

## MEMORANDUM

**TO:** Warren Hansen, Regional Wildlife Manager

**FROM:** Adam Grove, Wildlife Biologist – Townsend

**DATE:** April 19, 2024

**SUBJECT:** Big Belts spring mule deer survey results for 2024

An aerial spring trend survey was flown for mule deer in portions of HD 391 (Duck Creek to Avalanche, most of survey) and HD 392 (Avalanche to Hellgate area, small portion of survey area) on the morning of April 14, 2024, in a FWP Supercub piloted by FWP pilot TJ Reynolds based out of Dillon. Historically this survey has been flown in a FWP helicopter, but due to chronic issues with getting the state helicopter to fly the survey in a timely manner, the survey has been flown with a fixed-wing aircraft (Supercub) the last two years. Survey time was approximately 3.2 hrs with a total flight time of approximately 5.1 hrs (1.9 hrs of total ferry time including 1.5 hrs pilot ferry time between Townsend and Twin Bridges - plane temporarily based there).

Survey conditions were sunny with light (<10 mph) winds initially that picked up to around 11-15 mph by survey end. Temperatures at the airport ranged from 37 to 64 degrees (F) for the survey, so temps warmed up quite fast during the survey. Green-up conditions were felt to be near optimal. However, the mountains were already relatively free of snow (just didn't get a lot of snow through the winter) with green-up fairly far back in the mountains, so some deer may already have dispersed to higher elevations in places. Observed deer groups were generally observed feeding or bedded in the open. However, as mentioned, temperatures warmed up rapidly during the survey, and deer were observed already bedded by around 8:45. So, if deer bedded in the trees, then they could have been missed. Overall survey run quality was rated as good for the survey.

A total of 283 mule deer (237 adults, 46 fawns) in only 24 groups were observed and classified during the survey. One group accounted for 126 of the deer observed. No post-season survey was flown in the trend area this year, as I was unable to get the state helicopter during the desired survey time-period due to weather and pilot availability issues.

This year's spring total of 283 observed mule deer was down approximately 37% from last year's spring total of 446. The decline was likely due to a combination of numbers being down to some degree from last year (poor fawn recruitment last year) and some deer being missed with how open the mountains were this spring because of the relative lack of snow this winter. Last year's survey was also flown in the late afternoon/evening as compared to this year's morning survey which may have influenced deer observability to some extent. Forecasted afternoon wind/weather conditions during the survey window precluded us from doing a late afternoon/evening survey this year.

This year's observed spring total of 283 is approximately 50% below the long-term spring average ('01-'23) of 563 observed mule deer for the trend area. While over the years there has been a lot of annual variation in spring observed numbers in the trend area likely due to survey timing, area mule deer numbers are believed to still be down, especially on national forest lands. There is also a significant concern on just how representative the trend area is of the HD overall given the hunting access limitations to most of the survey area – poor access to much of the national forest (fronted by private land) and private land within the trend survey area.

Observed mule deer numbers in the trend area haven't come close to the numbers that were observed back in the late 1990s and early 2000s since the spring of 2011 when 744 deer were observed. As usual, few deer groups were observed on National Forest land; although, given the survey conditions this year, we could have simply missed seeing deer that were in the timber, i.e. they were also there, but we just didn't see them.

While this spring's fawns per 100 adults ratio of 19.4 was better than last year's ratio of 14.4, it was approximately 23% lower than the long-term spring average of 25.2 fawns per 100 adults. This year's ratio was likely a byproduct of the hard winter of 2022/23 impacts on doe body condition which likely impacted last spring's fawn production and early fawn survival, as this year's winter and early spring were generally pretty mild. As mentioned, the population continues to be down which isn't surprising given that spring recruitment of fawns has been well below the long-term average four out of the last 6 year – byproducts of hard winters and severe droughts during that time frame.

Table 1. Mule deer population parameters for Big Belts trend area.

YEAR	POST-SEASON (Total Deer)	FAWNS:100 ADULTS (Post-Season)	SPRING (Total Deer)	FAWNS:100 ADULTS (Spring Recruitment)	BUCKS:100 DOES
2023/24			283	19.4	
2022/23	269	33.5	446	14.4	15.3
2021/22	114	31.0	224	35.6	16.0
2020/21	153	31.7	272	32.8	18.8
2019/20 - NSprS	166	24.6			17.5
2018/19	118	25.5	340	18.5	19
2017/18	198	42.6	473	15.4	16.2
2016/17	176	53	309	25.6	19.8
2015/16	152	39.8	534	23.2	5.1*
2014/15	82	41.4	308	32.8	13.7
2013/14 - NS					
2012/13 - NS					
2011/12	177	29.3	413	27.5	14.6
2010/11	193	28.2	744	21	10.4
2009/10	287	21.7	298	31.2	14.1
2008/09	283	20.3	602	24.9	12.7
2007/08	241	36.7	814	18.6	23.7
2006/07	578	23.7	647	22.4	20.7
2005/06	263	43.8	296	32.6	8.7
2004/05					
2003/04	346	24.1	910	22.7	14.4
2002/03	627	36.3	977	32.3	15.3
2001/02	558	31.2	761	24.5	14.4
2000/01	420	29.4	1332	22.7	13.6
<b>Average (‘00/01 - ‘22/23’)</b>	<b>270</b>	<b>32.4</b>	<b>563</b>	<b>25.2</b>	<b>15.7</b>
NS - No surveys flown, no spring survey flown in 2020, no post-season survey in 2023/24					
*Survey flown very late, bucks probably had already started to shed antlers, complete survey area not flown					
Results include corrections to previous survey errors.					



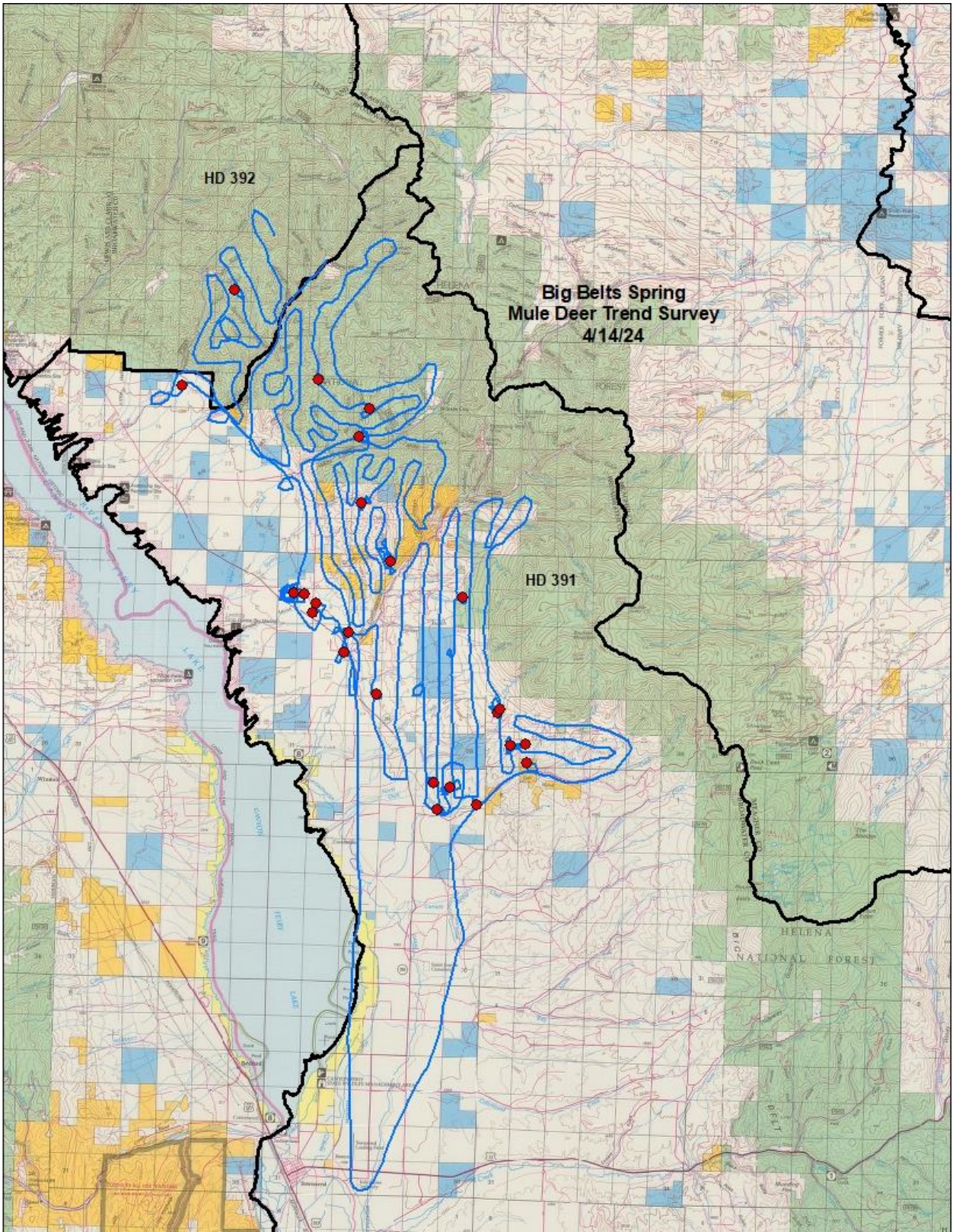


Figure 1. Waypoint locations of observed mule deer (red dots) and survey flight track (blue lines).