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ECNS 491

Stage 1: Topic and Data

For this project I wanted to look at Montana Fish, Wildlife and Parks public data to determine which hunting districts are the best for elk hunting. This project is important to me because I have always been an avid outdoorsman and since moving to Montana, it has been hard for me to put in the time and effort to scout every possible hunting unit to find the best places to hunt. For this project, I first want to complete a descriptive analysis of each of the different hunting districts and regions to first find which ones have the highest harvest rate for bull elk with over 6 points (mature bulls). After completing a descriptive analysis, I then want to merge the harvest reports with both the drawing statistics and hunting district data to find the hunting unit with the highest rate of harvest and highest odds of drawing. An additional analysis that I want to complete is to add in weather, elevation and land ownership type (public vs private) to see how these variables affect and/or are correlated with the harvest statistics. The data I will be using is shown below and the connecting column in all of the datasets is the hunting district.

Research Questions:

1. Which hunting district/region has the highest odds of harvesting a bull elk with 6 points or more with a bow?
2. What is the relationship between harvesting a bull elk with 6 points or more with a bow and the amount of public land in a hunting district?
3. Which hunting districts do non-residents have the highest odds of drawing a tag?

Data Description:

Montana Fish, Wildlife and Parks Harvest Reports (2004 - 2021) -

<https://myfwp.mt.gov/fwpPub/harvestReports>

License Year - Harvest year

Hunting District

Residency - Resident or Non-Resident

Hunters - Amount of hunters in the district

Days - number of days the district was hunted

Days per Hunter

Total Harvest - total elk harvested

Bulls - number of bulls harvested

Cows - number of cows harvested

Calves - number of calves harvested

Bow - elk harvested with a bow

Rifle - elk harvested with a rifle

Spike Bull Elk - number of spike bull elk harvested

Less than 6 Points - number of bull elk harvested with less than 6 points

6 or More Points - number of bull elk harvested with more than 6 points

Montana Fish, Wildlife and Parks Drawing Statistics (2022) -

<https://myfwp.mt.gov/fwpPub/drawingStatistics>

LPT - License/Permit Type. The first three digits most often represent the hunting district number.

Applicants - Total number of resident and nonresident 1st choice applicants.

Successful - Total number of 1st choice applicants that were successful.

% Successful - Percentage of 1st choice applicants that were successful.

Deer_and_Elk_Hunting_Districts_(2022_and_2023_Seasons) -

<https://gis-mtftp.opendata.arcgis.com/search?tags=fwplnd>

OBJECTID

REG

DISTRICT

NAME

EMU_NAME

HARVTYPE

AREA_AC

AREA_KM

AREA_MI

DEERWEBPAGE

ELKWEBPAGE

Shape__Area

Shape__Length

GlobalID

MAPLINK