

IAP Reference Guide - Part I

Module 1.7: Mechanical Treatment & Monitoring

In this module, you will learn:

- The various types of mechanical treatments; and,
- How to record mechanical treatment & monitoring data



The following data collection forms are discussed in this module:

- Mechanical Treatment Record; and,
- Mechanical Treatment Monitoring Record



Mechanical Treatment Strategies

There are various strategies which can be implemented to control invasive plants through mechanical means. These include:

- **Burning:** burning is an effective strategy if seed production has already occurred. Burning allows some of the seeds to be destroyed. The effectiveness varies depending on the duration and intensity of the heat and the maturity and location of the seeds.
- **Cultivating or Tilling:** soil tillage attacks the invasive alien plant's survival mechanisms therefore preventing seed production and depleting current seed reserves in the soil.
- **Digging:** digging invasive plants used to cut the plant below the reproductive root (below where the plant sprouts from).
- **Hand Pulling:** hand pulling of invasive plants is practical for small invasive alien plant patches or individual plants. Plants should be pulled when the soil is moist and prior to seed production.
- **Mowing:** the mowing strategy is acceptable if there are too many invasive plants to hand pull and cultivation is impractical or impossible. It is best to mow prior to seed production and as close to the ground as possible.
- **Mulching:** mulching is effective because it excludes light from the tops of the invasive plants until the reserve food supply in the roots is depleted, starving the invasive plants.
- **Note:** Grazing is also a mechanical treatment strategy but is not tracked in the IAP Program – Data Entry. This has similar affects to mowing. The removal of invasive alien plant top growth by the grazing animals prevents seed formation and gradually weakens underground parts.

Collecting the Data



Mechanical Treatment Record

The mechanical treatment of invasive plants must be recorded on the “**Invasive Plant 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.



Note that this form is also used to record the Chemical Treatment of invasive plants. Therefore, it is discussed again in the next module of this guide.

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.

SAMPLE



INVASIVE PLANT CHEMICAL & MECHANICAL TREATMENT RECORD



<input type="checkbox"/> DATA ENTERED INTO IAPP										ENTERED BY _____		PCP # _____																																																																																																																																																																																											
TREATMENT DATE _____		AGENCY _____		EMPLOYER _____		CERTIFIED APPLICATORS _____		CERT. NUMBER _____		OTHER APPLICATORS _____		CERT. NUMBER _____																																																																																																																																																																																											
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Mechanical Treatments Mandatory Fields: Date of Treatment Agency Jurisdiction Site ID OR UTM Zone, Easting & Northing Species 1 Treatment Method Area Treated
Chemical Treatments Mandatory Fields: All fields indicated in Mechanical Treatments PLUS: Certified Applicator and Number Application Time Temperature Windspeed Herbicide Application Rate Amount of Chemical Used



MAP

SKETCH MAP (INDICATE NORTH)

IMAGE DETAILS

ID	DATE	PERSPECTIVE	REFERENCE NO.
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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	This field is not applicable to mechanical treatments.
Cert. Number	This field is not applicable to mechanical treatments.
Supervisor Signature	This field is not applicable to mechanical treatments.
Other Applicators	This field is not applicable to mechanical treatments.
Cert. Number	This field is not applicable to mechanical treatments.
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>
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>

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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... 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 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>This field is not applicable to mechanical treatments.</p>
Wind Speed (Km/h)	<p>What... Text entry.</p> <p>Why is it important... Provides climate conditions (useful for Herbicide Treatments).</p>

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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	This field is not applicable to mechanical treatments.
Application Rate (L/ha)	This field is not applicable to mechanical treatments.
Amount Used (L)	This field is not applicable to mechanical treatments.
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>
Image Details - Be sure to note the following details: ID, Date, Perspective, Reference No, and Comments.	



Mechanical Treatment Monitoring Record

The effectiveness of each mechanical treatment varies. Therefore, the monitoring of sites and the capture of monitoring information can be helpful to the long term successful treatment of a site. Mechanical treatment monitoring information is recorded on the “**Chemical or Mechanical Monitoring Record**”. 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.



Note that this form is also used to record Chemical Treatment Monitoring of invasive plants. Therefore, it is discussed again in the next module of this guide.

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.

SAMPLE



BRITISH COLUMBIA



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>
Mapsheets	<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	What... Mandatory text entry field. Use the two letter Species Codes. Why is it important... Identifies the IAP Species that was treated and is now being monitored.
Compliance	What... Text entry. Enter Yes or No. If no is entered, explain the non-compliance and actions required. Why is it important... Identifies whether the contractor has met the contract or Pest Management Plan or Pesticide Use Plan.
Efficacy Rating	This field is not applicable to mechanical treatments.
Comments	What... Text entry. Why is it important... Used to provide any comments about the monitoring activities.