

2B. Habitat Improvement (40 pts)

Managers of the Brigham Face Wildlife Management Area (WMA) focus their management on maintaining and improving winter foraging habitat for deer and elk. To accomplish this goal they plan to create several small winter foraging plots by planting Four Wing Saltbush. This shrub was selected because it provides good protein values well into winter and is suitable for the site.

Planting Details:

- Each foraging plot is 2.5 acres. (Note: An acre is 43,560 square feet, or 4,840 square yards.)
- Seedlings will be planted in a grid across the plot with at least 5 feet between every plant.
- Seedlings will cost \$2.35 per plant.
- It is estimated that about 18% of the seedlings will fail in the first year and will need to be replanted in the second year.

Labor:

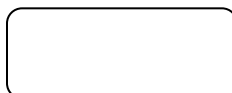
- It will take a crew of two people about 3 hours to prepare the site and 16 hours per acre to plant the seedlings and about 7 hours per acre for replanting in the second year. The average wage for a habitat field technician is \$15/hour.

Travel and Equipment:

- The Wildlife Management Area will also need to buy 2 sharpshooter shovels for the job. The shovels are also called drain spades and they cost \$37/shovel.
- The project is 35 miles from the WMA office, the habitat technicians will need to drive to the field and back 5 times to prepare, plant, and monitor the planting at a rate of \$0.54/mile.

How much will it cost to get one foraging plot established, including the second year of planting?

Show Calculations:



2B. Habitat Improvement - **ANSWERS**

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Labor:

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Travel and Equipment:

- The Wildlife Management Area will also need to buy 2 sharpshooter shovels for the job. The shovels are also called drain spades and they cost \$37/shovel.
- The project is 35 miles from the WMA office, the habitat technicians will need to drive to the field and back 5 times to prepare, plant, and monitor the planting at a rate of \$0.54/mile.

How much will it cost to get one foraging plot established, including the second year of planting?

Show Calculations:

Seedlings (15 pts)

- *Total area = 43,560 ft² x 2.5 acres = 108,900 ft²*
- *Each seedling will take an area of 25 ft² (i.e., 5 x 5 ft).*
- *Seedlings first planting = 108,900 ft² ÷ 25 ft² per plant = 4,356 seedlings*
- *Plus 18% for reseeding = 784 seedlings*
- *Total seedlings = 4,356 + 784 = 5140*
- ***Cost of seedlings = 5,140 seedlings x \$2.35 = \$12,079***

Labor for planting (10 pts)

- *Prepare site = 3 hrs x 2 people x \$15/hour = \$90*
- *Planting = 2.5 acres x 16 hours x 2 people x \$15/hour = \$1200*
- *Replanting in the second year = 2.5 acres x 7 hours x 2 people x \$15 = \$525*
- ***Total cost for labor = \$90 + \$1200 + \$525 = \$1815***

Travel and Equipment (10 pts)

- *Shovels = 2 x \$37 = \$74.00*
- *Travel = 5 trips x 35 miles x 2 both ways x .54/mile = \$189*
- ***Total Travel and Equipment = \$74 + \$189 = \$263***

TOTAL COST FOR PROJECT (5 pts)

$$\$12,079 + \$1,815 + \$263 = \$14,157$$