IAPP Agenda

• **Part 1: Lecture**
  – Understanding IAPP
  – Data viewing
  – Data collection
  – Data entry
  – Data retrieving

• **Part 2: Lab**
  – IAPP data entry (demo and live)
  – Mapping review
  – Data retrieving (Extracts / spatial data viewing / querying)
  – Resolving / understanding data issues
Community Data

- Currently 60 IAPP user organizations (Agencies):
  - Federal departments
  - Provincial ministries
  - Regional districts
  - Municipalities
  - Regional weed committees
  - First Nations
  - Public and private utilities
  - Forest licensees
  - Mining, oil and gas companies
  - NGOs

- As of March 2019 over 800,000 records have been added:
  - 151,717 Sites
  - 447,024 Surveys
  - 235,673 Treatments
    - Biological 5%
    - Mechanical 28%
    - Chemical 67%
  - 30,722 Monitoring
  - 4,608 Dispersals
  - 16,729 Images
  - 1,935 Plans
Management tools

- Reporting
- Planning
- Monitoring
- Inventory
- Treatment

Annual Work Cycle
The IAPP Family of apps

The Database. A collection of records housed in tables. The nuts and bolts!

The Data Entry Module

Add Site (Step 1 of 6) - Site Location
- Add Site (Step 2 of 6) - Site Details
- Add Site (Step 3 of 6) - Monitoring Records
- Add Site (Step 4 of 6) - Add Invasive Plant Species

Welcome to Report-A-Weed

The following Report-A-Weed wizard takes you through 5 easy steps that enable you to report a suspected new sighting of an invasive alien plant species in British Columbia. Once completed, your report will be compared to known locations of the invasive plant species in the Invasive Alien Plant Program (IAPP) application, and then it will be sent directly to a provincial Invasive Plant Specialist for your area. The Specialist may then share this information with the local Weed Committee Coordinator so that the agency/land owner responsible for the reported infestation can be notified.

Invasive alien plant species are constantly on the move and expanding into new areas. Reporting new infestations will assist all land owners and invasive plant managers in early detection and rapid response activities, as well as enhance the knowledge of the current distribution of those species that are established in the province.

General public can report weed sightings in real time to IAPP

Map Display

Data refreshedUPDATED FROM IAPP database every day
The IAPP Family of apps

Map Display, R-a-W (Report-a-Weed) and WeedsBMP

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**Map Display, R-a-W (Report-a-Weed) and WeedsBMP**

- **Map Display**: Visual mapping tool for field conditions.
- **R-a-W**: System for reporting weeds.
- **WeedsBMP**: BMP guide for weed management.

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**Management**

**Summary:**
Hound's-tongue can quickly form dense stands in disturbed areas. Treat first-year plants with herbicides. Remove second-year plants to minimize weed production. Repeat this process to exhaust the seed bank. Ensure that areas where livestock congregate (such as corrals and pits) are weed-free, especially when livestock is in feedlots. Manage livestock to maintain a vigorous population of perennial plants to provide ground cover. Check people, vehicles, and dogs for seeds before you leave an infested area.

**Biocontrol:**
*Meligethes czucyi* (weevil) has a significant impact on hound’s tongue. For information on biocontrol agents, visit the BC Government biocontrol matrix page at [https://www.for.gov.bc.ca/np/plants/agent-matrix.php](https://www.for.gov.bc.ca/np/plants/agent-matrix.php).

**Herbicides**
In BC, excellent long-term control is achieved with poldosm applied in spring, summer, or autumn. Dicamba provides good control applied either spring or autumn. Spring applications of pendimethalin (Elspar) and metribuzin (Sencor) have been more effective than autumn treatments in the US. Dicamba also controls actively growing plants. Before applying herbicides, read the label for full use and precautionary instructions.

**Cultural/Preventive:**
Hand pulling can be effective for small populations and especially before the plume sets seed. Clear cattle, horses, dogs, and yourself before moving from a hound’s-tongue-infested area. Check vehicles for seeds.
Map Display module

- is accessible to anyone with Internet connection:
  - inventory and treatment highlight queries
  - large variety of layers
  - Search IAPP data on variety of criteria

- complete dataset refresh every 24 hours
  - current data = reliability & accuracy
Practical Must-Knows *before* log-on

- **Part 2:** data entry
- **Part 3:** data integrity
- **Part 4:** user accounts
Part 1: IAPP Data Entry

**Data Entry module**

- **data integrity & security:**
  - authorized access only! (Active/valid IDIR or BCeID)
  - data is owned by agencies (= who you enter the data for)

- **data comprehensiveness:**
  - province wide data input by wide variety of agencies
Knowing the IAPP structure – how everything is tied together – will help you understand the data entry and querying processes.

- Basically, you start with a location (a ‘site’), and put an invasive plant occurrence on it (‘I saw a weed here!’).

- Then you add *surveys* for the weed (no more than once a year) – where every time there has been a measurable change in the infestation (area, distribution, density).
How IAPP Is Structured

The Schematic Version

Steps:
- Enter a Site. Note all the fields that are autofilled; enter the mandatory fields, and as many of the optional ones your organization needs.
- Add a plant species to the site, and create a survey for it (on the first survey for a species, these are entered on the same screen).
- Unless you also have a treatment to add, that’s it!
Data entry flow (glossy view)

STEP 1, 2 and 3:
Create a new Site, Species on the Site, and a Survey:

Add Site (Step 1 of 5) - Site Location
- STN Location
- Add Site (Step 2 of 5) - Site Details
- Site Created Date
- Jurisdiction
- Range Unit ID
- Add Site (Step 3 of 5) - Survey Details
- Survey Date
- Add Site (Step 4 of 5) - Add Invasive Plant Species
- Invasive Plant Species
- Distribution
- Occurrence

STEP 4:
Add a Treatment:

Click the Mechanical Treatment tab, then click the Add link
Enter:
- Treatment Date
- Species treated
- Area treated
- Treatment method
AGENCY =

Any BC Ministry, Federal Department, local government (Regional District, municipality, etc), corporation, RISO or other organization that funds and/or manages invasive plant species on the land base for which they are responsible.
Data integrity is aided by assigning custodianship of records (data) to the Agencies that collect and enter it.

- Their data is visible to all IAPP users, but editable only by the owning agency.

Agencies are responsible for:

- Maintaining current list of their users
- Integrity of data entered into application
Agency vs Jurisdiction

• **Agency =**
  Who *pays for having the work done*. This is autofilled by IAPP and you can’t change it.

• **Jurisdiction =**
  Who *owns / is responsible for the land*. This is entered by you on the IAPP Site Details record.
Part 3: General Access

• A Business BCeID / Gov’t IDIR is an electronic pass that allows you to request access to the IAPP application.

• Once you have an account, I link your account to the IAPP portal, set up your access level, and assign you to an agency. If you are doing work on behalf of multiple agencies, each will require a separate access setup.
The log-on process tells the application 2 things that are important to the data integrity:

- Which Agency you represent
- What your User role and privileges are

User roles / Security levels are:

- Viewer (1%)
- Data Entry user (98%)
- Data Manager (1.5%)
Viewer:

• **Can view all records**, but protected biological information will be marked ‘Protected’
• Cannot create new or edit existing records
• Cannot query data
Data Entry:

- Can **view all records**, but protected biological information will be marked ‘Protected’
- Can **create all record types**, except Invasive Plant Plans, on behalf of their Agency only
- Can **edit** only the records they created
- Can run **all extracts**
- Cannot run Reports
Data Entry User screen

Invasive Alien Plant Program

Actions
- Add Site

Search
- Site
- Survey
- Treatment
- Monitoring
- Location

Go To Site ID
<table>
<thead>
<tr>
<th>Site ID</th>
<th>Go</th>
</tr>
</thead>
</table>

Invasive Plant Key
- Common Name
- Latin Code

Recently Updated Sites
- 092P083-286099
- 093K022-108623
- 082G062-268693
- 092P030-125162
- 092O050-40714
- 092I095-215134
- 092I095-215139
- 092I095-215124
- 092I095-215121
- 092I095-215144
- 092G009-112295
- 092G009-102388
- 092G019-101840
- 092G010-101838
- 093C074-246390
- 092P074-257510
- 093B098-259262
- 092P073-41415
- 093B098-228380
- 093B098-228155
- 093B019-225068
- 093B020-208184
- 093B098-286960

Recently Viewed Sites
- 093K022-108622
- 103I057-108621
- 092P074-257113
- 094I001-279427
- 082E073-7687
- 114P058-279964
- 082G092-232695
- 092I089-270664
- 083E005-255202
- 083E005-255178
- 083E004-255171
- 092I089-206971
- 082F070-264953
- 082G004-15595
- 082G024-15991
- 092I078-262653
- 093P011-271264
- 093P076-245235
- 093D037-253026
- 093H057-251308
- 093H057-251307
- 093M023-208060
- 093M023-268811

Extracts
- Planning
- Survey
- Biological Treatment
- Chemical Treatment
- Mechanical Treatment
- Biological Monitoring
- Chemical Monitoring
- Mechanical Monitoring
- Biological Dispersal
- Invasive Plants
- Site Selection

Links
- Enhancement Suggestions
- Application Bulletins
- Invasive Plant Info
Data Manager:

- Can **view all records**, but protected biological information will be marked ‘Protected’
- Can **create all record types** (including Invasive Plant Plans)
- Can **edit all records owned by their Agency**
- Can run **all Extracts**
- Can run **Reports**
### Recently Updated Sites

<table>
<thead>
<tr>
<th>Site ID</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>092P083-286099</td>
<td>093K022-108623</td>
</tr>
<tr>
<td>092O050-40714</td>
<td>092I095-215134</td>
</tr>
<tr>
<td>092I095-215118</td>
<td>092I095-215121</td>
</tr>
<tr>
<td>092G009-102398</td>
<td>082G019-101840</td>
</tr>
<tr>
<td>092P074-257510</td>
<td>083B098-259262</td>
</tr>
<tr>
<td>093B098-228155</td>
<td>093B019-225606</td>
</tr>
</tbody>
</table>

### Recently Viewed Sites

<table>
<thead>
<tr>
<th>Site ID</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>093K022-108622</td>
<td>103I057-108621</td>
</tr>
<tr>
<td>082E073-7687</td>
<td>114P058-279964</td>
</tr>
<tr>
<td>083E005-255202</td>
<td>083E005-255178</td>
</tr>
<tr>
<td>082F070-264953</td>
<td>082G004-15595</td>
</tr>
<tr>
<td>093P011-271264</td>
<td>083P076-245235</td>
</tr>
<tr>
<td>093H057-251307</td>
<td>093M023-208060</td>
</tr>
</tbody>
</table>

### Links

- Enhancement Suggestions
- Application Bulletins
- Invasive Plant Info

### Reports

- Biological Monitoring
- Inventory Summary
- Treatment Detail
- Treatment Summary
- Survey

### Extracts

- Planning
- Survey
- Biological Treatment
- Chemical Treatment
- Mechanical Treatment
- Biological Monitoring
- Chemical Monitoring
- Mechanical Monitoring
- Biological Dispersal
- Invasive Plants
- Site Selection

### Invasive Plant Key

- Common Name
- Latin Code
Field Collection

Forms and field data collection
Gathering data in the field: Surveys

IAPP field forms may be downloaded at:
https://www2.gov.bc.ca/gov/content/environment/plants-animals-ecosystems/invasive-species/plants
Mandatory Site Data:

- Site Created Date, Jurisdiction
- UTMs and zone

### IAPP Site & Invasive Plant Survey Record

**Site Created Date** (YYYY-MM-DD): *  
**Invasive Plant Survey Date** (YYYY-MM-DD): *  
**Site ID**: (assigned at IAPP data entry)

**Site Details**

- **Jurisdiction**: * (see reverse for choices/codes)
- **District Lot Nr:**
- **Range Unit:**
- **Site Paper File ID:**
- **UTM Zone**: *
- **UTM Easting**: *(no initial zero)*
- **UTM Northing**: *(7 digits)*
- **Site Soil Texture:**
  - coarse
  - fine
  - organic
- **Slope:**
- **Aspect:**
- **Elevation (m):**

**Site Location** *(and directions how to get there):*

**Site Comments** *(anything else important/useful):*
Mandatory Site Data:

• **Site Created Date:**
  
  This the date that observations were made in the field; not the date on which the data is entered into IAPP

• **Jurisdiction:**
  
  This refers to the legal entity that is responsible for the land on which the site is located. This field allows only one choice when you create a new site; however, if you feel the site covers multiple jurisdictions you may click the Edit link in the Site Details record and add additional Jurisdictions once a site has been created.
Overview of UTM coordinate system

There are 60 UTM world zones. BC falls within UTM zones 7 through 11
Be careful with the zone numbers!

The full complement of Eastings and Northings for each zone is repeated in all other zones.

→ If you enter the correct Easting and Northing for a site, but the wrong zone, the site can fall approx. 400km in the wrong direction.
Site and Surveys:

Mandatory Survey Data:

* Survey Agency,
* Estimated Area,
* Plant species,
* Survey Type

<table>
<thead>
<tr>
<th>Invasive Plant Survey Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Survey Agency: *</td>
</tr>
<tr>
<td>Employer:</td>
</tr>
<tr>
<td>Surveyor(s):</td>
</tr>
<tr>
<td>Invasive Plants *</td>
</tr>
<tr>
<td>Species name or code</td>
</tr>
<tr>
<td>Area *</td>
</tr>
<tr>
<td>Dimension or Ha</td>
</tr>
<tr>
<td>Distr. Code</td>
</tr>
<tr>
<td>(see reverse for codes)</td>
</tr>
<tr>
<td>Density Code</td>
</tr>
<tr>
<td>Survey Type *</td>
</tr>
<tr>
<td>C [ ] O [ ] P [ ]</td>
</tr>
<tr>
<td>Survey Type *</td>
</tr>
<tr>
<td>C [ ] O [ ] P [ ]</td>
</tr>
<tr>
<td>Survey Type *</td>
</tr>
<tr>
<td>C [ ] O [ ] P [ ]</td>
</tr>
<tr>
<td>Proposed Activity</td>
</tr>
<tr>
<td>Man [ ] Chem [ ] Bio [ ]</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Site Image Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date taken (YYYY-MM-DD):</td>
</tr>
<tr>
<td>Reference No. *</td>
</tr>
<tr>
<td>Perspective: *</td>
</tr>
<tr>
<td>(see reverse for codes)</td>
</tr>
<tr>
<td>Image Comments:</td>
</tr>
</tbody>
</table>

| Site Created Date (YYYY-MM-DD): * |
| Invasive Plant Survey Date (YYYY-MM-DD): * |
| Site ID: (assigned at IAPP data entry) |

(only if different from Site Created Date)
• **Survey Date:**
The date you were out in the field; not the date of data entry.

• **Survey Agency:**
The Agency that pays to have the survey done (not to be confused with ‘Employer’, which is usually a company/contractor that has been hired by the Agency to do the work).

• **Invasive Plant Species:**
If you use abbreviations, make sure that the person doing the field data collection and the data entry staff are in agreement about what these codes represent! *(e.g. If the field staff uses CT for Canada thistle and the data entry staff enters it as Common Tansy, there is a problem...)*
Determining Area of infestation

Estimated Area:

- Each species survey requires an estimate of the area of infestation on the site
- **A site does not have an area!** area is associated with the individual species on a site.
Determining Area of infestation

Area of infestation is not simply a tallying-up of all the “infested bits” but rather a landscape inventory:

Overview of a landscape area with 3 species:

- Blueweed
- Spotted knapweed
- Japanese knotweed
Determining Area of infestation

Infestation Boundary Guideline:

• Infestation area ends if no more plants of the species occur **within 100 meters**

• However, this rule may be adjusted to accommodate for individual landscape peculiarities:
  
  • You may wish to use a barrier as infestation boundary (streams, roads, bridges, jurisdiction change, etc)
  
  • In case of long, continuous stretches (e.g. roadsides) you may want to ‘chunk it up’ in manageable portions by using recognizable dividers (intersections, distances,...)
Example of Determining Infestation Area on a site:

Blueweed:

There are only two plants within the 100m rule; one plant on each side of the road.

Draw an imaginary polygon around the area, and estimate the area in square meters and then convert to Ha.

Apply the distribution and density codes as follows:

<table>
<thead>
<tr>
<th>Distr. Code</th>
<th>Reference</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td>Rare individual, a single occurrence</td>
</tr>
<tr>
<td>2</td>
<td></td>
<td>Few sporadically occurring individuals</td>
</tr>
<tr>
<td>3</td>
<td></td>
<td>Single patch or clump of a species</td>
</tr>
<tr>
<td>4</td>
<td></td>
<td>Several sporadically occurring individuals</td>
</tr>
<tr>
<td>5</td>
<td></td>
<td>A few patches or clumps of a species</td>
</tr>
<tr>
<td>6</td>
<td></td>
<td>Several well-spaced patches or clumps of a species</td>
</tr>
<tr>
<td>7</td>
<td></td>
<td>Continuous uniform occurrence of well-spaced individuals</td>
</tr>
<tr>
<td>8</td>
<td></td>
<td>Continuous occurrence of a species with a few gaps in the distribution</td>
</tr>
<tr>
<td>9</td>
<td></td>
<td>Continuous dense occurrence of a species</td>
</tr>
</tbody>
</table>

**Distribution** = distribution across the *entire* estimated area (i.e.: includes area without plants)

**Density** = number of plants per m² within the distribution (i.e.: includes only area with plants)
Example of Determining Infestation Area on a site:

Japanese knotweed:

Many plants, of various sizes, growing on both sides of the stream.

Draw the imaginary polygon, and calculate infestation area (e.g. 40m x 65m = 2600 sq.m. = 0.26 Ha.)

Apply distribution and density codes.

<table>
<thead>
<tr>
<th>Dens. Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Low: ≤ 1 plant/m²</td>
</tr>
<tr>
<td>2</td>
<td>Medium: 2-5 plants/m²</td>
</tr>
<tr>
<td>3</td>
<td>High: 6-10 plants/m²</td>
</tr>
<tr>
<td>4</td>
<td>Dense: &gt; 10 plants/m²</td>
</tr>
</tbody>
</table>
Example of Determining Infestation Area on a site:

Spotted knapweed:

- Draw the imaginary polygon, and calculate area.
- Apply distribution and density codes.
Example of Determining Infestation Area on a site:

Finished survey:

Note that infestations can overlap, partially or completely.

This site has several natural and man-made barriers that may influence the infestation size determination (bridge; roads; stream; jurisdiction).
Site location coordinates

Site location

- Existing sites: Historical context
- New sites: Accessibility and traceability
Sites and Surveys:

- **Estimated Area (Ha):**

  Field staff often note on the field form the area of an infestation as a dimension (e.g: 30 x 25m).

  Data entry staff can then calculate the estimated area: one hectare = 10,000 m² (100 x 100), so an area of 750m² would be 750/10,000 = 0.075 Ha.

  The smallest area possible is 0.0001 Ha, which is 1 m². This is often used for a single occurrence of a plant species.
**Sites and Surveys:**

**Survey Type**

**Cursory:** a ‘drive-by’ survey with minimum data (mandatory fields only)

**Operational:** mandatory fields, plus distribution and density (i.e. some time has been spent walking the area). This is the most common survey type in IAPP.

**Precise:** applies only to very specific circumstances (a polygon of the infestation, greater than 0.02 Ha, has been created by walking the area with a GPS, and all other optional fields are entered).
### Paper File ID (PFid)

- **Optional**
- **Used for filing**
- **20 characters or less**
- **Used for sites, surveys, treatments and dispersals**
- **Can be used as a search keyword and sort extract results**
Site Location

Site Location is another optional field that may be used to great benefit:

1. If the UTMs have been taken/entered incorrectly, then an accurate location description will help to place the site in the correct location on the map.

2. Subsequent visits to the site by different staff members will save time and uncertainty.
Surveying errors

Surveying is done once a year - typically at the start of the year (first site visit). If during a subsequent visit a new species is discovered on the site, it can of course be added as a new survey, but there is no need to survey existing species more than once a year.

Subsequent visits to the site can be treatments, dispersals, or picture taking sessions, none of which require the re-entry of a survey.

Repeat treatment visits that same year (“second passes”) are treatment monitorings, not more surveys!
Useful fields and Common Errors

Treatment errors

“Area Treated” in a treatment record is usually not the same as “Estimated Area” in a survey: Area Treated is a total tally of the area where treatment actually occurred.

In chemical treatment records this field is usually calculated for you for reasons of data integrity, except in the case of ‘non-spray’ type treatments like stem injection, and wicking.

Remember: repeat visits that same year (for purpose of “second passes”) are treatment monitorings and/or additional treatments, not surveys.
Getting information out

• All this data enables users to create information by extracting it for a variety of purposes, such as:
  • Planning future treatments
  • Planning next year’s surveys
  • Reporting to funding bodies, boards of directors, etc
  • Analyzing and predicting
Searches Versus Extracts

• **Searches** –
  • deliver on-line results (links from which to navigate)
  • search for sites, treatment or monitoring records
  • retain search results for additional searching

• **Extracts** –
  • view or download results as *Excel spreadsheet* and/or *KML file* and/or *GPX file*
  • many extracts available that can be used for analytical, planning or other purposes
Available extracts

- Planning
- Treatments (Biological, Chemical, Mechanical)
- Monitoring
- Biological Dispersal
In the ‘Other’ category, 2 extracts are often used incorrectly:

- **Site Selection** - The most often needed extract; the one where you’re simply looking for all the surveys done for a specific species, regardless of treatments.

- **Invasive Plants** - This extract’s full name is actually: Invasive Plants with NO TREATMENTS and delivers only surveys for specific plants that have never been treated.
• The **Site Search**, all **Extracts and Reports**, and the **Batch Plan** screens all data containing the ‘**Within Agency Administrative Area**’ (WAAA) module.

• This module acts like a spatial component within the IAPP Data Entry module.

• The choice specified in the WAAA becomes part of the search criteria, and the query searches for results by overlaying the IAPP data onto a spatial polygon and "trimming" the data by that polygon’s boundary.
The ‘WAAA’

The list of agencies and their area types include:

- All B.C. Regional Districts
- All Regional Weed Committees
  - IPMAs
- Ministry of Agriculture
  - Land Districts
- Ministry of Environment
  - Parks and Protected Areas
  - Regions
- Ministry of Forests and Range
  - Districts
  - Regions
- Ministry of Transportation and Infrastructure
  - Contract Areas
  - Districts
  - Regions
An Example of using the WAAA

- For example, limiting search / extract results to a specific provincial park:

1. From the Agency drop-down list, select the **Agency** whose boundary you want to search within—in this case, the Ministry of Environment. The screen refreshes, and the Area Type drop-down list now contains only entries associated with the chosen agency.
An Example of using the WAAA

2 - Select that agency’s **Area Type**. The drop-down list contains only those entries that are associated with the chosen agency. For example, the Area Type field for the Ministry of Environment includes "Regions" and "Parks & Protected Areas"; you would select the Parks option. The screen refreshes, showing this area type.

3 - Scroll down the list to the specific **Administrative Area** you want within the Area Type.

This becomes part of the search criteria, and your result-set will be limited to sites or treatments within the selected park.
This extract results in the following 24 columns:

| Site ID | Site Paper File ID | District Lot Number | Jurisdictions | Mapsheet | UTM Zone | UTM Easting | UTM Northing | Decimal Latitude | Decimal Longitude | Biogeoclimatic Zone | Invasive Plant | Last Surveyed Date | Primary Surveyor | Estimated Area | Distribution | Slope | Aspect | Elevation | Treatment Date | Treatment Type | All Species on Site | Location | Survey Comments |
|---------|--------------------|---------------------|---------------|-----------|----------|------------|------------|--------------|-----------------|-----------------|-------------------|----------------|------------------|-----------------|---------------|-------------|---------|--------|----------|--------------|----------------|----------------|-------------------|----------|-----------------|
This extract results in the following 25 columns:

- Site ID
- Site Paper File ID
- District Lot Number
- Jurisdictions
- Site Created Date
- Mapsheet
- UTM Zone
- UTM Easting
- UTM Northing
- Decimal Latitude
- Decimal Longitude
- Zone
- Sub Zone
- Variant
- Phase
- Site Series
- Invasive Plant Survey Paper File ID
- Estimated Area
- Distribution
- Density
- Survey Agency
- Primary Surveyor
- Location
- Comments
The Survey Extract

This extract results in the following 22 columns:

<table>
<thead>
<tr>
<th>Site ID</th>
<th>Site Paper File ID</th>
<th>District Lot Number</th>
<th>Jurisdictions</th>
<th>Mapsheet</th>
<th>UTM Zone</th>
<th>UTM Easting</th>
<th>UTM Northing</th>
<th>Decimal Latitude</th>
<th>Decimal Longitude</th>
<th>Biogeoclimatic Zone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Survey Paper File ID</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Survey Date</td>
<td>Estimated Area</td>
<td>Distribution</td>
<td>Density</td>
<td>Survey Agency</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Survey Agency</td>
<td></td>
<td>Survey Comments</td>
<td></td>
<td>Primary Surveyor</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Site Location</td>
<td>Site Comments</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
This extract results in the following 31 columns:

<table>
<thead>
<tr>
<th>Biological Treatment Extract</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Treatment Location</strong></td>
</tr>
<tr>
<td>Jurisdiction</td>
</tr>
<tr>
<td>Within Agency Administrative Area</td>
</tr>
<tr>
<td>Agency</td>
</tr>
<tr>
<td>Administrative Area</td>
</tr>
<tr>
<td><strong>Treatment Details</strong></td>
</tr>
<tr>
<td>Invasive Plant Species</td>
</tr>
<tr>
<td>Biological Agent</td>
</tr>
<tr>
<td>Treatment Agency</td>
</tr>
<tr>
<td>Date Range</td>
</tr>
<tr>
<td>From</td>
</tr>
<tr>
<td>To</td>
</tr>
<tr>
<td><strong>Output Options</strong></td>
</tr>
<tr>
<td>File Types</td>
</tr>
<tr>
<td>Excel (.xls)</td>
</tr>
<tr>
<td>Google Earth (.kml)</td>
</tr>
<tr>
<td>GPS Exchange (.gpx)</td>
</tr>
</tbody>
</table>

Site ID
Site Paper File ID
District Lot Number
Jurisdictions
Site Created Date
Mapsheet
UTM Zone
UTM Easting
UTM Northing
Decimal Latitude
Decimal Longitude
Zone
Sub Zone
Variant
Phase
Site Series
Invasive Plant
Estimated Area
Distribution
Density
Treatment Date
Treatment Paper File ID
Treatment Agency
Treatment Comments
Release Quantity
BioAgent Source
Biological Agent
Employer
Primary Applicator
Location
Comments
This extract results in the following 34 columns:

<table>
<thead>
<tr>
<th>Site Location</th>
<th>Treatment Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jurisdiction</td>
<td>Invasive Plant Species</td>
</tr>
<tr>
<td>Range Unit</td>
<td>--- All ---</td>
</tr>
<tr>
<td>Agency</td>
<td>African rue / harel (PEG 32 HAR)</td>
</tr>
<tr>
<td>Area Type</td>
<td>Annual hawksbeard (CRE 3 TEC)</td>
</tr>
<tr>
<td>Administrative Area</td>
<td>Annual sow thistle (SONC OLE)</td>
</tr>
<tr>
<td></td>
<td>Baby's breath (GYP S PAN)</td>
</tr>
<tr>
<td>Invasive Plant Species</td>
<td>Herbside</td>
</tr>
<tr>
<td>--- All ---</td>
<td>2,4-D</td>
</tr>
<tr>
<td></td>
<td>2,4D Amines 560</td>
</tr>
<tr>
<td></td>
<td>2,4D Amines 600</td>
</tr>
<tr>
<td></td>
<td>Banvel II</td>
</tr>
<tr>
<td>Treatment Agency</td>
<td>Treatment Method</td>
</tr>
<tr>
<td>--- All ---</td>
<td>--- All ---</td>
</tr>
<tr>
<td></td>
<td>ATV</td>
</tr>
<tr>
<td></td>
<td>Basal bark</td>
</tr>
<tr>
<td></td>
<td>Boomless Nozzle</td>
</tr>
<tr>
<td></td>
<td>Back Pack</td>
</tr>
<tr>
<td>Treatment Date</td>
<td>Monitored?</td>
</tr>
<tr>
<td>Date Range</td>
<td>Yes or No</td>
</tr>
<tr>
<td>From</td>
<td>To</td>
</tr>
</tbody>
</table>

Output Options

If more than one file type is chosen then the files will be bundled together in a single zip file.

File Types

- Excel (.xls)
- Google Earth (.kml)
- GPS Exchanges (.gpx)
This extract results in the following 27 columns:

- Site ID
- Site Paper File ID
- District Lot Number
- Jurisdictions
- Site Created Date
- Mapsheet
- UTM Zone
- UTM Easting
- UTM Northing
- Decimal Latitude
- Decimal Longitude
- Zone
- Sub Zone
- Variant
- Phase
- Site Series
- Invasive Plant
- Treatment Date
- Treatment Paper File Id
- Treatment Agency
- Treatment Comments
- Method
- Area
- Employer
- Primary Applicator
- Location
- Comments
This extract results in the following 40 columns:

<table>
<thead>
<tr>
<th>Biological Monitoring Extract</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Monitored Location</strong></td>
</tr>
<tr>
<td>Jurisdiction — All —</td>
</tr>
<tr>
<td>Range Unit</td>
</tr>
<tr>
<td>Within Agency Administrative Area</td>
</tr>
<tr>
<td>Agency — All —</td>
</tr>
<tr>
<td>Area Type — All —</td>
</tr>
<tr>
<td>Administrative Area</td>
</tr>
<tr>
<td><strong>Treatment Details</strong></td>
</tr>
<tr>
<td>Invasive Plant Species — All —</td>
</tr>
<tr>
<td>Biological Agent — All —</td>
</tr>
<tr>
<td>Treatment Agency — All —</td>
</tr>
<tr>
<td>Date Range</td>
</tr>
<tr>
<td>From</td>
</tr>
<tr>
<td>To</td>
</tr>
<tr>
<td><strong>Treatment Monitoring</strong></td>
</tr>
<tr>
<td>Agent Present? — Yes or No</td>
</tr>
<tr>
<td>Date Range</td>
</tr>
<tr>
<td>From</td>
</tr>
<tr>
<td>To</td>
</tr>
<tr>
<td><strong>Output Options</strong></td>
</tr>
<tr>
<td>File Types</td>
</tr>
<tr>
<td>Excel (.xlsx)</td>
</tr>
<tr>
<td>Google Earth (.kmz)</td>
</tr>
<tr>
<td>GPS Exchange (.gpx)</td>
</tr>
</tbody>
</table>

**Columns:**
- Site ID
- Site Paper File ID
- District Lot Number
- Jurisdictions
- Site Created Date
- Mapsheet
- UTM Zone
- UTM Easting
- UTM Northing
- Decimal Latitude
- Decimal Longitude
- Zone
- Sub Zone
- Variant
- Phase
- Site Series
- Biological Agent
- Treatment Date
- Treatment Paper File ID
- Treatment Comments
- Monitoring Paper File ID
- Monitoring Agency
- Inspection Date
- Primary Surveyor
- Legacy Presence
- Foliar Feeding Damage
- Root Feeding Damage
- Seed Feeding Damage
- Oviposition Marks
- Eggs Present
- Larvae Present
- Pupea Present
- Adults Present
- Tunnels Present
- Invasive Plant
- Estimated Area
- Distribution
- Density
- Location
- Comments
The Chemical Treatment
Monitoring Extract

This extract results in the following 27 columns:

<table>
<thead>
<tr>
<th>Column Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Site ID</td>
</tr>
<tr>
<td>Site Paper File ID</td>
</tr>
<tr>
<td>District Lot Number</td>
</tr>
<tr>
<td>Jurisdictions</td>
</tr>
<tr>
<td>Site Created Date</td>
</tr>
<tr>
<td>Mapsheet</td>
</tr>
<tr>
<td>Zone</td>
</tr>
<tr>
<td>Sub Zone</td>
</tr>
<tr>
<td>Variant</td>
</tr>
<tr>
<td>Phase</td>
</tr>
<tr>
<td>Site Series</td>
</tr>
<tr>
<td>Invasive Plant</td>
</tr>
<tr>
<td>Herbicide</td>
</tr>
<tr>
<td>Treatment Method</td>
</tr>
<tr>
<td>Treatment Date</td>
</tr>
<tr>
<td>Treatment Paper File ID</td>
</tr>
<tr>
<td>Treatment Comments</td>
</tr>
<tr>
<td>Monitoring Paper File ID</td>
</tr>
<tr>
<td>Monitoring Agency</td>
</tr>
<tr>
<td>Inspection Date</td>
</tr>
<tr>
<td>Primary Surveyor</td>
</tr>
<tr>
<td>Efficacy Rating</td>
</tr>
<tr>
<td>Estimated Area</td>
</tr>
<tr>
<td>Distribution</td>
</tr>
<tr>
<td>Density</td>
</tr>
<tr>
<td>Location</td>
</tr>
<tr>
<td>Comments</td>
</tr>
</tbody>
</table>

Chemical Monitoring Extract

### Site Location

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jurisdiction</td>
<td>--- All ---</td>
</tr>
<tr>
<td>Range Unit</td>
<td>1</td>
</tr>
<tr>
<td>Agency</td>
<td></td>
</tr>
<tr>
<td>Area Type</td>
<td></td>
</tr>
</tbody>
</table>

### Treatment Details

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Invasive Plant</td>
<td>--- All --- African rue / hamal (PEGA KAR) African hawkweed (CREP TEC) Annual sow thistle (SONC OLE) Baby's breath (GYP S PAN)</td>
</tr>
<tr>
<td>Herbicide</td>
<td>--- All --- 2,4-D 2,4-D Amine 500 2,4-D Amine 500 Banvel II</td>
</tr>
<tr>
<td>Treatment Agency</td>
<td>--- All --- ATV Easel back Boomless Nozzle Back Pack</td>
</tr>
</tbody>
</table>

### Date Range

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>From</td>
<td></td>
</tr>
<tr>
<td>To</td>
<td></td>
</tr>
</tbody>
</table>

### Treatment Monitoring

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Efficacy Rating</td>
<td>--- All --- 0% to 19% efficacy 20% to 29% efficacy 30% to 39% efficacy 40% to 49% efficacy</td>
</tr>
<tr>
<td>Date Range</td>
<td>From To</td>
</tr>
</tbody>
</table>

Generate Extract
The Mechanical Treatment Monitoring Extract

This extract results in the following 26 columns:

<table>
<thead>
<tr>
<th>Site Location</th>
<th>Treatment Details</th>
<th>Treatment Monitoring</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jurisdiction</td>
<td>Invasive Plant Species</td>
<td>Efficacy Rating</td>
</tr>
<tr>
<td>Agency</td>
<td>Treatment Method</td>
<td>Date Range</td>
</tr>
<tr>
<td>Administrative Area</td>
<td>Treatment Agency</td>
<td>From</td>
</tr>
<tr>
<td>Zone</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sub Zone</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Variant</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phase</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Site Series</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Invasive Plant</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Treatment Method</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Treatment Date</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Treatment Paper File ID</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Treatment Comments</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Monitoring Paper File ID</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Monitoring Agency</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inspection Date</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primary Surveyor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Efficacy Rating</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Estimated Area</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Distribution</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Density</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Location</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Comments</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Site ID
Site Paper File ID
District Lot Number
Jurisdictions
Site Created Date
Mapsheet
Zone
Sub Zone
Variant
Phase
Site Series
Invasive Plant
Treatment Method
Treatment Date
Treatment Paper File ID
Treatment Comments
Monitoring Paper File ID
Monitoring Agency
Inspection Date
Primary Surveyor
Efficacy Rating
Estimated Area
Distribution
Density
Location
Comments
Photographs in IAPP

• It’s easy to upload photographs to:
  • site records
  • all types of treatment records

  – Photograph context ... not for identification

  – Photos are saved inside the application
    • images are restricted to a file size of 200 KB
    • must be .jpeg format
    • no limit to total number images per site
Privacy Legislation requirements:

*Do not show people’s faces, house numbers or any other identifiable private entities in photographs that are published on-line.*
The Map Display Interface

- **Menu Tabs**
- **Information Display Window**
- **Queries and Tools**
- **Tool Bar**
- **IAPP Version**
- **Map Display Window**
- **Open Tools**
- **Base Map**
The end ....

Questions ?