

Friends of Blackfoot Snake Activity Project

2022 Report



July 2022

Friends of Blackfoot Society
52365 Range Road 210
c/o Cooking Lake - Blackfoot Provincial Recreation Area
Sherwood Park AB T8G 1A6



2022 FoB Bat house summary, June 2023

Executive Summary

As part of the ongoing citizen science activities of the Friends of Blackfoot (FoB), our snake monitoring project emphasizes spring and fall observations of plains garter snake (*Thamnophis radix*) in the vicinity of the Waskehegan hibernaculum and provides a record of incidental public sightings in the local vicinity of the Cooking Lake Blackfoot Provincial Recreation Area. With the relaxed pandemic restrictions, volunteers and visitors were again able to enjoy learning from and learning about plains garter snakes at the Waskehegan trailhead area. The 2022 project was particularly successful, including a visit from an international snake enthusiast. As in previous years, snake sightings were recorded throughout 2022 by direct observation or by remote camera at a den entrance. The dens at Waskehegan continue to be used, tho seemingly fewer snakes were seen than in 2020. FoB builds on this project as an opportunity to convey snake-friendly information to members and visitors to the den site.

Background

Plains garter snakes are relatively common in east central Alberta south of Cold Lake (Russell and Bauer 2000). Their preferred habitats in Alberta contain ponds, lakes, sloughs or marshes in aspen parkland and short-grass prairie natural regions. Garter snakes use hibernation as a critical overwinter survival strategy and thus require suitable winter den sites at rock piles, sink holes, mammal burrows, or among tree roots. They feed through the summer on amphibians, small mammals, worms, invertebrates, and even small fishes.

All key factors for garter snake survival are abundant on the Cooking Lake Moraine and throughout the Beaverhills Biosphere. These snakes are naturally adapted to maintain populations on the moraine and are an essential component of local ecosystems. In particular, the rock rubble base of the moraine (glacial till) provides abundant den sites for hibernating snakes (Kendell 2020). An active plains garter snake den site at the Waskehegan Staging Area of the Cooking Lake Blackfoot Provincial Recreation Area (CLPRA) east of Ardrossan, Alberta was registered with provincial Parks, and Fish and Wildlife, databases in 2020 (Appendix 2).

Members of FoB expressed interest in further documenting snake activity specifically at the den site under the Heritage Interpretive Centre (Centre) and adjacent Parks maintenance area (Shop). Observations often were made in conjunction with the FoB bat house monitoring research project at the same site, and ongoing public information and interpretation activities at the Centre.

Garter snakes in cleared or open ground cover are readily visible and can be counted with minimum disturbance of the snake. In general the approach involves walking slowly around the surveillance area and noting any snakes seen adjacent to the Centre and Shop at Waskehegan staging area. Grass in the area is mowed regularly and there is little or no vegetative cover under a cluster of spruce trees at the site. Den entrances also are in plain sight along the baseboards and skirting of the Centre and the Shop.

The project uses ad hoc observations to document snake activity (temporal and spatial occurrence), and provide benefits to FoB members and CLPRA visitors through natural history information and citizen science activities associated with snakes and the project.

Methods

Observations are made on an ad-hoc basis, often by FoB volunteers in conjunction with weekend activities at the Centre throughout the summer. Additional site visits are made specifically to check for snakes, particularly in April/May and September/October. Observers simply wander the site and record any snake observations. There is a general attempt not to count the same snake more than once but this is not possible in all cases and certainly not on different days. Generic weather information also is noted. Observation and data records are standardized on a form provided. Records are created the same day observations are made. Photos by observers are optional.

During spring 2022 and fall 2022, a motion-sensing remote camera was set up at one of the main den entrances on the south side of the Interpretive Centre. Images collected were used as additional evidence of snake activity at the site. Other species also were noted among the camera images.

In addition, local residents with an interest in snakes and natural history provided ad hoc observations of snakes seen during the summer on/in roads or yards in the general area. Observations included a minimum of date and location of each sighting.

Results

Waskehegan

Spring 2022

In 2022, the project began with installation of the snake camera in front of the main den entrance on the southside of the Centre on April 7. For the spring period, it remained in place until May 30. Snakes were seen on April 8, 9, and 24 (Figure 1, 2; Table 1).



Figure 1. Garter snake entering den on south side of Heritage Interpretive Centre

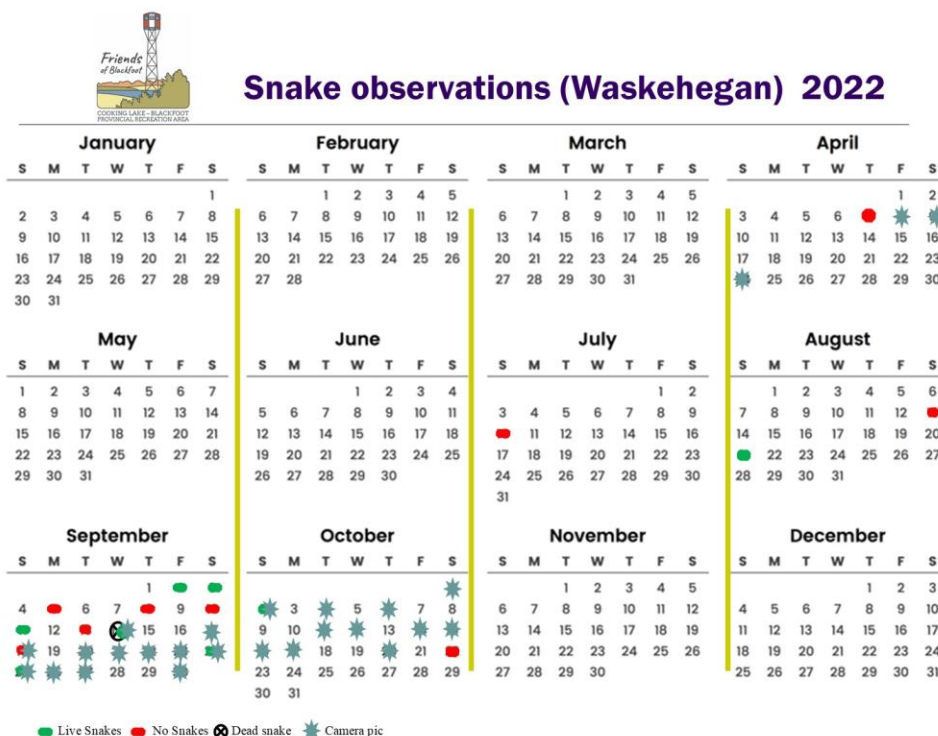


Figure 2. Cumulative observations of garter snakes at Waskehegan (direct and camera), 2022

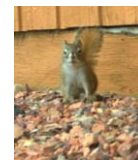
Table 1. Snakes detected on remote camera at den entrance, April 7 to May 30 2022

Date	sun/cloud	Temp °C	Time (24hr)	# snakes	Size	Comments
8-Apr	sunny	23	17:16	1	med	tail extending below wall boards
9-Apr	sunny	13	15:06	1	med	sunning on ground below skirting
19-Apr	SNOW	0	5:11	0		snow flurry starting
19-Apr	overcast	0	18:12	0		2-3 cm snow on grd, none on red rock at entrance
24-Apr	sunny	22	15:05	1	large	snow melted. INTO den at top of skirting
24-Apr		22	15:06	1		tail end leaving den. Could be previous snake??

A variety of other species also was detected on the snake camera in the spring observation period (Table 2). These images verify that the camera could be activated, despite only a few images with snakes. The most common visitor was a deer mouse (or different deer mice?) on 5 occasions, during the night, and at temps as low as -6C. Other mammal visitors were a red squirrel, a white-tailed deer (twice), and a porcupine that passed by repeatedly in April but fortunately did not chew the camera. Avian visitors included junco (twice), robin (3 times), and a chipping sparrow. None of the visitors expressed any interest in the snake den entrances. However, the marauding ginger cat also patrolled the area regularly, often stopped and investigated the den entrance, and even pulled out one snake and chewed it.

Table 2. Other species detected on the snake camera in the spring observations period, 2022

Date	Conditions	Temp	Time	Species
9, 11, 19, 20 Apr	Clear			porcupine
13-Apr	clear	0	11:44	red squirrel
15-Apr		-1	9:38	junco
		-6	23:08	deer mouse
18-Apr		-4	2:01	white-tailed deer
		-4	5:12	junco
21-Apr		-1	0:27	white-tailed deer
29-Apr		2	2:12	deer mouse
		1	3:12	deer mouse
30-Apr		3	1:09	porcupine
8-May		3	2:16	deer mouse
9-May		-1	6:08	robin
16-May		13	21:57	deer mouse
20-May		19	17:31	robin
21-May		25	13:35	robin
28-May		22	19:29	chipping sparrow



Direct observations by volunteers at the Interpretive Centre did not detect any snakes in spring 2022. Nor were snakes seen on the few occasions when volunteers looked through July to mid August. However, they were seen occasionally from late August to early October (Table 3).

Table 3. Cumulative spring & fall direct observations at Waskehegan garter snake den site in 2022

Waskehegan			2022			
Date	Volunteer	Y/N	Before 3 pm	#after 3 pm	Total	Comments *
7-Apr	Margo	N	Snake camera Apr 7 to May 30 @ Interp Centre			
10-Jul	Maria	N				Checked often @ centre—no snakes
13-Aug	Cliff	N				Checked several times—no snakes
21-Aug	Ruth	Y			1	V small & thin, ~8", On cement near door, went into grass
2-Sep	Karen	Y				Shed skin ~65cm w/o head. Near shop & spruce. Retained for display
3 Sep	Karen	Y	1			Near cinderblock at shop entrance. Disappeared under shop wall
5-Sep	Cathie	N				Checked several times—no snakes
8-Sep	Margo	N				17:30 15C sun/cloud Breezy. No snakes
10-Sep	Maria	N				Cloud/sun. 23C. No snakes
10-Sep	Margo	N	Snake camera @ Interp Centre Sep 10 to Oct 22			
11-Sep	Cliff	Y	1	0	1	Along S wall shop. NICE big snake
13-Sep	Margo	N				Clear calm warm 21C@1700
14 Sep	Karen	Y	4			4 live snakes near bushes on south side of Interp Centre
18-Sep	Margo	N				Sun/cloud 15C@1830
24-Sep	Cliff	Y	4		4	V windy Snakes seen late morning ~15C
25-Sep	Ruth	Y	6	3	9	Warm sunny w breeze 20C. Interp Centre. Included 5 together under dogwood bush. 1 large snake near shop.
2-Oct	Margo	Y	3		3	Sunny 18C light breeze (details below)
	1:45				1	30 cm, from entrance rd to centre
					1	60 cm, along south shop wall
	2:30		1			Head protruding @ den entrance south wall Interp [also on camera]
9-Oct	Margo	N				Sunny, lt breeze, 19C@2:30. No snake. Warm sunny week.
22-Oct	Margo		removed snake cam . Hot dry thru Oct (>20C most days, 5-10C nights. Cold front moved in Oct 21			



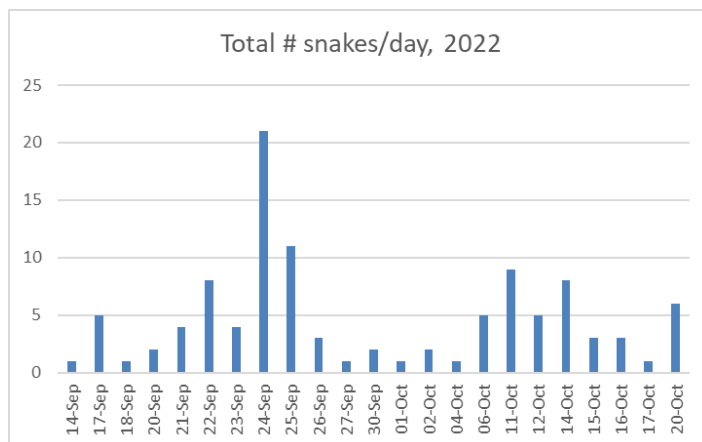
Fall 2022

Large and small snakes were seen in the vicinity of the hibernaculum on multiple occasions in August, September, and October (Table 3). We also received a verbal report of a snake seen going under the Parks residence trailer on a few occasions in September (K Hayduk, pers comm.). The shed skin of a large snake provided additional evidence that snakes use the area – and was excellent display material for the Interpretive Centre.

Snake Camera Fall 2022

The remote camera was set up at the main hibernaculum entrance on the south side of the Interpretive Centre from September 10 to October 22, 2022. Snake activity was first detected on September 14 (Figure 2 & above, Appendix 1) and images of snakes moving along the ground in front of the entrance, moving in or out of the entrance hole, and moving in or out of access points associated with the horizontal baseboard or vertical sidings were recorded. A total of 107 snake movement sessions was detected (Appendix 1).

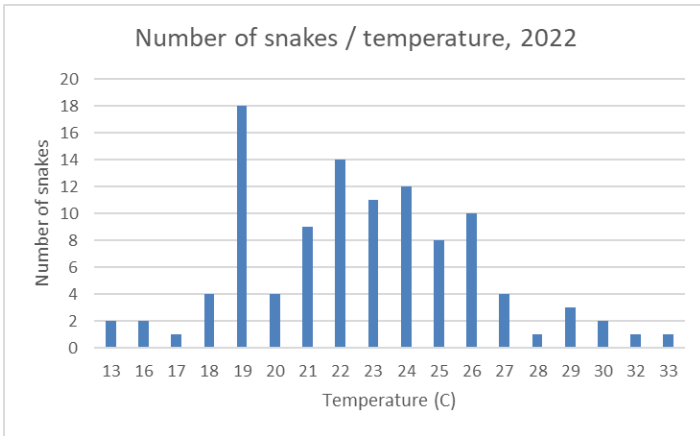
The extent of snake activity captured on the snake cam supported preliminary investigation of general patterns in data associated with date, temperature during activity, time of day, estimated size of snakes (small, medium, large), number of snakes, and whether snakes moved into or out of the main den entrance below the south wall of the Interpretive Centre. The caveat to any of these patterns is that snakes are not individually marked or identifiable. Although the images are date & time-stamped and recorded in a series of 5 images each time the camera is triggered, unless multiple snakes are present in the same image or time-series, it is not possible to tell whether the same snake may or may not appear across the images. However, the sheer number of snake images can be a reflection of general activity patterns among snakes using this den entrance.



Cumulative daily number of snakes, fall 2022

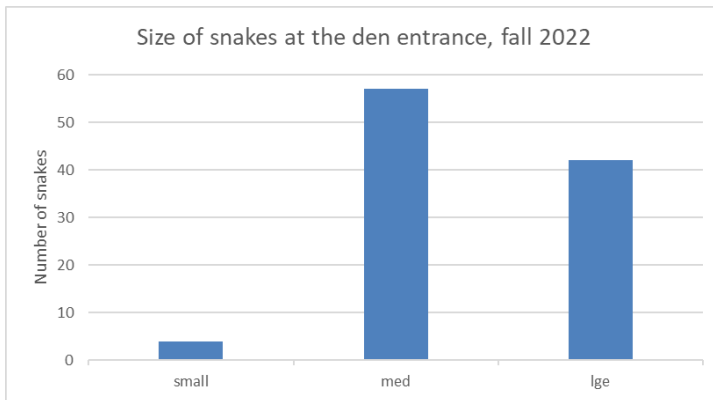
Snake activity peaked in the 3rd week of September and to a lesser extent in mid October.

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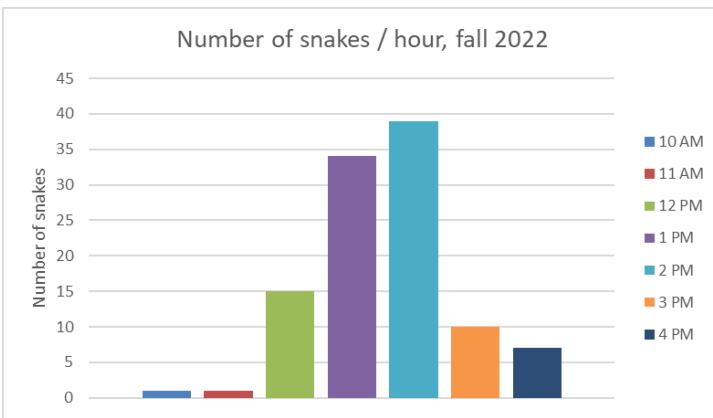
Number of snakes at different temperatures, fall 2022

Majority of snake activity occurred when ambient current temperatures were 19 to 26C. However, some activity was detected as low as 13C and high as 33C.



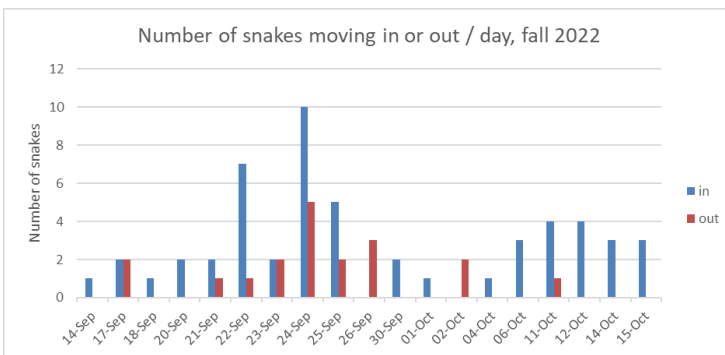
Estimated size category of snakes at the den entrance, fall 2022

Most snakes appeared to be in the medium category, (more than 20 cm but less than 50 cm by gross estimate).



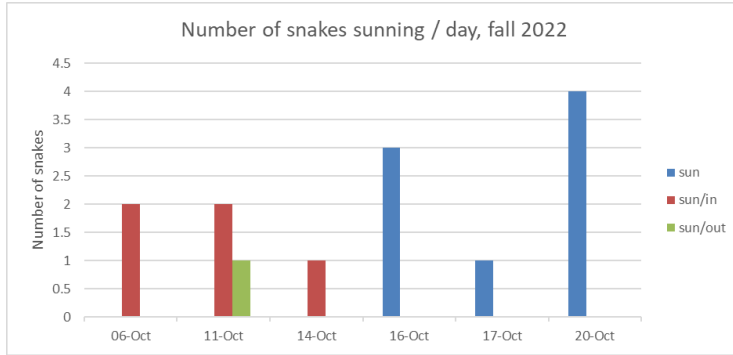
Number of snakes by hour, fall 2022

Majority of snake activity occurred in mid afternoon, primarily from 1 to 3 pm.



Number of snakes moving in or out of the main den entrance, fall 2022.

There was considerable movement both in and out of the den entrance through September but most of the movement in October was into the den.



Number of snakes sunning at the main den entrance, fall 2022

On occasion, snakes seemed to spend time in the sun in front of the den entrance. This behaviour only was detected in October and more so later in the month. These individuals largely returned to the den.

ROADS

As a corollary to the plains garter snake den project, it became readily apparent that there is considerable snake mortality on local roads in the general vicinity of the Waskehegan hibernaculum. A concerted effort was initiated to document the extent of the snake activity and mortality. Herein, we document spurious records of dead or live snakes seen while travelling local roads (Figure 3, Table 4). A total of 30 garter snakes was recorded from May 21 to October 5 on Range Road 210 from Wye Road to Baseline Road, and Township Road 524 between Range Road 210 and 211. Of these, 23 (77%) were dead. Key time periods of mortality occurred in September. It was also apparent that mortality along Range Road 210 from Wye Road north to Baseline Road was extensive

Figure 3. Timing of snakes seen on roads near Waskehegan - spring & fall 2022.

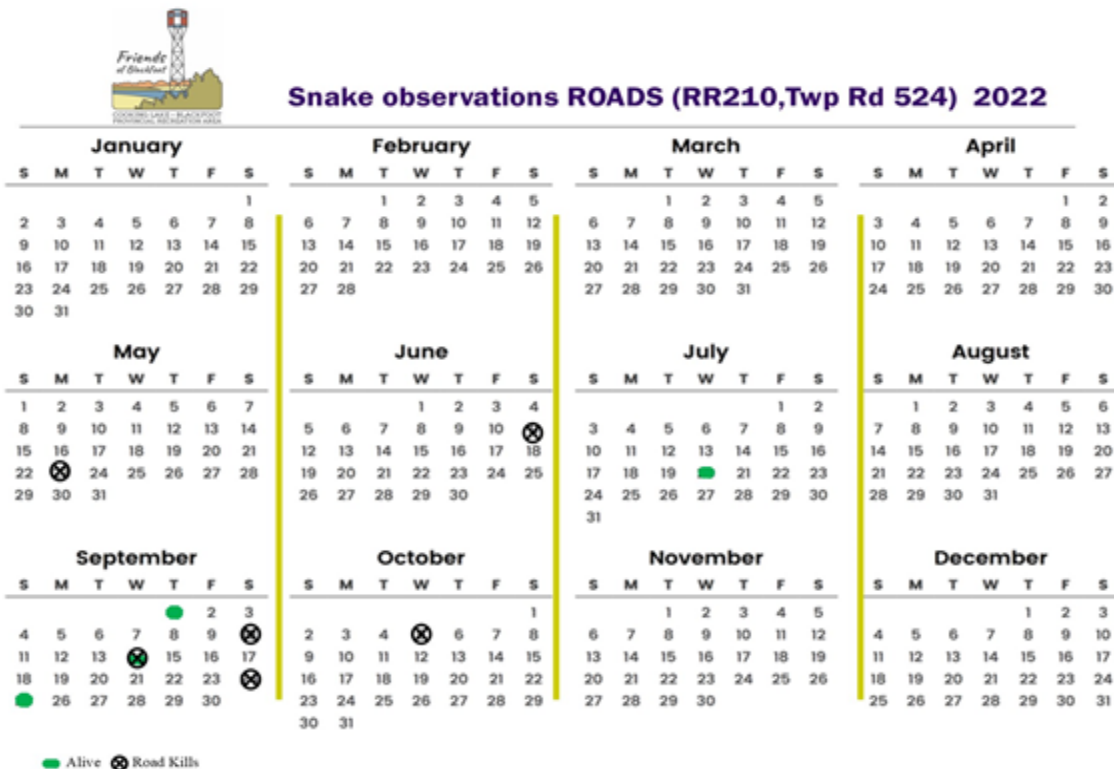


Table 4. Snake observations on roads near Waskehegan - spring & fall 2022

2022

RR 210:	Observer		# seen	Location
01-Sep	Margo	live	1	~40 cm crossing RR 210 N of Waskehegan TOWARDS park.
10-Sep	Margo	dead	1	210/524 intersection
14-Sep	Karen	dead	10	RR 210 Baseline to Voyageur North
		live	1	crossing 210 at ponds near south park boundary (Grey Pond)
24-Sep	Margo	dead	5	fresh dead @ Highland Pk on RR210
25-Sep	Margo	live	1	large (80cm) live crossing 210 S of Hwy 16
05-Oct	Margo	dead	3	fresh dead @ Highland Pk on RR 210
TWP RD 524 between RR 210 & 211				
23-May	Margo	dead	1	med (sm F?) Twp 524 0.5K W RR210 21025-524
11-Jun	Margo	dead	1	~18" Twp 524 @ 21025-524
11-Jun	Margo	live	2	in compost pile 52441 RR 211
20-Jul	Margo	live	1	med (~50cm) 21025-524. crossing rd into ditch
10-Sep	Margo	dead	2	Twp R 524 at 21032 & 21025
25-Sep	Margo	live	1	large ~90cm 21032-524 in grass

Public snake reports

One FoB member provided snake observations from a location east of Blackfoot Staging Area through the summer from May to September (Table 5). Many of these snakes were alive.

Table 5. Additional local snake sightings from C Pattenden, 2022. South of Hwy 16, east of PRA. 2022

Date	Zone	Easting	Northing	Live/Dead		#	Comment
5-May-22	12U	385378	5934861	Live	Adult	1	Large, RR193 about 1 km north of our place
23-May-22	12U	385409	5933960	Live	Adult	1	Large, in yard
25-May-22	12U	385409	5933960	Live	Adult	1	Large, in yard
16-Jun-22	12U	385409	5933960	Live	Adult	2	Large, in yard
24-Jun-22	12U	385409	5933960	Live	Adult	1	Large, on sauna pad
25-Jun-22	12U	385409	5933960	Live	Adult	1	Large, on sauna pad
26-Jun-22	12U	385409	5933960	Live	Adult	3	Large, on sauna pad, one in AM, 2 in PM
27-Jun-22	12U	385409	5933960	Live	Adult	1	Large, in yard
4-Jul-22	12U	385409	5933960	Live	Adult	1	Medium, compost heap next to cutline
7-Jul-22	12U	385409	5933960	Live	Adult	2	Large and medium, compost heap nr cutline

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9-Jul-22	12U	383786	5936136	Live	Adult	1	Medium, RR194
14-Jul-22	12U	385383	5935123	Live	Adult	1	Large, RR193 at first bend to north
19-Jul-22	12U	385409	5933960	Dead	Youngster	1	~ 15 cm long, our field gate on TWP 530
22-Jul-22	12U	385378	5934861	Dead	Adult	1	Medium, RR193 about 1 km north of our place
26-Jul-22	12U	385409	5933960	Dead	Adult	1	Great horned owl eating it next to compost pile
17-Aug-22	12U	387036	5935841	Dead	Adult	1	Large, RR192
17-Aug-22	12U	385653	5933889	Dead	Adult	1	Medium, Twp 530 near Mike's house
18-Aug-22	12U	385372	5934478	Live	Youngster	1	~ 15 cm long, on RR193
25-Aug-22	12U	385409	5933960	Live	Youngster	1	~ 15 cm long, on cutline compost
29-Aug-22	12U	385409	5933960	Live	Youngster	1	~ 15 cm long, in yard
29-Aug-22	12U	387063	5937017	Dead	Adult	1	Large, Corner of RR192 and Hwy 16
7-Sep-22	12U	384931	5933907	Live	Adult	1	Large, Twp 530 and east corner of Blackfoot
10-Sep-22	12U	385430	5934181	Live	Youngster	1	~ 15 cm long, in field north of cutline

Citizen Science

Beyond the specific engagement of the volunteers who made and recorded snake observations, direct information often was provided to visitors at the Centre during the summer. Written material regarding garter snakes at Waskehegan, and in general in Alberta, is available in the Centre. In addition, FoB volunteers were able to explain the local den sites and snake activity patterns to visitors.

A visiting photographer and snake enthusiast from Australia was particularly excited at the opportunity to see the hibernaculum site and possibly photograph plains garter snakes. The snakes provided him with an experience he will not forget!

On each occasion when snakes were present, the public seemed to thoroughly enjoy the experience and were happy to have them pointed out.



Discussion

Plains garter snakes continue to use the Waskehegan dens under the Interpretive Centre and the maintenance shop. However, the number of snakes seen appeared considerably less than the original observations made at this site in fall 2020. Our project cannot validate whether that it is indeed the case nor determine why that might be the case, although the ongoing activity of the cat at the main entrance area is disconcerting, particularly a series of images that show the cat pulling a snake out of the main entrance and biting it. Similarly the public reports of snakes found dead on local roads suggest this too may be a significant factor in local snake population dynamics along Range Road 210 in particular. We know there are multiple garter snake hibernacula in this area (Kendell 2020) and road mortality appears to peak in times when snakes are moving away from or towards the den sites. An apparent increase in vehicle traffic (and speed?) on this road in recent years may be having significant effect on local snake populations.

Data herein are limited by the methodology. Ad hoc observations can document presence but cannot be used to quantify snake abundance, and provide only general observations about trends in seasonal occurrence patterns. Snake activity at the den site was ephemeral and it seemed opportunistic chance that snakes were seen by direct observation. However, in 2022 the remote camera provided useful information in terms of capturing snake activity, particularly in September and October 2022.

- Spring activity was detected in early April
- Snakes in April stayed in the vicinity of the den entrance, as if testing the environmental conditions to determine whether to exit the den [bats do this too at their hibernacula]
- Considerable activity occurred at the main den entrance from mid September to late into October, primarily at temperatures between 20 and 25C, primarily in early afternoon, and all during the day (NO images during night-time hours)
- Most snakes were medium sized, and may reflect the general size/age composition of garter snake populations
- Movement was in and out of the den in September but primarily into the den in October
- Soaking up the sun was detected in October on warm afternoons
- As in 2021, there was more activity recorded by the camera in fall than in spring in 2022.
- Camera seems more effective in fall. Remains to be seen – why??
- Predation and harassment by a local cat may have affected snake activity (and injury)

Overall, the project provides interesting and useful information regarding local snake activity for FoB members and visitors to the den site. It also offers ongoing opportunities to address misinformation, fear, or concern about snakes. In general, the snake information is well received and appreciated.

Recommendations:

- continue observations in coming years
- continue both direct observation and snake cam efforts in 2023 (perhaps extend the camera sessions?)
- continue to engage members and public with factual snake-friendly information
- continue to develop interpretative materials for the info centre, including a copy of this report
- extend scope to perhaps include additional public input from local residents
- consider checking other staging areas of CLBF for snake activity, particularly in fall
- expand the road monitoring component, perhaps engage with other NGOs and County of Strathcona

-Remove the cat!!

Acknowledgements

This ad hoc project is fuelled by the efforts of a few FoB members and interested local residents. Parks staff also are engaged with the project and the snakes. Parks also donated the remote camera used at the den site.

Special recognition goes to the FoB members who voluntarily made observations: Maria Basaraba, Cathy and Herb Gale, Mary Martens, Jim and Ruth Shewfelt, Chantal Pattenden, and Cliff Smith.

Prepared by Margo Pybus, on behalf of FoB

Associated Literature

Kendell, K. 2020. Garter snake (*Thamnophis* spp.) surveys at historical den sites in Alberta 2017-2019. Data Report, Alberta Conservation Association, Sherwood Park, Alberta. 17pp + App.

Russell, A.P., and A.M. Bauer. 2000. The amphibians and reptiles of Alberta. University of Calgary Press, Calgary, AB. 279 pp.

Appendix 1 : Snake images on the snake cam at Waskehegan, fall 2022.

Date	temp	time (24hr)	# snakes	Size	In or Out	Comments
14-Sep	32	14:29	1	med	in	into main entrance
17-Sep	21	14:12	1	small	in	into main entrance
17-Sep	21	14:28	1	med	out	out of main entrance
17-Sep	21	14:34	1	med	head out	head out of entrance
17-Sep	19	15:05	1	med	in	into main entrance
17-Sep	19	16:14	1	med	out	out of main entrance
18-Sep	19	13:27	1	large	in	in front of main entrance
20-Sep	22	15:29	2	large/med	in	in under wall boards
21-Sep	21	12:50	1	med	out	out of main entrance
21-Sep	23	13:20	1	med	in	into main entrance
21-Sep	24	14:57	1	large	in	into main entrance stayed on grd at main
21-Sep	24	16:58	1	med	pass by	entrance
22-Sep	23	13:00	1	large	in	into main entrance
22-Sep	24	13:15	1	med	in	into main entrance
22-Sep	25	13:51	1	med	in	into main entrance
22-Sep	25	13:59	1	med	in	in front of main entrance
22-Sep	25	14:08	1	med	in	into main entrance
22-Sep	25	14:19	1	med	out	out of main entrance
22-Sep	26	14:49	1	small	in	in front of main entrance
22-Sep	25	16:06	1	large	in	in front of main entrance
23-Sep	23	14:08	1	large	out	out of main entrance
23-Sep	24	14:12	1	med	in	into main entrance head out, leaves main
23-Sep	24	14:22	1	med	out	entrance
23-Sep	24	14:41	1	med	in	into main entrance
24-Sep	16	10:51	1	med	pass by	in front of main entrance
24-Sep	20	12:17	1	large	out	out of main entrance
24-Sep	21	12:40	1	med	in	into main entrance
24-Sep	21	12:52	1	med	pass by	in front of main entrance
24-Sep	22	13:06	1	med	out	out of main entrance
24-Sep	22	13:07	1	med	out	out of main entrance
24-Sep	22	13:11	1	med	in	into main entrance
24-Sep	22	13:15	1	med	in	into main entrance
24-Sep	23	13:22	1	med	in	head out, back in
24-Sep	23	13:23	1	large	out	out of main entrance
24-Sep	23	13:24	1	med	out/in	out/in main entrance
24-Sep	23	13:45	1	med	out	out of main entrance
24-Sep	24	13:58	1	med	out/in	out/in main entrance

24-Sep	24	14:06	1	med	in	into main entrance
24-Sep	23	14:24	1	large	pass by	pass by main entrance
24-Sep	24	14:50	1	small	out/in	out/in main entrance
24-Sep	24	14:52	2	med	in	into main entrance
24-Sep	24	15:10	1	med	in	into main entrance
24-Sep	23	16:09	1	large	in	into main entrance
24-Sep	23	16:16	1	med	in	into main entrance
25-Sep	22	12:21	1	small	in	into main entrance
25-Sep	22	12:28	1	med	in	into main entrance
25-Sep	25	13:18	1	large	out	out of main entrance
25-Sep	26	14:30	1	large	pass by	pass by main entrance
25-Sep	26	14:44	1	med	out/in	out/in main entrance
25-Sep	26	14:52	1	large	out	out of main entrance
25-Sep	26	15:00	1	large	in	into main entrance
25-Sep	26	15:05	2	large	in	into main entrance
25-Sep	26	15:17	1	large	out/in	out/in main entrance
25-Sep	29	15:18	1	large	pass by	beside entrance, left
26-Sep	28	13:22	1	med	out	out of main entrance
26-Sep	29	14:15	1	large	out	out of main entrance
26-Sep	30	14:18	1	large	out	out of main entrance
27-Sep	27	16:13	1	large	pass by	pass by main entrance
30-Sep	25	14:14	2	large	in	into main entrance
01-Oct	23	14:47	1	large	in	into main entrance
02-Oct	29	12:56	1	large	out	out of main entrance
02-Oct	33	14:04	1	med	out	out of main entrance
04-Oct	26	16:00	1	large	in	into main entrance
06-Oct	19	13:16	1	large	in	into main entrance
06-Oct	21	14:05	2	large	in	into main entrance
06-Oct	21	14:18	1	med	sun/in	sunning/went in main entrance
06-Oct	22	14:39	1	med	sun/in	sunning/went in main entrance
11-Oct	16	13:02	1	med	in	into main entrance
11-Oct	17	13:26	1	med	in	into main entrance
11-Oct	19	13:50	1	large	sun/out	sunning then left
11-Oct	19	13:55	1	large	in	into main entrance
11-Oct	20	14:00	1	large	out	out of main entrance
11-Oct	19	14:11	2	med	sun/in	sunning/went in main entrance
11-Oct	19	14:12	1	large	in	into main entrance
11-Oct	20	14:20	1	med	out/in	head out/then in
12-Oct	19	12:45	2	large	in	into main entrance
12-Oct	19	13:27	1	med	in	into main entrance

12-Oct	20	13:50	1	large	in	into main entrance
12-Oct	22	14:21	1	large	out/in	out/in main entrance
14-Oct	18	12:59	3	med	out/in	out/in main entrance
14-Oct	19	13:05	3	med	in	into main entrance
						sunning/went in main
14-Oct	22	13:28	1	med	sun/in	entrance
14-Oct	26	13:49	1	large	out/in	head out/then in
15-Oct	19	12:30	2	large	in	into main entrance
15-Oct	18	14:19	1	large	in	into main entrance
16-Oct	27	13:57	1	large	sun	sunning
16-Oct	27	14:17	2	med	sun	sunning
17-Oct	30	13:39	1	med	sun	sunning
20-Oct	13	11:55	1	med	out/in	out/in main entrance
20-Oct	13	12:00	1	med	sun	sunning
20-Oct	22	13:50	1	large	sun	sunning
20-Oct	22	13:55	2	sm/med	sun	sunning
20-Oct	19	15:00	1	med	out/in	head out/then in

107 total

Camera removed October 22, 2022



Appendix 2 : Snakes at Waskehegan (Pybus 2020)

{hibernaculum record as submitted to AB Parks and Fish & Wildlife databases in 2020}

There has been a general feeling for some time regarding the possibility of a snake winter den at the entrance of Waskehegan staging area of Cooking Lake Blackfoot Provincial Recreation Area (PRA). On September 20 2020, I was present at the entrance from 11 am to 5:30 pm and confirmed considerable activity of plains garter snakes (*Thamnophis radix*), including their disappearance under the Heritage Centre as well as the nearby Parks workshop.

Species: *Thamnophis radix*, plains garter snake

Location: UTM - 12 U 370693 5930351

Descriptor: Waskehegan Staging Area entrance, Cooking Lake Blackfoot Recreational Area

Observation: Underground snake dens in the long-term gravel backfill associated with the Heritage Info Centre as well as the Parks workshop and maintenance building. Significant snake activity on warm sunny day in late summer. Various entrances along the south-facing foundations of the centre and the workshop.

All snakes were plains garter snakes. Size ranged from ~25 to 70 cm. All snakes disappeared under the buildings or adjacent concrete doorstep.

Observer: Margo Pybus, AB Fish and Wildlife

Background

The range of plains garter snakes (*Thamnophis radix*) and red-sided garter snakes (*T. sirtalis*) overlap as common residents in parkland habitats of central Alberta, including the Cooking Lake Moraine. Both snake species use winter den sites as underground hibernacula to support their occurrence in northern climates. There are a few den sites documented on the moraine already but I have been unable to find a report for the Waskehegan staging area.

Additional Observations

Members of the Friends of Blackfoot (FoB) occasionally find plains garter snakes in or around the Heritage Centre. The observations date back quite a few years and across spring/summer/fall time periods.

Dead snakes are found occasionally above ground on the south side of the centre in spring.

General feelings among some long-term FoB members that the centre likely is a wintering site.

On September 20, 2020 I was at the centre from 11 am to 5:30 pm. The weather was warm (daytime high ~20C), sunny, and dry. In total I saw at least 24 different plains garter snakes, ranging in size from ~25 cm to over 70 cm. All snakes eventually disappeared under the centre or the workshop.

The first snake was seen ~1pm along the southwest wall of the centre. I followed this snake and it eventually disappeared under the concrete ramp in front of the entrance to the workshop. Through

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mid-afternoon, I saw more individual snakes and each one eventually disappeared under the workshop or the Heritage Centre. Snake activity picked up between 4 and 5:30 pm. A dozen snakes were noted in this time period alone.

Snakes disappeared through various pre-existing holes in the concrete footings or the metal flashing at the base of the south walls of the workshop. I began to pay more attention and spent more time looking for snakes around the two buildings. I also checked the work compound and associated buildings as well as the CO trailer. I did not see snakes at any of these sites, although CO Karen Hayduk told me she has seen a few snakes near the trailer but no particular pattern was apparent.

This appears to be a significant garter snake hibernaculum. FoB may want to consider developing an education and monitoring project to document snake activity in spring and fall. Increased profile for the value of snakes on the moraine also could be a benefit to PRA visitors.

Snake Gallery:

