MONTANA COMMUNICABLE DISEASE EPIDEMIOLOGY

Weekly COVID-19 Update in Montana (as of 12/24/2021)

This report is a weekly snapshot of COVID-19 activity in Montana. Data are analyzed based on information available as of December 24, 2021. Data are provisional and expected to change as more information is received.

Case Data

Table 1. Summary of COVID-19 Activity – Montana, as of 12/24/2021

	TOTAL	RECENT WEEK	PERCENT CHANGE FROM PREVIOUS WEEK
LABORATORY TESTS	**2,257,344**	**19,920**	**-20%**
DEATHS	**2,900**	**22**	**-53%**

Figure 1. COVID-19 Cases and Hospitalizations over Time - Montana, as of 12/24/2021

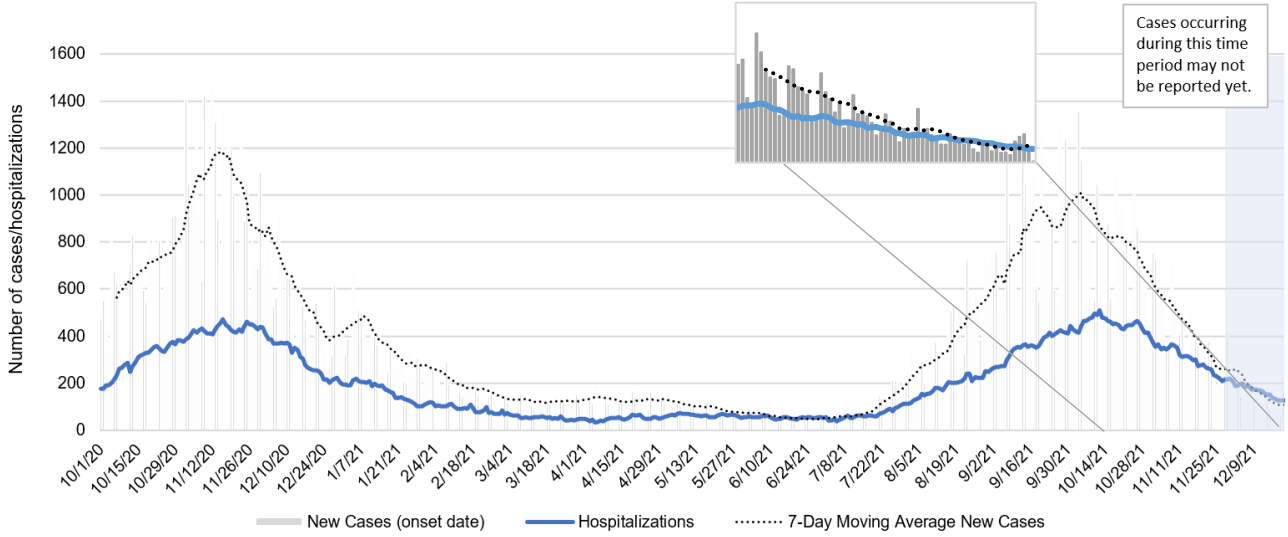
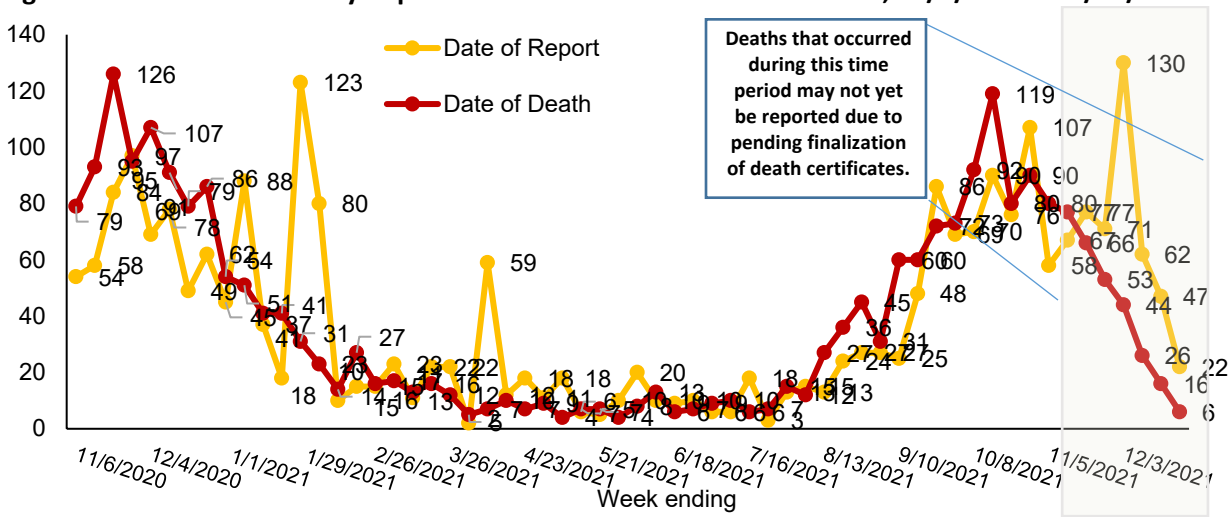


Figure 2. COVID-19 Deaths by Report Date and Date of Death – Montana, 11/1/2020 – 12/24/2021



Vaccine Data

Montana began vaccinating individuals in mid-December 2020 with a phased process: Phase 1A on December 14, 2020, Phase 1B on January 19, 2021, and Phase 1B+ on March 8, 2021. Vaccinations were opened to all Montanans age 16+ on April 1, 2021 and expanded to all Montanans age 12+ on May 10th, 2021. Most recently, the Pfizer vaccine was approved for the 5-11 year old age group on October 29th, 2021. To date, 1,316,863 doses have been given across the state and 53% of the eligible population is considered fully vaccinated (table 3).

Table 2: COVID-19 Vaccine Doses Administered for the 12 and older population – Montana, as of 12/24/2021

	NUMBER	PERCENT OF ELIGIBLE POPULATION	WEEK ENDING 12/10	WEEK ENDING 12/17	WEEK ENDING 12/24
TOTAL DOSES ADMINISTERED	**1,291,729**		21,258	17,629	**12,419**
DOSE 1 ADMINISTERED	**591,966**	**64%**	3,030	2,562	**2,101**
FULLY VACCINATED INDIVIDUALS	**527,070**	**57%**	2,236	1,914	**1,311**

*the data for the most recent week are preliminary and are expected to be an underestimate of the doses administered during the week, due to a reporting lag.

Table 3: COVID-19 Vaccine Doses Administered for the 5 and older population – Montana, as of 12/24/2021

	NUMBER	PERCENT OF ELIGIBLE POPULATION	WEEK ENDING 12/10	WEEK ENDING 12/17	WEEK ENDING 12/24
TOTAL DOSES ADMINISTERED	**1,316,863**		25,839	20,039	**13,653**
DOSE 1 ADMINISTERED	**607,165**	**59%**	4,245	3,286	**2,668**
FULLY VACCINATED INDIVIDUALS	**536,998**	**53%**	5,601	3,597	**1,978**

*the data for the most recent week are preliminary and are expected to be an underestimate of the doses administered during the week, due to a reporting lag.

Figure 3. COVID-19 Vaccine Doses Administered by Week, 5+ Years – Montana, as of 12/24/2021

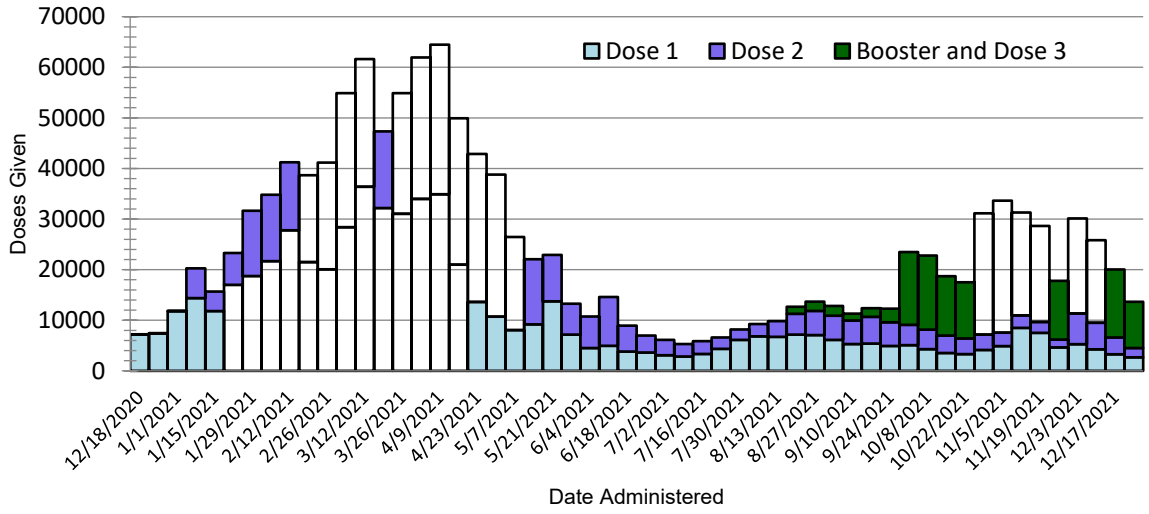
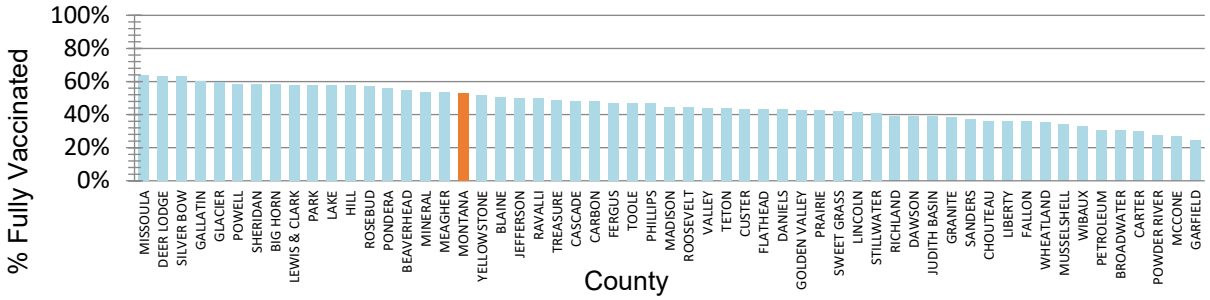


Figure 4. Percent of Eligible Montanans (5+ years) Fully Vaccinated by County – Montana, 12/24/2021



Variant and Breakthrough Cases

Figure 6 displays the percentage of the most common SARS-CoV-2 lineages detected each week, of all Montana samples sequenced that were collected that week. There were 8,788 samples from Montana that were sequenced and their lineages were reported to GISAID since September 2020; figure 5 displays the number of specimens sequenced by week. A variant is a lineage that has one or more mutations that differentiate it from other lineages in circulation. Currently, Delta and Omicron are the only Variants of Concern circulating. **As of December 29, 2021, there have been 15 cases infected with omicron variants detected in Montana. These cases are from Cascade, Gallatin, Glacier, Hill, Jefferson, Missoula, Pondera, and Yellowstone counties. Not all of these omicron cases have been reported to GISAID, therefore not all of this sequencing information is reflected in Figures 5 and 6 due to this reporting delay.**

Last week, among sequences reported to GISAID, 1/7 (14%) specimens that were collected and sequenced were Omicron, the remaining 6 were Delta. The week prior, 4/52 (7%) specimens that were collected and sequenced were Omicron, the remaining were Delta. The overall trends in SARS-CoV-2 variants shows that, March through June 2021, the Alpha variant (light yellow) was predominant. Beginning in July 2021, the Delta variant (dark orange) became the dominant variant in Montana. Omicron is displayed in dark brown on the chart below.

Figure 5. Number of COVID-19 samples sequenced by collection date, Montana 12/26/2021 [n=8,788]

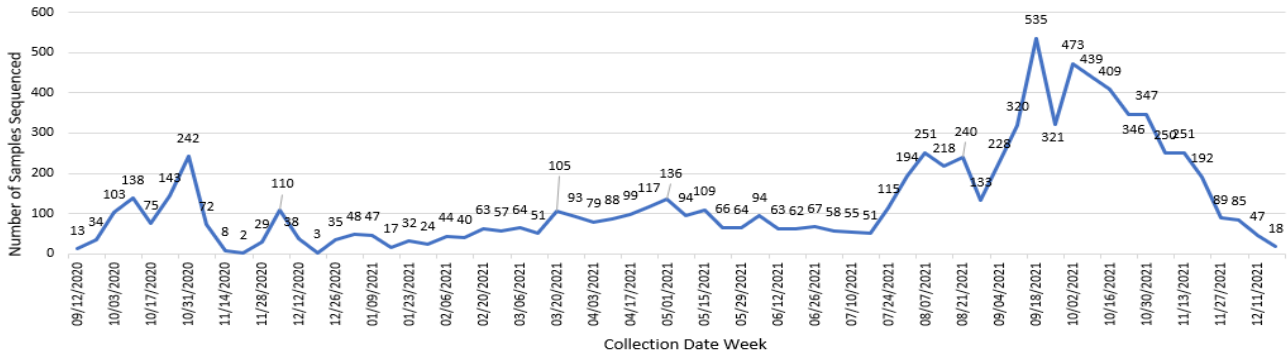
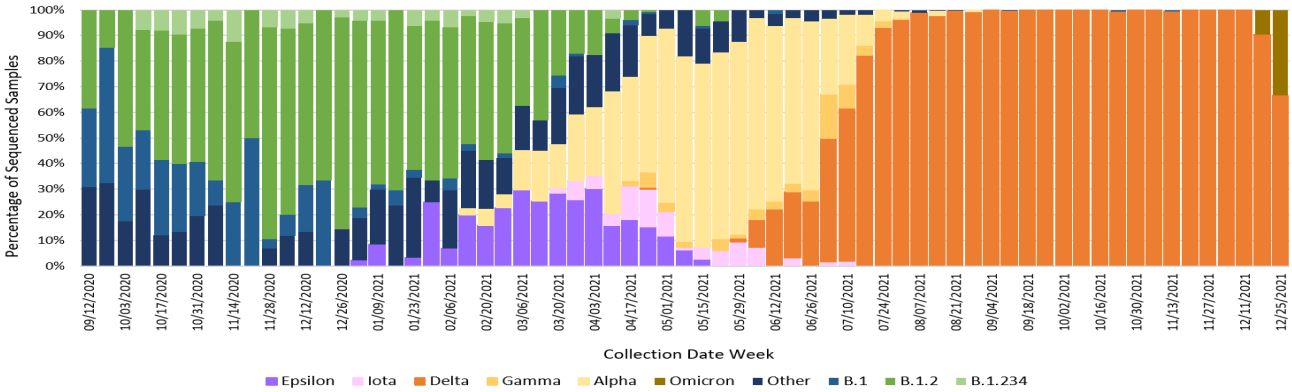


Figure 6. Percent of COVID-19 variants in sequenced samples by collection date, Montana 12/26/2021



A breakthrough COVID-19 infection is defined as a positive SARS-CoV-2 specimen collected ≥14 days after completing the primary COVID-19 vaccine series of an FDA-authorized COVID-19 vaccine. Depending on the specific vaccine administered, completion of series could be one or two doses of vaccine. As of 12/24/21, Montana reports 16,765 cases of confirmed breakthrough disease, which includes 928 hospitalizations and 284 deaths. Over the past 8 weeks (October 30 – December 24) the number of cases among unvaccinated individuals was 3.5 times higher than the number of cases among vaccinated individuals; the number of hospitalizations and deaths among unvaccinated individuals were 4.6 and 3.4 times higher, respectively, compared to vaccinated individuals.

Hospitalizations and Deaths and Vaccination Status

COVID-19-related hospitalizations and deaths were analyzed between **April 1 and December 24** to review vaccination status. Since the beginning of April this year, 83% of Montanans who were hospitalized and 78% of those who died were unvaccinated at the time of infection (Table 4). Of the 5,515 individuals who were hospitalized during this time period, 91 (2%) were <18 years old, 796 (14%) were 18 to 44 years old, 1,905 (35%) were 45 to 64 years old and 2,723 (49%) were ≥65 years old.

Additionally, COVID-19-related hospitalization and death data from **October 30 – December 24** (last 8 weeks) were analyzed to review vaccination status. Eighty-two percent of Montanans who were hospitalized and 77% of those who died had not received a COVID-19 vaccine (Table 5). Of the 1,098 individuals who were hospitalized during this time period, 24 (2%) were <18 years old, 104 (10%) were 18 to 44 years old, 367 (33%) were 45 to 64 years old and 603 (55%) were ≥65 years old.

Table 4. Vaccination status of COVID-19 hospitalizations and deaths – April 1 to December 24, 2021

	HOSPITALIZATIONS	DEATHS
TOTAL REPORTED	**5,515**	**1301**
UNVACCINATED	4,601 (83%)	1021 (78%)
VACCINATED (BREAKTHROUGH CASE)	914 (17%)	280 (22%)
UNVACCINATED AGE RANGE IN YEARS (MEDIAN AGE)	**<1-102 (62)**	**22-103 (71)**
VACCINATED AGE RANGE IN YEARS (MEDIAN AGE)	**16-101 (74)**	**20-101 (81)**

Table 5. Vaccination status of COVID-19 hospitalizations and deaths – October 30 to December 24, 2021

	HOSPITALIZATIONS	DEATHS
TOTAL REPORTED	**1,098**	**225**
UNVACCINATED	903 (82%)	174 (77%)
VACCINATED (BREAKTHROUGH CASE)	195 (18%)	51 (23%)
UNVACCINATED AGE RANGE IN YEARS (MEDIAN AGE)	**<1-99 (65)**	**23-99 (72)**
VACCINATED AGE RANGE IN YEARS (MEDIAN AGE)	**17-101 (73)**	**20-101 (79)**

Reported COVID-19 Cases by County with Trendline – Montana, past 6 weeks

County	19 Nov	26 Nov	3 Dec	10 Dec	17 Dec	24 Dec	change from previous week*	Trendline
Beaverhead	35	15	12	10	4	1	-3	
Big Horn	174	16	11	18	11	1	-10	
Blaine	43	15	19	9	8	0	-8	
Broadwater	22	33	22	15	11	7	-4	
Carbon	41	40	15	15	16	5	-11	
Carter	4	1	0	0	1	0	-1	
Cascade	272	114	171	110	91	74	-17	
Chouteau	10	13	4	8	2	3	1	
Custer	65	21	22	16	9	4	-5	
Daniels	10	1	1	4	4	1	-3	
Dawson	22	25	29	18	16	17	1	
Deer Lodge	11	8	12	7	5	5	0	
Fallon	14	11	17	12	5	6	1	
Fergus	28	10	14	12	8	11	3	
Flathead	339	229	178	115	122	116	-6	
Gallatin	380	220	362	183	161	248	87	
Garfield	1	1	3	2	0	0	0	
Glacier	53	48	20	20	6	7	1	
Golden Valley	3	0	2	2	0	0	0	
Granite	1	3	1	0	0	0	0	
Hill	26	11	24	14	8	6	-2	
Jefferson	32	50	37	13	8	6	-2	
Judith Basin	0	2	0	0	1	0	-1	
Lake	101	70	55	71	35	20	-15	
Lewis and Clark	215	139	182	104	57	86	29	
Liberty	0	2	0	1	1	0	-1	
Lincoln	61	42	29	22	27	15	-12	
Madison	15	10	29	11	13	7	-6	
McCone	12	0	6	5	5	1	-4	
Meagher	2	3	5	1	1	1	0	

Missoula	228	141	142	108	103	150	47	
Park	63	31	53	39	26	13	-13	
Phillips	12	12	9	4	2	0	-2	
Powder River	2	0	1	0	1	1	0	
Prairie	6	3	7	4	4	2	-2	
Richland	73	11	41	17	21	23	2	
Rosebud	13	11	44	6	3	3	0	
Sheridan	6	10	18	1	1	1	0	
Stillwater	0	2	38	1	0	1	1	
Teton	15	6	6	1	12	6	-6	
Treasure	6	7	7	0	0	0	0	
Wheatland	0	1	3	1	0	4	4	
Yellowstone	526	323	296	206	139	136	-3	
MONTANA	**3364**	**1895**	**2217**	**1357**	**1057**	**1067**	**10**	

†Note: Data are based on the date of report into the Montana Infectious Disease Information System (MIDIS). Underlined numbers in the above table reflect adjusted counts and may include cases diagnosed but not reported in earlier time frames. These adjustments result from local and state data reconciliation efforts, conducted to ensure accurate data.

County name	Eligible population 5+	Dose 1	Dose 2	Dose 3	Fully Immunized	Total Doses Administered	Percent eligible with first dose (5+)	Percent Fully Vaccinated (5+)
BEAVERHEAD	9,091	5,320	4,283	2,104	4,970	11,707	59%	55%
BIG HORN	11,975	7,781	6,615	2,118	6,977	16,514	65%	58%
BLAINE	6,044	3,367	2,845	1,176	3,048	7,388	56%	50%
BROADWATER	6,092	2,212	1,630	773	1,863	4,615	36%	31%
CARBON	10,476	5,411	4,673	2,270	5,009	12,354	52%	48%
CARTER	1,141	365	317	151	339	833	32%	30%
CASCADE	76,124	41,021	32,674	13,328	36,546	87,023	54%	48%
CHOUTEAU	5,430	2,148	1,782	1,146	1,960	5,076	40%	36%
CUSTER	10,692	5,191	4,138	1,927	4,644	11,256	49%	43%
DANIELS	1,559	718	618	281	672	1,617	46%	43%
DAWSON	8,071	3,403	2,836	1,237	3,139	7,476	42%	39%
DEER LODGE	8,887	6,160	5,071	2,707	5,637	13,938	69%	63%
FALLON	2,646	1,036	898	383	944	2,317	39%	36%
FERGUS	10,495	5,300	4,555	2,246	4,940	12,101	51%	47%
FLATHEAD	99,993	50,015	39,059	17,524	43,212	106,598	50%	43%
GALLATIN	110,900	79,735	61,090	26,291	67,067	167,116	72%	60%
GARFIELD	1,188	311	246	94	289	651	26%	24%
GLACIER	12,447	10,152	6,868	2,532	7,411	19,552	82%	60%
GOLDEN VALLEY	788	363	305	133	337	801	46%	43%
GRANITE	3,218	1,405	1,119	486	1,226	3,010	44%	38%
HILL	14,914	9,496	7,224	3,142	8,564	19,862	64%	57%
JEFFERSON	11,819	6,503	5,485	2,676	5,885	14,664	55%	50%
JUDITH BASIN	1,880	779	669	322	731	1,770	41%	39%
LAKE	29,280	19,097	15,641	7,020	16,814	41,758	65%	57%
LEWIS & CLARK	66,257	43,599	35,664	17,808	38,458	97,071	66%	58%
LIBERTY	2,234	841	701	383	800	1,925	38%	36%
LINCOLN	19,480	9,154	7,405	3,471	8,090	20,030	47%	42%
MADISON	8,589	4,293	3,413	1,794	3,839	9,500	50%	45%
MCCONE	1,562	441	413	183	422	1,037	28%	27%
MEAGHER	1,726	984	842	404	919	2,230	57%	53%
MINERAL	4,302	2,553	1,832	977	2,298	5,362	59%	53%
MISSOULA	115,881	82,254	68,292	32,690	74,222	183,236	71%	64%
MUSSELSHELL	4,458	1,675	1,341	594	1,536	3,610	38%	34%
PARK	15,969	10,833	8,365	3,876	9,264	23,074	68%	58%
PETROLEUM	483	159	139	76	148	374	33%	31%
PHILLIPS	3,675	1,840	1,405	774	1,712	4,019	50%	47%
PONDERA	5,389	3,444	2,655	1,229	3,020	7,328	64%	56%
POWDER RIVER	1,588	477	382	167	435	1,026	30%	27%
POWELL	6,534	4,062	3,030	951	3,812	8,043	62%	58%
PRAIRIE	994	459	400	217	422	1,076	46%	42%
RAVALLI	42,972	23,745	19,036	9,916	21,370	52,697	55%	50%
RICHLAND	10,310	4,278	3,355	1,441	4,020	9,074	41%	39%
ROOSEVELT	9,918	5,134	3,744	1,428	4,422	10,306	52%	45%
ROSEBUD	8,160	5,256	4,128	1,718	4,641	11,102	64%	57%
SANDERS	11,641	4,818	4,052	1,793	4,332	10,663	41%	37%
SHERIDAN	3,075	1,897	1,660	864	1,792	4,421	62%	58%
SILVER BOW	33,267	23,079	19,714	9,357	21,003	52,150	69%	63%
STILLWATER	9,451	4,213	3,333	1,737	3,875	9,283	45%	41%
SWEET GRASS	3,523	1,649	1,268	681	1,490	3,598	47%	42%
TETON	5,819	3,017	2,101	1,044	2,536	6,162	52%	44%
TOOLE	4,391	2,192	1,672	504	2,051	4,368	50%	47%
TREASURE	623	411	281	128	303	820	66%	49%
VALLEY	6,931	3,285	2,609	1,438	3,055	7,332	47%	44%
WHEATLAND	2,035	771	667	302	719	1,740	38%	35%
WIBAUX	898	342	288	89	296	719	38%	33%
YELLOWSTONE	153,378	88,721	73,392	31,377	79,472	193,490	58%	52%
MONTANA	**1,020,663**	**607,165**	**488,220**	**221,478**	**536,998**	**1,316,863**	**59%**	**53%**