



US Army Corps of Engineers
Walla Walla District



BUILDING STRONG®

PEST MANAGEMENT PROGRAM

**U.S. ARMY CORPS OF ENGINEERS
WALLA WALLA DISTRICT
MANAGED LANDS**

**Specifications:
Construction Contracts that Include Herbicide Use**

U.S. Army Corps of Engineers
Walla Walla District

Date: February 6, 2014

1. Allowed Methods of Pesticide Application

1. Table 1 describes chemical herbicide application limitations by method, wind speed¹ and established application buffers² from water.
2. Aerial application of chemicals is prohibited within 300 feet of water. The Corps must provide notification to, and coordinate with, the regulatory agencies prior to a large-scale aerial application.
3. Applications shall utilize nozzles and pressures that produce droplets in the 177 to 428 micron range (medium, coarse, very coarse) to reduce the possibility of drift. Droplet sizes of 429 microns or larger (extremely coarse and ultra coarse) are acceptable and encouraged, provided that the volume of the spray solution is not so great as to cause runoff and leaching problems.
4. Marker dyes shall be used to assist in determining proper coverage and targeting of treated species.

¹ Buffers indicated are measured from the ordinary high water mark (OHWM).

² Applications shall not occur when the wind direction is in the direction of the adjacent water body during applications made less than 300 feet from water.

Table 1 Buffer distances and wind speeds by application method for chemical applications in the District.

	Application Method			
	Hand/Select	Spot	Broadcast	Aerial
Max Wind Speed	WATER (PESTICIDE APPLICATIONS SHALL NOT BE MADE IN OR TO THE WATER, OR ALLOWED TO GET INTO THE WATER)			
NA = No Application				
<5 mph				
<10 mph	ORDINARY HIGH WATER MARK			
Application Buffer (Distance from Water)				
0-15 ft (ONLY AQUATIC LABELED HERBICIDES)	2,4-D	2,4-D	NA	NA
	Aminopyralid	NA		
	Chlorsulfuron	NA		
	Clopyralid	Clopyralid		
	Dicamba	NA		
	Glyphosate	Glyphosate		
	Herbicide Mixtures	NA		
	Imazapic	NA		
	Imazapyr	Imazapyr		
	Metasulfuron-methy	Metasulfuron-methy		
	Sulfometuron methyl	NA		
	Triclopyr	NA		
15-50 ft	2,4-D	2,4-D	NA	NA
	Aminopyralid	Aminopyralid		
	Chlorsulfuron	Chlorsulfuron		
	Clopyralid	Clopyralid		
	Dicamba	Dicamba		
	Glyphosate	Glyphosate		
	Herbicide Mixtures	Herbicide Mixtures		
	Imazapic	Imazapic		
	Imazapyr	Imazapyr		
	Metasulfuron-methyl	Metasulfuron-methyl		
	Triclopyr	Triclopyr		
	Pyrethrins, Piperonyl butoxide, Butane, and Propane (Skidoo)	Pyrethrins, Piperonyl butoxide, Butane, and Propane (Skidoo)		
	Chlorpyrifos (Dursban Pro)	Chlorpyrifos (Dursban Pro)		
	Beta-cyfluthrin (Tempo SC ultra)	Beta-cyfluthrin (Tempo SC ultra)		
50-100 ft	2,4-D	2,4-D	2,4-D	NA
	Aminopyralid	Aminopyralid	NA	
	Chlorsulfuron	Chlorsulfuron	NA	
	Clopyralid	Clopyralid	Clopyralid	
	Dicamba	Dicamba	NA	
	Glyphosate	Glyphosate	Glyphosate	
	Herbicide Mixtures	Herbicide Mixtures	NA	
	Imazapic	Imazapic	NA	
	Imazapyr	Imazapyr	NA	
	Metasulfuron-methyl	Metasulfuron-methyl	NA	
	Sethoxydim	Sethoxydim	NA	
	Sulfometuron methyl	Sulfometuron methyl	NA	
	Triclopyr	Triclopyr	NA	
	Pyrethrins, Piperonyl butoxide, Butane, and Propane (Skidoo)	Pyrethrins, Piperonyl butoxide, Butane, and Propane (Skidoo)	NA	
	Chlorpyrifos (Dursban Pro)	Chlorpyrifos (Dursban Pro)	NA	
	Beta-cyfluthrin (Tempo SC ultra)	Beta-cyfluthrin (Tempo SC ultra)	NA	

	Application Method			
	Hand/Select	Spot	Broadcast	Aerial
100-300 ft	2,4-D	2,4-D	2,4-D	NA
	Aminopyralid	Aminopyralid	Aminopyralid	
	Chlorsulfuron	Chlorsulfuron	Chlorsulfuron	
	Clopyralid	Clopyralid	Clopyralid	
	Dicamba	Dicamba	Dicamba	
	Glyphosate	Glyphosate	Glyphosate	
	Herbicide Mixtures	Herbicide Mixtures	Herbicide Mixtures	
	Imazapic	Imazapic	Imazapic	
	Imazapyr	Imazapyr	Imazapyr	
	Metasulfuron-methyl	Metasulfuron-methyl	Metasulfuron-methyl	
	Picloram	Picloram	Picloram	
	Sethoxydim	Sethoxydim	Sethoxydim	
	Sulfometuron methyl	Sulfometuron methyl	Sulfometuron methyl	
	Triclopyr	Triclopyr	Triclopyr	
	Pyrethrins, Piperonyl butoxide, Butane, and Propane (Skidoo)	Pyrethrins, Piperonyl butoxide, Butane, and Propane (Skidoo)	NA	
Chlorpyrifos (Dursban Pro)	Chlorpyrifos (Dursban Pro)	NA		
Beta-cyfluthrin (Tempo SC ultra)	Beta-cyfluthrin (Tempo SC ultra)	NA		
300+ ft	2,4-D	2,4-D	2,4-D	NA
	Aminopyralid	Aminopyralid	Aminopyralid	NA
	Chlorsulfuron	Chlorsulfuron	Chlorsulfuron	NA
	Clopyralid	Clopyralid	Clopyralid	NA
	Dicamba	Dicamba	Dicamba	NA
	Glyphosate	Glyphosate	Glyphosate	Glyphosate
	Herbicide Mixtures	Herbicide Mixtures	Herbicide Mixtures	NA
	Imazapic	Imazapic	Imazapic	Imazapic
	Imazapyr	Imazapyr	Imazapyr	NA
	Metasulfuron-methyl	Metasulfuron-methyl	Metasulfuron-methyl	NA
	Picloram	Picloram	Picloram	Picloram
	Sethoxydim	Sethoxydim	Sethoxydim	Sethoxydim
	Sulfometuron methyl	Sulfometuron methyl	Sulfometuron methyl	NA
	Triclopyr	Triclopyr	Triclopyr	Triclopyr
	Pyrethrins, Piperonyl butoxide, Butane, and Propane (Skidoo)	Pyrethrins, Piperonyl butoxide, Butane, and Propane (Skidoo)	NA	NA
Chlorpyrifos (Dursban Pro)	Chlorpyrifos (Dursban Pro)	NA	NA	
Beta-cyfluthrin (Tempo SC ultra)	Beta-cyfluthrin (Tempo SC ultra)	NA	NA	

2. Best Management Practices

The following best management practices are required for pesticide applications in the District in addition to label requirements and other State or Federal law strictures:

1. *General Practices:*
 - a. *Licensing/Certification:* All applicators shall be state licensed or certified.
 - b. All applicators shall comply with all applicable federal, state (OR, ID, and WA) and herbicide manufacturer's directions and requirements for handling herbicides and insecticides, including storage, transportation, application, container disposal, and cleanup of spills.

- c. Herbicide treatments to foliage of weed species shall be according to the chemical manufacturer's recommendations for best results, or according to this document, whichever is the more stringent standard.
2. *Calibration/Maintenance:*
 - a. All application equipment (e.g. booms, back packs, etc.) shall be properly calibrated according to the chemical manufacturer's suggested application rates printed on the chemical label prior to use. Equipment and settings shall be properly maintained for the duration of the application period.
 - b. Application equipment shall be maintained to ensure proper application rates, to minimize leakage potential, reduce the potential for drift, and ensure applicator safety. Equipment shall be maintained, and visually inspected prior to each application includes, but is not limited to: hoses, nozzles, backpacks, and booms.
 3. *Weather/Terrain:*
 - a. Pesticide applications are limited to air temperatures of 90 degrees Fahrenheit or less, unless the label conditions are more restrictive.
 - b. Pesticide applications are prohibited 24 hours prior to a predicted precipitation event sufficient to cause runoff.
 - c. Applicators shall not spray if snow or ice covers the target foliage.
 - d. Motorized herbicide application equipment shall not be operated on slopes greater than 25 percent (if not on existing roads) in order to minimize risk of soil erosion, spills, or chemical runoff.
 4. *Record Keeping:*
 - a. Grantees, contractors, and Corps employees shall perform work planning by submitting their anticipated use on the "District Pest Control Application Record" forms, as provided by the District).
 - b. All actual pesticide applications shall be recorded and submitted on the "District Pest Control Application Record" forms, as provided by the District).
 - c. The District shall provide annual reporting by submission of records (anticipated use and actual use "District Pest Control Application Record" forms and associated GIS data.
 5. *Spill Management:*
 - a. All applicators shall carry a Spill Prevention and Control Plan. The Plan shall provide detailed descriptions on how to prevent a spill or ensure effective and timely containment of any chemical spill. The Spill Prevention and Control Plan shall include spill control, containment, clean up, and reporting procedures.
 - b. A spill kit shall be available to all persons making applications within 150 feet from the site of the application.
 - c. *Refueling:* Refueling of equipment in areas not designed for refueling shall not occur within 100 feet of open water.
 - d. *Spill Cleanup Kit:* Each applicator vehicle carrying herbicides shall be equipped with a spill cleanup kit. The cleanup kit shall be capable of containing and holding at least 125% of the total mixture and concentrate that are present on the work site.
 - e. *Spill Reporting:* The applicator shall report all details of herbicide spills, exposure incidents, or accidents and/or worker health complaints, if any occur, to the Corps as soon as practicable. Applicator vehicles equipped with secondary containment must have this spill cleanup kit available within a 5-minute response time.

- f. *Mixing:*
 - 5.f.1. No herbicide mixing shall be authorized within 100 feet from any body of water or stream channels. Equipment will have either an anti-back siphon valve or an air break on tank fill connections or openings to prevent contamination of on-site water sources.
 - 5.f.2. Mixing (other than that of equipment that mixes internally as applications are being made) shall be performed within a temporary structure made of impermeable material such as plastic that is capable of containing at least 125% of the capacity of the spray tank that is being used, or on appropriate absorbent materials of sufficient capacity to absorb the entirety of that volume of the tank being mixed.
- 6. *Storage/Disposal:*
 - a. When not in use all concentrated or mixed solution pesticides shall be placed in locked storage in closed containers with watertight lids, placed in secondary containment vessels of 125%.
 - b. ATV storage tanks shall be limited to 30 gallons.
 - c. *Disposal:* Disposal of waste materials shall be in accordance with the label and in accordance with all applicable federal, state, and county laws regulations, as well as label restrictions and instructions.
- 7. *Non-Target Species:*
 - a. Applicators shall use caution to minimize the application of herbicides to non-target species and structures within the application areas.
 - b. *Special Status Species:* Any ESA-listed plant that is found shall be inventoried, and its location captured either in GIS or by GPS, or both, and put into the District's inventory for future avoidance and planning purposes. Herbicides shall not be applied with aircraft within 300 feet, broadcast within 100 feet, or spot sprayed within 15 feet of ESA-listed plant locations identified during applications. Spraying of targeted species is limited to vinegar or similar within 300 feet or closer to known ESA-listed plant locations.
- 8. *Picloram Accumulation:*
 - a. No more than one application of picloram shall be made on an area in any given year to reduce the potential for picloram accumulation in the soil.
 - b. No spraying of picloram shall be authorized within 100 feet of any flowing waters or areas with shallow water tables. Avoid application of picloram within dry ephemeral stream channels and dry roadside ditches that drain directly into fish bearing streams.
- 9. *Aerial Applications:* All aerial applications shall be done on the contour. No turns over "live" waters (e.g., flowing ditches, streams, ponds, springs, etc.) are permitted while loaded and between application runs.
- 10. *Water Quality/Crossings:*
 - a. *Inspection:* Equipment shall be inspected and cleaned prior to any application of herbicides within 150 feet of open water.
 - b. Only herbicides and surfactants labeled for aquatic use shall be employed within 15 feet of "live" waters or areas with shallow water tables.
 - c. Only non-ester forms of 2,4-D shall be used (as a measure to protect water quality).

- d. Equipment shall be inspected for leaks and cleaned prior to crossing any stream. Any detected leaks shall be repaired before the equipment crosses the stream or near open water when not on an existing road.
- e. Crossing any open water body with spray equipment (i.e., floating vessels or land vehicles) or chemicals shall be avoided if there is any land access (e.g., road or ATV trail) to the treatment areas. If land access is not available or inaccessible, all concentrated or mixed chemicals shall be transported within floating secondary containment vessels of 125% capacity of the liquid.

3. Anticipated Use and Actual Use Records and Data

Data collection to support the IPMP db begins with the necessary program materials being provided by the District’s Engineering and Construction as part of a contract, and, when completed, will be provided to the District Pest Manager. Training materials and blank PDF records are provided to contractors via email. See Figure 1.

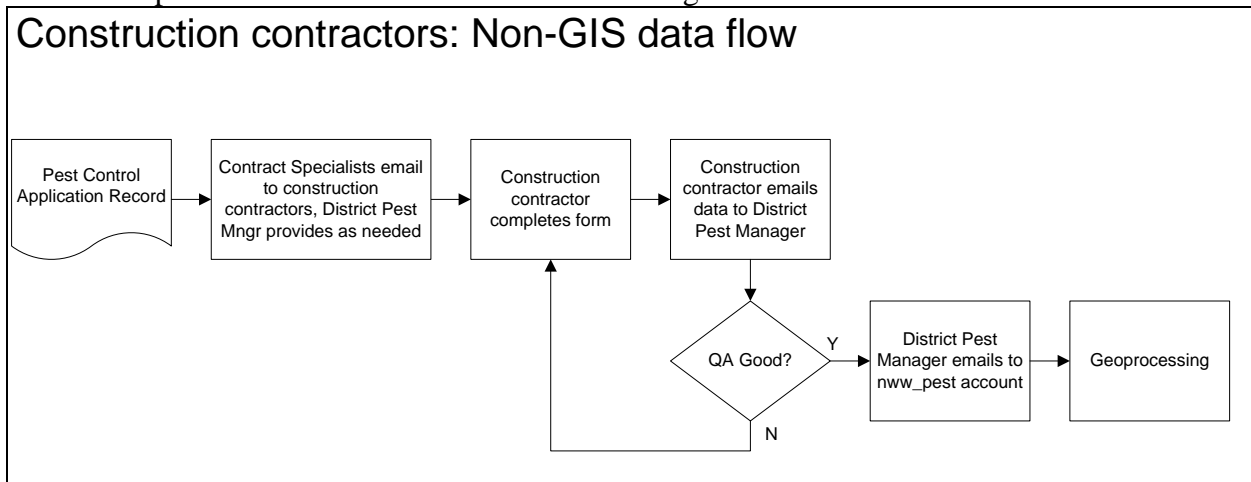


Figure 1

Instructions for Contract Specialists

Pest Control Anticipated Application Record (Real Estate / Construction): Construction contractors are required to provide information about their anticipated use of pest controls to the Corps of Engineers by January 10th of the application year. Because the report is an estimate of total pest control use for a year, detailed geographic information about application locations is not required. The ‘Grantee’ & Outgrant No’ fields are pre-populated with “NA”. The Pest Control Anticipated Application Record (Real Estate / Construction) will be provided by November 15th, prior to the application year. The construction contractor returns the data to the District Pest Manager. Upon a successful QA review, it will be ingested into the enterprise geodatabase.

Pest Control Application Record (Real Estate / Construction): Contract Specialists will email this record to construction contractors by November 15th, prior to the application year. Construction contractors are required to provide detailed information about a pest control application within 7 days of an application. This is accomplished by completing the Pest Control

Application Record (Real Estate / Construction) PDF record. The 'Grantee' & Outgrant No' fields are pre-populated with "NA". The construction contractor returns the data to the District Pest Manager. Upon a successful QA review, it will be ingested into the enterprise geodatabase.

Instructions for Applicators (Construction Contractors): PDF Records

Pest Control Anticipated Application Record (Real Estate / Construction): This record must be completed and returned by January 1 of the application year. A separate record must be completed for each pest control category or change in chemical formulation. Once completed, data is sent to the District Pest Manager. The preferred format for the data is an xml attachment. If this is not possible, the data may be returned saved in a PDF file. For instructions on how email data as an xml file from a PDF record using the record's 'Email Data' button, see Attachment 1.

-Pesticide Application Sponsor block: This block of fields contains information about the person or agency for which the pesticide was applied; the beneficiary of the pest management action. The 'Grantee' & Outgrant No' fields are pre-populated with "NA".

-Pest Control Category block: This block of fields contains information about the type of pest control proposed, categorized into one of three options: Chemical, Biological, and Mechanical.

--Chemical: Enter the product's label name in the 'Trade Name' field. The chemical must have an Active Ingredient from the approved list in the 'Active Ingredient (AI)' field. Enter the amount of Active Ingredient, in pounds in the 'Pounds of AI' field. Note that this is not the amount of chemical product as sold, but only the weight of the active ingredient. Add additional lines to the Pest Control Category Chemical table as needed to report each Active Ingredient proposed.

--Biological: Select the Biological control from the approved list. If a selection of Other is made, enter additional information in the 'Comments' block. Add additional lines to the Pest Control Category Biological table as needed to report each Biological control proposed.

--Mechanical: Select the Mechanical control from the approved list. If a selection of Other is made, enter additional information in the 'Comments' block. Add additional lines to the Pest Control Category Mechanical table as needed to report each Biological control proposed.

-Target Species block: First select from the 'Pest Category' field the class of pest to be controlled per the entry in the Pest Control Category block. Then select from the options in the 'Pest Name' field. Add additional lines to the Target Species table as needed to report each Target Species to be controlled. If a selection of Other is made, enter additional information in the 'Comments' block.

Pest Control Application Record (Real Estate / Construction): This record must be completed and returned by email within 7 days of a pest control application to the District Pest Manager. The preferred format for the data is an xml attachment. If this is not possible, the data

may be returned saved in a PDF file. For instructions on how email data as an xml file from a PDF record using the record's 'Email Data' button, see Attachment 1.

-Pesticide Application Sponsor block: This block of fields contains information about the person or agency for which the pesticide was applied; the beneficiary of the pest management action. The 'Grantee' & Outgrant No' fields are pre-populated with "NA".

-Licensed Pest Applicator block: This block of fields contains information about the person who performed pesticide application, if different from the Application Sponsor. Also includes an alternate applicator, if applicable.

-Pest Control Category block: This block of fields contains information about the type of pest control proposed, categorized into one of three options: Chemical, Biological, and Mechanical.

--Chemical: Enter the product's label name in the 'Trade Name' field. The chemical must have an Active Ingredient from the approved list in the 'Active Ingredient (AI)' field. Enter the amount of Active Ingredient, in pounds in the 'Pounds of AI' field. Note that this is not the amount of chemical product as sold, but only the weight of the active ingredient. In the 'Pesticide Classification' field, show if the Active Ingredient is designated for General or Restricted use by either the Environmental Protection Agency or state. Add additional lines to the Pest Control Category Chemical table as needed to report each Active Ingredient proposed.

--Biological: Select the Biological control from the approved list. If a selection of Other is made, enter additional information in the 'Comments' block. Add additional lines to the Pest Control Category Biological table as needed to report each Biological control proposed.

--Mechanical: Select the Mechanical control from the approved list. If a selection of Other is made, enter additional information in the 'Comments' block. Add additional lines to the Pest Control Category Mechanical table as needed to report each Biological control proposed.

-Pest Management Application block: This block of fields contains information about the environmental conditions during the application, and the method of application.

-GPS Coordinates (WGS84, Decimal Degrees) of Application block: This block of fields contains information about the location of the application. All areas reported with the Pest Control Application Record are described as a point with a single longitude and latitude pair. The longitude and latitude must be in the WGS84 coordinate system, and recorded as decimal degrees. Enter position information to at least the fourth decimal place (46.0001). From this point, a radius is estimated in feet that will result in a circular area approximately equal to the application area. See Attachment 2 for additional information about this method. Add additional lines to the GPS Coordinates table as needed to report each application area.

-Target Species block: First select from the 'Pest Category' field the class of pest to be controlled per the entry in the Pest Control Category block. Then select from the options in the 'Pest Name' field. Add additional lines to the Target Species table as needed to report each Target Species to be controlled. If a selection of Other is made, enter additional information in the 'Comments' block.

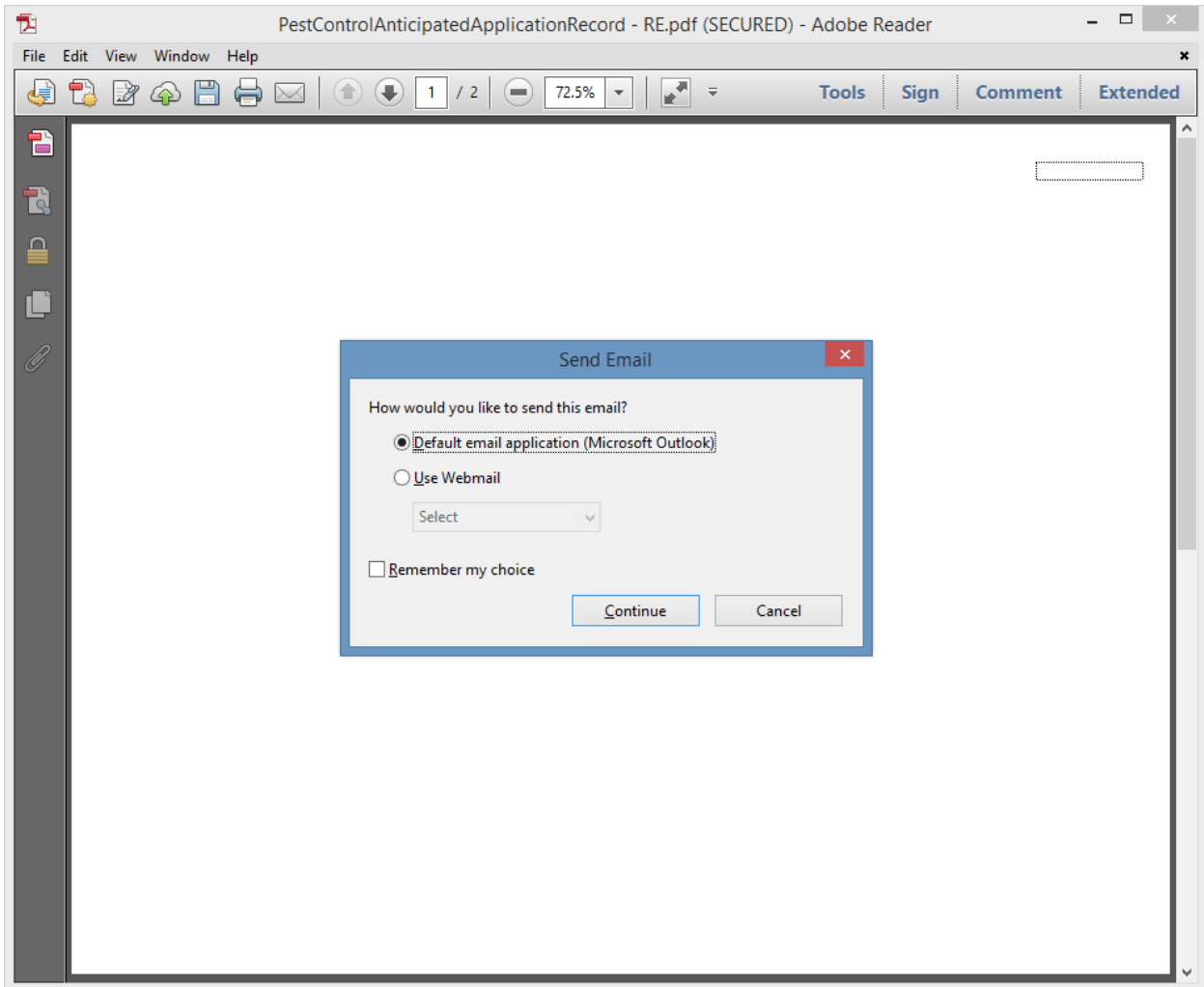
Attachment 1: Save and email data as an xml file from a PDF record using the record's 'Email Data' button (Acrobat XI Reader)

To save and email xml data using the 'Email Data' button (shown with green rectangle below):

1. Fill out the record, and then click the button. If a required field is not filled in, an announcement is made:

The screenshot shows the Adobe Reader interface for a PDF document titled "PestControlAnticipatedApplicationRecord - RE.pdf (SECURED)". The form is titled "PEST CONTROL ANTICIPATED APPLICATION RECORD - Real Estate / Construction" and includes a logo for the US Army Corps of Engineers. A green rectangle highlights the "Email Data" button in the top right corner. A red rectangle highlights the "Last Name" input field in the "1. Pesticide Application Sponsor" section. A "Warning: JavaScript Window" dialog box is open, displaying a red 'X' icon and the message "Please fill in Pesticide Application Sponsor Last Name." with an "OK" button. The form fields include: *Grantee (grantee), *Outgrant No (outgrant), *For year (2014), *Firm Name (firm), *First Name (first), *Last Name (empty), *Street Address (street), 2. Pest Control Category (0. Chemicals), Add Row (Trade Name), Delete Row (name), Comments (comment), 3. Target Species (Vegetation, Bare Ground). The footer of the form reads "NWW Form 1000-d, Feb 2014" and "Page 1 of 2".

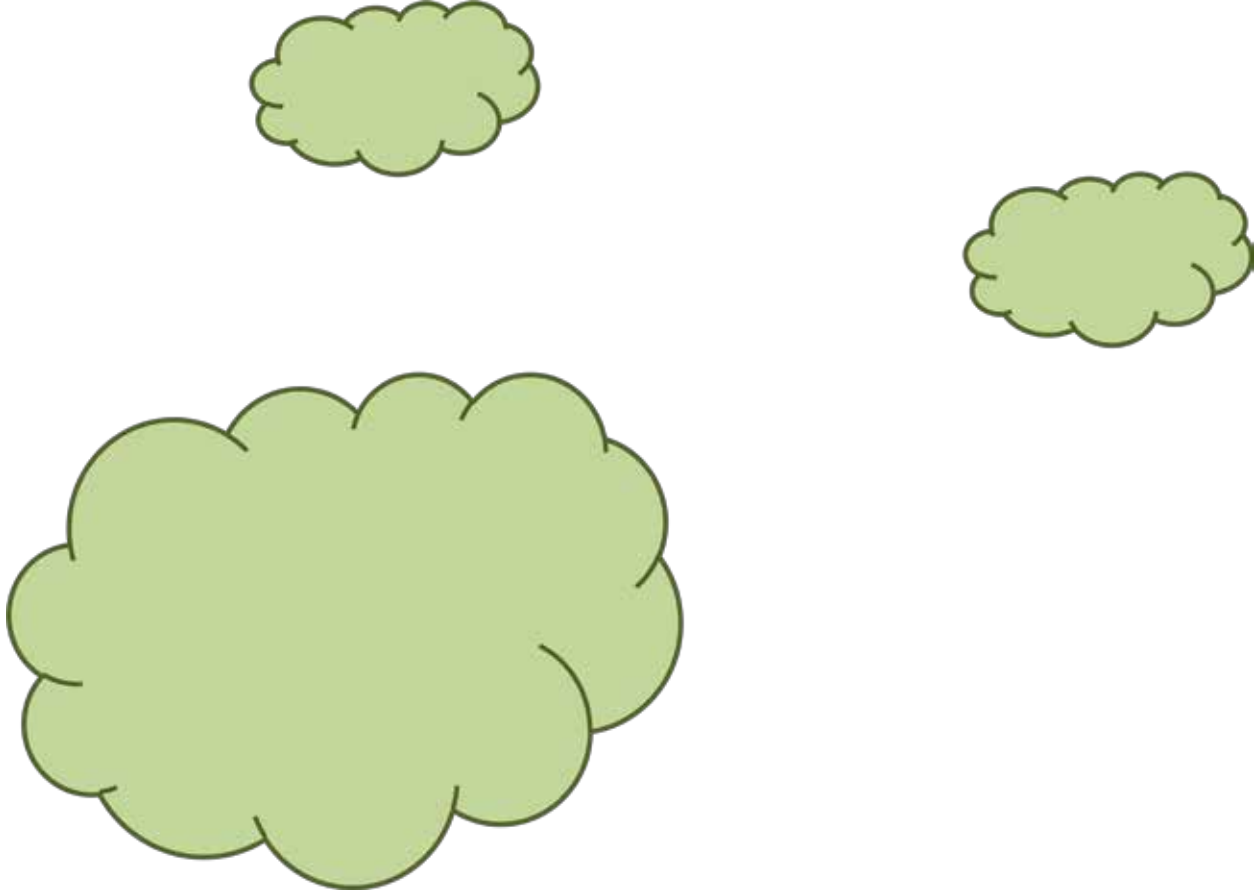
2. Once validation passes, the Select Email Client dialogue presents two options: Default Email Application or Webmail. Selecting Default Email Application will look for an email program such as Microsoft Outlook, open a new, preaddressed email, and attach the record data as an xml file. The Webmail option will prompt for information about your webmail account.



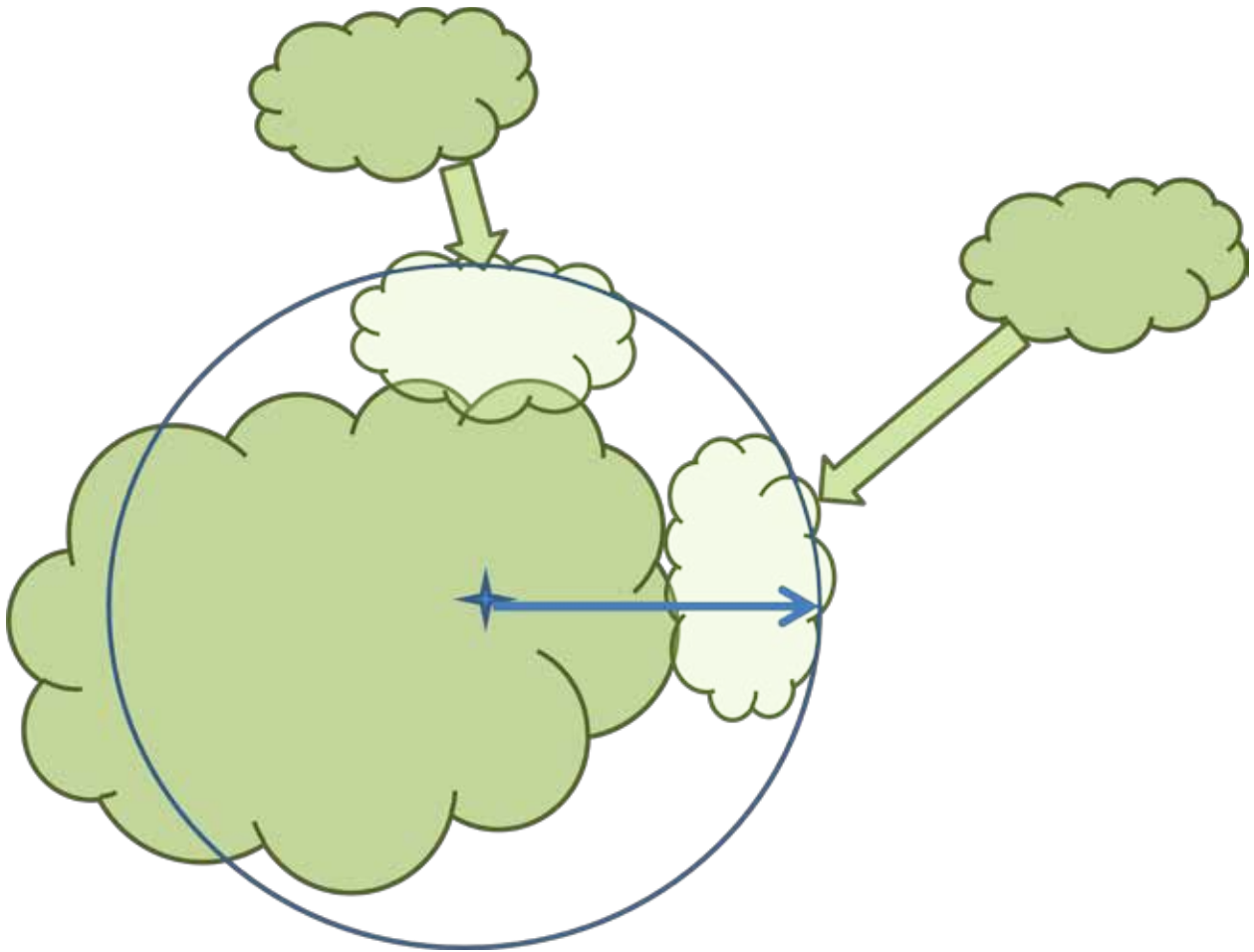
Attachment 2: GPS coordinate and radius data

The Pest Control Application Record provides a means to record the geographic location and estimated size of an application. Although an actual application may occur in a point, line, or polygon shape, applications will be reported only as points with a radius value. The radius should be estimated so that when a circle is drawn around the point, the resulting area is approximately equal to the application area being reported.

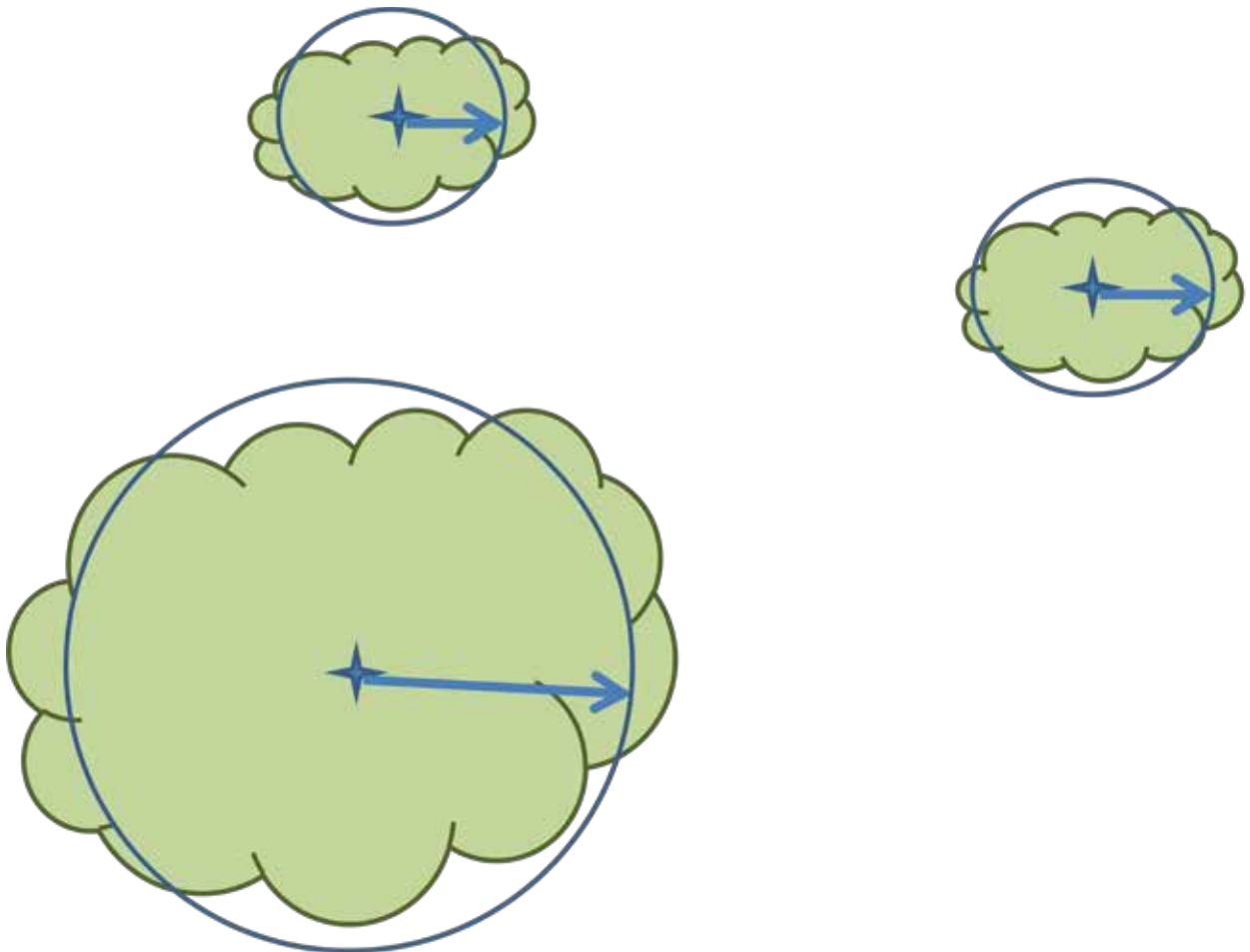
Assume that a vegetation pest is to be controlled as shown below.



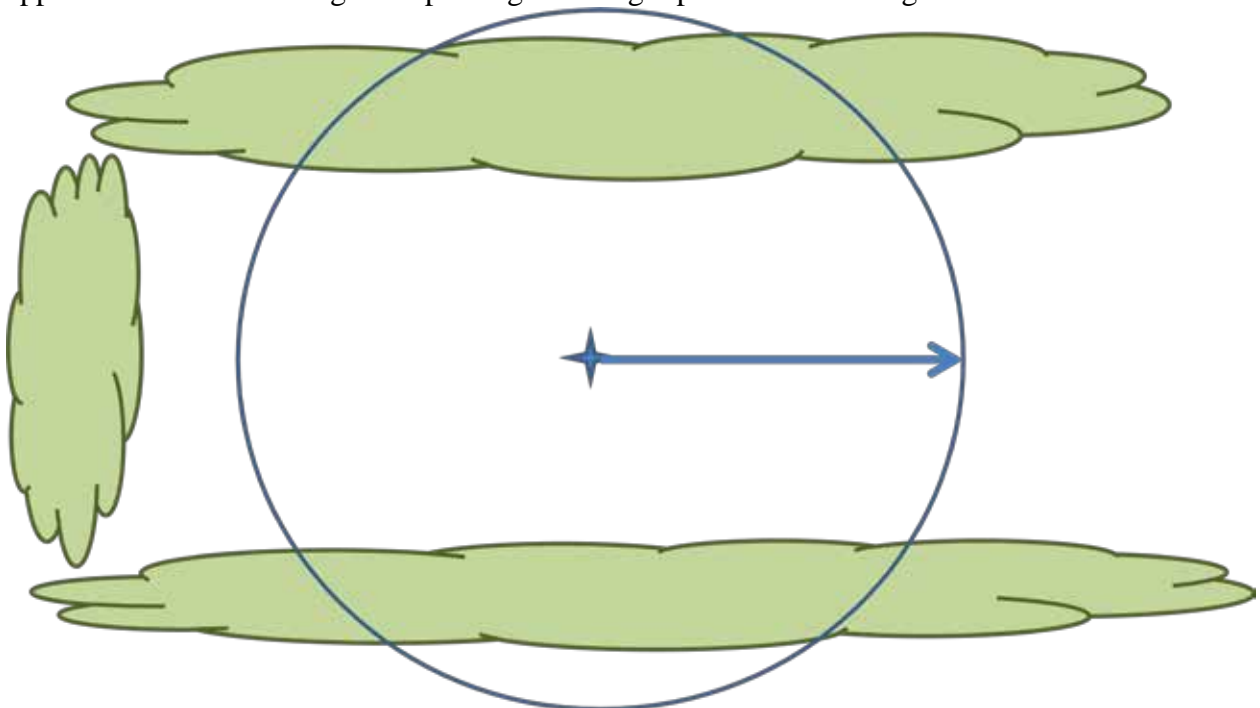
One option for reporting would be to record a point at the center of the application. Estimate the total area of the application and a radius that would approximate a circular area of equal area.



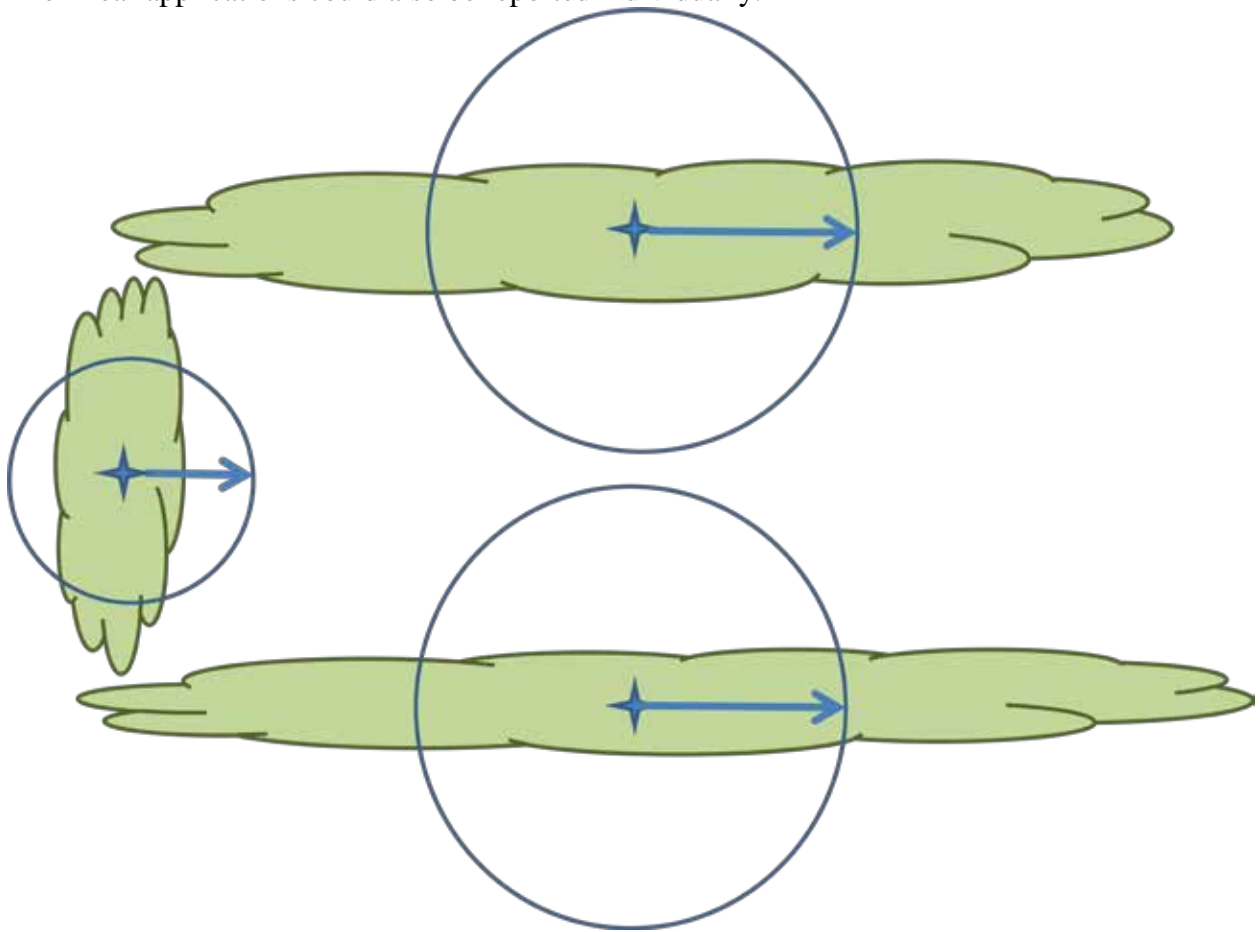
Another option is to record a point and radius for each application.



The same concept is applied to linear applications. Assume that the next picture represents an application around the edge of a parking lot being represented as a single feature.



The linear applications could also be reported individually.



Polygon features require the least amount of estimation.

