GRAZING MOVES MARCH 1, 2015 TO FEBRUARY 28, 2016

**DRAFT CULLS:** 50 P(D); 20 P (BB); 28 P; 62 P; 16 P (lamb); 54-11 (D); 83-6 (D); 88P; 68 P (D); 117-13 (PC); 80-13 (PC); 3 P; 77 P(D); 118P (D); 67-11 (Suck) Need to align with new numbers.

Post test culls and problems: 192 (s); 219 (s); 203 (s); 320 (s); 336 (pc); 211 (pc); 290 (Late and dry 2015)

**MARCH**

WG6 (283 C) 3.1-6 N: Move every 1 to 2 days (notice new pad #)

NG4 (130 YC) 3.1-5 N: 2 day moves

WL1 (390c) 3.1-6 N: 1 to 2 day moves

WG1 (283 C) 3.7-21 N: Half to full feed straw. 6 splits.

NG5 (130 YC) 3.6- 4.29 N: add 6 cows on 4.16 (136) Fed 1/3. 10 splits

NBW8 (390 c) 3.7-4.6 N: Sold 45 calves. Count off sold 15 earlier.

NBW7 (330 c) 4.7-15 N 3 splits

Corral-NBW1 3.15-17 N: Weigh and cut calves

WG5 (283C) 3.18-21 N: 2 splits

**APRIL (.76 moisture)**

NBW9 (277C) 3.22-4.3 N: 6 splits (11 Ads)

NBW12 (277C) 4.4-4.11 N: 3 splits (11Ads)

NBW13 (277C) 4.12-16 N: 3 splits

NBW14 (277C) 4.17-19 N: Left early due to water break. 2 splits

NBW16-15 (277) 4.20-5.2N: 4 splits. Used N 1/3 of 15

NG6 (277) 4.29-5.1 N: Moving toward calving area in NNG3

WL5 (329c) 4.16-27 N: 5 splits

WL1 (329c) N: Trailing yearlings

Corrals (329c) 4.28-30 N: 295 yearlings (171 S and 157H) to Wolf Point on April 30

**MAY (1.96 moisture**)

SBW2 (18B) 5.1-6.26 N: Bulls. Multiple daily splits

NNG3 (135YC) 5.2-26 N: 8 splits

NNG3a (135YC) 5.2-19 N: 8 splits

SBW8 (277) 5.3-7 N: 3 splits

SBW3 (277C) 5.8-11 N: 2 splits. Little severe in SW corner

NG6 (277C) 5.12-15 N: Big rain 5.15-16-17

Corrals (33) N: 32 yearlings to Wolf Point (Kombols) May 13

NG6a (277C) 5.16-20 N: NG6 and 6a need more winter impact on CW

NG2 (277C) 5.21-5.31 N: 6 splits

NNG2 (135YC) 5.27-6.8 N: 6 splits

**JUNE (.98)**

NBW3?(18B) N: Bulls in old CRP during branding

SNG (18B) 7.1-20

NG7 (277C) 6.1-3 N: 2 splits. Only used about 1/3 of paddock. Fenced out riparian area

NG1 (277C) 6.4-9 N: 3 splits

SG6 (277C) 6.10-12 N: Split off the east side with crested wheat

SG3 (277C) 6.13-21 N: 7 splits. Lots of Clover.

SG7 (277C) 6.22-24 N: 2 splits

WG5 (277C) 6.25 N: Cut out some heavies and opens-trailing pairs to corral

SNG6 (248C) 6.26-29 N: Branding older group (233 calves/248 cows)

SBW1 (248C) 6.30-7.2 N: 248 cows; 2 splits. Topping alfalfa and being on reliable water.

NNG2b (135YC) 6.9-22 N: 5 splits

NNG1 (135YC) 6.23-25 N: 1 split on east side

SNG8 (135YC) 6.26-28 N: Holding paddock for branding young cows-cancelled due to water problem.

WL6 (248C) 6.29-7.9 N: Daily splits through alfalfa

Corrals & SNG7a (18B) 6.30- N: Holding bulls between brandings.

**JULY (.38)**

SBW1a (248C) 7.2-5 N: Cows. Decision to graze new seeding. 2 strips

SBW2 (248C) 7.6-8 N: Cows

SBW2a (248C) 7.9-11 N: Cows

NBW3 (248C) 7.12-13 N: Cows. Mostly grazing old CRP. Too coarse.

NBW7 (248C) 7.14-15 N: two split

Count Correction 7.14 Cow group (241(235 calves)); Young Cows (143 (129 calves)); Bulls (18)

WL5 (241C) 7.16-23 N: 5 splits. 7.21 3 bulls

WL8 (241C) 7.24

WL7 (241C) 7.25 N: 3 more bulls

WL6 (241C) 7.26-27 N: Two splits

WL2 (241C) 7.28-29 N: Pair of Upland sandpipers. Nighthawk chicks

WL7-8 (241C) 7.30-31 N: Topping alfalfa

SNG8 (143YC) 7.10-12 N: Trail over and brand and trail back young cows. Branded 124. Vaccinated 138 (?). Cut 38 opens. Used east half of 8 (new paddock)

WG6 (143YC) 7.12-19 N: 138. Trailed back to keep splitting alfalfa. I bull (140) escaped into young cows one week before turning bulls. We chose to leave him in.

WG1 (138YC) 7.20-24 N: 4 splits. Two more bulls

WG2 (138YC) 7.25 N: Split on sliver of bottoms in WG 2

WG4 (138YC) 7.26-8.9 N: Split the 80 acres of alfalfa in the east half of WG4 five times.

**AUGUST (.83)**

EL5 (241C) 8.1-4 N: 2 splits. Reservoir near dry. Lot of C Thistle

EL5a (241C) 8.5-7 N: didn’t hook up back tank

EL4 (241C) 8.8-12 N: No splits

EL1-2 (241C) 8.13-15 N: Grazing-floating older cows to SBW6

NG7 (241C) 8.10-11 N: Trailing-grazing young cows (143) to older group.

NG5 (143YC) 8.12-13 N: Trailing and grazing

WL1-2 (371C) 8.14-16 N: Groups now together (371).Recount minus some culls sold through out the summer.

SBW5 (371C) 8.17-23 N: Four splits.

SBW6 (371C) 8.24-30 N: 4 splits

SBW4 (371C) 8.31-9.4 N: 6 splits

**SEPTEMBER (.21)**

SBW7 (371C) 9.5-7 N: 2 splits

EL7-8 (371C) 9.8-20 N: 6 splits mixed around pasture cocktail

EL6 (371C) 9.21-24 N: 2 splits

EL5-5a (371C) 9.25-26 N: Unplanned breakout yet heading to WL 2

WL2-3 (371C) 9.27-28

NBW8 9.29-10.1 N:

**OCTOBER** (Just under 4” of rain)

NBW7 10.2-4 (371C-same all below)

NBW14a 10.5-6

NBW14 9 10.7-10

NBW10 10.11-13

NBW11 10.14-18

NBW12 10.19- 20 N: Starting to feed some alfalfa hay every 3 days

NBW13 10.21-22 N: 2 splits

NBW15 10.23-24

NBW16 10.25-26 N: Moved cows to preg test at corrals on 27th

SNG7 10.27-29

NBW3 10.30-31 N: Remarkable green up all month

WOLF POINT N: Shipped 221 yearlings to Colorado

SNG7 10.31-12.14 N: 17 bulls

**NOVEMBER**

NBW4 11.1-2

SBW5-6 11.3-5 N: 371. Cows escaped into paddock we earlier grazed.

NBW5 11.6-8

NG3 11.9 N: Trailed into NG3 and open to SG5

SG5 11.10-11

SG4 11.12-14

SG6-7 11.15-19

SG1 11.20-24 N: Weaning calves

WG3 11.20-1.1 N: weaned calves (350). Daily full feed 3 bales, tubs, and salt.

**DECEMBER**

NBW8 11.25-12.6 N: Weaned cows (371). 5 strips.

NBW14 12.7-8

NBW10 12.9-13 N: 371. 5 splits. Fair chunk of PDs on east side.

NBW12 12.14-17 N: Moved into bottom for storm protection. 6” new snow.

NBW10 12.18-20 N: Three more splits-7 total.

NBW11 12.21-24 N: 2 splits

NBW14 12.25-26 N: Float south with NE storm. Bitter. Full straw

NBW11 12.26-29 N: 3 strips.

NBW13 12.30-1.1 N: stripped out trees

NNG1 (17) 12.15-2.29

**JANUARY**

INVENTORY: 371 COWS; 17 bulls; 348 calves; 6 bulls at Blaine’s; feedlot 221

NBW15 1.2-4 N: ½ straw

NBW14a 1.5-6 N: ½ straw

NBW7 1.7-11 N: ½ straw

NBW3 (N 16) 1.12-17 N: less straw

SBW8&3 1.18-23 N: Worked cows on 1.22 (280 mature)

NBW3 (280) 1.24-26

NBW4 (280) 1.27-2.3

SNG6 1.22-2.3 N: 47 Culls + 46 2’s

WG4 (348) 1.1-5 N: Moved calves (348)

NNG3 (348) 1.6-2.29 N: Calves

NNG2-3 (182) 1.20-2.29N: Shipped 166 heifer calves to Travis/ left 182

NG2 (46) 2.4-22 N: 20# every other day + tubs + mineral

NG4 (46) 2.23-29

**FEBRUARY**

INVENTORY: N: 280 bred cows; 46 bred 2’s; 47 culls; 182 steer and heifer calves; 17 bulls;

Death loss/culls: N: 458 slinked; 1 calf Travis; 1 calf

NG2 (182) 2.4-22 N: 20# every other day + tubs + mineral

NG4 (182) 2.23-29 N: 30# every 3 days

SBW9 (280) 2.4-6 N: 2 splits

SBW7 (280) 2.7-11 N: 3 splits

SBW4 (280) 2.12-21 N: 5 splits

NG6 (280) 2.22-24 N: 2 splits

NG7 (280) 2.25-29 N: 4 splits

RANCH JOURNAL NOTES 2015

* 1. WL2 and WG2. Bulls in NG for winter. Light dry snow 4 inches from earlier in week. Soft-moderate temps with little wind. ST grouse at winter facility and SE of house in pines. Cows content, and today so am I.
	2. WL3. Split in north edge of CW. Make permanent later. Breezy SW winds yet warm and melting. 2 Rough-legged hawks working the fields.
	3. WL3. Much colder but no extra snow. Water line break between Lackey and Big Wall. 30 to 40 ST grouse flew over house. Split 2x.
	4. WL5 (west half). Cold but little wind. Light snow all day. Cows content. Water staying open. Ryan dropped 2 bales of straw to cows.
	5. WL5-3. SW warming winds change to calm and warm. Then NW winds and snow followed by NE winds and deep temperature drop. Lane to reservoir is ready. Not much bird movement-pigeons, RL hawks, and horned larks.
	6. WL5-3. More cold and wind. 3 new inches light snow.
	7. WL5-3. Cold Wind out of SW. Blowing snow. Was able to call cows into last strip of fresh feed trailing into wind. SW Winds over night brought warmer temperatures and some settling and melt.
	8. W5 to BW6-7. Woke to a windy but warmer day. Turned south fast with a changing north cold wind. Moved cows again against the wind and snow into BW6. Left open all the way to reservoir for protection from wind.
	9. NBW6-7. Single digits. Cool SW winds all day, yet mostly clear with good sun. Cows mostly hanging near reservoir. Slow warming trend forecast.

NBW6-7. Slight warming. No wind. Perfect. Great Horns hooting early morning. Cows grazing actively threw snow with little selection. Content. Some locals had good ice fishing success-mostly small mouth bass. Useful brainstorming with Wendy Beye on “Field Guide”.

* 1. NBW6-7. Cool yet little wind. Worked on setting up move to winter facility for bred heifers and 2’s. Drafted ideas for WWF and certifying landscape health and wildlife.
	2. NBW6-7. Modest warming. Sun and SW winds. Fixed broken pipeline in NBW7. Cows content. MWC planning session in Winnett.
	3. NBW6-7. Cool SW winds.
	4. NBW6-7 to NBW2-3. Sunny with more cool SW winds. Slow trail to corrals to cut 2’s out. Short-eared owl in breaks north east of

Reservoir tank.

* 1. SG6 (Cows). Cool SW winds. Temps creep into 30’s. Cut 48 2’s out. Left in corral to wait for bred heifers arriving from Blaine’s tomorrow. Cows (283) trailed to SG6. Moving to water center by pit.
	2. SG6Cool SW winds in morning turning warmer with some melting. Received 84 bred heifers from Blaine. Needed Rick’s tractor to help trick to loading chute. Moved cows up to water SG6. Lot of snow walking. Flushed 2 Short-eared owls, then hassled by 6 ravens.
	3. SG6. Cool SW winds turn stronger and warmer. More settling and melting. Getting set to move 2’s/bred heifers and calves to new centers. Long visit with Westfeed’s Josh Stroh. Progress on mineral. Doubled hay to calves.
	4. SG6. Mild with SW winds. More melt. Moved coming 2’s (860#) and 3’s to winter facility-131 total NG4. 5 Forage master tubs. We will feed then 1 bale per day.
	5. SG6. Winter Facility. Warm and rain. Moved calves to BW paddock east of house. Open Circle talk. Bozeman for Jessica’s Birthday.
	6. SG6 (283). SBW1 (390 calves). NG4 (131 Heifer 1 and 2’s). Moderate with some rain. I am on road at capital for MWC and Boz Sangha.
	7. SG6. SBW1. NG4. Cloudy and cooler. Heading to Boise.
	8. Plus 1.22, 23, 24., SG6. SBW1. NG4. Windy and unseasonable warm weather-like 50 to 60 degrees. CNB annual meeting in Boise and trip to Tahoe for Roxanne memorial. Things look good returning home. Broken pipe in tank housing east of house in NG4.
	9. CNB
	10. CNB
	11. Roxanne’s service in Sunny side
	12. Home from service in Tahoe
	13. SG6. SBW1. NG4. More nice weather. Bangs vaccinated 168 heifers. Good help. On strips in six. Next strip for NG4. Attended Winnet Grazing session.
	14. SG4. SBW1. NG4. Continued breezy moderate weather. Moved cows to SG4. New fake cattle guard design-six steel posts and temporary wire. Grazing meeting at Winnett-pushed for large landscape monitoring project for sage grouse
	15. SG4. SBW1. NG4. Cooler and cloudy. Did next strip in SG4. Ryan moved tubs into sagebrush. Prairie Falcons.
	16. SG4. SBW1. NG4.
	17. Same. Travel to Helena for MWCC meeting and some lobby work for MWC.
	18. SG4. SBW1. NG4. Cold returns with a dusting of snow. Milky sour water in SG4 tank. Suspect pit. Will close off. Opened last strip for SG4.

2.1 SG4. SBW1. NG4. Clear to partly cloudy. Chilly SW winds. Three year old in NG4 up and died??. Happened last year with no explanation. Next strip NG4 now with 130 animals. SG4 water is clearing up.

2.2 SG4. SBW1.NG4. Cool. Next strip NG4.

2.3 SG4. SBW1. NG4. Cold and light snow.

2.4 SG4 (283). SBW1 (390). NG4 (131). Cold and partly cloudy. Moved cows to SG3.

2.5 SG3. SBW1. NG4. Overcast and mild. 178-11 Krein cow aborted. Next strip NG4-about every two days.

2.6 SG3. SBWI. NG4. 50 degrees warm and windy.

2.7 SG3 new strip. SBW1 weighed and moved to WL1 first strip. HG4 new strip. Warm gusty winds and last drifts disappearing. Little concerned with lice with 2’s. Update cow culls (32-9; 178-11; 1-9 (white spot).

2.8 SG3 new strip. WL1 calves. NG4. Three groups moving every two days. Gusty warm SW winds easing back in the afternoon.

2.9 Moderate. SG3 (Strip #4); WL1 (Strip #2); NG4 (next strip-lost count) Active pellet roost on mid-gate in NG4 . 4 RL hawks in Cottonwood in SBW5.

2.10 Cool and Cloudy. SG3 (strip #5) Getting litter knocked down with tight strips on CW.; WL1; NG4.

2.11 Cloudy, humid, and cool. SG3 (fed hay to replace tubs temporarily). WL1 (next strip #3). NG4 (next strip). Fecal reports by Judy for calves and 2’s was mostly clean. Need to a address lice with 2’s that Blaine did not treat. Ryan and I still refining 2 and 1 day moves, with hay and tub supplement.

2.17 Cows out of BLM.

2.24-27 Dana and I in San Juan Islands

2.28 WG1 (283 cows) since 2.17 on straw; NG4 (130 2’s and 3’s) 2 day strips; WL1 (390 ca) 2 day strips; Cold and breezy

3.1-4 More cold wind and dry.

3.2 Move calves to WL4. NG4. WG1 and straw.

3.4 Same Paddocks. Cold and clear and breezy. First horn lark sings. First calf born-escaped bull.

3.5 Same Paddocks; warming and breezy; trailed 2’s and 3’s in to back pour for lice.

3.6 Calves WL4 (a little too long), 2’s and 3’s to NG5, Cows WG1. More modest weather; Cows off straw. Need to spread straw.

3.7 Calves to NBW8; 2’sand 3’s same; Cows same. Partly cloudy and breezy and mild. Discussion on cleaning Lackey headquarters.

3.8 Continued unseasonably warm.

3.9

3.10

3.11

3.12 More nice weather. First meadowlark singing. Robin first song atop of spruce. PD at WL cell center

 WL1 (283) next strip. Need salt in tubs.

 NG5 (130) next strip.

 BW8 (390)

3.13 Same. Nice weather. Stripped each group.

3.14 Dana and Bill to Seattle. Ryan on. Windy and cool.

3.15 Ryan our calves.

3.16 Weighed calves. Fed in corrals

3.17 Light rain. Calves to NBW1 (330). Return of red-wings and meadowlarks.

3.18 Received .25 rain. Clouds breaking up. Moves calves back to NBW8. Next strip in NG5. Moved cows into first strip of WG5. Collected fecals for Katie. Bluebirds are back.

3.19 Meeting in Helena for the Water Coalition. Ryan and Rick A transported light calves and pink eye calves to town (45)

3.20 SPRING EQUINOX. Very warm 70 degree high. WG5 cows to next strip. NBW8 calves to next strip. Stayed a day too long. March growing season is usually forgiving for heavy use.

3.21 Another warm one. Saw a few flies and spiders. Predictions for moisture early next week. Robins singing daily. Lilacs buds opening. Yikes! No moves.

3.22 Clear and warm. Moved calves to next strip in NBW8. Moved cows (277) to NBW9. Cut six cows (1 lame cow 53P others are dries).

 First flower found, Townsendia hookeri, on south slope in WG5. A few boreal chorus frogs singing at Big Wall-very early but 70 degrees can get them started.

3.23 Mild turning to blustery winds and lowering clouds. Rain predicted for next 2 days. Moved young cows to next strip NG5. Large flock (50 +) of robins arrived at headquarters. The Grey Crowned Rosy Finches almost gone. First killdeer heard near reservoir in SBW5. Four RL Hawks continue feeding together at creek crossing on road to winter facility-pairs?. And a lone singing house finch starts morning singing atop the spruce.

3.24 Blustery and moderate and a quick momentary splash of moisture. NBW8 calves moved to next strip. NBW9 cows moved to next split. Meadowlarks keep filling in the plains habitat-the migrant workhorse. Green winged teal pair at creek crossing. All classes of livestock are now receiving straight mineral. First tick of the season found.

3.25 Cool and Cloudy. NBW9 cows moved next split. Pintail pair at creek crossing. There is low water pressure at tank in NG5? Check pipeline valves to south?

3.26 Overcast and cool. Few meager drops fell late in day. NG5 cows moved to next split. NBW8 moved to next split. Good day to practice dealing cooperatively with the unavoidable. Red truck had a dead battery. Jumped it, and before I can get to the gas tank it runs out of gas (big fuel tank had been empty the day before). Then after a I get it up to the tank and filled the tank-it wont run. Then my rush to get to the tank, a battery I wanted to charge and left on the tailgate fell off an cracked. The day did come around because my relationship to the day changed-not the day.

3.27 Clear and turning warm again (76 degrees). Beginning to think drought planning. Opened pipeline valves to Ryan’s house well to NG5. Pair of Bald Eagles seen flying in courtship (I think) along Big Wall. North Willow Creek running steady-1/2 cfs estimate.

3.28 Mid-day clouds building to the NE triggering major gusty warm SW winds. Unfortunately it is not to early to think about the F word- fire. NBW9 moved cows to next split. NBW8 moved calves to next split. More spring sighting: first carex sedge flowering, as well as a few yellow dandelions, and phlox, all on sandy south slopes. First Ferruginous hawk sighted in WL and a harrier in courtship flight.

3.29. Wind backs off. Three fires triggered yesterday by wind in the region, mostly to east and south. NG5 moved to next split. Much of fence is down due to winds. Amazing not more animals out. Some cranes back to the Musselshell. About 100 snow geese at Bair Res. Heading to Helena to lead a ½ day sit.

3.30 Warm. BWN9 moved cows to next split. Some problems for cows crossing through mud to water. Talk to Florin about gravel crossing. Steer calf from NBW8 someone “fell” off wall and now with cows. NBW8 moved calves to next split. I saw first Fritillaria (golden cup) in NBW9. This is earliest I have seen it. Cranes arrived to Reservoir. Will they stay?

3:31 Cool and breezy day turns to warm and windy. NBW9 moved cows to next split. NBW8 moved calves to next split. PDs in area east of Reservoir. NG5 moved 2’s to next slit. First Kestral seen hunting near Lackey Cattleguard. Pipeline break near west tank in NBW12.

4.1 Cool raw wind today. NBW8 moved calves to next split. NBW9 moved cows to next split. Mud crossings are an issue in NBW9.

4.2 Wind turns cooler and turns more raw than yesterday. Wind eased back by evening. NG5 moved to next split. NBW9 moved to next and last split. Florin fixes pipeline break in NBW. Roland arrives at ranch to help prepare growing season grazing plan.

4.3 Less wind and warmer. Harlowtown announces burn ban. NBW8 moved calves to next split. Roland shares possible opportunity to lease at Pugrud’s 20 north of ranch and south of along Flatwillow Creek .

4.4 Early morning brings full eclipse of moon. Calm, mild, and cloudy. Slight NE wind maybe beckons some moisture. NG5 moved to next split. Cows leave NBW9 into NBW12 first split. Katie emails fecal results. 2’s and calves still need additional treatment. First Curlew flies over headquarters and first Swainson hawk SE of house.

4.5 It snowed! Thank you NW wind. Maybe just right amount of moisture to trigger our new seeding. NBW12 moved to next split. NBW9 moved to next and last split. Pair of cranes at reservoir and it is now time for calves to leave reservoir area. Musineon, a small early yellow flower in the carrot family, showing up at all corners.

4.6 Measured .4 moisture. Cool and partly cloudy. NBW12 moved to next split. NBW8 moved to NBW7 with calves. NG5 moved to next split. Traveled to Bozeman to speak at Cliff and Roland’s Holistic class at MSU. Sat with Sangha in the evening.

4.7 Pleasant. All same. Visited with WWF and Chris Boyer in the morning and returned to ranch.

4.8 Overcast and cool. No moves. Treating young cows and calves with SafeGuard wormer that is mixed with their mineral for at least 3 days. Great feed in NBW12 throughout the bottoms Cows looking full and healthy.

4.9 Pleasant. No moves. Learned to cut mineral with salt when mixing in SG for internal parasites. Facilitated CMR working group in Winnett. Blaine delivers last 6 bred cows (one with new calf) from Wolf Point. We agreed to deliver yearlings at end of month. Eurasian doves (exotic bird expanding territory) singing at headquarters-shoot or tolerate?? Hmm…

4.10 Cool. No moves. I leave to facilitate succession planning with ranch family in the Blackfoot. Ryan and Judy doctors steer calf with water belly.

4.11 Cool and breezy. NBW12 move cows to NBW13. Got 11 ADs (animal grazing days) per acre. NBW7 moved calves to next split. NG5 moved cows to next split.

4.12 Gusty cool winds from the west. NBW13 moved cows to next split.

 Sunday pie with the neighbors. First flowers observed for *Viola nuttalli* , *Astraguls spatulatus* , and *Lesquerella ludoviciana*

4.13 Pleasant. NBW7 move calves to next split. Says Phoebe arrives. Turkey vultures glide into Roundup. New seeding still has not sprouted after being seeded over three weeks.

4.14 Very warm-79 degrees-turns to cold strong winds in evening. Predicting snow. NG5 move young cows to next split. NBW7 move calves to next split. Mourning Doves and Crackles arrive. Fritillaries (golden cups) are still blooming on north facing sandstone breaks. April use paddocks need to be well rested (300 plus days) the year before to provide good pre-calving feed, especially in a dry slow growing spring like this year.

4.15 No snow or rain-maybe a .1. Good moisture fell to the south in the bulls. NBW13 moved cows to next split. *Astragulus gilviflorus,* a low loco cushion plant, is now flowering. All the Astragulus species are readily grazed this time of year.

4.16 Clear and warmer. Moved calves out of NBW7 into WL5 first split. Calves got out by the reservoir in the morning before we moved. It was challenging getting the calves to cross back across the creek. Patience. East apple tree is starting to bloom along with wild plums. Bees should follow.

4.17 Very pleasant. Moved cows from NBW 13 to NBW14. Moved young cows to next split. A few escaped into Frank Goffena’s volunteer grain but I got then back quickly. I asked Frank if he wanted to lease the forage. He said due to the impending drought, he may the volunteer grain for his cows.

 *Thermopsis Montana* (golden pea) my go to flower for Mother’s day is already up. Great Horned Owl nest NE of house in a big pine holds 2 very downy feathered chicks maybe a foot tall.

4.18 Cold gusty winds all day. Moved calves to next split. Young cows in Frank’s again. Got them out fixed the fence. Pulled all the temporary wire out in NG5—last split. New sightings include Ferruginous hawk and Loggerhead shrike. More curlews are arriving. *Astragalus missourienses* and *Leucocrinum montanum* (star lily)are the latest plants to start flowering.

4.19 Cool NW breeze all day. Moved calves to next split. Pipeline to cows in NBW broke. I built a mile of temporary fence in the afternoon in NBW16 to prepare for unexpected mood. Florin will be out on Tuesday to fix the break. *Astragalus purshii* is starting to flower. One white crown sparrow arrived in the yard. It is hard to imagine one sparrow making the long journey alone. I saw my first Turkey Vulture on the ranch east of the house.

4.20 Cool and calm. Moved calves to next split. Trailed cows from NBW14 to NBW16. Lost water pressure at cow tank (different tank), Ryan adjusted valves and pressure returned. We still have a problem we cannot find. Vesper sparrows are arriving.

4.21 Warm. Located calves to next split after gathering a small breakout. Good trailing practice for calves. Florin fixed tough pipeline leak near Big Wall. Flock of avocets at reservoir

4.22 Earth Day. Pleasant turning to SE winds and unsettled in evening-maybe moisture? Moved cows to next split. Moved calves to next split. Calves will leave on April 30 to Blaine’s. Can’t wait. While checking heifers cranes flew by very close to the ground surface heading to Frank’s grain field from the reservoir- a pattern every evening. Drove north into expanse of sage grasslands, scattered old oil wells, and large swaths of grain fields broken out in the 1980’s. Big space. Returning on North Gage road, I view the heart of the ranch with unbroken grasslands, ponds with ducks, and fat pregnant cows. I then enter the ranch headquarters with the ancient crab-apple tree white in blossom and Dana working in the 100 year old vegetable garden- grateful to be in such a sweet spot in the ‘north country’.

4.23 Moist morning air wakes water-hungry grass, yet no rain. Moved calves to next split on WL5. At end of day I call cows into last split in west half of NBW16. Pink 52 cow drops still born calf. Dana harvests first asparagus for a tasty quiche. A lone yellow-headed blackbird joins the red-wing blackbirds spring chorus in the ranch yard with its jarring metallic, yet welcome song. Commercial bee hives from Hardin have arrived and placed at three sites.

4.24 All day in Bozeman. Snow and rain in the Gallatin.

4.25 Dana calls early with news of .75 inches of rain. Wonderful to go into May-one of the two most important growing season months-with sufficient soil moisture to give grass at least start. Moved calves into WL4. Returning on foot from Lackeys, crossing a full creek, I hear the welcome whistling of a Wilson Snipe and walking along the shallow ridges in SBW4, flocks of McGowns Longspurs rise and descend in song. In just one day, timely moisture turns low-level anxiety into hope and confidence.

4.26 Overcast and very cool. Occasional light drizzles throughout day.

 Moved cows to east half of NBW16 with first split. Pulled porcupine quills with one cow, and cut off wire wrapped on front hoof of another cow. Moved young cows to SG6 (east ¼). *Astragulus pectinatus* and *Erysimum asperum* (wallflower)beginning to flower.

4.27 Hard frost and clear turning warmer later in the day. Moved cows into NBW15 (N1/2) now watering on reservoir tank. P69 cow dies with no apparent cause. It is always painful these unexpected and expensive losses. Getting ready to move calves-yearlings from WL to headquarter corrals for shipment to Wolf Point.

4.28 Light morning frost turning to 70’s in the afternoon triggering the boreal chorus frogs. I am off early to start trailing yearlings. When I arrive yearlings have broken into a new paddock with fresh alfalfa and are very hard to gather to begin the move back to corrals. I call for Ryan for help. Luckily, he brings a charger to heat fence to help contain the yearlings and get them headed the right direction. Everyone kept their cool, while the yearlings just thought it was a fun diversion.

 Some lessons: **Always keep yearlings contained with a hot fence; and** **always on the last trailing leg to the corrals have at least two people helping.** *Lithospermum incisum* and *Northocalais nigrescens*, both petals of deep golden yellow, begin their flowering cycle.

4.29 Pleasant. Worked yearlings in preparation for shipment. Average weight was 530. In 150 day the yearlings gained 80 pounds or right at ½ pound gain per day. Daily feed costs were around 90 cents. Moved young cows into SG6. Yellow-rumped warblers in apple tree.

4.30 Clear and warm. Shipped 295 yearlings to Wolf Point. All smooth. While loading noticed recently arrived tree swallows fighting over the next hole in the old light pole in the corral. I followed trucks to Blaine’s and delivered health protocol. We agreed to cut light heifers before bulls go in at end of July. Long day of driving through eastern Montana yet the country looked good. Pasque flowers (*Anemone patens*) and old man’s beard (*Geum Triflorum*) showing on north slopes at Blaine’s. Golden pea (Thermopsis rhombifolia) was blooming in pockets everywhere. Four more cows have calved-calving season about to take off.

5.1 5.1     Partly cloudy and nice.  I trailed young cows (first calf heifers) to corrals to locate for calving season and round the clock checking. The Apple tree’s fragrant white petals, after a longer than average bloom, are now mostly scattered on the ground. Caragana shrubs are in full bloom and full of bees, and the lilacs are just starting. Alec Oliver from CNB helped Dana and I complete the CNB COP (cost of production) report. Based on the report, our COP for an 800 yearling is 2.21-about average for CNB members, but I feel a little high.

5.2    Unsettled and cooler with steady NW winds. The welcome moisture from .75 inches of rain received 8 days ago is running out. It’s time for another timely rain to keep the grass growing . Built new temporary paddock in NNG3 (north of house) to begin grazing rotation with bred heifers. More migrants arrived this week: House wren; grasshopper sparrows; tree and barn swallows; Sprague pipits; yellow-rumped warblers; sage thrasher; brewer’s sparrow; brewers blackbird; and the white crown sparrows. White crown’s lovely song always take Dana and I back to our roots on the coast of California. The white crowns will only stay a short period before heading north to higher elevations and the forests of Canada.

5.3    Clear and warm. Moved cows to SBW8 for first split. Ryan spent the weekend working at neighbor’s brandings, while I covered checking and moving cow groups. Three more heifers calf. Chokecherries are almost in full bloom. Heard my first field crickets. Fast growing crested wheat on shallow soil sites showing some moisture stress. After long day, while cooking dinner, Dana comes in says the cows east of house are making a lot of noise. I drop my kitchen duties and grab the dogs and drive to the water center. Cows were just spilling into a fresh paddock. Turning cows back from a fresh paddock is a little like pushing water uphill, but with the dogs helped we got the turned and back where they belonged. Dana's timely notice saved me spending the next morning gathering cows.

5.4 Another calm and sunny day, then turning dark and cloudy to the west and north. Saw our first brief lightning strike, yet no rain or even thunder. Moved cows to next temporary split in SBW8 and the young cows to next split in NNG3. While preparing for tomorrow’s cow move, the unmistakable rise and falling whistle of the upland sandpiper overshadowed all the other songs of the prairie. Last year we had at least five sandpiper pairs scattered over the ranch.

5.5      Nice turning cloudy with NE winds and light showers by bedtime.

            Moved cows to next split in SBW8. Fenced out sandstone outcrop with mostly native plants on south end of paddock. Each spring changes in variable temperature and precipitation-both timing and volume- tend to favor or depress different forbs and grasses. I have seen very few *Cymopterus acaulis* (plains cymopterus) and *Arabis holbellii* (rock cress) plants this year. Last year both species were very abundant particularly rock cress, where dense and frequent stands were present throughout the ranch. I spent most of the day in Lewistown working with statewide committee to align monitoring standard and protocols among different federal and state agencies. Concerns around a possible sage grouse endangered species listing, have motivated new efforts in finding cross-agency agreement on monitoring habitat benchmarks.

5.6     .4 inches of rain fell last night. Daytime winds turning calm at night.  Moved young cows to next split. *Zigadenus venenosus, Senecio canus, Castilleja sessiflora,* and *Hymenoxys acualis* comprise the latest run of new flowering forbs. Last night a big Woodhouse Toad met us at the front door. We love our toads and look forward to hearing their ‘baby cry’ song that is usually triggered by a heavy dose of moisture.  This afternoon the first flock of lark sparrows arrived at the headquarters.

5.7      A little breezy yet pleasant. I spent most of the day in Phillips County facilitating the CMR Working Group’s Sage Grouse Committee. We got a good start on what could be a very important large landscape conservation project. The first spotted towhee arrived and spent the day in the garden with Dana

5.8      Light drizzle all day. Moved young cows to next split in NNG3. Moved cows to SBW3 first split. The white *Cryptantha celosiodes* (miners candle), which likes shallow rocky sites, is adding more color to our spring.

5.9      Storm broke up and left. Dana’s gauge was askew so not sure how much rain we received. I will guess around .3 inches. Moved cows to next strip in SBW3. Grass seems to be thickening on the north side of the paddock that is dominated by yucca. *Ambrosia* or ragweed, a rhizomatic low-successional native, that was present in large circular patches, is now hard to find. *Lithospermum incisum* seems to be everywhere, and has found conditions this spring very favorable. Good forb-pretty and cows like it too.

5.10  Traveled to Helena for a zen practice period. After this morning session, I hiked into the Beartooth from the south side (highest point) through the Martin Place on Sieben Livestock. At 7 000 feet just below Shellrock Ridge, I heard and saw Meadowlarks, Bluebirds, Vesper sparrows, Robins, and rock chucks. Fritillaria pudica (yellow bells) was just stating to bloom, where at the ranch the yellow bells have been done for about a month. Though the ranch habitat is quite different, it is remarkable to see these species present in both places. In fact, a short walk east of the house, I can see them all.

5.11 Pleasant. Returned from Helena to make some cow moves and do night shift before heading back to the practice period on Wednesday. Moved young cows to next split in NNG3.

5.12 Cooler and cloudy and predicting moisture in the next few days. Transitioned cows across county road and creek into NG6. County has road tore up replacing culvert. While fencing at the winter facility a shorebird approached with a call, not quite like a curlew nor an upland sandpiper. As it flew over, I recognized it as a Godwit. I saw one last year a mile to the south. While the Godwit is not uncommon to the plains region during seasonal nesting, I have never seen a nesting pair on the ranch. I will investigate more closely in the area. Also in the same area I heard savannah and clay-colored sparrows. *Castilleja sessiliflora*, a flower I mentioned earlier, is now flowering in large colorful colonies on shallow and rocky upland sites.

5.13 Cool refreshing morning breeze turning warmer with thunderclouds threatening in the evening. Terry Kombol transported last 32 yearlings to Wolf Point with his new trailer. Moved 2’s to next split. Ryan tagged 18 new calves. I was able to do night shift last 2 nights to give Ryan a little break. He will be covering everything the next four days while I am in Helena at a zen practice period.

5.14-15 Cloudy and cool. Moisture still predicted from the Gulf. Ryan is getting a lot of calves, while I sit in Helena. Eight new heifer calves, all without problems.

5.16 .5 inch of rain this morning at the ranch. Rain is also falling in Helena. Sprinkled all day with more coming. Moisture coupled with modest temperatures will ensure positive growing conditions for a couple more weeks. Cows moved to NG6a.

5.17 Following the storm our ranch headquarters’ rain gauge was at .96 inches and Ryan’s gauge was a whopping 1.4. Returning home from Helena was wet the whole way with cool NW winds and fresh snow in the mountains above 6000 feet. We chose to not bring the heifers into the corral for night check due the mud. Unfortunately we lost one calf, yet it did not seem to be a result of a difficult delivery. The losses are always hard to take, yet the sooner you lean into the next task, the quicker the recovery. The late season avian migrants continue to arrive to add to the growing diversity of sound and color. This week the we welcomed the return of the yellow warbler, brown thrasher, bullock oriole, and the always cheerful and never knowing where they nest American goldfinches. A group of finches have been called a “007”, “charm”, “rush”, “treasury”, and a “vein” of goldfinches. Two common composites (sunflower family) began flowering this last week, *Erigeron compositus* and *ochroleoucus.*

5.18 Cool and partly cloudy. Roads drying and more passable. Moved young cows into last and final split in NNG3. Eight splits. So full, relaxed, and spread out among the trees and breaks. Blue day. First the Lazuli buntings returned, and then, while fencing east of the house, a male bluebird alighted on a post just next to me. The deep azure blue startled me. Returning from pulling up a temporary line, I flushed a horned lark from its nest. Check it out below.

5.19 Cool and cloudy. Moved bulls into first split SBW2 from their winter pasture in NNG1 (please see video). We left a little later than usual-usually out by end of April. We will need to split paddock up on next pass to better distribute grazing pressure. Red tail hawk nest was observed in SBW2a in a lone scraggly cottonwood, formerly the nesting site for the Swainsons’ Hawk. I just want to note that the Cottontail population is as high as I have seen for many years. The white lilac came into bloom this week.

5.20 Light frost and clear skies in the morning, then turning warm and pleasant. Moved cows in the evening into first split in NG2. This paddock requires cows to trail through shelterbelt-mostly Caragana shrubs. While providing clean access to water center from west, it might prove hard on the shelterbelt. A pair of Swainson hawks seen circling to the south. Also flushed a sharptail. Sandberg bluegrass, bluebunch wheatgrass, June grass, and needle and thread, are first grasses to go into the “boot’ or early flowering phase.

5.21 Pleasant. Moved young cows into 3a (SW corner of 3. Ryan just finished new water center between paddocks 2 and 3. Center also serves paddocks in SNG. Western kingbirds arrived-let the aerial battles begin. Ryan saw a young bull elk at the turnoff from Big Wall to Griffith Road.

5.22 Pleasant. Moved cows to next split in NG2. Ryan pulled two heifers after 4 days of no problems. While on last heifer check, heard the poor will’s plaintive whistles for the first time this year in the pine sandstone ridge north of headquarters. The nighthawks should not be far behind. GH owlets have left their nest in the pine breaks in NBW16.

5.23 Overcast and light drizzle. Steady, yet uneventful, calving day. Over 50 goldfinches, and a few siskins, are feasting on dandelion seeds outside my office window. More yellow, arrives with the Wilson warbler. Dana spotted the garden. The WW wont stay long-mostly nests in wetlands and riparian sites. Attended soils workshop at Charter Ranch. How do we/will we measure soil health?? When leaving for the workshop I observed the uncommon Red-headed woodpecker squabbling with a northern flicker on an electric pole. The red-headed is currently listed as threatened.

5.24 More dampness and overcast, yet no measurable precipitation. I moved the older cows to next split in NG2. While working on the temporary fence, I flushed a brewer sparrow off its nest concealed deep in a sagebrush bush with two turquoise blue eggs. I also flushed an upland sandpiper but could not find a nest. I saw my first eastern kingbird on north willow creek. Some meadowlark fledglings are already taking short flights. This week we also experienced the first mosquito hatch.

5.25 A little warmer mixed with spotty showers and even some light hail. Worked on new electric fence splitting NNG2. While laying out temporary line for next split in NG2, walked past old ferruginous hawk nest site overtopping and old juniper. Empty this year. I need to check out nest site in Cottonwood in SG6 to see if that site is occupied. Astragulus bisulcatus, a robust large milk vetch found in clay dominated sites is beginning to flower. Crested wheat is moving into the boot stage without much height. Could mean dry land hay will be light as well.

5.26 Warmest day in a while, but light afternoon showers-.2 inches-dampened and cooled things off. I moved cows to 4th split in NG2. I spent parts of last three days on building permanent electric fence in NNG2. We had a set of twins-uncommon for us-out of a three year old. We quickly grafted on of the calves to a heifer that lost a calf.

5.27 More showers mid-day. Weather pattern of showers and cool weather is creating excellent growing conditions. Moved young cows into first split in NNG2. Moved bulls to 2nd split in SBW2. A Poor will’s two note owl-like call at dusk was as comforting as it was joyful. A number of new flowers are beginning to bloom. I will highlight them at the end of the week. Moria arrived from Connecticut to help at the ranch for a week.

5.28 More showers. .4 tenths measured. Drove to Helena and back to present and receive with other Musselshell Watershed Coalition members a Watershed Award from the Montana Watershed Coordination Council. All went well at the ranch. Ryan gave Moria a lesson in pulling her first calf.

5.29 Cool morning, clouds lifted and no moisture today. Moved bulls, young cows, and older cows to the next split. Took a short walk in NBW 10 to see if the curlews were again nesting in the NE corner. Yes, returned again. Heard another curlew group to the east in Goffene’s. Large fields of purple blooming *Astraguls bisulcatus*, our largest milk vetch are splashed liberally across the north hills. Abundant stands of winterfat, a high protein semi-shrub fill the clay loam flats below the hills. Also flushed an upland sandpiper near the creek in the greasewood flats.

5.30 Almost warm this morning, then a quick thunderstorm blew in late afternoon dropping another .3 inches of moisture and cooler temps. Moved cows to 6th and last split in NG2. Florin and Ryan fixed broken hydrant at west tank in NG just in time for next cow move to NG7. Cut 2 bulls out of young cows and trailed east to bull group. Moria pulled another calf, did her own tagging, and then cooked a lovely soup for dinner. Brown thrasher sharing its elaborate and diverse song as we head for the last heifer check.

5.31 Another .1 of moisture this afternoon putting us just under 2 inches for the month of May. One could not order the quality of weather we have recently enjoyed. More thunderstorms predicted for coming week. Moria hopefully will share her sighting on the big reservoir soon. Four herons, double-crested cormorant, an eared and pied-billed grebe are some of the highlights. More on birds: grey catbird arrived and singing all over the place, and the eastern kingbird is back. Only two birds yet to show up are the nighthawk and the lark buntings, or locally known as the rain birds. Here are the recent flowers marking late spring: *Astragalus gracilis, Astragalus adsurgens, Astragalus agrestis, Vicia Americana, Orobanche fasciculate, Linum lewisii, Oxytropis besseyi, Penstemon nitidus, Psoralea esculenta, Rosa arkansana, Senicio canus, Plantago patagonica, Eriogonum flavum, Arenaria hookeri, Lappula myositis,* and *Tragapogon dubious*. It is fun to google these species to learn more about their natural history and range.

6.1 Another warmer day turning blustery in the evening. Strong storms south and north of us. I moved cows to first split in NG7. I used temporary fence to fence out the riparian area. Moved young cows to next split in NNG 2a. Koeleria cristata (June Grass) starting to flower and flocks of lark buntings are now here.

6.2 Light showers both in the morning and the evening. I moved bulls to next split. Now there are two bulls that are lame and one bull we can’t keep it in. I spent most of the day with Rick Caquelin, NRCS Range Specialist for central Montana. Rick applies similar grazing practices with his cows on leased land, and our visit was a useful opportunity to compare notes. Rick, understanding our breeding period is in the normally hot and dry months of July and August, suggested we identify the greenest available feed on the ranch to help flush the cows for improved conception. No surprise that the likely candidate areas are our riparian areas. It got me thinking, that by mid-July most of the birds in these productive areas have fledged their young, and grazing pressure might be less harmful to the birds. To do this would require much creative temporary fencing. Stay tuned to see what we might try come mid-July. Rick and I agreed that two words best describe the benefit of a short duration-long recovery grazing practice-NO TRAILS. That is trails that fill back with grass after we leave indicate that recovery periods are probably adequate to protect the health of the entire paddock.

6.3 The region continues in a damp, yet not wet pattern, unlike our neighbors in the upper basin (Harlow area) where 3.5 inches of rain has fallen in less than two days, while the ranch received .2 inches over the same period. Waking to overcast, and at times foggy weather, is always a blessing and joy in our normally water scarce habitat. The cows moved to second split in North Griffith 7. Young cows moved to fourth split in North New Griffith 2. The afternoon check led to some unique wildlife experiences. One was arriving just in time, after the dogs somehow flushed a young Great Horn owlet to avoid loss of life and yield a great shot and video. The other event was inadvertently spooking a sage grouse hen off her nest of 13 light brown eggs only a quarter mile from the house, nestle among sagebrush.

6.4 Again, the early morning check was a lovely walk in the fog and dew. Cool overcast weather continues. I moved cow group into first split for North Griffith 1 in late afternoon. We only used about a third of North Griffith 7. I am trying to figure out best time of day to move to cause least disruption to calves. So far, mid-afternoon-not too late-seems to work best as the animals are well-watered and fed and not feeling pressure to move in a hurry. I moved bulls to next split. Western wood pewee and the common nighthawk arrived last night. The nighthawk is usually the last to arrive and first to leave.

6.5 Moria’s last day to help check heifers. Fog welcomes us again. As we approached the water tank, Moria could make out two animals that seemed too tall for cows. As they moved away, we could see that the too- tall cows were two young bull elk-less than a ½ mile from the headquarters. I moved the young cows into the last and sixth split for New North Griffith 2a. While checking older cows, I flushed a grasshopper sparrow from her nest. See the colorful eggs below. Heavy rainfall in the upper basin is now bringing some flooding to Roundup. Road to fairgrounds is under 5” of water.

6.6 We wake to a day without fog-party cloudy sunny and warm. I miss the fog already. I moved cows to next split in North Griffith 1. I tried to get more pressure on the blue bunch grass on the shallow slopes to the south, but ended putting more severe pressure on the flats. I invited Kelsey Molloy from Malta to help develop a breeding bird survey, and she arrived late afternoon and helped me put up some temporary fence. We spotted a very large horn toad about 5” long. We ate late outside on the deck with kingbirds, nighthawks, and bats feeding on insects above us in the twilight.

6.7 Turns warm with clear skies. Kelsey and I monitored 50 sites for birds (stop every ½ mile for 25 miles). Take home: with the pouring in of migratory birds the open grass and sage habitats rarely yield more than 5 or 6 species. Once you hit an edge- a lone Cottonwood tree, water, sandstone and forested break-species numbers can shoot up quickly. Moved bulls to next split. More on Prairie Dogs later, but there is an unusual spike in population and movement that is proving a big challenge for the ranch. Moved cows to next split in North Griffith. Very important next year to split this paddock east and west and NOT north and south, to avoid too much pressure on flats and less pressure on uplands

6.8 Turns warmer. Temps hit 90’s today. I moved young cows to North New Griffith 2b. We have a robin whose song closes with a two note rising uptick to their traditional song. Wonderful to hear the nighthawks feeding in the morning and evening.

6.9 Still warmer. The evening brings colorful sunset and bright lightning with deep rolling thunder that shakes the house. Three days of hot and dry weather puts stress on plants that have a lot of leaf and are actively growing. We have had about 3.5 inches this growing season, and we will need a couple more in June to set a good ‘grass bank’ for the year. Moved bulls to new strip. Mushrooms are drying up but check out photos below. I could use a little help on identification.

6.10 Cooled off nicely today with clouds and light winds. Moved young cows to next split in NNG2a. Older cows moved up to the ridge near the pit on South Griffith 6 with first split. Yellow flax (*Linum incisum*) is the dominating flower for the moment. I did see my first blanket flower (*Gaillardia aristata*) while very beautiful is not common on the ranch. When moving the young cows flushed a lark sparrow from its nest-see below. I also tried to capture some spectacular cloud formations.

6.11 Warm and dry weather continues. I traveled to Malta to facilitate the CMR Community Working Group. Whole day devoted to reports on sage grouse. The sage grouse sub-committee’s work plan was approved. Rained have been very spotty throughout eastern Montana often generating local flooding in some areas, while others close by may get nothing. Travis brought 9 bulls in the evening from Wyoming. He has been delayed by local torrential rains-20 inches plus-leading to prolong and damaging floods.

6.12 Clear and warm with a fleeting threat of evening showers never realized. Grass growth is clearly slowing. Returning home from a talk in Lewistown, I spotted 4 black-tailed hares on the road into the ranch. The hares have been rare the last few years, so their sighting were welcome—they are preferred prey for the Golden Eagles. Scythed down a spurge patch in NE corner of North Griffith 5. May need to spray this fall. The expected June Miller Moth arrival is here following their pupate stage in their life cycle.

6.13 Clear and warm with some gentle winds all day. Clouds came together and shed a nice shower around bedtime. Moved young cows to new split after breaking into the trees and breaks. Early quick moves seem more disruptive to the young calves, as cows more concerned of taking advantage of fresh feed are slow to ‘mother up’. Also moved cows to South Griffith 3 for the first split. We are struggling with how best to deal with the ‘March of the Prairie Dogs’. While committed to protecting one large town, we simply cannot support more towns, and the ranch is exploring the most practical and humane means for control. Scythed a small patch of garrison foxtail in North Griffith 1, and invasive aggressive rhizomatous grass that can displace native wetland plants.

6.14 Nice lightning show last night with maybe a tenth of moisture. Morning overcast and cool, and staying cool and pleasant all day. Moved young cows to next split. Scythed two small patches of spurge at water center in North Griffith 4. More nest sightings. I flushed a mallard in the sedges in North Griffith 5 and a vesper sparrow in South Griffith 3.

 Below is a summary of flowering plants in the last couple weeks:

1. *Melilotus officionales* (yellow sweetclover)
2. *Achillea millefilium* (yarrow)
3. *Astragulus drummondi* (drummond’s milkvetch)
4. *Hymenopappus polycephalus* (Hymenopappus)
5. *Coryphantha vivipara* (purple pincushion)
6. *Crepis acuminate* (hawk’s beard)
7. *Euphorbia robusta* (small spurge)
8. *Gaillardia aristata* (blanket flower)
9. *Gaura coccinea* (scarlet gaura)
10. *Linum incisum* (yellow flax)
11. *Paronychia sessiflora* (whitlow wort)
12. *Pentstemon albidus* (white penstemon)
13. *Plantago patagonica* (indianwheat)
14. *Polygala alba* (white milkwort)
15. *Psoralea esculenta* (Indian breadroot)
16. *Senicio integerrimus* (sagebrush groundsel)
17. *Stipa comata* (needle and thread)
18. Yucca glauca (yucca)

6.15 Cool (50’s) and cloudy all day. Moved cows to next split. Moved young cows to next split. Also, moved bulls to next. Bulls are in an old crested wheat stands that continues to diversify with more plants under short duration-long recovery grazing. In a small area I counted 38 species of plants. A golden eagle flew out of the pines where the bulls are. Another new prairie dog hole along the pipeline in same area.

6.16 Partly cloudy and pleasant. Very little moisture this first half of June, which is on average the wettest month of the year. Moved cows again to next split in South Griffith 3. While checking young cows saw a loggerhead shrike take a vesper sparrow down in mid-air, and then carry it off some distance. I am trying to keep moves to two days or less. I find if I stay disciplined and follow my protocols for moves using temporary fence things go pretty smoothly. If I cut corners, problems and more work arise. The drill is basically as follows: (1) divide each temporary split with a steel post in the center. This keeps the fence tight and makes for an easy way to move cows to next split without temporary wire getting tangled. (2) Always keep fence hot and check for dead spots. (3) After moving cows, then put up next split fence for next move as a back-stop in case the cows break out. (4) Move mineral tubs to current split. (5) When moving cows to next split-or when they move themselves-it is a good time to look closely at the cattle for any problems or health issues. (6) And of course, never forget to check water.

6.17 Day starts cool and clear, then hot an muggy, followed by a brief thunderstorm providing more visuals than moisture (see picture below). I moved young cows to last split in North New Griffith 2a. Andrea Pipp from the Montana Natural Heritage Program paid us a visit. Andrea is a field botanist and also skilled in lichens and fungi. She will try and secure some resources to invite some lichenologists to do a survey of the ranch for the Field Guide. I also moved cows to next split.

6.18 More hot-cool unsettled weather. Serious hail damage to the south of us, yet no benefits or damage here. Continue to move cows daily in South Griffith 3.

6.19 Warmer with more threatening storms, and while no rain has fallen the cooler evening temperatures are welcome. Moved both bull groups and the older cows to next splits. On the ridge road on South Griffith, the first crop of mourning doves is beginning to flock. *Calylophus serrulatus* (plains yellow primrose) with its delicate and bright yellow blossoms is approaching full bloom across the ranch. More fresh strawberries and bib lettuce from the garden to help fill our meals.

6.20 Partly cloudy and warm, turning cool by evening. Bulls escaped due to a short in the temporary wire. Fortunately they stayed close until I got the fence straightened out. Older cows moved to next and last split (7). This was a tough day. Near the end of calving, if things are going well, our daily checks can become less frequent and thorough. Then when you least expect it, disaster strikes. A late calving heifer is missed, and she and her calf die. After not having doctored anything the whole season, two calves get scours and cannot be brought back. Part of the reason I keep this journal is for those who follow us in management can benefit from our experience and mistakes. On the ranch there is always many tasks and projects, and most are done to further the conditions for the cattle. Yet, always the most important and first daily task-particularly while calves are young, and a few cows remain to calve-is checking the livestock, their water and mineral, and the condition of their pasture. With so much life on the ranch, death cannot be avoided. Never the less, keeping loss to 1 or 2 for the cows and less than 4 percent for the calves, requires a steady consistent mindful effort. And ending on a more cheerful and sweet note, *Hedoma hispidum* (rough pennyroyal) is a very small very fragrant flower in the mint family, found on shallow sites, whose sweet scent far exceeds its size.

6.21 Summer solstice arrives and passes signaling the slow steady spiral of shorter days. Almost hot most of day, yet light showers come evening refresh and cool. Passing disturbance triggers rich evening rainbow and sunset. Following yesterday’s outcomes, we cut late-calvers and put them in a smaller more visible pasture. We loaded 6 yearling bulls that Will Juhl delivered to Blaine in Wolf Point. Got pasture set to move 2’s to North New Griffith 1. Below is a picture of a dung beetle-an important partner for soil building. From Wikepedia:

**Dung beetles** are [beetles](https://en.wikipedia.org/wiki/Beetle) that [feed partly or exclusively](https://en.wikipedia.org/wiki/Coprophagia) on dungs or [feces](https://en.wikipedia.org/wiki/Feces). They possess exceptional dung disposal capacity and one dung beetle can bury dung that is 250 times heavier than itself in one night.[1]

Many dung beetles, known as *rollers*, roll dung into round balls, which are used as a food source or brooding chambers. Other dung beetles, known as *tunnelers*, bury the dung wherever they find it. A third group, the *dwellers*, neither roll nor burrow: they simply live in manure. They are often attracted by the dung collected by [burrowing owls](https://en.wikipedia.org/wiki/Burrowing_owl). Dung Beetles can grow to 3 cm long and 2 cm wide.

All the [species](https://en.wikipedia.org/wiki/Species) belong to the superfamily [Scarabaeoidea](https://en.wikipedia.org/wiki/Scarabaeoidea); most of them to the subfamilies [Scarabaeinae](https://en.wikipedia.org/wiki/Scarabaeinae) and [Aphodiinae](https://en.wikipedia.org/wiki/Aphodiinae) of the family [Scarabaeidae](https://en.wikipedia.org/wiki/Scarabaeidae) (scarab beetles). As most species of Scarabaeinae feed exclusively on feces, that subfamily is often dubbed *true dung beetles*. There are dung-feeding beetles which belong to other families, such as the [Geotrupidae](https://en.wikipedia.org/wiki/Geotrupidae) (the *earth-boring dung beetle*). The Scarabaeinae alone comprises more than 5,000 species.[2]

Dung beetles are currently the only known animal to navigat and orient themselves using the [Milky Way](https://en.wikipedia.org/wiki/Milky_Way).[3][

Our socks now catch the sharp seeds of needle and thread (*Stipa comata*) – a temporary hindrance of early summer.

6.22 Dry and warmer. Moved cows into SG7 first split. Moved bulls to next split. Gillian Bee from Rocky Mountain Bird Observatory stopped for a short visit on way to the Matador Ranch. Discussion centered around monitoring and possible partnership with CMR working group.

6.23 More dry and heat and more forecast for the week. Picked up young cows at 4:30 and moved to North New Griffith 1-first split. Moving pairs at first light is a must with the heat. I stayed with them at new water for an hour to mother up. Pleased how smooth the move went-no calves came back. Enjoyed birds in the sandstone pine breaks: chipping sparrows, bluebirds, cassin’s kingbird, tree swallows, lark sparrows, spotted towhee, red tail hawk, kestrals, cross bills, white breasted nuthatch, and northern flickers. I wish I has twenty more paddocks like this to ride out the heat. Moved cows to next split in SG7. One more milk scoured calf. Clover? Pierce coming tomorrow.

6.24 Reasonable day. I moved cows from last strip in SG 3 to SG 7. Lost one more calf to milk scours.

6.25 Woke to a surprising morning shower and welcoming cooler temps. Ryan and I moved cows from SG 7 to WG 5. We started last night but some calves went back. During the day we cut some open (no calf) cows to mix with the opens and heavies (still to calf) in WG 2. By just hanging at the water one could cut off opens with little effort and complication.

6/26 Reasonable temps moving to hotter in the afternoon. Finished trailing cows from WG 5 over county road to South Griffith 6. We started at 4:30 am and the move went smoothly. We went to move young cows closer to corrals for branding and discovered we had no water pressure at the east tank. This discovery, with anticipation of branding and hot weather, led to intense effort to solve the problem. Mostly unsuccessful and barely had enough water for young cows, yet corral well held up thankfully for cows, despite a major freak out when cows somehow turned the valve off to the corral tank. In the evening we trailed cows into holding corrals in preparation for early morning work to cut calves and cows for branding.

6.27 HOT. We branded the older group today. 233 branded calves and 248 vaccinated cows. Good crew. We still are wrestling with water problems at the solar well. I moved young group back to west tank for better water but pump completely quit working and then the west tank was drunk down. After branding moved young cows back to other tank that was getting some water from the corral well. Things could have been much worse if corral well had not kept up. We will move young cows over to Ryan’s until water problem is fixed is in North New Griffith. The most fear and anxiety raising concern/event on the ranch is-bar none-the loss of water in hot weather. A cow can drop off very quickly if unable to access water every day.

6.28 HOT. We left cows put near corrals in SNG 6 with the corral water well barely keeping up with demand. Trailed young cows over to Ryans for better water and began splitting West Griffith 6 alfalfa fields. We might try and move through drying alfalfa pasture with 2 moves per day. Treated bulls with safeguard in NBW 3-moved in their 3 days ago to move bulls farther from cows during branding. Sunflowers are starting to bloom along county roads-seems early.

6.29 Hot again. I thought we could stay one more day where we could corral the open cattle. Vidic and Snick of Vidic Drilling came to ranch to check out solar pump. Unsuccessful. I decide to just move cows, but where? I figured the least energy spent for people and livestock, was to bring bulls to corrals, and then trail cows to bull water.. Temperatures are just too warm to get many cows to cross the road. We will wait until morning.

6.30 Light shower with some cooling over the night-very helpful conditions for trailing the cows. Cows are now in SBW 1 with plenty of water, and easy tank for calves to drink. While moving cows, bulls escaped and miraculously we kept them from mixing with the cows. With cow pairs are good water, bulls locked in corrals, and young cows at Ryan’s moving daily on alfalfa fields, all is stable for a few moments. Birds have been gearing down with song. This evening at dusk, the nighthawk, house wren, Robin, and western wood pee wee keep it up as light slips away.

7.1 Hot but not super hot. There was a heavy cloudburst in Roundup but just a few drops at the ranch. Cows remain in SBW 1 and young cows in WG 6-where we are splitting twice a day. Alfalfa is abundant but drying out fast. We finished the day watching the moon with bats and nighthawks.

7.2 Weather mostly a repeat of yesterday. Animals remain in same paddocks with new splits. Ryan has all water lines pressured up and storage facilities full. Chuck Hassebrook, retired Center for Rural Affairs director, and unsuccessful candidate in Nebraska for governor, shoed up for a nice visit about a host of ag/energy/environment issues.

7.3 More hot and hazy. Light work day just another split for young cows.

7.4 Hot and also hazy from the Alberta fires for the last week. Light day of work. Led a bird walk on the Roundup RiverWalk. Later in the afternoon moved cows onto seeded pasture cocktail-SBW1a. A questionable action grazing a newly seeded pasture, yet there is abundant volunteer cover, alfalfa, pasture cocktail plants that I feel will be topped with little pressure on the drying and small new seeded plants. Ryan continues to move young cows once or twice a day on alfalfa fields. Pierce and I took a nice hike on the sandstone outcrops in NNG 1. I saw three different swallows along with a number of other birds-cliff, violet-green, and tree.

7.5 We woke to cool north winds and more smoke from Alberta. Cool and hazy all day with temps falling 30 degrees. Cut off dries at water center. I just do office work by the water, and when an open cow comes to water, I place her in the pen-low stress cow work. With it overcast and cool, even the robins barely sang today, yet as night comes the poor will is still singing. Sadly, the season of bird song is fading fast-with a notable exception: the house wren both at the ranch and on the river remains tireless in song.

7.6 Overcast with modest temps. Cows remain on new seeding. Young cows keep moving daily in WG 6. Tested bulls. Out of 19 one is bad and one needs retesting in two weeks. We placed bulls in SNG 7 with a very hot fence, as cows remain not far away. Everyone including the bulls worked easily and calmly. We reviewed with our Vet Katie Peters from Harlow our cow vaccination program and we agreed to stay with vaccinations at branding versus at fall pregnancy testing, because of the stronger immunity response. I left in early afternoon for Helena, and later Fairmont Hot Springs to facilitate a discussion on groups partnering in Montana to exchange data on climate change.

7.7 Cooler with some evening thunderstorm threats that were not realized. Animals remain in same areas. I spent day facilitating but drove 300 miles home that night. While dry in our part of the watershed, I have rarely seen the upper Musselshell look so good and verdant. The late evening-post thunderstorm light amongst so much native space, made me feel I was in the ‘pure land’.

7.8 Very light dampening shower last night felt fresh and welcome. Moved cows to SBW2a to top a little more alfalfa before moving over to West Lackey. I may have stayed a touch too long in the new seeding-time will tell. Most work geared to prepping for branding on Saturday.

7.9 More clear and very warm weather. No moves today. Set up for next move with cows in SBW 3. After branding on Saturday will begin grazing-trailing over to old alfalfa fields in WL. Captured one more dry and lame 22-11 at water center. While laying temporary line for next move, I checked out the *Echinacea angustifolia* (purple coneflower) patch in SBW 4.

7.10 Pretty warm most of the day, then clouds and lightning, a few small, but not serious fires, and finally a little rain. Ryan, Fawne, Wade, and Judy trailed heifers over to corrals, left pairs too soon, and all day into the night wrestled with some cows and calves not mothered up. Heifers teach you to nurture patience, and if you forget this lesson, more work is inevitable. Hopefully tomorrow, we will gather and successfully corral the whole group for the branding. Coming home from town, I said to myself, “usually I see some grouse working the green feed of the borrow pits alongside the road”. I had not observed this all season yet for some unexplained reason the thought arose, and then, in just a few moments of driving, there they were-just two-but there they were. Will this iconic ancient bird, and the sagebrush steppe it depends on, both find relief and protection for the long-term?

7.11 Cool. It was windy, and overcast for the morning branding. Animals gathered and delivered calmly to the corral. We had a good crew and were done by 9:30. Processed 138 cows; branded (left real small calves unbranded but castrated) 124. Cut off around 38 dries-need better count. I had plenty of time to attend to Shakespeare in the Parks chores in the afternoon and evening.

7.12 Partly cloudy, mild, and very clear from yesterday’s wind. Clearest day since the smoke came in. Just as I was finishing the breakfast casserole for the actors, I walk out the door and the bull are strolling to the county road. Temporary panic, but the dogs and I got them captured. Then returning from the Shakespeare breakfast, I noticed the cows had broken out. Long story short got things straightened out over the day, and recognized it was time to shift from opening gates to fresh pasture, as we do during calving, and move the pairs to fresh pasture. Managing branding, moves, and Shakespeare together can lead to a few mistakes.

7.13 Cool morning turning warm in the afternoon. Fawne, Ryan, and I moved young cows back over to WG 6 over at Ryan’s. We will keep splitting the alfalfa fields. One bull got in the group the might before. Being a week before planned turnout, we chose to leave him in. Cows stayed in NBW 3 first split. Hope to move early tomorrow. Brian Johnson from Collaborative Design Architects paid us a visit to begin helping us design a studio-storage project on the footprint of the shop next to the house. The reader may notice that there is not much reporting on new flowers blooming as the summer grows longer. The ranch has still received under 4 inches of moisture for the year, and everywhere except the draws and bottoms, the cover is crunchy dry and no real active growth for some time.

7.14 Moderate temperatures. Received .2 tenths moisture last night. Loaded 34 open cows and two bulls for Billings auction. I moved cow pairs (241) onto next split NBW3. I gathered for the move and held them awhile as they entered new grass. Ryan moved young cows (143) to next split. Prepared for move to reservoir tomorrow. Reservoir level is falling-maybe over a foot. Ryan, Dana, and I updated livestock inventory. We are off 2 from first of year. Still some question on calf count and whether we have more opens still running with pairs.

7.15 Continued mild weather. I moved cows into NBW 7 first split just south of reservoir. Recently fledged cowbirds leads to large flocks hanging with the cows. Also, rapid moves and cooler weather has fly populations down. It seems that the smooth brome colonies in the old hay field by the reservoir are growing larger-not a good sign. Smooth brome, while an ok forage, is aggressively rhizomatic leading to little or no stand diversity. I saw a few young sage hens on road to reservoir.

7.16 Partly cloudy and mild. Everything stayed put while I traveled to Phillips County to facilitate the CMR Community Working Group’s sage grouse sub-committee. Day finishes with a little unsettled weather-some light sprinkles-and wonderful evening light. The last night of Pierce’s stay at the ranch. We took a walk on west end of Big Wall and saw a number of duck broods and cliff and barn swallows.

7.17 Another cool day turning windy and blustery by evening. Pierce returned to Connecticut. Older cows moved to next split in NBW 7 on way to West Lackey to top drying alfalfa. Young cows stayed put after brief escape to the county road. Ryan is off for four days to pick up granddaughter in Iowa.

7.18 Another mild and breezy day. I trailed cows into WL 5 for first split-more topping of drying alfalfa. Two godwits flew over during the move. Young cows are good. I am starting to see kestrel parents and fledglings feeding together.

7.19 Partly cloudy, breezy and getting warmer. I moved cows to second split in WL 5, and moved young cows to next split in WG 1. Dana successfully live-trapped the third pack rat in the house-very cute and very easily drawn to tuna fish. This summer might be titled ‘the reign of the rodents’. A mini-explosion of cottontails, voles and mice, pack rats, and prairie dogs are expanding on the prairie. Cycles. And predators!? Missouri goldenrod (*Solidago missouriensis*), Gayfeather (*Liatris punctata*), Rush Skeleton weed (*Lygodesmia juncea*) are starting to flower-usually we see this in early August. At a recent CMR meeting, one of the refuge biologists seems to feel everything seems three weeks early. Not much other color in the grasslands except Canadian thistle in some draws and wetlands-not so desired. It seems a big year for thistle all over, not just on the ranch.

7.20 Cooler today. On way to move cows at Lackey’s the Swainson Hawks with their young were all feeding together near the creek crossing. I moved cows to nest splits.

7.21 Partly cloudy and warm. I moved both groups to next splits. Katie Peters came to re-test bull that failed the test earlier. Thankfully tested positive. Ryan put 2 bulls with young cows and 3 bulls with older cows. I left for Helena. There was a fire in Deep Creek and I detoured through gravel roads south of the Hwy through the foprest to get to Townsend.

7.22 I was facilitating a ranch family session in the Blackfoot all day. Ryan moved young cows to next split

7.23 Dana said 2 tenths of moisture fell this morning. Same storm passed earlier in Helena, where I was still in meetings. No moves today.

7.24 Partly cloudy and warm. I moved cows into west half of WL 8. The day before, the cows broke out to the west of WL 5, and thus were hard to leave fresh feed to head back east. Once on fresh feed in new paddock everyone relaxed. Prairie dogs have expanded west into paddock 8. I moved young cows (143) into a thin temporary paddock along bottoms WG 2. I am trying to put some grazing and herd effect on the thistle. NRCS supported Nutbol report (analysis of fecals) showed the young cows were low in protein necessary for adequate weight gains for breeding. I started just feeding protein blocks anticipating we might have this problem. I will retest again next week to see if blocks are helping.

7.25 More of the same but warmer. Moved cows into WL 7 west half-similar pressure from Prairie Dogs. Pasture cocktail on BLM doing surprisingly well for so little moisture. While checking the PC a pair of upland sandpipers circled in WL 2. I was surprised to see them, as the curlews have already left. The whole kestrel family out today near creek crossing-observed seven birds all feeding together. Surface water levels are dropping fast. I am seeing a small butterfly-1 inch across-with sky blue wings common in most paddocks. Maybe a Lupine-Blue.

7.26 Another modest day. A mid-afternoon thunder and lightning storm blew through quickly. Cows broke out into E Lackey 5. I pushed them back into WL 6. Ryan moved young cows into first split in WG 4. A lone prairie falcon is back hanging out along county road to Lackey mixing with red tails and kestrals. A small group of six antelope are hanging in the pasture cocktail. I collected another Nutbol sample from the young cows to re-test the protein they are getting from the forage.

7.27 Normal summer day yields to a fast moving cold front bringing strong winds and .45 inches of welcome rain to the ranch. We lost power for part of the evening. Both Ryan and I moved both cow groups to new splits.

7.28 Cool, breezy, and cloudy. The road to Lackey was actually slippery-no complaints. I moved cows onto WL 2 with first split. FWPs/NRCS Sage Grouse Initiative had some technicians doing random vegetation samples on the ranch.

7.29 Some winds and warming trend. Cows are starting to move out of WL 2 into EL 5. Roland, Max, and a large contingent of ranchers arrived to begin this year’s monitoring. Nice discussion at lunch on possible next steps for expanding monitoring in Petroleum County. While eating a remarkable nighthawk feeding frenzy occurred in the yard. Possibly 20 to 30 nighthawks just showed at for some time fed continuously in the yard just north of the house. Then, adding to that wildlife experience, a family of 19 Hungarian partridges marched-fed through the yard and between the two houses.

7.30 Getting warmer but mornings are staying cool, which is good for breeding. I moved all the older cows into first strip in EL 5. BLM attended our second day of monitoring. Dusty suggested we graze the 100 acre pasture cocktail in EL 7&8 sometime in September. BLM plans to seed the same acreage back in October this fall.

7.31 Hot. No moves today. Traveled to Blaine’s to check out yearlings and talk about long-term management plan. Our Krein bulls and Blaine’s Van Dyke bulls are running together for a 42 day breeding season.

AUGUST (.81)

8.1 Very hot. Returned from Blaine’s. The ranch is about the driest area between here and Wolf Point. Check out photo of the steers at Blaine’s belly deep on sorghum and volunteer weeds. It looks and feels like June at Blaine’s. It’s smart to lease grass far enough away from the home place to be in a different moisture pattern. Ryan moved cows into 2nd split in EL 5. Two more bulls placed with cows. Ryan is also splitting the 80 acres alfalfa field in WG 4 for the young cows. Ryan put one last yearling bull in with the young cow group.

8.2 Hot but not excessive. I moved young cows to next split in WG 4 alfalfa strips. Florin came out and fixed pipeline leak near reservoir. Flushed 5 herons from pond. During evening water check for cows, I saw both a badger and coyote hunting in the main dog colony. Second badger seen this week, and we are very grateful to have some native predator pressure in the area. To bed with the rhythmic droning trill of the summer field crickets.

8.3 Hot again. I moved cows into EL 5a. Moved young cows to next strip. Dead raven found in dog colony-unusual.

8.4 Slight cool front brings a few sprinkles mid-day then turns hot. Moved young cows to next split. Cows stay where they are in EL5a. Dana and I spent good share of day with Ronna Holman of IMA completing our GAP Audit for CNB. Dana built “the book” to keep a clean record of all future health records. I saw a raven with a baby cottontail in its mouth.

8.5 Mostly warm today, but another thunderstorm blew over but main storm and rain fell to the south of us. I moved cows into first split on EL 4. Last split for young cows in WG 4.

8.6 Hot winds today. I moved cows to EL 4, our largest paddock. Setting up next moves to slow things down while Dana and I prepare to travel tor Washington DC to meet with Perez family for a week. Walking through the pines, the calls of chickadees, nuthatches, wood pewees, and chipping sparrows was a pleasant sound transition form grazing the alfalfa-crested wheat fields. Heard cranes again, and meadowlarks are slowly starting their fall singing as we move closer to fall equinox.

8.7 Calm and warm yet cool nights persist. Ryan and I worked last open cows (3) out of young group. Tomorrow the young cows will be trailed over East Lackey to mix with older group. I met with Travis Krein, with whom we purchase all our bull genetics, to discuss having him develop our heifer replacements. As dry weather continues, the ranch may need to lease additional forage to hold our numbers. Porcupines are back feeding on ripening apples. Cedar waxwings have stayed in headquarters all summer for first time.

8.8-15 Left for 8 days to visit Washington DC with Moria and the Perez family. Ryan did a good job taking care of things. Mostly hot to very hot while we were gone. We received a strong.1 inch of moisture on 8.11. Both cow groups came together by the end of the week WL1. Grass spiders (webs in tall old clover stems) are common. Kestrels, Prairie falcons, red tail and swainson’s hawks, and harriers are all feeding-sometimes together-on the abundant small rodents. Visibility is very poor from large fires in western Montana, Idaho, and Washington.

8.16 Much cooler air and clearer today. Moved cows to SBW5-first split. I trailed last two bulls to the cows. We are at the 27th day for the breeding season-almost half way through the second cycle. *Aster falcatus, Sonchus asper, Grindelia squarrosa, Solidago rigida, Eriogonum annum and pauciflorum,* and *Circium arvense* (Canadian thistle) are the main flowering forbs on the prairie right now.

8.17 Cool with .83 inches of rain falling this afternoon in about an hour and half-all went in. I moved cows to next strip in SBW6. Cows look very good. Highlights today include seeing a meadowlark with broad (1 inch) white wing bars!? And the rain, while predicted, the amount received certainly not expected. I included some photos on “no trails” and the rich colors of *Liatris punctata.* The filling in of cow trails with plants is probably the clearest and most tangible indicator that we are providing adequate recovery for grazed plants.

8.18-20 Cool breezy mornings turning warm but not hot, and smoky-sometimes heavy, sometimes less. Daily splits (4 total) in SBW5. Last split took SE corner of Pad 6. I plan to re-fence paddock 5 and 6.

8.21 Warmer. Moved cows into north 3rd of NG5 to graze along county road.

8.22-23 Very cool and breeze both days and bringing more smoke. On the morning of 23rd cows broke into the rest of NG5. We will get them back into the “planned” rotation tomorrow. I spent last two days attending sanghas in Bozeman and Helena.

8.24-25 Almost hot today and the smoke changes from thick to a little less thick. Moved into SBW4 with a fresh split each day (#1&2). As the dry continues we are strip grazing the riparian bottoms (see photo) taking advantage of the green feed-now that most of the birds are well past their production time-and putting some pressure on patches of Canadian thistle. Porcupines were in the garden last night, and pack rats find places requiring quick use of the live trap (see photo). Reign of the rodents continues unabated.

8.26 More heat and smoke. Traveled to Circle to facilitate the CMR Community Working Group.

8.27 Same but not so hot. Next split (#3). Ryan and I start work on a new fence to separate large riparian area between NBW and SBW units.

8.28 Smoke and heat continue. Snout moth species are everywhere (look like fine ¾ inch twigs when alighted on a plant). They are most abundant on bottoms. Porcupines and dogs get into under apple tree. Next split (#4)

8.29 Zen Full Moon Ceremony. Very smoky in the morning but it clears a lot with SE breeze in the afternoon-I can see the clouds. Next split (#5). Though not very abundant, meadowlarks, vesper and grasshopper sparrows, longspurs, and horned larks remain sprinkled about in the grassland.

8.30 Woke to clouds and a small rain shower-very small. More work on corridor fence. Afternoon moved cows one last time (#6) on SBW4.

8.31 Woke to morning star and morning blue sky-a smoke reprieve. Moved cows into SBW6 (#1 split). Cows and I are finding better rythem with daily moves. When I show up, yet not to move them, and they get all noisy, I just ignore them, and within 15 minutes they return to grazing.

SEPTEMBER (.21)

9.1-3 Smoke has left for now with cooler-and maybe wetter weather over next three days. I moved cows to last split (#4) in SBW6. I took a little too much feed in front end of paddock. Hot 90 degree weather on 1st and 2nd kept cows longer close to water center. Fall bird movement seen around headquarters-particularly warblers.

9.4 Short early morning shower with cooler temps. No hanging by water today. Feel a storm coming on. We will hope.

9.5 Storm of sorts with wind, thunder and hail last night. Morning is misty with fog. Not since May has it looked and felt like today. Unfortunately there was little measurable precipitation. Wind last night pushed cows through temporary fence. Bit of a mess getting animals back together. Will finish the job tomorrow. Most of animals I moved into 1st split on SBW7.

9.6 Woke to clear and cool morning. Strong breezy winds came up later in the day. I got out in the field early to get all cows located in SBW 7. Moved to 2nd split later in the morning. This might be a good time to talk about the importance of “Following the Schedule”. Now that we are moving cattle almost every day, I find both people and cattle are best served if you follow a routine. When doing retreats on Zen monasteries they always tell you if you just follow the schedule, things will be less difficult. This is very true on the ranch, and while you always need to be adaptive and flexible as the expected unexpected arises (cows get out, water breaks, equipment breaks down) the sooner you lean into and address the problem and then return to the schedule, the easier life will be.

 So what does this look like for me on a good day. Wake at 4:30 with short stretch; sit at 5:00; service at 5:40; short house cleaning (soji); small animal chores around 7:00; review day tasks; check cow water and mineral; do Ryan’s chores (today Ryan was on vacation); have relaxed breakfast and maybe catch some tv news (most days following breakfast Dana, Ryan, and I meet to visit about short and long-term planning); check emails and make calls; back in field to move cows or fence or both; relaxed long lunch if things are going well and read some newsletters and mail; short nap; back in the field; finish with small animal chores and dinner (if it is my turn); watch a little TV with Dana (usually Dana and I are checking in throughout day); update journal for web page; bed by 9:00 which never happens, but it is always a goal. It is easy to observe, since I have an active facilitation schedule and community work, why two people are necessary for the ranch to operate smoothly. If the team keep turning back to the “path”, keeps returning to the schedule, we have a chance to be reasonably responsible to ourselves and others, remain grateful for this rare opportunity to be alive, and resolve to temper our wants with what is. And despite the subtle and not so subtle inescapable suffering that checks us at every turn, and also understanding monastic schedules are more easily supported by a larger community, we lean into our daily practice remembering we are never alone and always powered by our relationships with everything else.

9.7 Cool breezy day. Passed on moving cows with a lot of feed left in paddock. Caught up on office work. Big move tomorrow to east lackey. Lone beautiful Ferruginous hawk hanging out on Prairie Dog colony.

9.8 Moderate and breezy-some gusts-and drying. Judy and Wade (neighbors) helped me move cows over to the pasture cocktail seeding on BLM in East Lackey in Paddocks 7 and 8. Trailing went well other than bulls decided they needed to beat up on each other and proceeded to blow through a recently built fence electric fence. I was not amused. A Bald Eagle and Ferruginous hawk are hanging on Prairie Dog Colony. When we trailed to the water center at East Lackey, a group of calves hung back at the water, as the cows grazed. Jick, one of our border collies spooked the calves and one large calf flipped over into the tank with its head barely above the water trapped between the railing around the tank. Wade, literally a gentle giant, was able with some assistance from me, to position the calf and leverage it over the edge of the tank and out. If I had been alone, the calf would have drowned. The slogan-be grateful for everyone-I never tire of repeating.

9.9 Cool and light overcast. Cows are very much enjoying the cocktail pasture. I wish there was enough for a month but there are only a 100 acres in this seeding. The cover will go fast. What is amazing, not unlike last year, when the cows go onto the cocktail, they guickly go off mineral. Somehow, the diverse annual plants in the cocktail mix, with their different root systems capture an assemblage of minerals that satisfy the cows. There is something about the ongoing “buzz” about the importance of soil health and how to build it. The ranch agreed today to send our bred heifers to Travis Krein in Wyoming along with our heifer calf crop. A new project with hopes of addressing current drought condition, while also growing the herd.

9.10 Just pleasant weather. Fall. Cows still harvesting the “cocktail” pasture. While fencing off the grass on the north edge of the cocktail, I flushed two rattlesnakes.

9.11 More gentle weather. Cool mornings, warm days, and soft evenings with changing light of fall. With the changing light come more flocking of birds, and the occasional song of the meadowlark. Dana’s garden is alive with a variety of birds both resident and migrant. Holding cows one more day on cocktail. Raven and hawks and coyotes are regulars at the PD colony. A lone field cricket song as we head to bed.

9.12-15 Turning warmer all three days. Cows remaining surprisingly content on the pasture cocktail. Cows saved the sunflower heads for last, but the heavy seeded flower heads are disappearing fast. The water leak we fixed at the tank seems to have returned. Hopefully we can live with it until we move to another water center. Every day I see coyotes, prairie falcons, hawks, and eagles travelingto and from east lackey. The dryness and increasing dust are worrisome. We may need to move even before the feed is used to prevent the possibility of dust pneumonia that calves are prone during prolonged dry falls. Ryan is covering as I hang with Will at the Billings Clinic hospital-another story.

9.16-18 Cooler temperatures with a few light showers and little measurable precipitation. The grouping of journal days is a result of my son-in-law, who contracted a colon infection, required a 5 days stay in the hospital. With Dana in Connecticut attending Moria’s ceremony for becoming a lieutenant, and Ryan caring for the ranch, I spent a good share of the last five days with Will at the hospital. I was able to make two more moves in EL 7 and 8 where the cows are still grazing the pasture cocktail and the remaining native grass in the paddocks. See pictures below showing the move today (the 20th) along with the “baby” rattlesnake. May need to look closely. Since the cows have been on the “wall” I have seen 4 rattlesnakes while either rolling out or rolling in temporary fence. The eagles and the ferruginous hawks are still hanging on the PD colony.

9.19-20 Warming with some strong SW winds-so dry. Expanding white border to a shrinking reservoir can be seen from two miles away. I moved cows to east end of EL7 with assistance from Tommy who arrived yesterday from Tennessee. Cows remain in surprisingly good condition-even the young cows. Returning home from moving cows, we discovered we left Paxs, which delayed our return to headquarters while we searched for her. Backtracking we finally found her, but the search time kept us out long enough to experience a remarkable sunset (see photo) on the drive home.

9.21-24 Classic Indian Summer weather persists over the passing of the fall Equinox on the 23rd. I have been staying with Max in Polson over the last four days. Fall rains in the area have greened things up nicely. Ryan has been holding down the fort at the ranch. We have started to build a new pipeline in West Griffith Cell. Cows moved into last paddock in East Lackey 6. Two small PD towns have started up along the wall. I made up two new Big Wall Dragon tales for Max: *How Big wall Dragon and his buddies ended the last ice age and created Flathead Lake*, and *Cirques are mostly the result of dragon slides and not glaciers*. I was able to take a nice walk into the west side of the Missions (see photo).

9.25 Hot-like almost 100 degrees. I shut off water in EL6 tank expecting cows to move to main EL water center. Younger cows didn’t get it and hung by the empty tank. I started some in the right direction this evening, but will need to finish early tomorrow morning. We will be moving out of EL lackey and slowly heading to North Big Wall. Though little green to be found, moving often to remaining ‘fresh paddocks’ (not grazed since late winter-early spring) cows remain in reasonable condition. Ferruginous hawk is still hanging on PD town.

9.26 Still very warm, yet a little cooling and overcast skies in the evening. Cows broke into EL 5a and 5, yet the lane is open for cows to move to WL 2 and into WL3, and by evening a few have started to move into new paddock. A large flock of migrating white-crowned sparrows have arrived in the yard. With the hot fall weather, the yellow jackets are out in force always finding places to sneak in to the house. This is fall. This is the time of year when we are mixed regarding our thoughts for a first frost. If it freezes, many annoying insects depart, if it doesn’t, Dana has more time to process food from the garden.

9.27 Clear skies and cool in morning but turning hot by afternoon. While sitting the feint raspy call of the spotted towhee, and the broken call-song of the white crowns, bring back fond memories of sounds more commonly heard along California’s Pacific coast. Cows still gathering toward WL2&3 out of East Lackey. We got a few good shots of the eclipse and full ‘blood moon’ but clouds mostly concealed the display.

9.28 Another mild fall day. Two nice bucks south of house on way to West Lackey to check water. Worked on next temporary paddock in North Big Wall. Despite deer putting pressure on Dana’s garden, I made a scrumptious potato soup from ingredients harvested in the garden.

9.29 More of the same. My, what grass we could have grown if measurable moisture could have come in early September. Moved cows into WL 4 around old Lackey buildings. A small flock of sharptail grouse is hanging in the reservoir pasture. The white salty shoreline of our shrinking reservoir is uncomfortable to observe.

9.30 Cool morning turning warm again. I moved cows into first split in NBW 8. We stripped this piece hard with the calves in early April. While dry and a bit short, you can see the richness in the color of the grass, not unlike the old crested wheat grass we grazed with high stock density in West Lackey 3. Magpies hanging near the headquarters.

10.1-6 Attended an inspiring Savory Institute Conference 10.2-4 in the Bay Area. The new climate change narrative is managing/building soil to sequester and re-balance the planetary carbon cycle. While gone, over 2” moisture graced the ranch. Ryan continues to move pairs through North Big Wall unit. We are starting to feed alfalfa every three days to break calves to feeding hay. We may trigger an early mid-October weaning to better ration our remaining dormant feed to support the cows into next April.

10.7-14 Finally home from California. I got a very good feel for the water challenges in that part of the world. I included some photos of some old hiking haunts in the coast range. Dana and I came home to a good green-up from last weekend’s rain. While gone, Ryan moved pairs through North Big Wall 8, 7, 14a, 14, 9, and 10. A strong all day wind on the 11th scattered cows all over, but they are back in NBW10 today. Both cocklebur and Canada thistle seems to be increasing in the wetland areas, and I will need to keep watching the trend. Canada thistle has a way of expanding in dry years when there is less competition from the grasses and sedges. I also included a photo of some dry holes in NBW 9 with encrusted alkali salt. Before we had well water piped to this paddock, watering from these ponds during dry years could trigger alkali sickness, causing animals to go blind. Many of the water holes on NBW9 are a result of small check dams built before we bought the ranch. At some point the ranch needs to test the merits of taking some of the check dams out to reverse the trend of saline seep in the area.

10.15-18 Continued unseasonably warm weather. I was again on the road with ranch succession facilitation work. I also attended the back half of a sesshin (3 day sit) in Bozeman. I left without even a coat. How crazy is that for mid-October. Cows are still using North Big Wall Paddock 10 and 11. We are still feeding alfalfa every three days (about 10 pounds per pair). Livingston antelope hunters came this weekend but left empty handed.

10.19 Another gentle day turning overcast with light drizzle at bedtime. Moved cows into NBW12 down on the creek. I see some increase of cocklebur on the creek, which we will need to hand pull next year before burs are set. I am seeing active vole activity with many new fresh mounds. Cattle have responded very well to the new green cover mixed with old feed.

10.20 Drizzle turned to very nice rain (.80). Cows stayed put on creek. Since early October we have received just under 3 inches of rain. Photo below shows the mushrooming of winter weed annuals-mostly mustards-from the unusual wet and warm weather of October. The site is dominated by western wheatgrass yet the annual seed is present in the ground. It will be interesting to see what happens next spring

10.21 Wonderful day-clear, moist, and warm. I moved cows into Paddock 13 in North Big Wall. Cows still floating back in paddocks 12 and 11. I will need to push them up into 13. I saw my first Rough-legged hawk for the season-our winter hawk.

10.22 Another nice day. I got all the cattle gathered into Paddock 13. We are setting up the next two paddocks that will graze cows into corrals for pregnancy testing on the 27th. We discussed what pour on will have the least impact on dung beetles (see earlier post). Our vet recommended cydactin, which we purchased today.

10.23-25 Weather remains mild. On the 23rd cows moved into North Big Wall 15. Late afternoon on the 25th , Ryan moved cows into NBW 16 to allow cows to graze close to the corrals as we plan to pregnancy test and condition vaccinate the calves on the 27th. Deer and elk sesson opened this weekend. I spent the last three days in Gunnison, Colorado facilitating succession planning for a family ranch in the area.

10.26 Light drizzle off and on all day. We brought cows into the corral area at the end of the day in preparation for testing tomorrow. Received 5 tons of RIO Tubs for supplementing the calves.

10.27 More cool and some morning drizzle. Preg tested cows and pre-conditioned calves. Poor breed up on 2’s but remainder of cows did well-88% overall. A little below average. We all agreed we need adjustable chute for vaccinating calves.

10.28 Clear and moderate. Moved cows last night into SNG 7 to mother up and settle.

10.29 Same as yesterday. Left cows in SNG 7.

10.30 Overcast with a little moisture. Moved cows back into NBW 15 and then 3 later in the day. We cut all the bulls (16) back. I traveled to Wolf Point to prepare for shipment. While driving heard report on CBC (Canadian public radio) of snowy owls arriving in Saskatchewan weak and in poor heath. May be attributed to long smokey fire season and respiratory impacts to growing fledglings.

10.31 Overcast and few sprinkles. Shipped 220 yearlings from Blaine’s to McEndaffer Feedlot. Loaded almost effortlessly. Lost glasses. Still all good. Dana continues to fill woodshed.

11.1 Blustery winds but modest temps. Yearlings arrived at Feedlot in good time and good condition. I moved cows into NBW 4. Creek has started running again and ponds are full.

11.2 Overcast and wind. No movement of cows. Rain started in evening. Traveled to Bozeman to provide a facilitation training.

11.3 First snow. .6 inch in rain gauge this morning, Off and on rain and snow all day ending with thick fog. Roads a mess. Watershed meetings all day.

11.3, 4-5 Light morning frosts. Cows escaped into SBW 5 and 6. Between mud and meetings we just left cows where they were.

11.6 Clear cool morning. All week while sitting the alignment of the quarter moon with Jupitar, Venus, and Mars was center stage in the east morning sky. Rare alignment. Ryan moved cows back to NBW 5.

11.7 Windy yet mild for November. I got all the cows back into NBW 5. Moved bulls into all of SNG 7. While removing some temporary fence in the BLM pasture cocktail, I observed remarkable re-growth of the turnips (see picture below) some of which I collected for myself. I saw two bluebirds at lackey cell center-pretty late to still be here. Flushed 4 sharptails on road to reservoir.

11.8 More wind but even warmer. I worked on preparing next paddock move, as we head to Ryan’s corrals for weaning.

11.9 Light frost but another gentle late fall day. Began the trail to NG3 but didn’t get all they way-animals spread from NBW4 to NG3 about 3 miles. I had to break for a Coalition meeting with Petroleum County Commissioners. Calling for sleet and snow.

11.10 The snow and rain came in the night and stayed throughout the day but no major accumulation. After 5 walking hours in welcome dampness, the cows are where they need to be-NG3 and SG5

11.11 Light frost and windy and cool. Cows all in SG5

11.12 Clear, cool, and nice. Cows move to SG4.

11.13-15 SG4. We keep delaying weaning due to heavy winds that finally calmed on the 19th

11.16-19 Wind intensifies with damage around state. SG6. We are using the new water tank and pipeline on the NW corner of Pad 6 just north of the creek.

11.20 North east wind brings snow (1 inch). Day was just uncomfortable enough to postpone weaning another day. Three rough-legged hawks sighted

11.21 Turning warmer. We trigger weaning. Trail pairs to grassy lot with hay. When full and watered, the pairs are cut quietly in small groups-cows often splitting off on their own-fence line weaning at its best.

11.22 No wind and warmer. Second day of weaning and the loudest.

11.23 Perfect day- 50 degrees mild and calm. Chores and some fencing. Third day.

11.24 The day starts nice then turns windy and colder with storm approaching. Cows start to move away from calve. We hope to trail to Big Wall tomorrow if not too snowy.

11.25 We trailed cows (371)to Big Wall.

11.26-12.6 Ryan covered the ranch while I attended a 7 day Rohatsu Sesshin at Berkeley Zen Center. Cows stayed in NBW8 grazing through 5 strips.

12.7-8 Very mild (50 degrees) and little wind. Cows are in NBW14. Low water pressure resulting from water break on first valve south of tank.

12.9 Unseasonably record-breaking warm. Day ends with cool and strong gusting winds. Florin fixed water leak. Cows moved into NBW10 and water tank west of road.

12.9-13 Cool yet mild with light snow on the 10th. NBW10 5 splits.

12.14-17 With storm approaching, left NBW10 early and moved cows into NBW12 with better protection. New snow (6”) with some NW winds fell later in the day. Still feeding hay.

12.18- Cool but not cold. Cows back into NBW 10.

12.19 Cold morning NW winds turning calm and warmer. Moved all bulls back into east side of NNG 1 with temporary fence. Young bulls are rough. Ryan started treating calf water for preventive coccidia treatment. 3 calves lost so . far.

12.20 Chilly SW winds. Moved into the 7th and last split in NBW 10. Cows topped feed throughout-maybe a bit long.

12.21 Winter solstice. Soft and calm most of the day, with cooling SW winds at dusk. Late afternoon moved cows to NBW 11. Calves never came into water.

12.22-24 Cooler. Perez’ arrive. Later everyone is here. Calves are eating more feed. Need to make adjustment.

12.25 Cold and light snow with NE wind on Christmas day. Let cows float into 14, and also half feed straw. Ryan is NBWcheerful despite extra work. What is the price of a good attitude?

12.26 Cold and clear with bitter SW winds bringing some temperature relief later in the day. Move cows back into 11 after breaking into 13. Full feed straw. Cows are browsing sagebrush and fringed sagewort. Is it the hay protein?

12.27 Cold and steady SW winds bring both drifting and slight warming. Moved cows to last strip on NBW 11. The Perez family left on early morning flight. We miss the warm morning family chatter.

12.28-29 Slight warming then cooler with light snow (2”) yet no wind. Cows are still in NBW 11 with some straw supplement. Bulls all back together on west side of NNG1.

12.30 Very calm and not too cold. Cows stripped graze the north piece of NBW13 below the trees. Hitting the brush and yucca pretty hard.

12.31 Another calm and sunny day. Moved cows north of trees in 13. Ryan moved calves into WG4. John White brought his back hoe out to move some snow around. SW winds picked up as we went to bed

1.01.16 Wind more than picked up-moving snow-yet slow moderation in temperature. Fed for Ryan as he is nursing some congestion. I opened Pad 15 up as I hurried to make Abby Raths wedding with Dana.

1.02 More wind but warmer. Slight settling of snow. I moved all cows into NBW 15

1.03 Cooler-slow melt.

1.04 Warmer 40’s and light breeze. Second vaccination of calves plus back pour. 378 calves (93 no tags). 141 S and 141 H tagged.

1.05 Nice day. Floated cows into NBW14a.

1.06 Continued mild and sunny. Ryan and Funk brothers moved calves to corrals and NNG3.

1.08-9 Colder with 4” fresh snow. Snow is 10” to 12” on the level with no wind-a blessing. Cows are in NBW7. Bald eagle and prairie falcon are recent sightings. A few redpolls showed up at the house. Sill feeding 10# hay everying 3rd day with 4 bales straw (about 10# per cow).

1.10-11 Woke to SW winds on 10th feared the worst for drifting. Winds warmed things up versus drifting things in. Cows without straw moved out to graze. Not ‘tropical trade winds’ but relaxing just the same. No change on the 11th.

1.12-16 Both snow and warm temperatures. Moved cows into NBW3. Ryan and crew bangs tested heifer calves on 1.13 and split heifers from steers.

1.17 6” new snow last night. Moved cows into SBW8.

1.18 Warmed up to low 40’s. Some cows moved back to NBW3.

1.19 More warming. Preparations made to receive trucks tomorrow to ship heifer calves to Travis. John White moved snow and Ryan graveled road. Calves (steers) back to NNG3.

1.20 More moderating weather. Loaded 166 heifer calves for Wyoming. Moved cows all into SBW3.

1.21 Warming, yet freezing at night, slows the thaw.

1.22 Now slush and water will soon start to move. Ryan and I worked cows. Cut culls (47) and 2”s (46) and few light 3’s. Mature group now at 280. Cows back to NBW3. Culls and 2’s into SNG6.

1.23-25 Thaw during day followed by freezing nights. Water is not really running off, but rather slowly seeping into the ground. Early morning frost allows us to get key work done-feeding and temporary fence-while ground is still frozen.

1.26-28 Thaw continues with Chinook winds and night freezing. Cows stay in same paddocks with some drafting into NBW3.

1.29-2.3 Generally mild (light night frosts) with a few days of very strong winds. Cows moved through 3 splits in NBW4.

FEBRUARY

INVENTORY: 2.3-5 Shipped 12 culls to Mannix (Original) for direct market sale. Cows in SBW9 2 splits. Calves same

2.13 Windy. 2nd split SBW4

2.14 Colder wind but mostly above freezing.

 Morning rain and snow. 3rd split SBW4.

2.19-21 Facilitation work and Helena. Ryan covering. Some heavy winds. Cows (280) SBW4; 3’s (46) NG2; Bulls (17) NNG1; Calves (182) NNG 2-3.

2.22-23 Clear with light winds and mild. Cows (280) NG6 2nd strip; 3’s (46) NG4 1st strip; bulls (17) same; Calves (182) NNG3.

2.24 Clear and cool. Cows (280) NG7; 3’s (46) NG4 1st strip; Bulls (17) NNG1; calves (182) NNG2.More PDs are near sharp tail lek in NG7. Horned larks are singing and defending territory.

2.25 More mild. No moves. Rick Caquelin, NRCS range specialist, came to the ranch to observe our winter grazing program and look at condition of livestock. Liked what he saw, and suggested we might supplement even less.

2.26 Warmer with wind. Cows in NG7 move to second split.

2.27 Very warm-like 65 degrees-with wind then turning cool. Cows in NG7 moved to 3rd split. Red-breasted nuthatch heard in pines west of house. Prairie falcon crossed near cows. First mallard pairs seen in larger ponds in creek. GREEN GRASS GROWING…hmm?

2.28 Continued mild and windy pattern with a touch of moisture last night. Cows move to next split in NG7. Calves move to next split in NNG 2-3. Slow coming to feed with mild conditions and a bit of green grass to graze.

2.29 Chilly wind out of the NW. No moves today. Ferruginous hawk along south end of NG7-very early! Multi-state monitoring call with assist from Wendy.

MARCH 2016-17

INVENTORY:

3.1 Breezy yet mild with overcast come evening. Some call for possible moisture. Next split in NG7 for cows. Trees buds are swelling, first geese at Big Wall, Dana putting out bird seed—and it’s only the first of March.

3.2 Cooler gusty westerly winds. Cows move to next split, escape twice, but returned to right paddock. Flashy barred tail of Merlin on way to cows.

3.3 Cool and windy turns to warm and mild by evening. Moved cows to next split and now watering on new tank iosin the SW corner of the paddock. I was able to get 7 splits on north end of paddock while avoiding the creek.