

“NO NET LOSS” SAGE-GROUSE MITIGATION EQUATION

Value of Habitat Lost (vH_l) = Value of Habitat Added (vH_a)

$$vH_l = vH_a$$

$$vH_l = A_l(Q)(T_y) = A_a(Q)(T_y) = vH_a$$

$$vH_l = vH_a = \frac{A_a(Q)(T_y)}{(D_i)(T_i)(D_u)(R_s)(L)(\text{other?})}$$

Where:

V = Value of the habitat to sage-grouse

H = Habitat

l = Lost (due to the project)

a = Added (through mitigation)

A = Area (of the project)

Q = Quality of the habitat

T_y = Type of the habitat (breeding, rearing, wintering, etc.)

T_i = Time until the habitat is restored

D_u = Durability (aka longevity, what will happen to the mitigation site in time)

D_i = Distance away from the project site

R_s = Probability of Restoration success

L = Landscape variable (connectivity, location, spatial context)