seen in back bay. Temp. 15°C - clear, cloudy periods.	"
95/05/11	17.00	11.5	WOFR	89			12+	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.	"
95/05/19	17:00	14	WOFR	117			1	As seen above - embryos are moving. Some free of yolk but staying around the mass. 30-40% dead (white embryo). Some still at black dot stage - + 1 egg mass in back bay - new (black dot stage) - in 5 cm. of water - 1 adult vocal in middle of pond. Temp. 13°C, sunny/cool wind	"

LOCATION: Amphibian World. UTM: PG040738

SITE DESCRIPTION: shallow grassy marsh below the old dump site south of Lake Minnewanka Loop. Also known as South Old Dump Wetland.

DATE	TIME	H2O °C	SPECIE	egg mass	larvae	young	adult	NOTES	seen by
95/05/09	21:00	11	WOFR				100+	- calling, 60+ in small pond west, 60+ in west end of larger pool. Temp. 17°C. (2nd warm day this spring.), cooled to 7°C.	M&DM
95/05/09	21:00	11	BOTO				3-12	- calling at far east end of larger pool. Temp. 17°C. (2nd warm day this spring.), cooled to 7°C.	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
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	same area as above. Weather: clear/warm	DW
95/06/07			LTSA				36	same area as above	DW

LOCATION: Cave & Basin Area. UTM: NG985695

SITE DESCRIPTION: marsh complex fed by a sulphur spring.

DATE	TIME	H2O °C	SPECIE	egg mass	larvae	young	adult	NOTES	seen by
95/05/10	23:00	8.5	WOFR				2	CAVE & BASIN. Calling at west end of marsh. Temp. 8°C, clear, mostly still, half moon	M&DM
95/05/29	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
95/05/10	22:45	8	WOFR				few	HORSE BARNS. Calling from 3 areas: front of barns, east and west of barns. Temp. 8°C, clear, mostly still, half moon	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

LOCATION: Vermilion Lakes Area. UTM: NG955701

SITE DESCRIPTION: major wetland in BNP west of town of Banff and below TCH.

DATE	TIME	H2O °C	SPECIE	egg mass	larvae	young	adult	NOTES	seen by
95/05/11	07:40	10	WOFR	15				CPR TRACKS. 2nd riverside pond near culvert and marshy area s. of tracks at west end of hayfield. Temp.6°C, clear/still	MM
95/05/18	07:30	11	WOFR.	many				CPR TRACKS. 2nd riverside pond - numerous dead embryos in masses	PD
95/05/25	07:15	9	?		1			CPR TRACKS. 2nd riverside pond - unknown larva	PD
95/06/15	11:15	7	?		1			CPR TRACKS. 1st Lake - unknown larva	PD
95/07/06	07:00	17	WOFR				1	CPR TRACKS. Riverside of 1st. lake.	PD
95/07/	08:30	16	?		1			CPR TRACKS. 2nd riverside pond - large unknown larva	PD
95/08/04	08:00		BOTO			1		CPR TRACKS. Rathole, east of 3rd lake - on CP tracks - south side	PD
95/05/09	22:20	10	WOFR				12	calling from channel around beaver pond at 2nd Lake. Temp. 17° C. during the day, cooled to 7°C.	M&DM
95/05/09	22:15	10	WOFR				100+	calling from wetland between 2nd & 3rd lake. Temp. same as above.	M&DM
95/05/09	22:30	10	WOFR				1	calling from west end of channel between 1st and 2nd. Temp same as above.	M&DM
95/05/09	22:42	10	WOFR				3+	calling from wetland east of 1st lake at bend on the road. Temp same as above.	M&DM
95/05/09	22:15	10	BOTO				many	calling from wetland between 2nd & 3rd behind WOFR and closer to tracks. Temp same as above.	M&DM
95/05/09	22:25	10	BOTO				1	calling from west end of 2nd lake around mud flats beyond beaver pond. Temp same as above.	M&DM
95/05/09	22:35	10	BOTO				many	calling from far end of 1st lake and around Osprey point and also at the start of Willow Cr. Temp same as above.	M&DM
95/05/10	22:30		BOTO				many	calling from wetland west of 3rd lake. Temp. 8°C. clear, mostly still, half moon.	M&DM
95/05/10	22:30		WOFR				many	calling from wetland west of 3rd lake - seem to be more BOTO (above) than WOFR Temp. 8°C. clear, mostly still, half moon.	M&DM
95/05/12	20:00	7-10						nothing heard or seen. Walked all around wetland between 2nd and 3rd. Temp. 4°C. - cooled off overnight - rain all night - turned to snow during the day.	M&DM
95/05/18	20:30	8						nothing heard or seen. Walked all around the beaver channel west of 3rd lake 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
95/05/28	a-noon	15:30	BOTO				3	one calling from N/E corner of 1st lake, one near channel between 2nd and 3rd. 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 2nd and 3rd. Temp. 17°C, showers/sunny periods	M&DM
95/06/04	a-noon		WOFR		many			in the "fingers" (series of ditches beside tracks on riverside opposite west end of 3rd lake)	M&DM

LOCATION: 5 Mile Riverbend. UTM: NG943688

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

DATE	TIME	H2O °C	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

LOCATION: 5 Mile Wetland. UTM: NG933687

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

DATE	TIME	H2O °C	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 evng.	M&DM

LOCATION: BVP Wetland. UTM: NG936694

SITE DESCRIPTION: series of ponds on north (1) and south side (5) of CP tracks at the start of the Bow Valley Parkway.

DATE	TIME	H2O °C	SPECIE	egg mass	larvae	young	adult	NOTES	seen by
95/05/26	17:30	18	LTSA	30			5	NORTH POND - egg masses from middle to south end and mostly on east side - adult 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. Temp. 18°C.	M&DM
95/05/26	17:30	18	WOFR	6+			1	NORTH POND - 1 calling from middle of pond - egg masses from middle to south end of pond. Temp. 18°C.	M&DM
95/05/26	18:00	18	LTSA	100+				SOUTH PONDS - egg masses mainly at north end (below tracks) in all the ponds - embryos starting to elongate - some at black dot stage. Temp. 18°C - hot day!	M&DM
95/05/26	18:00	18	WOFR	2+				SOUTH PONDS - eggs at black dot stage. Temp. 18°C.	M&DM
95/06/13	16:15		LTSA		12+			SOUTH PONDS - in shallow warm water - Took picture. Temp. 22°C. - mosquitoes were wild!	M&DM
95/06/13	16:15		WOFR		30+	12+		SOUTH PONDS - larvae in warm shallow water - young around the edge of pond. Temp. 22°C - mosquitoes were wild!	M&DM

LOCATION: Sunshine Wetlands. UTM: NG908682

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

DATE	TIME	H2O °C	SPECIE	egg mass	larvae	young	adult	NOTES	seen by
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	1			4	POND #1- edge of pond - 2 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. Egg mass seen around a small twig (100+ eggs) where the first two were calling. Temp. 15°C mid-day, 8°C late evening.	M&DM
95/05/10	20:20	11-15	BOTO				8+	POND #1- 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. same as above.	M&DM
95/05/13	14:15		WOFR	15+				POND #1- 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. Temp. 12-16°C. clear, sunny. Yesterday was wet (rain, snow) and cold (4°C)	M&DM
95/05/13	14:15	19	BOTO	1			1	POND #1 - our first string of 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
95/06/17	16:00	23	BOTO		1000+			POND #1 - 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 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. Temp. 16°C, showers, mostly cloudy with sunny periods.	M&DM
95/06/17	16:00	23	WOFR				8+	POND #1 - 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			50+	12	POND #1 - near east shoreline - majority within 1 m. of water, young were up to 15 mm. in size. Temp. 16°C, overcast, showers. Took pictures	M&DM
95/07/27	12.30		BOTO			100+	1	POND #1 - young 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
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
95/05/10	20:00	13	BOTO				15+	POND #3 - east bay - 10 calling - one mated pair - female twice the size - got more active as it got dark - bits of ice left on shore.	M&DM
95/05/10	20:30	13	WOFR				4-6	POND #3 - calling from far north side.	M&DM
95/05/13	15:30	21	WOFR				1	POND #3 - calling from west side at north end. Temp. 12-16°C. clear, sunny. Yesterday was wet (rain, snow) and cold (4°C)	M&DM

Vermilion Lakes Area continued.....

95/05/13	15:00	21	BOTO	2			POND #3 - 2 strings near tiny islet on east side where mated pair was seen May 10 - in shallow water 7.5 cm. in peatier bottom than Pond #1 site. Weather as above.	M&DM
95/05/28	18:30		BOTO		1000+		POND #3 - black tadpoles - swimming in shallows. Temp. 24°C. hot day.	M&DM
95/06/17	16:00	23	BOTO		1000+		POND #3 - 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 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. Temp. 16°C, showers, mostly cloudy with sunny periods.	M&DM
95/06/17	16:00	23	WOFR			1	POND #3 - seen near shore - black mask present. Temp. 16°C, showers, mostly cloudy with sunny periods.	M&DM
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	WOFR			4	POND #4 - (OCHRE POND) 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
95/06/17	16:00		BOTO			4	POND #4 (OCHRE POND) - seen on shore north side about 60 cm. from edge of pond. Temp. 16°C, showers, mostly cloudy with sunny periods.	M&DM
95/06/17	16:00	20	WOFR		100+		POND #4 (OCHRE POND) - larvae 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. Temp. 16°C, showers, mostly cloudy with sunny periods.	M&DM
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
95/05/13	16:15		WOFR			few	BACKSWAMP - calling from middle and west side. Temp. 12-16°C. clear, sunny. Yesterday was wet (rain, snow) and cold (4°C)	M&DM
95/05/13	16:15		BOTO			1-2	BACKSWAMP - calling from s/w end. Temp. same as above.	M&DM
95/06/06	08:00		?		many		BACKSWAMP - unknown larvae in s/w bay	PD
95/06/17	18:00	20	WOFR			2	BACKSWAMP - small - black mask - swimming in east channel	M&DM
95/06/17	18:00	20	BOTO			2	BACKSWAMP - seen along east channel - on south side - about 25 mm. long. Took pictures	M&DM
95/06/17	18:00	20	BOTO		100+		BACKSWAMP - seen at east end of east channel - in shallow (15 cm) to deeper water -	M&DM

LOCATION: Muleshoe Area. UTM: NG891708

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

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

Pond #1 - small wetland (choked with reeds) just west of TransAlta fenced area, on north and beside CP tracks.

Pond #2 - small pools (1 square) between "Goose Pond" and Pond #1

Pond #3 - opposite Pond #1, below and on south side of track - channel that runs along track and south to a beaver pond complex

DATE	TIME	H2O °C	SPECIE	egg mass	larvae	young	adult	NOTES	seen by
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.	"
95/04/26	15:30	14	WOFR				24+	GOOSE POND - calling amongst reed in pond - stopped as we got near	"
95/05/08	17:30	11	WOFR				many	GOOSE POND - calling from pond. Temp. 15°C. - warmest day in 6 weeks	"
95/05/15	18:10	19	WOFR	10				GOOSE POND - cluster with 10 masses - yellowed - no sign of embryos inside eggs? Temp. overcast, windy, showers	"
95/04/26	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 - of - single cluster of 50 egg masses in middle of pond. Temp. 14°C - cloudy - sprinkling. Temp. 15°C - cloudy/showers	"
95/05/24	16:30	16	WOFR		many			POND #1 - pond almost dried up - larvae 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.	"
95/05/14	17:00		WOFR				1	POND #2 - jumped in water as we approached. Temp. 15°C cloudy/showers	"
95/05/14	17:30	19	LTSA	many				POND #3 - clinging to horsetails at bottom of pool (15cm. deep) - embryos elongating. Temp. 15°C cloudy/showers	"
95/05/14	17:30	19	WOFR	7				POND #3 - ind. masses - in shallow water (15 cm. deep to 30 cm.). Weather as above.	"
95/05/15	18:20		LTSA	30				POND #3 - on reeds at 10 cm deep - embryos elongating - in deep pools. Weather: overcast/windy/showers	"
95/05/15	18:20		WOFR	5				POND #3 - separate masses in 2.5 cm. deep - attached to reeds. Weather: overcast/windy/showers	"
95/05/24	17:00	16	WOFR		many			POND #3 - appears to be 2 kinds of tadpoles? - all egg masses free of eggs - walked to beaver pond - nothing seen or heard	"
95/05/24	17:00	16	LTSA		many			POND #3 - all eggs masses have hatched except for 1 mass of 12 with embryos elongated - larvae showing gills. Temp. 15°C, windy/sunny	"
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	"
95/04/23	a-noon		LTSA				1	Crossed the road west of Muleshoe. Temp. 12°C. Warmest day in April	CK

PROPERTY OF
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#5130

LOCATION: Frog Hollow. UTM: NG834755

SITE DESCRIPTION: small pond est of Lizard Lake and below Bow Valley Parkway.

DATE	TIME	H2O °C	SPECIE	egg mass	larvae	young	adult	NOTES	seen by
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

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	SPECIE	egg mass	larvae	young	adult	NOTES	seen by
95/05/14	13:00	10-13	WOFR	7			16+	6 adult caling - 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). Temp. 16°C - cloudy - showers.	M&DM
95/05/14	13:00	10-13	LTSA	many			1	adult under a rotten log near lakeshore at west end. Took pictures. - 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

LOCATION: Copper Lake/Smith Lake. UTM: NG752779

SITE DESCRIPTION: small lakes at Castle Junction, south of TCH and east of Kootenay Hwy. Copper close to TCH and Smith south of Copper over a ridge and at higher altitude.

DATE	TIME	H2O °C	SPECIE	egg mass	larvae	young	adult	NOTES	seen by
95/07/08	13:00		WOFR		many	many	50+	COPPER LAKE - in shallow water on north, east and west side - nothing on south side. Temp. 23°C - sunny/cloudy periods	M&DM
95/07/08	15:00		WOFR			3	3	in 2nd small pool before Smith Lake. Temp. 23°C - sunny/cloudy periods.	M&DM
95/07/08	15:00		SPFR		50+		1	in 2nd small pool before Smith Lake - large 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. Temp. 23°C - sunny/cloudy periods.	M&DM
95/07/08	15:00		WOFR			1		in 1st small pond before Smith Lake. Temp. 23°C - sunny/cloudy periods.	M&DM
95/07/08	15:30							SMITH LAKE - walked around the lake - nothing !	M&DM

LOCATION: Others

DATE	TIME	H2O °C	SPECIE	egg mass	larvae	young	adult	NOTES	seen by
95/06/30			BOTO				1	40 MILE CREEK - half way to Mystic Cabin - one seen. Weather, overcast	WB
95/05/14	17:00	15	WOFR	4			3	RANGER CREEK WILLOW FLAT - (8 km. west of Skull Ck., below pull-off on south side of BVP) - adults calling - egg masses at east end of wetland. Temp. 15°C., cloudy, showers	M&DM
95/07/22	14:30							MCNAIR POND - nothing heard or seen. Temp. 18°-22° C., overcast	M&DM
95/07/22	15:00							Pond east of McNair - at the "oldest rock" sign - nothing seen or heard. Weather as above	M&DM
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. Weather as above	M&DM
95/07/22	17:00							Channel running on both side of BVP just west of Castle Cliffs Viewpoint. Nothing!	M&DM
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 Wenkchemna Glacier. Weather, raining	GK
95/06/29	14:00		BOTO				1	BOW LAKE WILLOW FLAT - large adult in the willows. Temp. 12°C. - sunny/cloudy	M&DM

AREA OUTSIDE BANFF NATIONAL PARK

LOCATION: Yamnuska Natural Area . UTM PG338644

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

DATE	TIME	H2O °C	SPECIE	egg mass	larvae	young	adult	NOTES	seen by
95/05/27	13:00		SPFR				2	in beaver canal on west side of old beaver pond. Temp. 24°C	MM
95/05/27	8:30 14:30 16:00		BCFR				3	adults calling - 1 in small pond west of Duck Pond - 1 in Muir Pond - 1 in small pond near new beaver pond beside the road to quarry. Temp. 24°C.	MM

Table 1. Presence of amphibians in areas visited in 1995.

*	Boreal Toad			Wood Frog			Spotted Frog			Chorus Frog			L.T. Salaman.		
	A	Y	E-L	A	Y	E-L	A	Y	E-L	A	Y	E-L	A	Y	E-L
John. Lk. Area				P	P	P	P		P						
Quiet Pond					P	P									P
2 Jack Lake													P		
S. Old Dump	P			P											
N. Old Dump				P		P									
Raven's Point				P											
Devil's Cauld.													P		
Cave&Basin A.		P		P			P								
Verm. Lk. Area	P	P		P		P									
5-M. Riverbend	P														
5-M. Wetland				P											
BVP Wetland				P	P	P							P		P
Sun. Wetland	P	P	P	P	P	P									
Mulshoe Area				P	P	P							P		P
Frog Hollow				P		P									
Lizard Lake				P		P							P		P
Copper/Smith				P	P	P	P			P					
OTHERS															
40 Mile Ck.	P														
Ranger Ck. W.F				P		P									
Allium Pond	P														
Little Baker Lk	P														
Wenchemna			P												
Bow Lake W.F.	P														
Yamnuska							P			P					

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

Table 2. Definite breeding areas.(presence of eggs &/or larvae &/or young) 1995.

Boreal Toad: Vermilion Lakes Area, Sunshine Wetland, Backswamp, Wenchemna.
Wood Frog: North Old Dump Wetland, Lake of the Sticks, Quiet Pond, Vermilion Lakes Area, BVP Wetland, Sunshine Wetland, Mulshoe Area, Frog Hollow, Lizard Lake, Ranger Creek Willow Flat, Copper Lake, Smith Lake Area.
Spotted Frog: Lake of the Sticks, Smith Lake Area.
Long-toed Salamander: Quiet Pond, BVP Wetland, Mulshoe Area, Lizard Lake

Table 3. Probable breeding areas. (adults present during breeding season, frogs and toads vocalizing) 1995.

Boreal Toad: South Old Dump Wetland, 5-Mile Riverbend.
Wood Frog: South Old Dump Wetland, Ravens' Point Wetland, Cave & Basin, Horse Barns, 5-Mile Wetland
Spotted Frog: Yamnuska, Johnson Lake Area
Chorus Frog: Yamnuska
Long-toed Salamander: 2-Jack Lake Area, Devil's Cauldron

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