
****OPTIMIZING WILDLIFE MONITORING STRATEGIES IN A DYNAMIC SETTING (POSTER)**

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Long term, broadly distributed datasets are ideal for effective wildlife management. However, collecting and utilizing these data present a variety of challenges to management agencies. Idaho Department of Fish and Game is currently trying to optimize their use

of monitoring resources for mule deer (*Odocoileus hemionus*) throughout Idaho. Three areas are being investigated for their potential to accomplish this goal: cost effectiveness, data utilization, and efficiency in data collection. An analysis of the cost effectiveness of monitoring methods is currently being conducted. This analysis varies the amount of each type of data available to the population model used to estimate abundance. The precision, credible interval width (CRI), associated with the estimate is used as the measure of effectiveness, mean 95% CRIs range from 9278 - 9804. This measure of precision is then combined with the cost of the collection technique to compare the cost effectiveness of different monitoring methods. Further research will focus on a weighting scheme that weights data types by both sampling precision and reliability. Thereby allowing managers to fully utilize all available data sources based on relative quality within the framework of the population model. A third line of research focuses on increasing the efficiency of monitoring effort through an alternative sampling design derived from seasonal nutrition. The previous lines of research will then be combined to solve a dynamic programming problem to determine the optimal methods for monitoring population abundance while accounting for changes in the availability of monitoring resources over space and time.