

COMMON LOON MANAGEMENT: IMPLICATIONS FROM SENSITIVITY ANALYSES^{TWS}

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The Montana Natural Heritage program gives the common loon (*Gavia immer*) a global rank of G5 (demonstrably secure), but a state rank of only S1 (critically imperiled). The USDA Forest Service status is sensitive. I investigated whether current management applications were adequate to address the state and federal rankings. Most management

agencies take the approach of protecting nesting birds and their chicks. Managers hope to maintain or increase population sizes in many portions of the common loon's range by using this approach. I used sensitivity analyses to determine which vital rate had the most influence on the population growth rate (λ) of common loons. I altered the range of variation in vital rates to mimic applied management applications to determine how management efforts should be directed to accomplish the goals of common loon conservation. I found that chick survival and fecundity had the most influence on λ . I make suggestions on how to apply management strategies that increase these vital rates so that management objectives may be met.