2016 Greater Sage Grouse Invasive Species Management
Exhibit 10: Sample Equipment Calibration Worksheets

Sample Backpack Pump Calibration

Documented Calibration Exercise
Name_____
Date_____
Site_____
Application Method_____

1) Dimensions of test plot _____

2) Time required to spray test plot _____

3) Amount of water sprayed _____

4) Rate of application for test plot _____ gal/ac

5) Herbicide _____

6) Amount of herbicide to be added _____ oz/gal

7) Application rate of herbicide _____ pt/ac

Remarks:

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Remarks:

Instructions for Sample Backpack Pump Calibration Procedure

1) Measure an area 18.5 ft. by 18.5 ft. in the target application area.
2) Spray the measured area uniformly with **water** only (or water and indicator dye) while recording the precise amount of time required to cover the area.
3) Measure the amount of water applied to the test area by spraying into a container for the same amount of time.
4) The amount of water collected in fluid ounces equals the spray volume in gallons per acre.
5) Refer to herbicide label or appropriate treatment prescription for desired herbicide application rate (i.e. pts. / acre).
6) Calculate amount of herbicide to mix per gal of water.

Example:

$$\frac{\textbf{Amount herbicide}}{\textbf{Acre}} \times \frac{\textbf{Gal water}}{\textbf{Acre}} - \frac{\textit{2 pts herbicide (from label)}}{\textit{acre}} \times \frac{\textit{20 gal water (from test)}}{\textit{acre}}$$

Equals:

$$\frac{\textbf{Amount Herbicide}}{\textbf{Amount Water}} - \frac{\textit{2 pts herbicide}}{\textit{20 gal water}} = \frac{\textit{0.1 pt herbicide}}{\textit{gal water}} \times \textit{16 oz/pt} = \frac{\textit{1.6 oz herbicide}}{\textit{gal water}}$$

Sample ATV/UTV Sprayer Calibration

Pre-calibration Equipment Check:

- Fill sprayer with water and prime the spray system
- Conduct a test operation of the spray system, checking for leaks, worn hoses or nozzles and plugged nozzles

Calibration Exercise:

AREA

1) Mark off a calibration plot of at least 50 feet
   - **Plot Length = _____ft**
2) Measure the effective spray width in feet
   - **Spray Width = _____ft**
3) Calculate calibration plot area
   - **Plot Length X Boom Width**
     _____ft X _____ft = _____ft^2

VOLUME

4) Drive Length of Calibration Plot 3 times (as if spraying) and Record Time in Seconds/Run
   - 1^{st} run = _____Seconds, 2^{nd} run = _____Seconds, 3^{rd} run = _____Seconds

Average Time Required to Drive the Plot = _____ Seconds

5) With ATV parked, collect and record sprayer output for the time to drive the plot (the average of 3 times driven)

_____ Ounces per Plot

6) Convert ounces per calibration plot to gallons per plot

_____ Ounces / 128 Ounces/Gallon = _____ Gallons per Plot

VOLUME per AREA (Gallons per acre)

7) Divide the volume sprayed on the plot (Step 6) by the area sprayed (square feet from Step 3) and then multiply by 43,560 (square feet/acre) to determine gallons per acre:

_____ Gallons / _____ Square Feet X 43,560^2/acre = _____Gallons per Acre

Sample ATV/UTV Sprayer Calibration Speed Check

INSTRUCTIONS: Run the Test Three Times and Average the Results.

A_____ = Swath Width

B_____ = Gallons per Acre

C_____ = Output per Swath in Ounces

43,560 Square Feet per Acre/ A_____ = **X**_____

B_____ X 128 Oz per Gallon = Gallons (**G**)_____

G_____/**C**_____ = **Y**_____

X_____/**Y**_____ = **Z**_____

Z_____/88 = _____MPH

A_____ = Swath Width

B_____ = Gallons per Acre

C_____ = Output per Swath in Ounces

43,560 Square Feet per Acre/ A_____ = **X**_____

B_____ X 128 Oz per Gallon = Gallons (**G**)_____

G_____/**C**_____ = **Y**_____

X_____/**Y**_____ = **Z**_____

Z_____/88 = _____MPH

A_____ = Swath Width

B_____ = Gallons per Acre

C_____ = Output per Swath in Ounces

43,560 Square Feet per Acre/ A_____ = **X**_____

B_____ X 128 Oz per Gallon = Gallons (**G**)_____

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Z_____/88 = _____MPH