

Appendix H
Aerial Herbicide Drift Monitoring Procedure
Boise & Sawtooth National Forests

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During aerial herbicide applications, it is important to keep herbicide from reaching live water to protect aquatic resources and water quality. This is accomplished through the use of 300 feet “no treatment” buffer zones along streams and other water bodies. The purpose of drift monitoring during aerial herbicide applications is to detect drift that may be occurring and to prevent drift from reaching live water. Data from the Bitterroot and Lolo National Forests indicates that a 300-foot buffer is more than sufficient to prevent drift from aerially applied herbicide from reaching water bodies (Kulla 2002, Rice 2010, Stockmann 2015). Monitoring for drift inside these “no treatment” buffer zone is conducted using drift detection cards. Drift detection cards are made of specially coated paper that record contact with water by turning blue where water makes contact with the coated surface. These cards are very sensitive to moisture (even to high levels of humidity or sweat on fingers and palms of hands) and must be handled very carefully.

Monitoring Procedure

To monitor for drift within the “no treatment” buffers along streams, drift detection cards will be placed perpendicular and downslope from the waterbody, within the treatment units, as needed and appropriate. Where a treatment unit is bisected by a stream, drift detection cards may be placed on both sides of the stream depending on buffer distances and wind direction and speed.

For other live water bodies, drift detection cards will be placed at intervals moving outwards from the water body where it intersects the treatment area. The line farthest from the water body will initially be located at 300 feet, in appropriate locations where drift could potentially occur.

Before the day’s application, project managers will determine strategic locations for placing drift detection cards. GPS coordinates will be taken and an individual identification number recorded at the site of each card holder. Project personnel will observe and record information on dew and precipitation on vegetation from the night before. Care is required in setting out the cards as they are very sensitive to moisture and contact by dew drops can skew monitoring results.

Buffer distances from live water will be specifically identified on all treatment area maps and provided to the pilot both digitally and hard copy so pilot can visually reference the buffers. Drift detection cards will be used to determine if desired coverage is being attained. Application can be adjusted as necessary based on feedback from these drift cards.

The pattern on drift detection cards in subsequent intervals, placed as needed where drift has the potential to occur, will be monitored during application to detect drift. Wind speed and wind direction would continue to be closely monitored.

Observations by personnel at the time of collection are critical to an accurate reading. To complete and document monitoring, project personnel will observe and record spray detection on the cards before removing them from the card holders. Each drift detection card will be photographed and tagged for identification. Cards will be handled carefully along the edges only to avoid damage to the record. Dew markings, animal tracks, herbicide and other markings will be recorded. Each card will be sealed in a dry sealed plastic bag for transport and storage.

Complete the drift detection monitoring cards results form and attach observation report and photos. Note all drift card monitoring locations and results to validate that aerial drift is not occurring or is occurring at levels that are considered insignificant (no effect to fish/habitat).

(PROJECT NAME) Drift Detection Monitoring Card Results**Date:****Observer:**

Distance from Water Body	Name of Water Body –	Name of Water Body –	Name of Water Body –	Comments
50'				
100'				
150'				
200'				
250'				
300'				

ND = No Detection (i.e. drops are NOT present on the card)

D = Detection (i.e. drops are present on the card)

U = Uniform Herbicide Application Pattern

For each drift detection card interval, record the following:

Water droplets accumulated before application (dew drops, etc.)

No detection of herbicide drops (code as ND on the form)

Detection of herbicide drops (Code as D on the form followed by percent of the card containing drops)

Other: rodent tracks, damage to card by wildlife, etc.

Comments

Determination of Percentage

Percent will be determined by dividing a drift detection card into 20 equal-sized squares. Each square represents 5% of the area of a single drift detection card. For example, if three squares were found to contain herbicide, this would correspond to 15% of the drift detection card area.

If herbicide is detected on a drift detection card, the recorder will determine by percent, what portion of the card illustrates that drift is occurring to communicate to project managers and pilot.