

ROCKY MOUNTAIN EAGLE RESEARCH FOUNDATION
29 YEARS AND COUNTING OF RAPTOR MIGRATION RESEARCH
1992-2021



ROCKY MOUNTAIN EAGLE RESEARCH FOUNDATION

2021 COUNTS

MOUNT LORETTE

BEAVER MINES AND VICKI RIDGE

STEEPLES

MOUNT LORETTE, SPRING 2021



OBSERVERS

PRINCIPALS

Lori Anderson

Ethan Denton

Graeme Dunlop

Joel Duncan

George Halmazna

Cliff Hansen

Caroline Lambert

Dan Parliament

Rick Robb

Blake Weis

Ellie & Arnie Weisbrot

Bill Wilson

ASSISTANTS

Karen Anderson

Brian McBride

Patrick Farley

Sandy Graham

Cliff Hansen

Eric Langshaw

Ruth Morrow

Rick Robb

Heinz Unger

Joseph Walters

Glenn Webber

Rosemary Power

WEATHER

- *Mount Lorette lost 4 full days to snow and obscured ridges, and a further 3 days were shortened because of the weather. In general, however, the count was conducted under above average temperatures (only one day failed to rise above freezing), precipitation was significantly below average, there were no extended periods of snow, ridge winds were predominantly favourable moderate to strong SSW-WSW, and occlusion of the eastern ridges were well below average. In summary migration and observing conditions were the best they have been for several years.*

SPRING 2021, MOUNT LORETTE

- 29th CONSECUTIVE SPRING COUNT AT MOUNT LORETTE.
- COMBINED SPECIES COUNT OF 1940 WAS 38.1% BELOW AVERAGE AND WAS THE SECOND LOWEST VALID COUNT AT THE SITE.
- GOLDEN EAGLE COUNT OF 1679 WAS 40.4% BELOW AVERAGE FOR VALID COUNTS AND WAS THE SECOND LOWEST VALID COUNT EVER.
- MARCH GOEA COUNT OF 1362 WAS 35.3% BELOW AVERAGE (81.1% OF TOTAL COUNT) AND WAS THE THIRD LOWEST EVER MARCH COUNT.
- APRIL GOEA COUNT OF 317 WAS 37.6% BELOW AVERAGE
- MAXIMUM GOEA COUNT OF 168 ON MARCH 16 WAS 55.7% BELOW AVERAGE AND IS THE LOWEST EVER MAXIMUM COUNT: ONLY 5 OTHER DAYS HAD THREE-FIGURE GOEA COUNTS.
- THE COMBINED SPECIES MEDIAN PASSAGE WAS MARCH 23rd, ONE DAY EARLIER THAN THE AVERAGE DATE.

MOUNT LORETTE, SPRING 2021 FINAL COUNT

DAYS 49 (-1.3%) HOURS 556.65 (+0.2%)

TURKEY VULTURE 0

OSPREY 0

GOLDEN EAGLE 1679 (-40.4%): second lowest ever valid count

NORTHERN HARRIER 3 (-36.3%)

SHARP-SHINNED HAWK 16 (-33%)

COOPER'S HAWK 3 (-54.1%)

NORTHERN GOSHAWK 26 (+24.9%)

Accipiter sp. 1 (-54.7%)

BALD EAGLE 167 (-53%)

Eagle sp. 13 (+108%)

BROAD-WINGED HAWK 0

SWAINSON'S HAWK 0

RED-TAILED HAWK 26 (-13.6%)

ROUGH-LEGGED HAWK 11 (-41.2%)

FERRUGINOUS HAWK 0

Buteo sp. 0

AMERICAN KESTREL 2 (+65.5%)

MERLIN 3 (-54.4%)

GYRFALCON 1 (-33.3%)

PEREGRINE FALCON 2 (+71.4%)

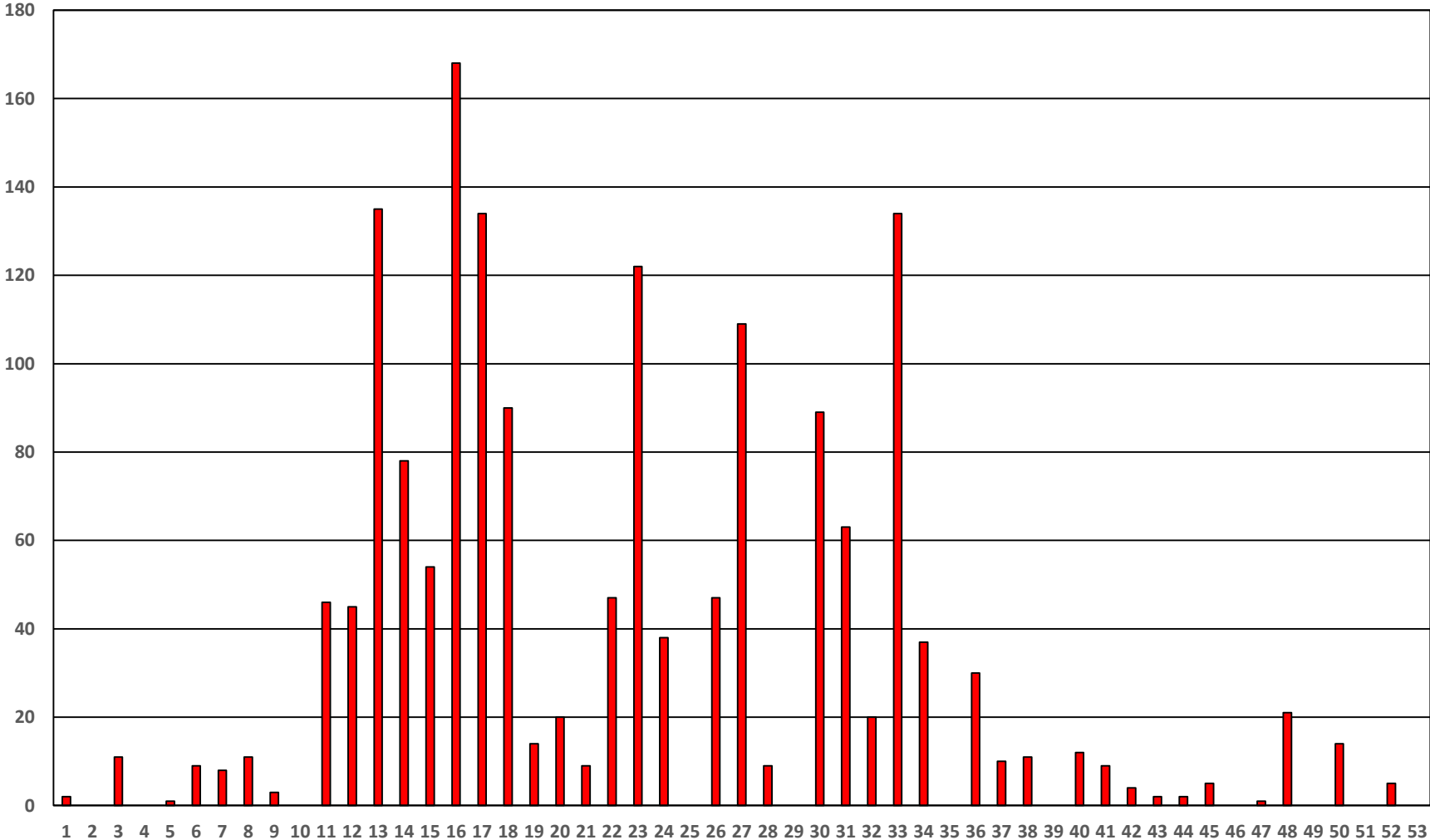
PRAIRIE FALCON 2 (-5.9%)

Falco sp. 3 (+227.3%)

UU 3 (+35.8%)

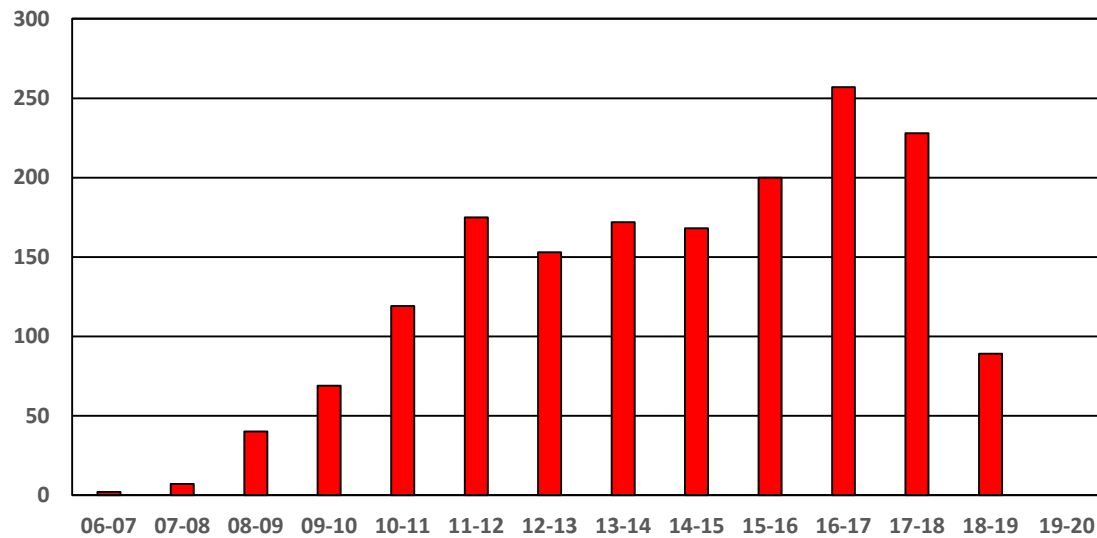
TOTAL 1940 (-38.1%) (13 SPECIES): second lowest ever valid count

Mount Lorette, spring 2021 GOLDEN EAGLE n = 1679
(March 01 to April 22: April 01 = 32)

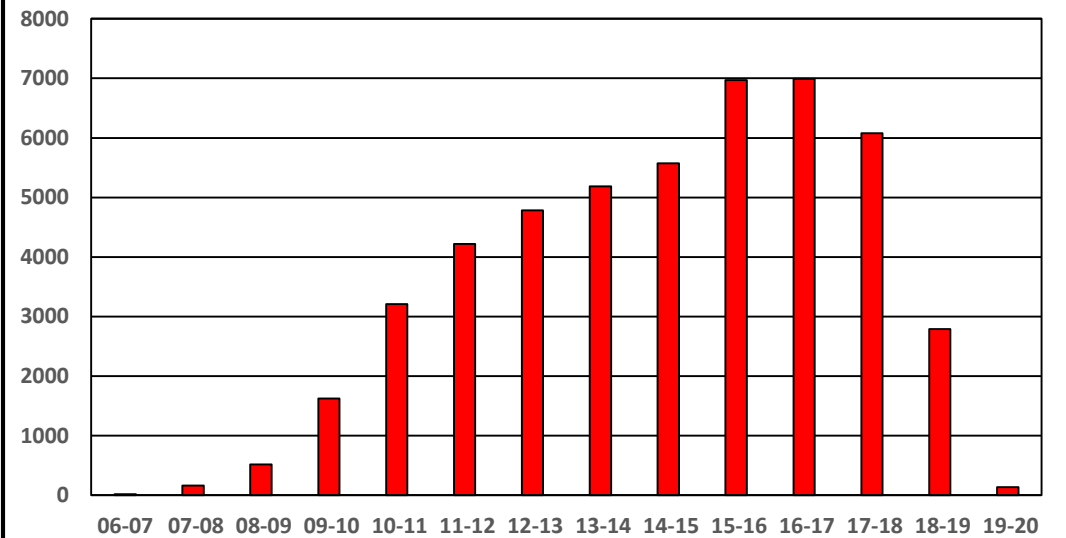


APRIL

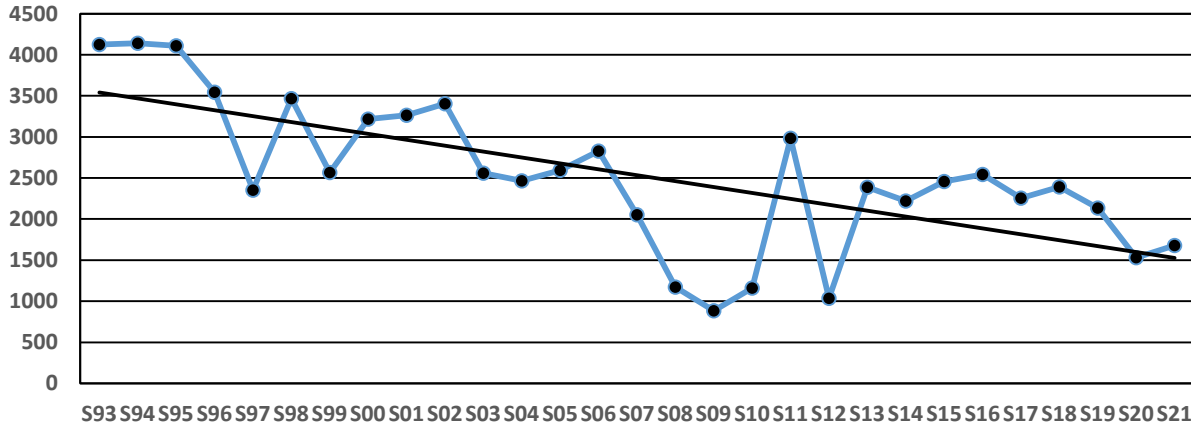
MOUNT LORETTE, SPRING 2021
GOLDEN EAGLE n = 1679 mountain standard time)



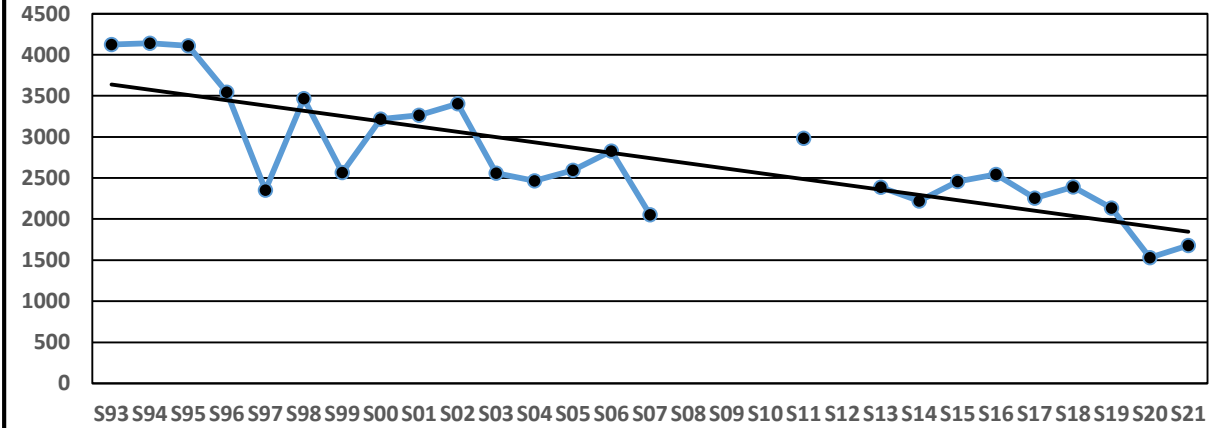
MOUNT LORETTE, GOLDEN EAGLE SPRING FULL
COUNTS 1993-2007 (15 years) n = 48,247



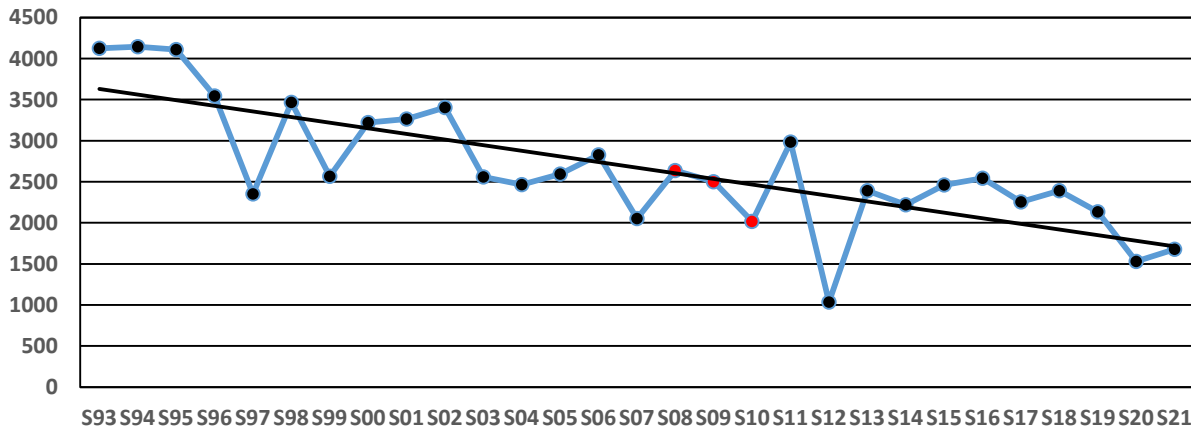
MOUNT LORETTE GOEA SPRING COUNTS 1993-2021
(March 01 to April 22)



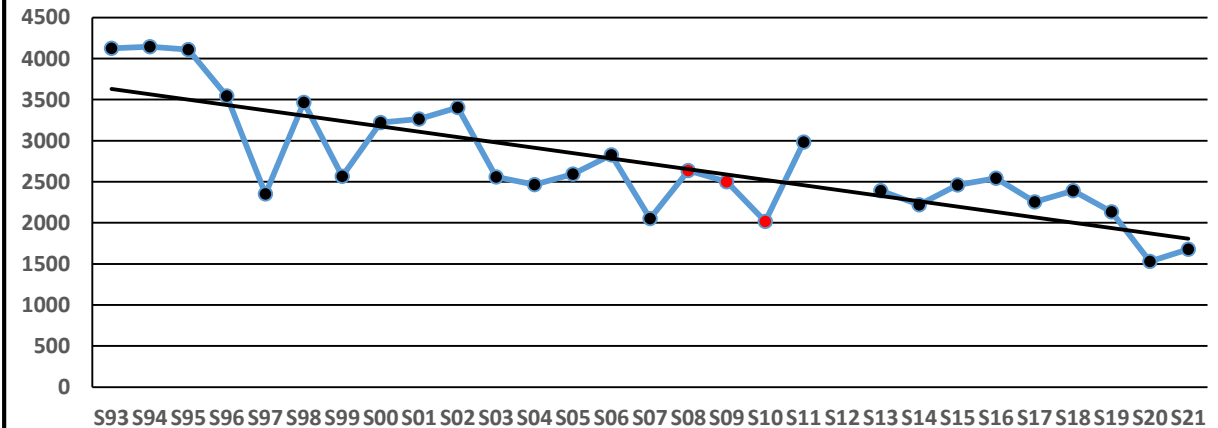
MOUNT LORETTE SPRING GOLDEN EAGLE COUNTS 1993-2021,
EXCLUDING ANOMALOUS LOW COUNTS 2028-10 AND 2012



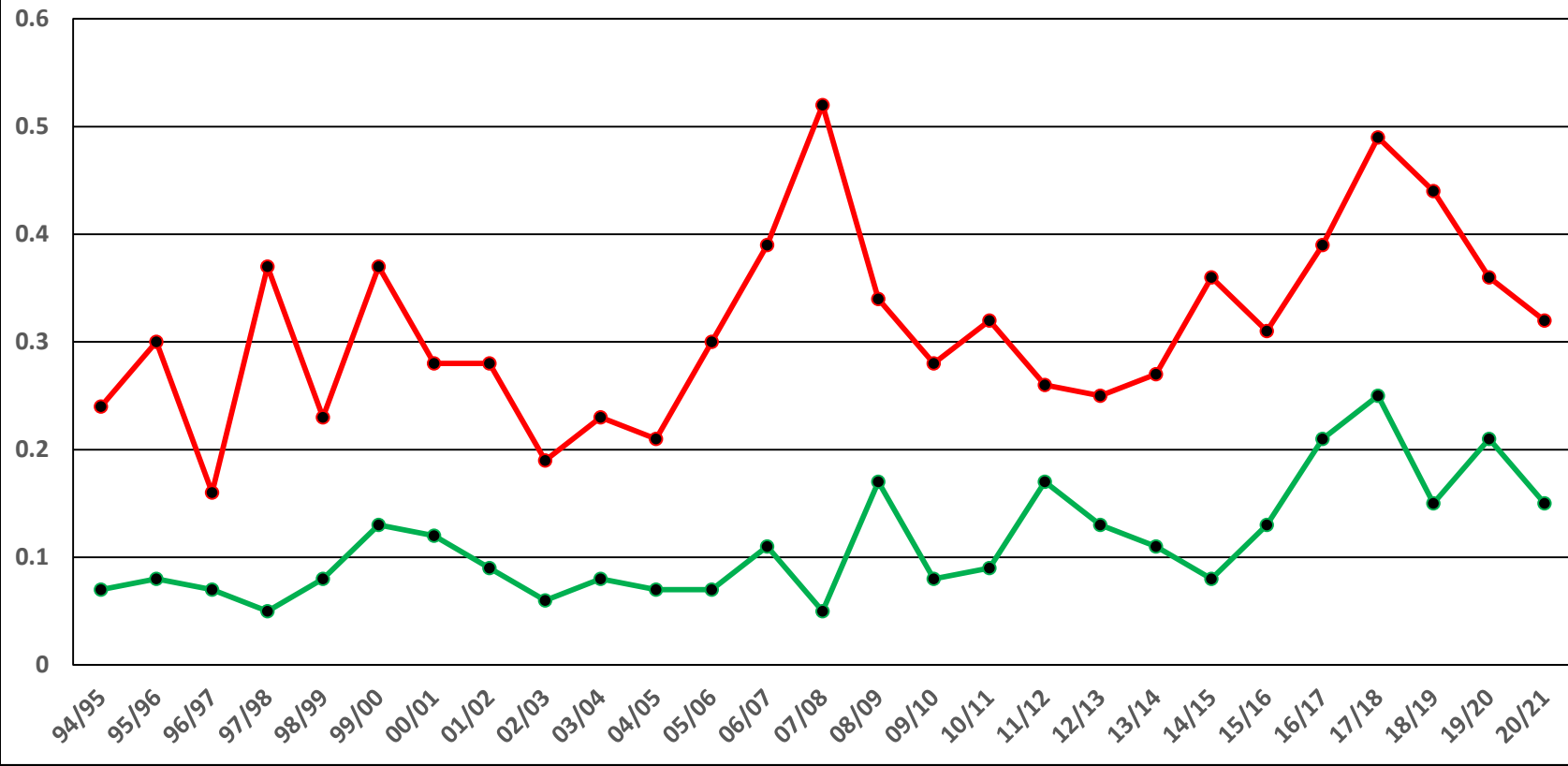
MOUNT LORETTE GOEA SPRING COUNTS 1993-2021
with 2008-2010 data from Piitaistakis-South livingstone site



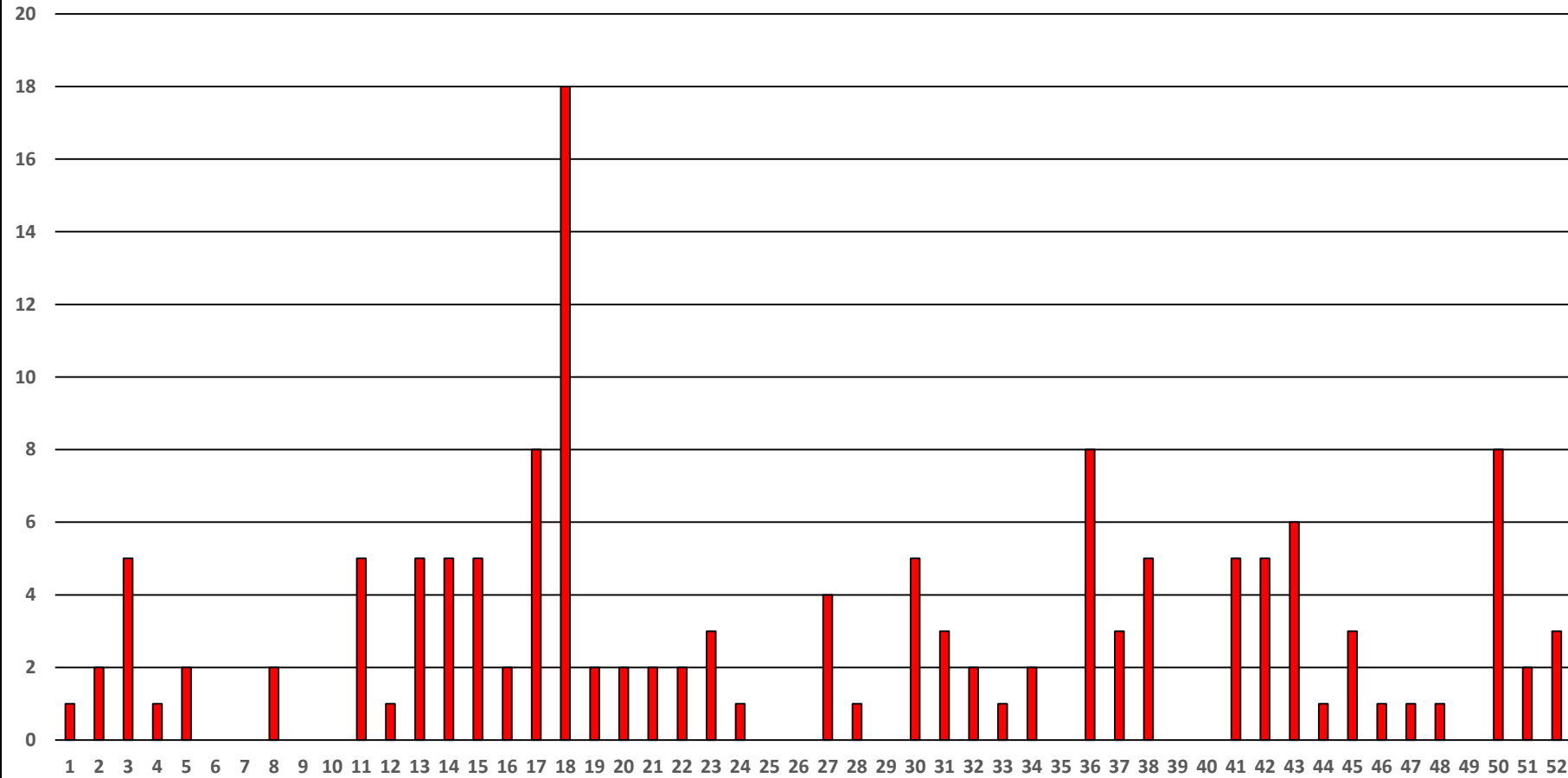
MOUNT LORETTE GOEA SPRING COUNTS 1993-2021 (excluding
2012), with 2008-2010 data from Piitaistakis-S Livingstone site.



MOUNT LORETTE, GOLDEN EAGLE
immature:adult ratios 1994-spring 2021
(fall top, spring bottom)



Mount Lorette, spring 2021 BAEA n = 144
(March 01-April 22: April 1 = 32)



Species median passage dates

- Golden Eagle, March 23 (1 day earlier than average)
- Sharp-shinned Hawk, April 07 (6 days earlier than average)
- Bald Eagle, March 28 (5 days earlier than average)
- Red-tailed Hawk , April 10 (3 days earlier than average)
- Northern Goshawk, March 31 (2 days later than average)
- Rough-legged Hawk, April 5 (14 days later than average)
- Combined species, March 23 (1 day earlier than average)

Selected first occurrences

- Northern Harrier, March 15 (18 days earlier than average)
- Sharp-shinned Hawk, March 17 (6 days earlier than average)
- Cooper's Hawk, March 14 (16 days earlier than average)
- Red-tailed Hawk, March 14 (7 days earlier than average)
- American Kestrel, April 14 (9 days earlier than average)
- Merlin, March 22 (4 days earlier than average)
- Peregrine Falcon, April 4 (16 days earlier than average)
- Rough-legged Hawk, March 19 (4 days later than average)

BEAVER MINES, SPRING 2021



BEAVER MINES, SPRING 2021, February 16 to May 6 (2020 numbers in parenthesis)

DAYS 62 (69), HOURS 463.6 (877.7)

TURKEY VULTURE 21 (16)

OSPREY 4 (18)

GOLDEN EAGLE 601 (1181)

NORTHERN HARRIER 17 (45)

SHARP-SHINNED HAWK 23 (141)

COOPER'S HAWK 6 (30)

NORTHERN GOSHAWK 7 (52)

Accipiter sp. (1)

BALD EAGLE 61 (389)

Eagle sp. 1 (0)

BROAD-WINGED HAWK 0 (23)

SWAINSON'S HAWK 0 (9)

RED-TAILED HAWK 30 (278)

ROUGH-LEGGED HAWK 26 (65)

FERRUGINOUS HAWK 0 (0)

Buteo sp. 1 (9)

AMERICAN KESTREL 0 (22)

MERLIN 1 (34)

GYRFALCON 0 (5)

PEREGRINE FALCON 2 (17)

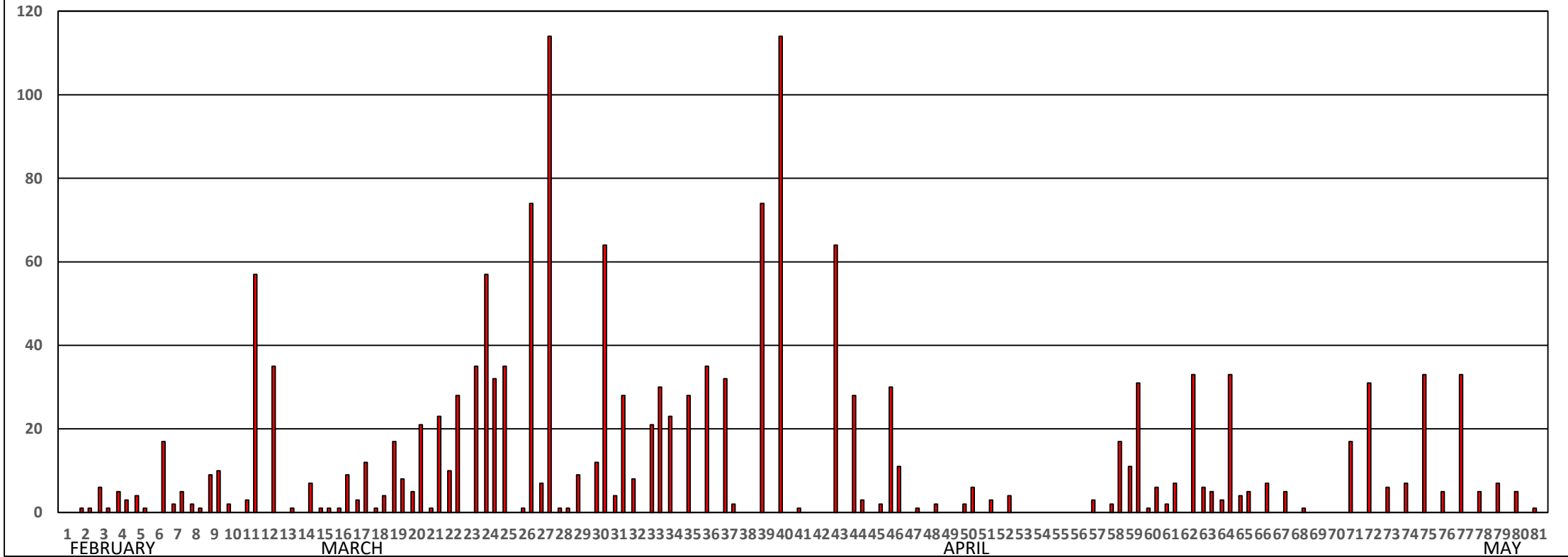
PRAIRIE FALCON 1 (9)

Falco sp. 0 (0)

Unidentified raptor 0 (0)

TOTAL 802 (2349), 13 species (18 species)

Beaver Mines, spring 2021 February 16 to May 05 Combined species n = 802
(March = 15, April = 47, May = 78)



STEEPLES, SPRING 2021



STEEPLES, SPRING 2021 (VARIANCE COMPARED TO 2010-2020 AVERAGE)

DAYS **28** (-19.2%); HOURS **99.25** (-32.8%) (17 days lost because of work commitments and 7 days lost to inclement weather.

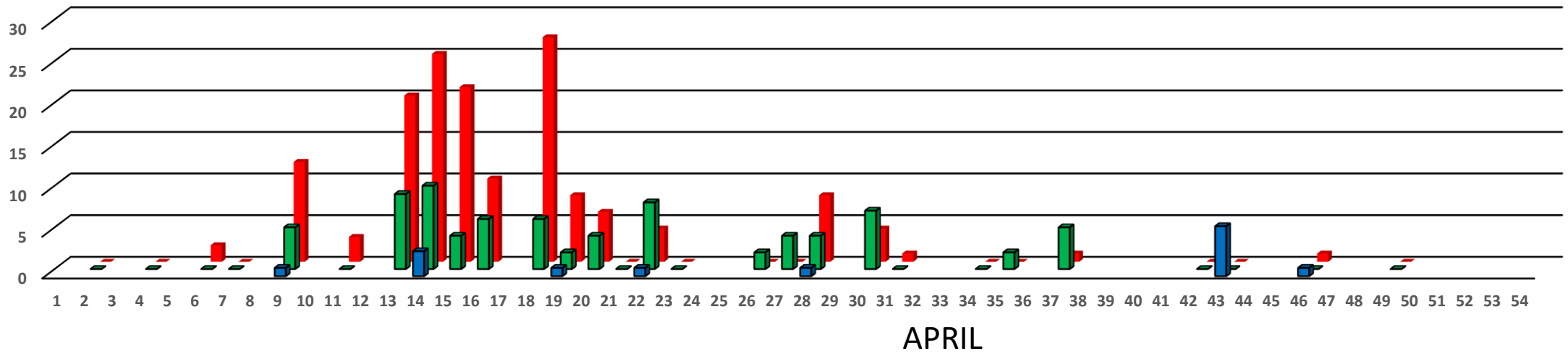
TURKEY VULTURE 0, OSPREY 0, GOLDEN EAGLE 153 (-56.8%), NORTHERN HARRIER 5 (+587.5%)
SHARP-SHINNED HAWK 2 (-62.1%), COOPER'S HAWK **0**, NORTHERN GOSHAWK 0, UA 0 BALD
EAGLE 78 (-45.4%), UE 6 (+175%), BROAD-WINGED HAWK **0**, SWAINSON'S HAWK **0**, RED-TAILED
HAWK 1 (-91.1%), ROUGH-LEGGED HAWK 0, FERRUGINOUS HAWK **0**, UB 0, AMERICAN KESTREL 0,
MERLIN 0, GYRFALCON 0 PEREGRINE FALCON, PRAIRIE FALCON **0**, UF 0, UU 0.

TOTAL 245 (-54.1%) of 5 species: lowest ever spring count at the site.

0 NEVER RECORDED IN SPRING

All counts conducted by Vance Mattson

STEEPLES SPRING 2020 March 01-April 22
Golden Eagle (153), Bald Eagle (78), other (14)



MOUNT LORETTE, FALL 2021



WEATHER

Four days, October 10 and 29, and November 14 and 15 (the last two days of the count) were lost to persistent precipitation that completely obscured the mountains, but none of the active days were significantly shortened because of the weather and all of the 53 active days saw raptor movement.

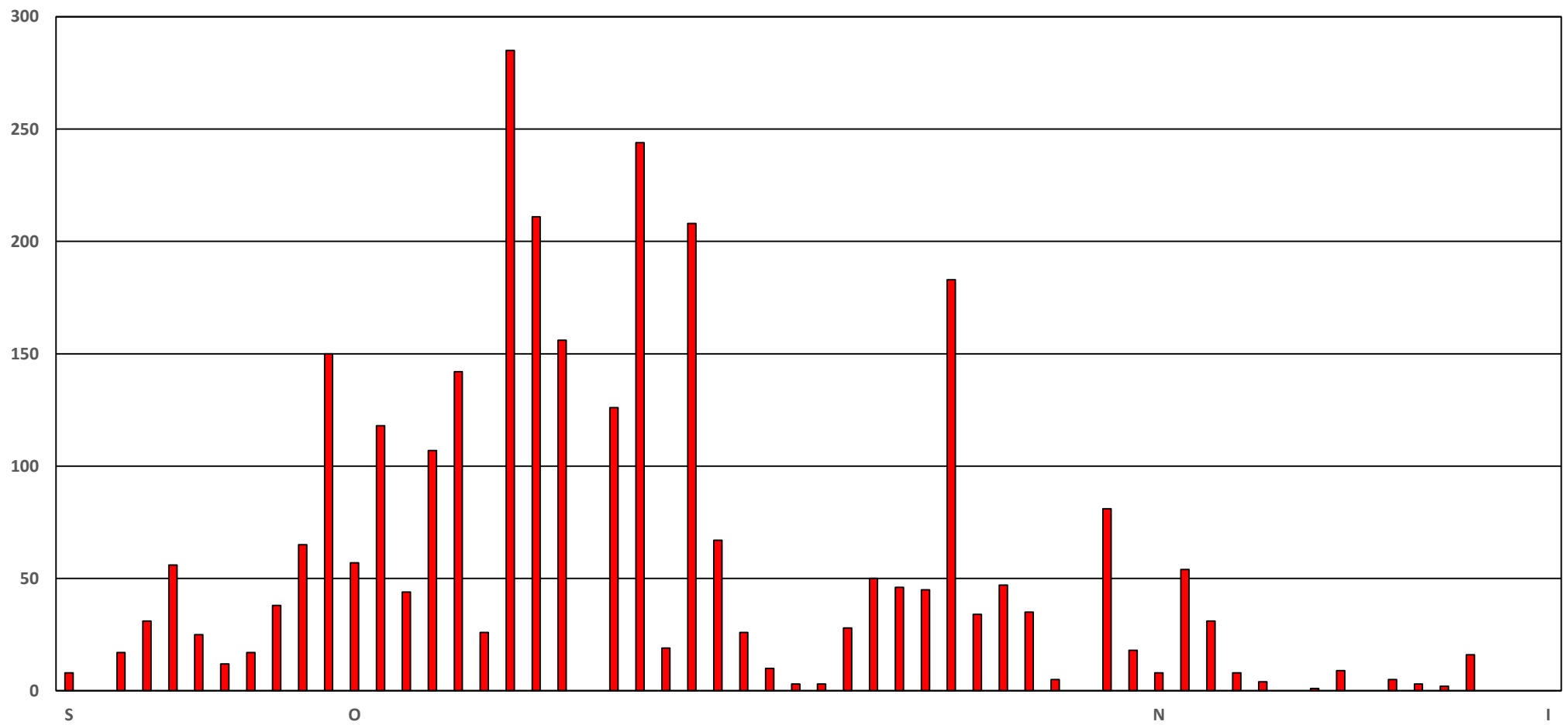
Following the warmest summer on record, the entire count was conducted in above average temperatures and no active day registered a maximum temperature below freezing. Precipitation was below average with non-persistent rain predominating. The eastern ridge system (Mount Lorette and the Fisher Range) remained clear on most active days and winds were almost exclusively moderate to strong SW-WSW.

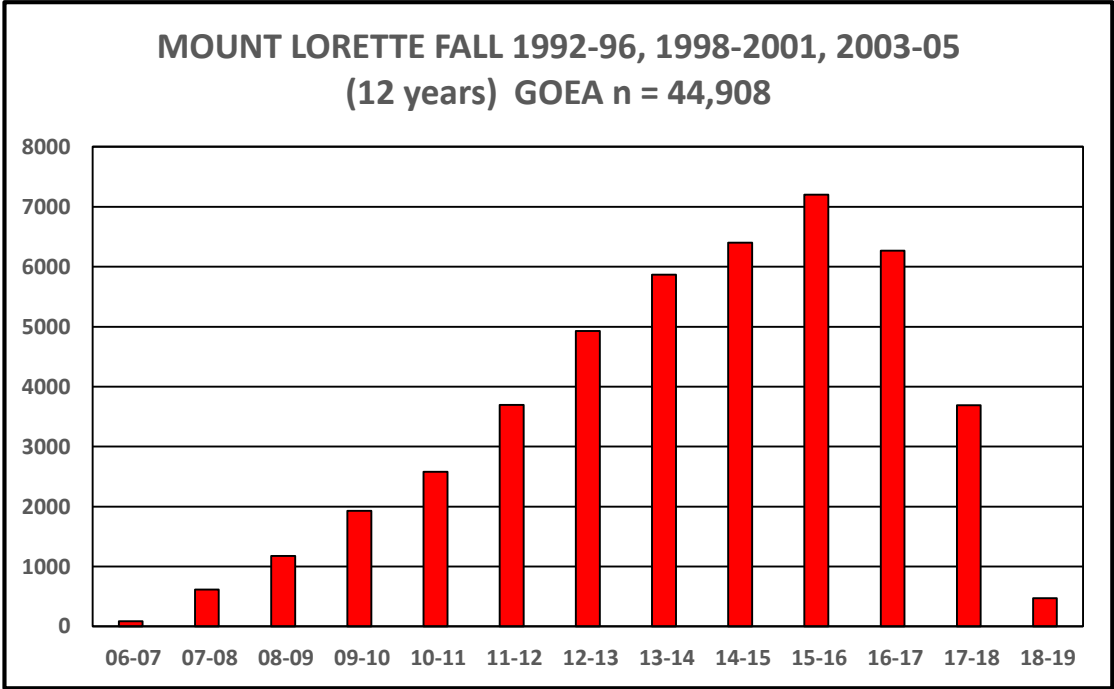
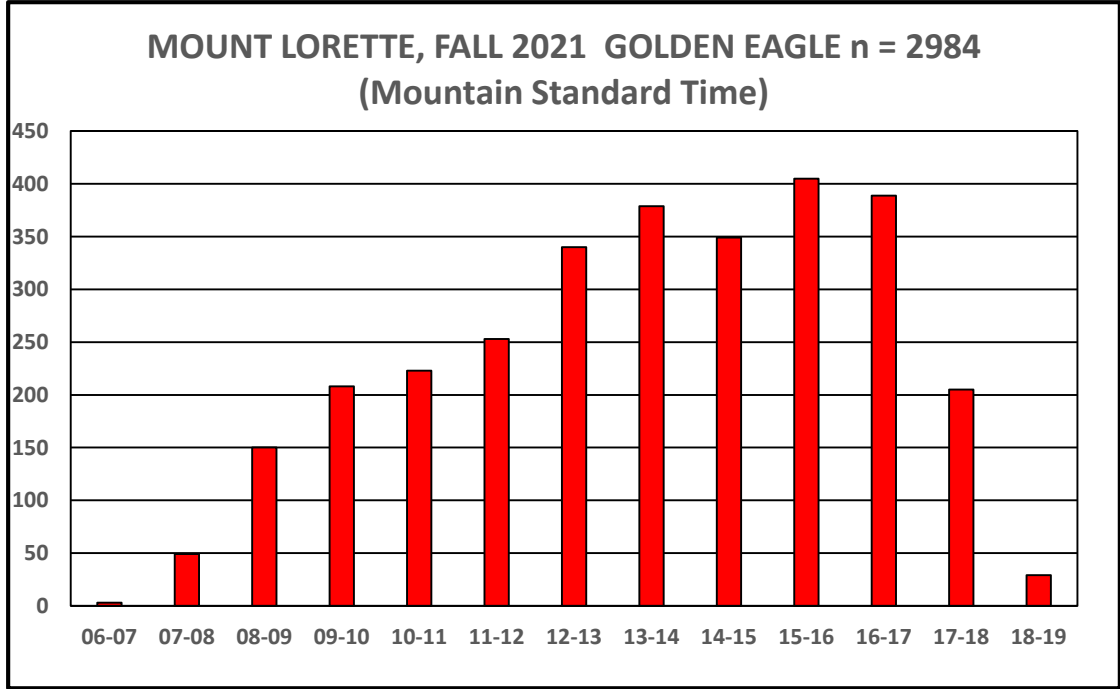
In summary, both observing and migration conditions were close to ideal throughout the count.

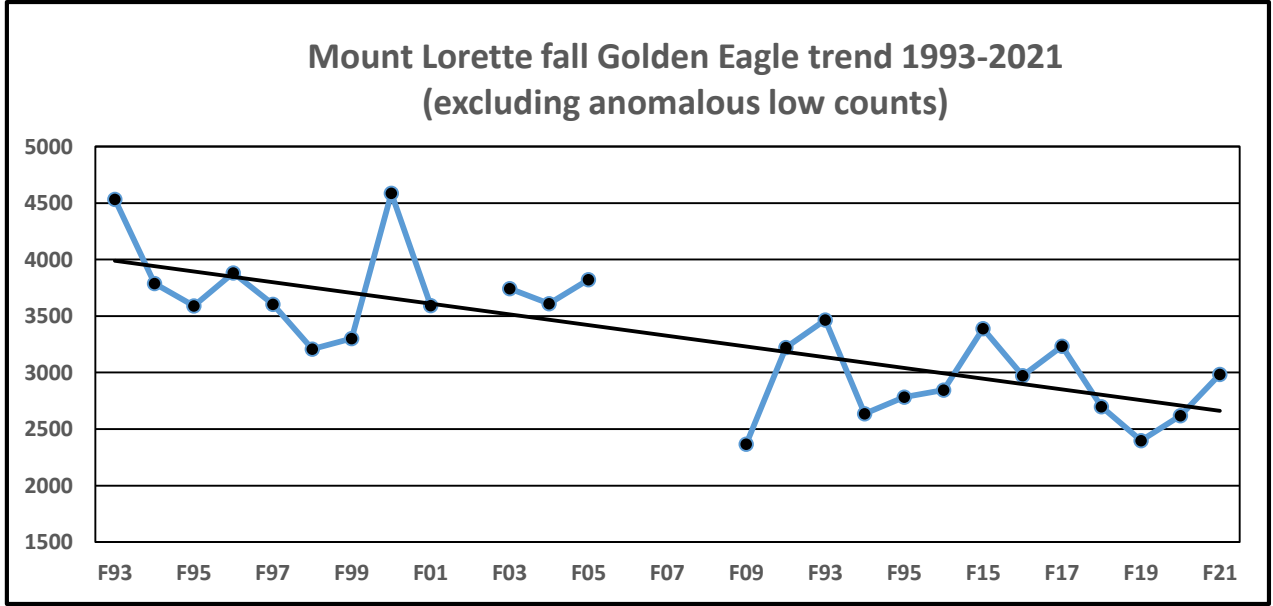
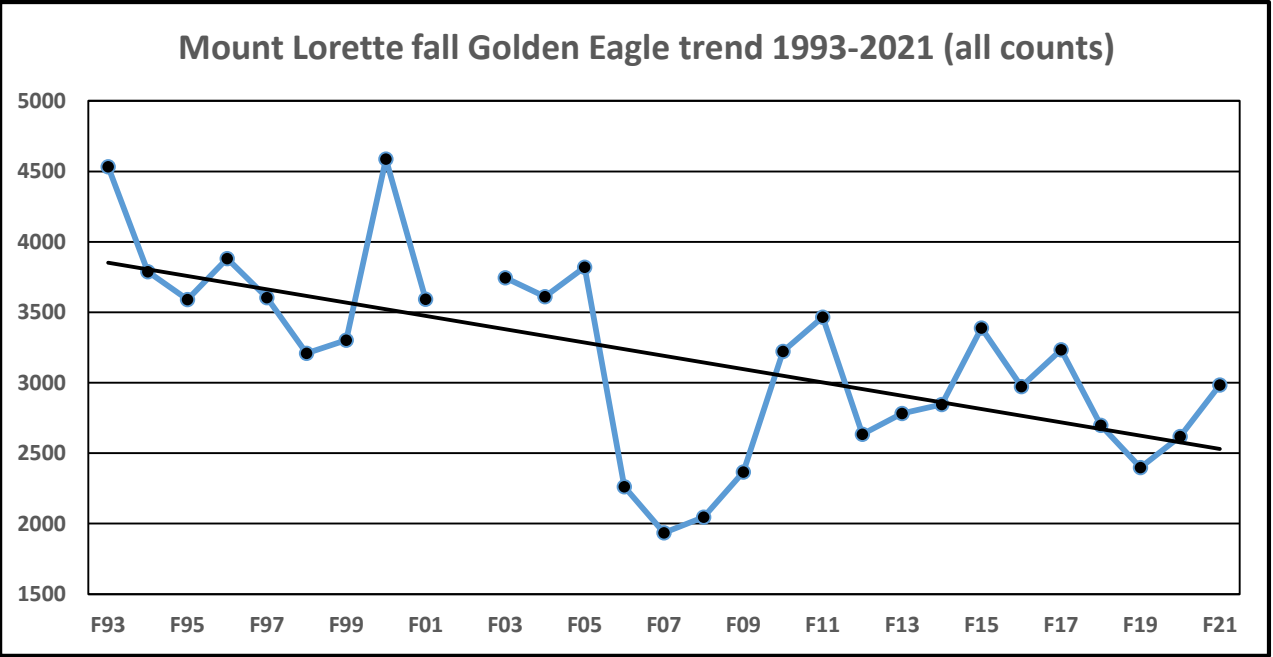
FALL 2021, MOUNT LORETTE

- 30th CONSECUTIVE YEAR THAT SOME FORM OF FALL COUNT HAS BEEN CONDUCTED AT MOUNT LORETTE
- COMBINED SPECIES COUNT OF 3517 WAS 9.5% BELOW AVERAGE AND WAS THE HIGHEST SINCE 2017.
- GOLDEN EAGLE COUNT OF 2984 WAS 10% BELOW AVERAGE FOR VALID COUNTS AND WAS THE HIGHEST SINCE 2017.
- SEPTEMBER COUNT OF 573 WAS 16.6% ABOVE AVERAGE; THE OCTOBER COUNT OF 2754 WAS 8.8% BELOW AVERAGE AND THE NOVEMBER COUNT OF 190 WAS 34.2% BELOW AVERAGE.
- THE MAXIMUM GOEA COUNT OF 275 ON OCTOBER 5 WAS 30.1% BELOW AVERAGE: 7 OTHER DAYS HAD THREE-FIGURE GOEA COUNTS BUT ONLY 3 WERE ABOVE 200.
- THE COMBINED SPECIES MEDIAN PASSAGE WAS OCTOBER 6, 7 DAYS EARLIER THAN AVERAGE.

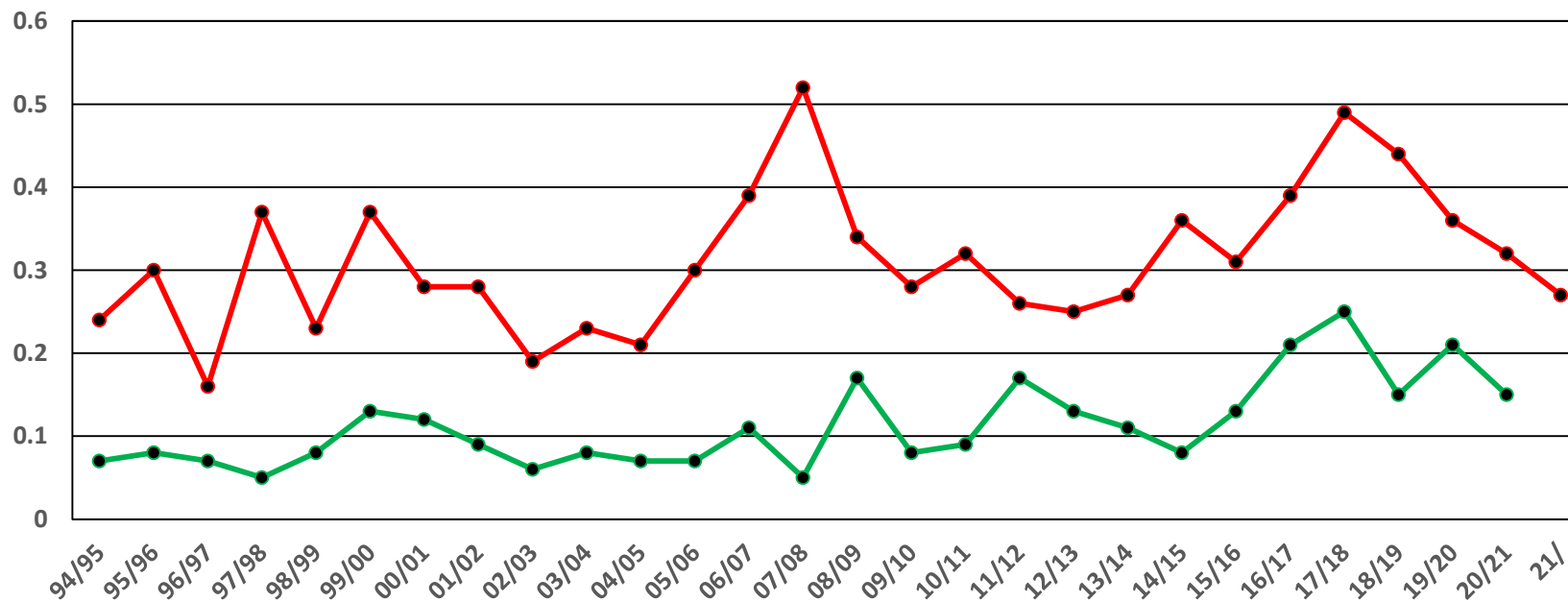
MOUNT LORETTE, FALL 2021 GOLDEN EAGLE n = 2984
(September 20 to November 15)



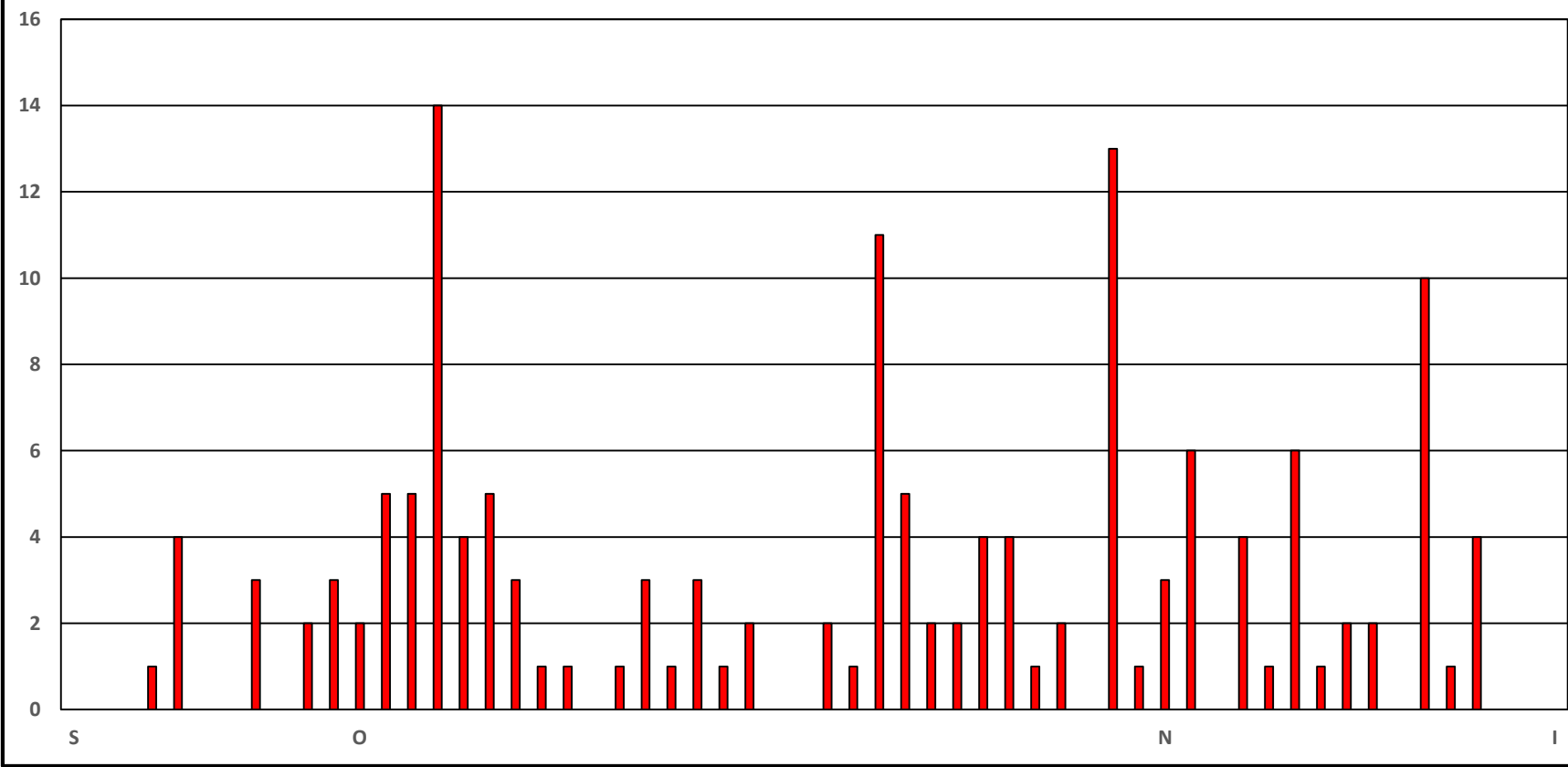




MOUNT LORETTE, GOLDEN EAGLE
immature:adult ratios 1994-fall 2021
(fall top, spring bottom)



MOUNT LORETTE, FALL 2021 (September 30 - November 19)
BALD EAGLE n =152



Species median passage dates

- Osprey October 06 (11 days later than average)
- Golden Eagle October 09 (3 days earlier than average)
- Sharp-shinned Hawk October 01 (1 day earlier than average)
- Cooper's Hawk October 01 (1 day earlier than average)
- Northern Goshawk, October 04 (7 days earlier than average)
- Bald Eagle, October 21 (2 days earlier than average)
- Broad-winged Hawk September 26 (7 days earlier than average)
- Red-tailed Hawk September 30 (equals average)
- Rough-legged Hawk October 20 (3 days later than average)
- Merlin September 29 (6 days earlier than average)
- Peregrine Falcon October 01 (5 days earlier than average)
- Combined species, March 23 (3 days earlier than average)

IMMATURE:ADULT AGE RATIOS

- GOLDEN EAGLE 0.31 (-12.5%)
- SHARP-SHINNED HAWK 0.39 (+2.9%)
- COHA 0.06 (-25.7%)
- NOGO 0.4 (+53.04%)
- BAEA 0.38 (-32.2%)
- RTHA 0.63 (+42.74%)

VICKI RIDGE FALL 2021



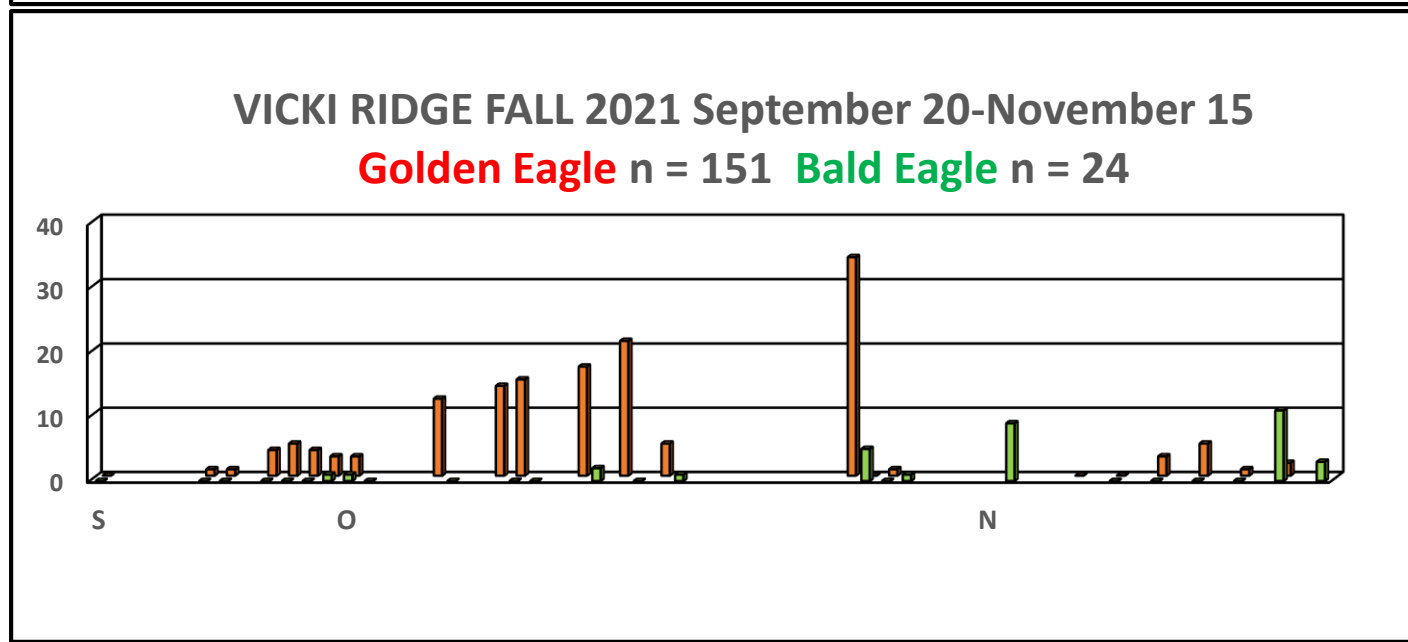
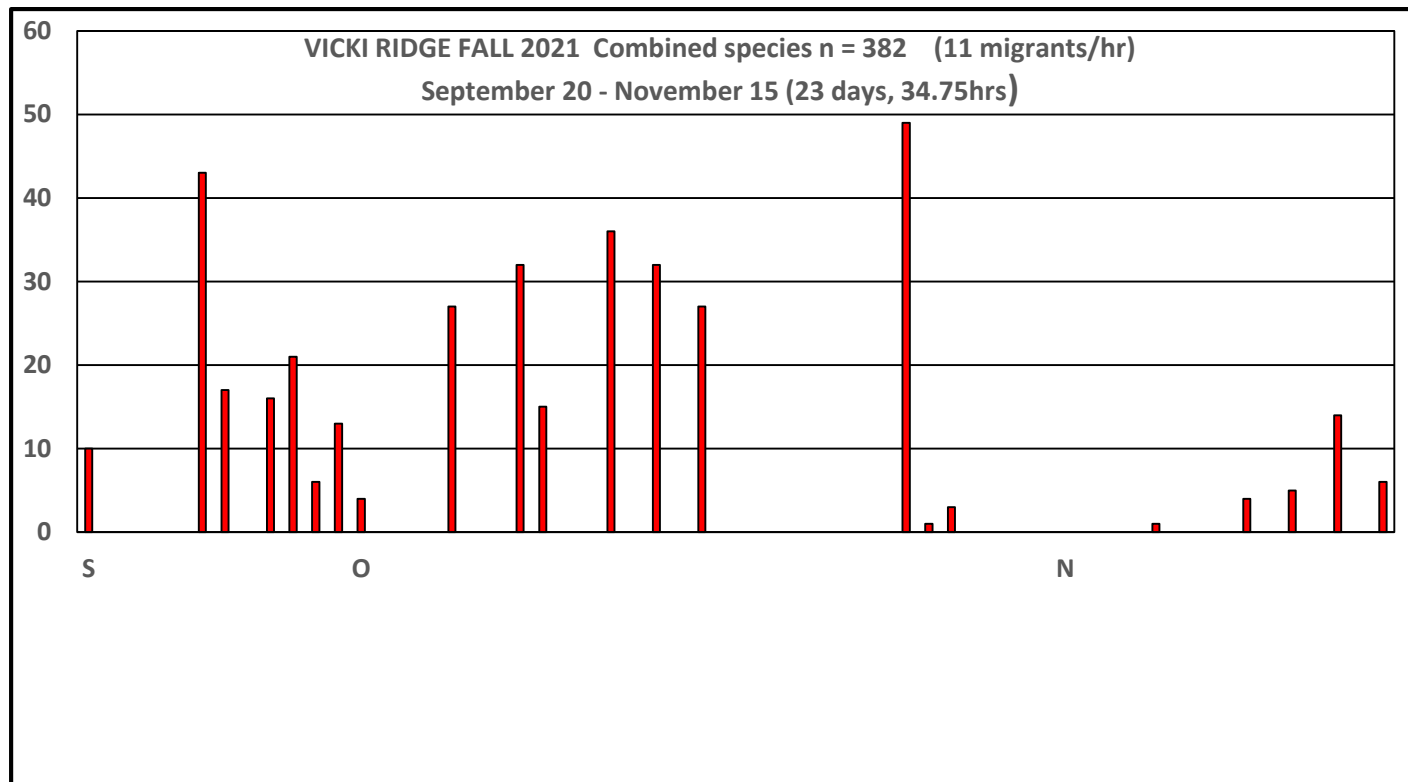
Vicki Ridge reconnaissance count, fall 2021

DAYS 23; HOURS 34.75 (NOTE The 2020 count yielded 4823 migrants of 18 spp.)

TURKEY VULTURE 0, OSPREY 1, GOLDEN EAGLE 151, NORTHERN HARRIER 1, SHARP-SHINNED HAWK 111, COOPER'S HAWK 26, NORTHERN GOSHAWK 7, UA 0, BALD EAGLE 24, UE 1, BROAD-WINGED HAWK 0, SWAINSON'S HAWK 0, RED-TAILED HAWK 22, ROUGH-LEGGED HAWK 22, FERRUGINOUS HAWK 0, UB 0, AMERICAN KESTREL 0, MERLIN 0, GYRFALCON 0, PEREGRINE FALCON 5, PRAIRIE FALCON 2, UF

0, UU 0. TOTAL 382 (11 species) PASSAGE RATE = 11 MIGRANTS/HOUR

COUNTS CONDUCTED BY GORD PETERSEN AND DENISE COCCIOLONE-AMATTO



BEAVER MINES, FALL 2021



WT 68

WT 61

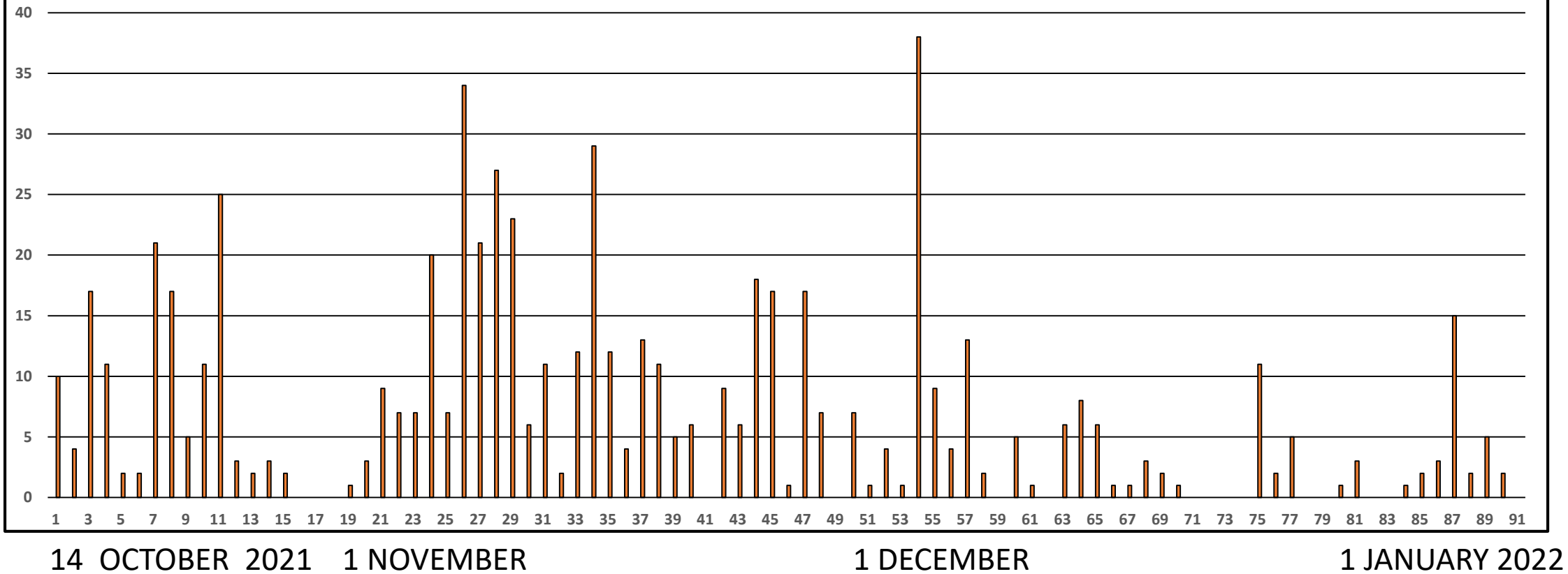
Beaver Mines Beaver Mines

Image © 2021 CNES / Airbus
© 2021 Google

Google Earth

Beaver Mines, fall 2021																		
October 14 to January 11 (86 days, 422.9 hours)																		
Date	Days	HRS	GE	NH	CH	NG	BE	SW	RT	RL	UB	ME	GY	PE	UU	TOTAL	spp.	raptors/hr
October	17	83.9	43	2	1	3	9	1	10	62	1	0	0	1	2	135	9	1.61
November	30	151.25	66	0	0	7	113	0	3	154	0	1	1	0	0	345	7	2.28
December	29	127.49	16	0	0	1	63	0	1	50	0	0	0	0	0	131	5	1.03
January	10	60.25	10	0	0	1	16	0	0	7	0	0	0	0	0	34	4	0.56
TOTALS	86	422.91	135	2	1	12	201	1	14	273	1	1	1	1	2	645	11	1.53
Date	Days	HRS	GE	NH	CH	NG	BE	SW	RT	RL	UB	ME	GY	PE	UU	TOTAL	spp.	11

BEAVER MINES, FALL 2001 COMBINED SPECIES n = 645
2021 OCTOBER 14 to 2022 JANUARY 11



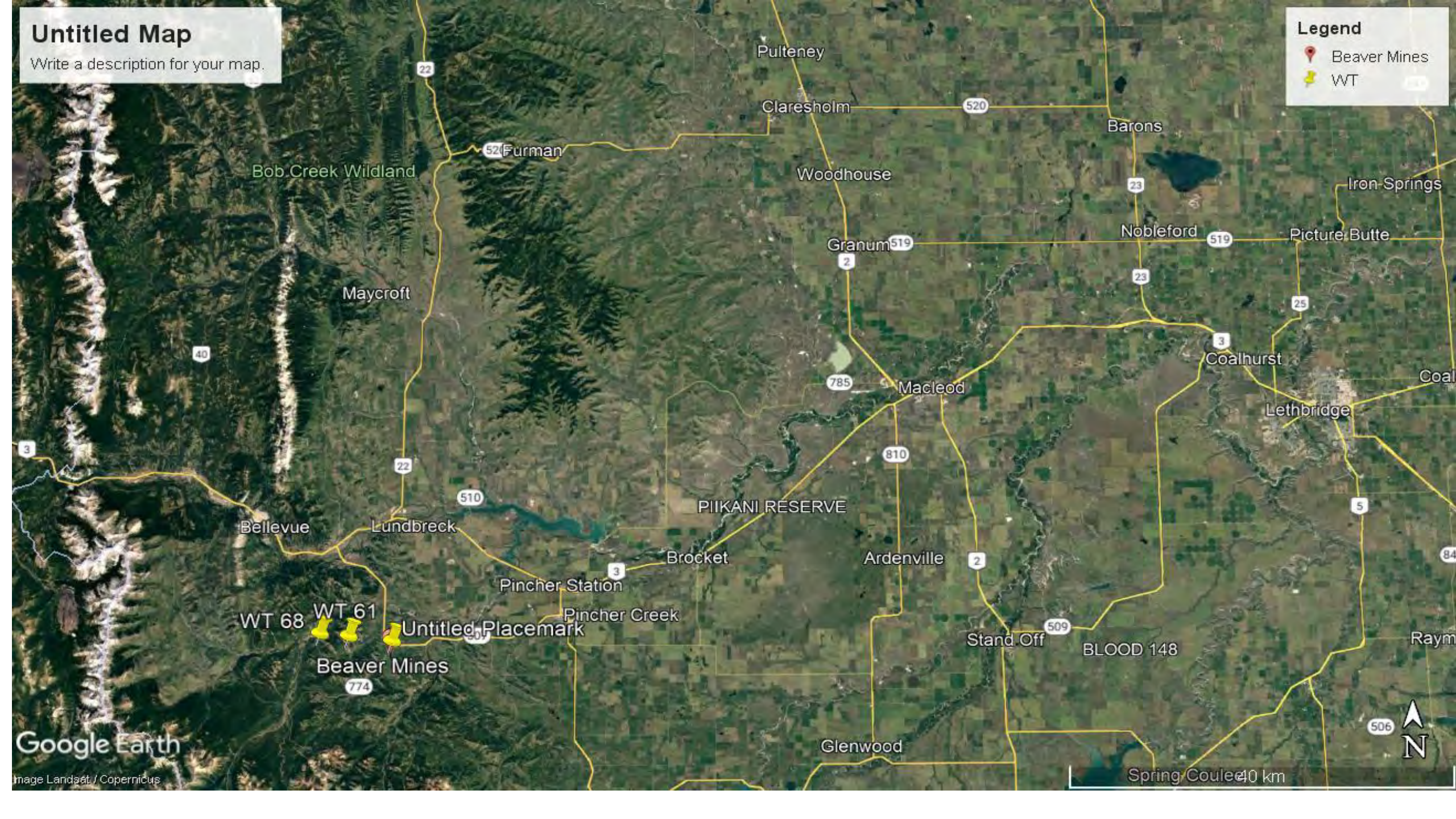
Untitled Map

Write a description for your map.

Legend

 Beaver Mines

 WT



STEEPLES, FALL 2021



STEEPLES, FALL 2021 (October 01 – November 15) (VARIANCE COMPARED TO 2010-2020 AVERAGE)

DAYS 26 (-18.5%); HOURS 94 (-23.3%) (NOTE 10 days were lost because of work commitments and 6 owing to weather)

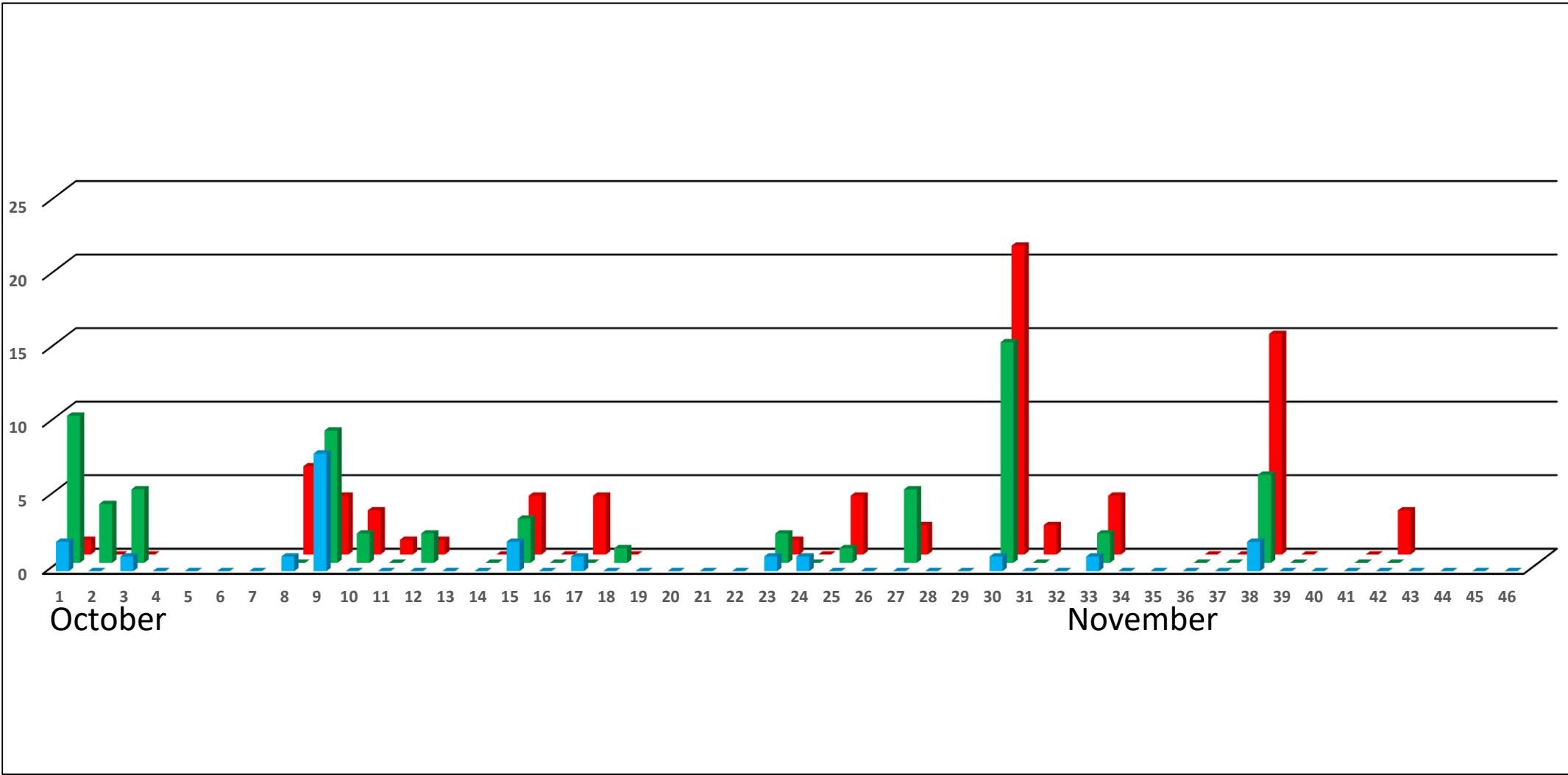
TURKEY VULTURE 0 (-100%) OSPREY 1 (-55.6%), GOLDEN EAGLE 76 (-40.9%), NORTHERN HARRIER 0 (-100%), SHARP-SHINNED HAWK 4 (-89.5%), COOPER'S HAWK 0 (-100%), NORTHERN GOSHAWK (-57.1%), UA 0 (-100%), BALD EAGLE 67 (-53.7%), UE 0 (-100%), BROAD-WINGED HAWK 0 (-100%), SWAINSON'S HAWK 0, RED-TAILED HAWK 10 (-59.2%), ROUGH-LEGGED HAWK 4 (-29.4%), FERRUGINOUS HAWK 0, UB 0 (-100%), AMERICAN KESTREL 0 (-100%), MERLIN 0 (-100%), GYRFALCON 0 (-100%), PEREGRINE FALCON 0 (-100%), PRAIRIE FALCON 0 (-100%), UF 0 (-100%), UU 0 (-100%). (0 = NEVER RECORDED IN SPRING)

TOTAL 164 (-54.77%) (11 species) PASSAGE RATE = 1.74 MIGRANTS/HOUR

ALL COUNTS CONDUCTED BY VANCE MATTSON

STEEPLES FALL 2021, OCTOBER 01 - NOVEMBER 15

Golden Eagle 76, Bald Eagle 67, other 21

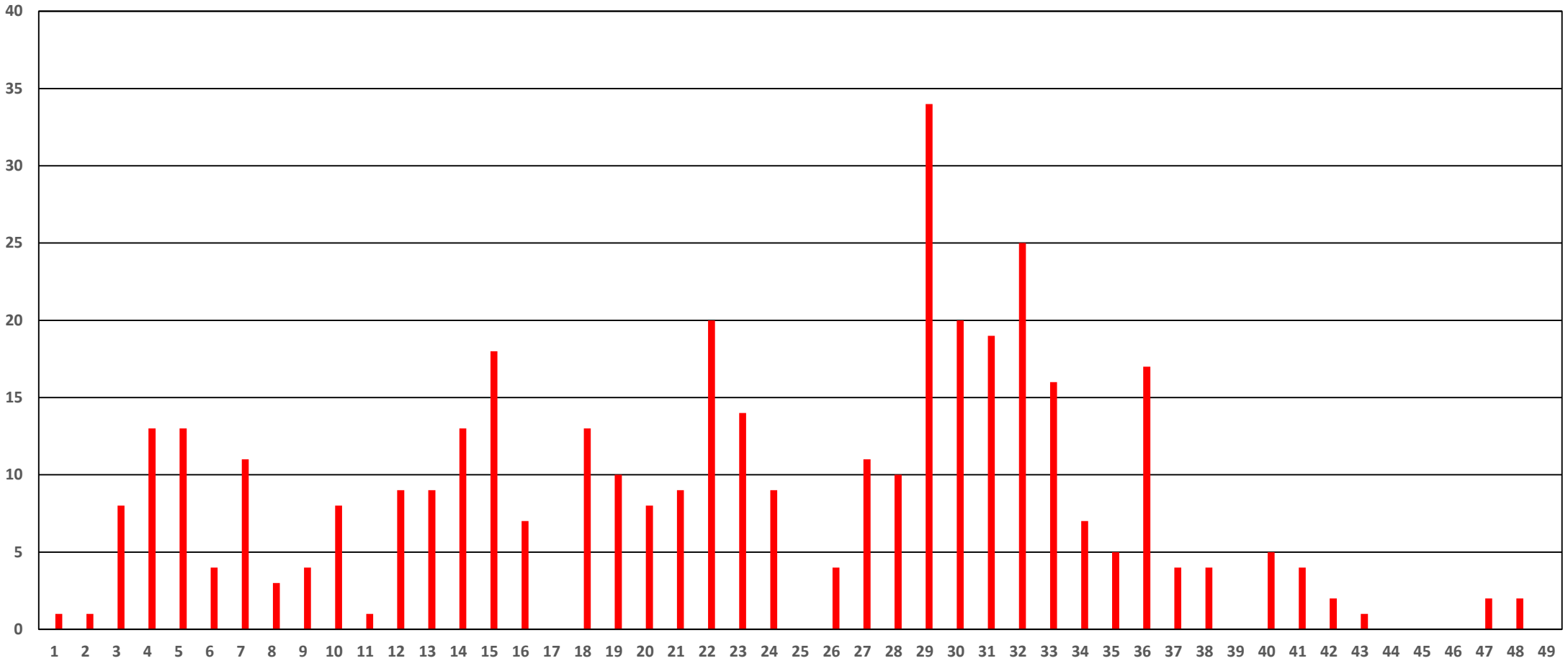


	STEEPLES						MOUNT LORETTE				
						Date	HRS	GE	BE	TOTAL	
						2021-10-27	10.92	35	1	36	
						2021-10-28	9.25	5	2	8	
Date	HRS	GE	BE	TOTAL		2021-10-29	NO (weather)			0	
2021-10-30	5.25	21	15	37		2021-10-30	10.33	81	13	101	
2021-10-31	3.75	2	0	2		2021-10-31	10.42	18	1	19	
2021-11-01	NO (work)			0		2021-11-01	11	8	3	12	
2021-11-02	3	4	2	7		2021-11-02	10.33	54	6	62	
2021-11-03	NO (work)			0		2021-11-03	10.33	31	0	31	
2021-11-04	NO (weather)			0		2021-11-04	9.83	8	4	13	
2021-11-05	3	0	0	0		2021-11-05	9.83	4	1	6	
2021-11-06	2	0	0	0		2021-11-06	9.83	0	6	7	
2021-11-07	5	15	6	23		2021-11-07	9.08	1	1	2	
						2021-11-05	9.83	4	1	6	
						2021-11-06	9.83	0	6	7	
						2021-11-07	9.08	1	1	2	

BEAVER MINES, SPRING 2022



BEAVER MINES, SPRING 2022 Combined species n = 398
January 08-February 24 (25 = February 01)



I January 08

I February 01

[illegible]