

IAP Reference Guide - Part I

Module 1.8: Chemical Treatment & Monitoring

In this module, you will learn about:

- Herbicide regulation; and,
- How to record herbicide treatment & monitoring data.



The following data collection forms are discussed in this module:

- Chemical Treatment Record; and,
- Chemical Treatment Monitoring Record.



Herbicides

The chemical control of invasive plants, with herbicides, can be extremely effective. Recall that herbicides are defined as chemicals formulated to kill plants, especially those which are invasive plants. However, herbicides can pose danger if not properly handled, transported, and applied. Therefore, their use on Crown Land is carefully controlled.



- Pesticides are regulated by the federal *Pest Control Products Act*.
- The application of herbicides on Crown Land is regulated through the provincial *Integrated Pest Management Act*. All herbicide applications on Crown Land must be carried out under the direct supervision of a certified pesticide applicator.

The Handbook for Pesticide Applicators and Dispensers is a resource available to assist with the safe handling of pesticides. This is available from the Ministry of Finance, Office Products Centre.

Calibration

Calibrations provide a method for applicators to practice and maintain accurate application rates under all herbicide spraying conditions. This ensures only a minimal amount of herbicide is applied in order to control target species. Applicators and equipment should be calibrated regularly following instructions in Part IV of this guide.

Herbicide Selection

There are many herbicides which are registered for use to control noxious invasive plants in BC. The selection of an herbicide is dependent on site characteristics, target invasive plant species and objectives. The methods for determining which herbicides to use are referenced in the applicable Pest Management Plan.

Collecting the Data



Chemical Treatment Record

Chemical control of invasive plants with herbicides must be recorded on the “**Invasive Plant Mechanical & Chemical Treatment Record**”. The paper record should be used to record information when in the field. At the office, this data should be transferred from the paper record into the IAP Program - Data Entry. Part II of this guide will demonstrate how to enter information into the IAP Program - Data Entry. Each section of this form is explained below.

Sample Form

A sample form is found on the following pages. Please refer to Part IV of this guide to find a URL to a MoFR web site for a “print friendly” version of this form.

MAP
SKETCH MAP (INDICATE NORTH)

IMAGE DETAILS

ID	DATE	PERSPECTIVE	REFERENCE NO.
COMMENTS			

Fields in this Form - Treatment

There are various fields in this form. The following definitions will help you to understand how to use each field and its importance in the program.

Data Entered into IAP Program - Data Entry	<p>What... Check-box. Check if the site details have already been entered into the IAP Program – Data Entry.</p> <p>Why is it important... Is a cue that the data exists electronically.</p>
Entered By	<p>What... Text entry.</p> <p>Why is it important... Records the name of the individual entering the data on the form.</p>
Treatment Date	<p>What... Mandatory text entry.</p> <p>Why is it important... It is important for everyone to know when the treatment was applied to the invasive alien plant.</p>
Agency	<p>What... Mandatory text entry. Record the appropriate agency.</p> <p>Why is it important... It is critical that the agency performing the treatment is identified for future reference.</p>
Employer	<p>What... Text entry. Enter the name of the employer.</p> <p>Why is it important... Identifies the employer that conducted the treatment. This is important in case anyone requires additional information about the treatment.</p>
Certified Applicators	<p>What... Mandatory text entry. It is mandatory to have at least one certified applicator.</p> <p>Why is it important... Identifies the individual/organization applying the herbicide (for example, herbicide sprayer).</p>
Cert. Number	<p>What... Mandatory text entry. It is mandatory to have at least one certified applicator with a certificate number.</p> <p>Why is it important... Identifies the certificate number of the applicator. All applicators working on Crown Land must possess a certificate.</p>
Supervisor Signature	<p>What... Text entry. Supervising certified applicator.</p> <p>Why is it important... Legal requirement under Pest Management and Use Plans.</p>
Other Applicators	<p>What... Text entry.</p> <p>Why is it important... Identifies additional individual/organizations applying the herbicide.</p>
Cert. Number	<p>What... Text entry.</p> <p>Why is it important... Identifies the certificate number of the additional applicator. All applicators working on Crown Land must possess a certificate.</p>
Jurisdiction	<p>What... Mandatory text entry. Obtain the information from the code sheet.</p> <p>Why is it important... Identifies the sites jurisdiction. This is the owner of the site.</p>

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District Code	<p>What... Text entry. Use the District Code.</p> <p>Why is it important... It is important for everyone to know what district the site falls within.</p>
Mapsheet	<p>What... Text entry. (1:20,000 mapsheet for current location).</p> <p>Why is it important... Provides location of the site.</p>
Range Unit	<p>What... Text entry.</p> <p>Why is it important... Identifies if the site is part of a Range Unit. Use a MoFR administrative unit within stock ranges in some locations.</p>
Activity	<p>What... Mandatory check-box. Check the type of treatment.</p> <p>Why is it important... It is important to name the activity recorded.</p>
New Site	<p>What... Check-box. Check the box if the site has not been previously recorded on the field mapsheet. UTM, Easting and Northing are mandatory on new sites as well as location and temporary site number drawn on the filed mapsheet. A new site is one which is at least 100 meters of space with no target invasive plants away from the last site.</p> <p>Why is it important... identifies if the site has been previously treated.</p>
Site ID or Paper File ID	<p>SITE ID: Mandatory (or UTM Zone, Easting, Northing)</p> <p>What... The IAP Program - Data Entry automatically generates the Site Number at the time of entry.</p> <p>Why is it important... Provides the site with a unique identifier.</p> <p>PAPER FILE ID:</p> <p>What... Text entry.</p> <p>Why is it important... This is useful information for cross referencing the paper and electronic files. The format of this field varies widely between agencies.</p>
UTM Zone, Easting, Northing	<p>What... Mandatory (or Site ID) text entry field if the site was previously unknown or unrecorded and the "New Site" check-box has been marked and the New Site has been drawn on the map.</p> <p>Why is it important... Identifies the location of a new site.</p>
Not Found	<p>What... Check-box. Check the box if no target species are found growing on the site. All other information, other than Site Number, is not required.</p> <p>Why is it important... Identifies whether target species have been found on the site.</p>
Time of Application	<p>What... Mandatory text entry.</p> <p>Why is it important... Identifies the time you arrived at the site.</p>
Species #1	<p>What... Mandatory text entry field. Use the two letter Species Codes.</p> <p>Why is it important... Identifies the IAP Species being treated.</p>
Species #2 & #3	<p>What... Text entry field if there is more than one target species treated on a site.</p> <p>Why is it important... Identifies the IAP Species being treated (if there are multiple).</p>
%	<p>What... Text entry field. This is the corresponding percentage of each target species adding to a total of 100 (i.e. 75% Spotted Knapweed and 25% Sulphur Cinquefoil would be: SK 75 SC 25).</p> <p>Why is it important... Identifies the percentage of each target species being treated on a site.</p>
Distribution Code	<p>What... Text entry. Distribution code is a derived combination of density and plant cover. See Part</p>

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	<p>IV of this guide for additional information.</p> <p>Why is it important... Provides the distribution code of the species.</p>
Area Treated (Ha)	<p>What... Mandatory text entry.</p> <p>Why is it important... Identifies the estimated area of the site that was actually treated.</p>
Temperature (C)	<p>What... Mandatory text entry.</p> <p>Why is it important... Identifies the temperature of chemical treatments.</p>
Wind Speed (Km/h)	<p>What... Mandatory text entry.</p> <p>Why is it important... Provides climate conditions (useful for Herbicide Treatments).</p>
Wind Direction	<p>What... Text entry.</p> <p>Why is it important... Provides the direction of the wind.</p>
Treatment Method	<p>What... Mandatory text entry. Control used to manually or chemically treat site from code sheet.</p> <p>Why is it important... Provides the various methods available when treating the site mechanically.</p>
Herbicide Used	<p>What... Mandatory text entry. Herbicide used on site as per code sheet.</p> <p>Why is it important... Identifies the herbicide applied to the site.</p>
Application Rate (L/ha)	<p>What... Mandatory text entry.</p> <p>Why is it important... Identifies the quantity of active ingredient that was applied (L/Ha).</p>
Amount Used (L)	<p>What... Mandatory text entry.</p> <p>Why is it important... Identifies the amount of the herbicide used on one site.</p> <p>Note: If more than one species is being treated, determine the amount of herbicide applied to each species using the Species %.</p>
Pass #	<p>What... Text entry. 1, 2, or 3 depending on the number of treatments prescribed on a site in one growing season.</p> <p>Why is it important... Identifies the treatment pass.</p>
Location or Road Name	<p>What... Text entry. (Road System Name or general location).</p> <p>Why is it important... Identifies the roads near the site for future reference.</p>
Comments	<p>What... Text entry.</p> <p>Why is it important... Comments may be useful for future reference by yourself or others. These are especially helpful if the site is hidden or if there is special information that should be highlighted.</p>
<p>Image Details - Be sure to note the following details: ID, Date, Perspective, Reference No, and Comments.</p>	



The following fields are legal requirements under a MWLAP Pesticide Management Permit (PMP):

- Area Treated
- Temperature
- Wind Speed
- Herbicide
- Treatment Method
- Application Rate
- Amount Used
- Delivery Rate



Chemical Treatment Monitoring Record

Monitoring is recommended for at least 10% of the treated sites. Monitoring records the efficacy of the treatment and may record any injury to non-target species and other treatment impacts of interest.

Chemical treatment monitoring information is recorded on the “**Chemical or Mechanical Monitoring Record**”. The paper record should be used to record information when in the field. At the office, this data should be transferred from the paper record into the IAP Program - Data Entry. Part II of this guide will demonstrate how to enter information into the IAP Program - Data Entry. Each section of this form is explained below.

Sample Form

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SAMPLE



CHEMICAL OR MECHANICAL MONITORING RECORD



DATA ENTERED INTO INVASIVE ALIEN PLANT PROGRAM

ENTERED BY _____

TEMPORARY FIELD SITE # _____

RECORD I

INSPECTION DATE * (YYYY-MM-DD)	MAPSHEET	(ASSIGNED AT DATA ENTRY)			PAPER FILE ID
		SITE ID	TREATMENT ID	MONITORING ID	

ACTIVITY * CHEMICAL MECHANICAL SURVEYOR NAME *

TARGET PLANT SPECIES * COMPLIANCE EFFICACY RATING (1-9)

COMMENTS

RECORD II

INSPECTION DATE * (YYYY-MM-DD)	MAPSHEET	(ASSIGNED AT DATA ENTRY)			PAPER FILE ID
		SITE ID	TREATMENT ID	MONITORING ID	

ACTIVITY * CHEMICAL MECHANICAL SURVEYOR NAME *

TARGET PLANT SPECIES * COMPLIANCE EFFICACY RATING (1-9)

COMMENTS

RECORD III

INSPECTION DATE * (YYYY-MM-DD)	MAPSHEET	(ASSIGNED AT DATA ENTRY)			PAPER FILE ID
		SITE ID	TREATMENT ID	MONITORING ID	

ACTIVITY * CHEMICAL MECHANICAL SURVEYOR NAME *

TARGET PLANT SPECIES * COMPLIANCE EFFICACY RATING (1-9)

COMMENTS



Fields in this Form - Monitoring

There are various fields in this form. The following definitions will help you to understand how to use each field and its importance in the program.

Data Entered into IAP Program - Data Entry	<p>What... Check-box. Check if the site details have already been entered into the IAP Program – Data Entry.</p> <p>Why is it important... Is a cue that the data exists electronically.</p>
Entered By	<p>What... Text entry.</p> <p>Why is it important... record the name of the individual entering the data on the form.</p>
Temporary Field Number	<p>What... Text entry.</p> <p>Why is it important... the number assigned to polygons drawn on Trim/forest cover maps while in the field or the number assigned to individual forms while in the field with the intention of identifying this information to data that is later recorded/digitized in the office. It is strictly for field use and is not recorded for long-term use.</p>
Monitoring Date	<p>What... Mandatory text entry.</p> <p>Why is it important... It is important for everyone to know when the monitoring occurred.</p>
Mapsheet	<p>What... Text entry. (1:20,000 mapsheet for current location).</p> <p>Why is it important... Provides location of the site.</p>
Site ID	<p>What... Text entry. The site number from the field mapsheet or temporary number designated by the contractor which corresponds to the site drawn on the field mapsheet is recommended. The IAP Program - Data Entry automatically generates the Site Number at the time of entry.</p> <p>Why is it important... Provides the site with a unique identifier.</p>
Treatment ID	<p>What... Text entry. Generated by the IAP Program – Data Entry.</p> <p>Why is it important... Is a unique identifier for the treatment.</p>
Monitoring ID	<p>What... Text entry. Generated by the IAP Program – Data Entry.</p> <p>Why is it important... Is a unique identifier for the monitoring activity.</p>
Paper File ID	<p>What... Text entry.</p> <p>Why is it important... This is useful information for cross referencing the paper and electronic files. The format of this field varies widely between agencies.</p>
Activity	<p>What... Mandatory check box.</p> <p>Why is it important... Identifies if the monitoring activities are being conducted for a Chemical or Mechanical treatment.</p>
Surveyor Name	<p>What... Mandatory text entry.</p> <p>Why is it important... Identifies the individual(s) that conducted the survey. This is important in case other program users require additional information about the survey.</p>

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Target Plant Species	<p>What... Mandatory text entry field. Use the two letter Species Codes.</p> <p>Why is it important... Identifies the IAP Species that was treated and is now being monitored.</p>
Compliance	<p>What... Text entry. Enter Yes or No. If no is entered, explain the non-compliance and actions required.</p> <p>Why is it important... Identifies whether the contractor has met the contract or Pest Management Plan or Pesticide Use Plan.</p>
Efficacy Rating	<p>What... Text entry. Use the following Efficacy Rating.</p> <ul style="list-style-type: none"> • 10 – 100% efficacy • 9 – 90% to 99% efficacy • 8 – 80% to 89% efficacy • 7 – 70% to 79% efficacy • 6 – 60% to 69% efficacy • 5 – 50% to 59% efficacy • 4 – 40% to 49% efficacy • 3 – 30% to 39% efficacy • 2 – 20% to 29% efficacy • 1 – 0% to 19% efficacy <p>Why is it important... Identifies the Efficacy Rating of herbicide treatment. The Efficacy Rating is the percent mortality achieved on a treated site according to the above scale. This scale is not to be confused with the ECW Scale.</p>
Comments	<p>What... Text entry.</p> <p>Why is it important... Used to provide any comments about the monitoring activities.</p>



Treatment records are held for three years and are available for inspection.