Creating a pivot table and chart from IAPP Extracts
for Data Analysis and Reporting Purposes

This factsheet will feature two examples, based on:

- A Chemical Treatment extract, and
- A Site Selection extract

**Step 1: Run the extract type on which you wish to base your results**

**Our first example will be the Chemical Treatment extract:**

- In IAPP Data Entry, click the Chemical Treatment Extract option:

![Image of IAPP Data Entry interface](image)

This brings up the Chemical Treatment Extract criteria screen:

![Chemical Treatment Extract criteria screen](image)

In the **Site Location** portion of the window:

- Leave the **Jurisdiction** field at **--All--**
  - Unless you are absolutely certain that the treatments you want are all on sites that have the Jurisdiction field entered correctly! There are still a lot of sites that have the default ‘IAPP Conversion - Jurisdiction not Recorded’ and if you select a specific jurisdiction from the list all others will be ignored.
- Leave **Range Unit** blank, unless you are absolutely certain that the treatments you want are all on sites that have the Range Unit field filled in correctly.
- In the **Within Agency Administrative Area** module select the area to which you wish to limit the query’s result:
  - If you are a Regional Weed Committee and you want to roll up your results for a specific IPMA, then select that IPMA from the Agency list.

In the **Treatment Details** section of the window:

- Choose the **Invasive Plant Species** of your choice;
  - when selecting multiple species, hold down the Ctrl key when picking your species. In this example, I chose **-All-**
- Select the **Herbicide** of your choice, or simply select **-All-**
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- The same for Treatment Method
- If you are interested only in the treatments performed by your agency, select your agency from the Treatment Agency list → do NOT select one of the IPMAs from this list, since IPMAs are only to be used on setting query boundaries in the WAAA!
- The Monitored? field lets you limit your query results to treatments that were, or were not, monitored. If you don't care if they were monitored or not, select ‘Yes or No’

In the Date Range section of the window:
- Select the start and end outside limits for your analysis; in this example the start and end limits are 2006-01-01 and 2012-01-01 to get treatment data for 2006, 2007, 2008, 2009, 2010, and 2011

Click Generate Extract, and you will receive your extract in Excel format.
In the Excel extract, delete the criteria section at the top, and save the extract to your hard drive.

Step 2: Create a Year field, and build your Pivot Table

Create a new column for the Treatment Year:
1. Insert a new column next to the Treatment Date field, and format the column as Number, with 0 decimal places (this is important)
2. In the first cell of that new column enter: =YEAR(cell) with ‘cell’ representing the address of the first record in the Treatment Date column (e.g. if your Treatment Date is column Q and you have the column title in row 1, then your first record in Treatment Date will be in cell Q2. You would then enter =YEAR(Q2) in the first record for the new Year column). See illustration above.
3. Press Enter, and the field will now display the year of the Treatment Date field only.
4. With this new year cell selected, grab the right-bottom handle of the cell (circled red in the illustration above) and drag down to the bottom of the column so that all the empty year cells in the new column will be populated with the year of the treatment.

Select the entire worksheet, go to Insert on the menu, and select Pivot Table:

In the resulting 'Create Pivot Table' dialog box (below) click OK to select the defaults:
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A new worksheet appears, and you can now simply click the fields from the field list at the right side of the page, and drag them into the appropriate boxes below.

➔ In the illustration above, I dragged the **Invasive Plant**, **Year**, and **Herbicide** fields into the **Row Labels** box, and the **Treatment Date** and **Amount of Mix Used** fields into the **Values** box. In case the values are not automatically listed as ‘Count of Number of Treatments’ or ‘Sum of...’ then click the item, select **Value Field Settings**, and choose the appropriate function from the list (**Count**, for a total number of occurrences; **Sum**, for a total addition).

The resulting table above now separates all species, by herbicide used, by year, and lists the number of treatments for each of those herbicides, and the total amount of mix used for those herbicides.

➔ Once you have set this up (remember to save!), you can filter the data on any one of the row label fields by clicking one or more of the down arrows next to a criteria field and selecting only those plant species, years and/or herbicides you are interested in.
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Step 3: Create a Chart from the pivot table data

Who doesn’t like a colourful chart to illustrate boring columnar data? This can easily be done while you are in the pivot table worksheet:

1. Click Insert | Column on the ribbon to automatically create a column chart into the pivot table.
2. The Pivot Chart Filter Pane will appear, allowing you to limit your chart items however you wish.
3. The resulting chart will reflect how you applied the filter criteria, so that you can display your chart in any number of ways, filtered on species, jurisdiction, year, etc.

In the illustration below, the invasive plant filter was set to Spotted knapweed only, the year to 2010 and 2011, and the herbicides were limited to Milestone and Tordon 22K. However, any combination you want can be used!

To include these charts in reports or other documents, simply create a screenshot of the chart, save it as an image file, and include where needed.

Doing something similar to find out, for example, how an invasive plant species is distributed across jurisdictions, or BEC zones, within a specific boundary (IPMA, Forest District, Provincial Park, etc), you can run a Site Selection extract for any given species, in this case spotted knapweed.

→ Remember that you need a Site Selection extract to give you all the sites with a species, regardless of treatments or other activities! An Invasive Plant extract (its full name is Invasive Plants without Treatment extract) will only give you those sites where the invasive plant has never been treated, and therefore will likely not be a complete list of all the sites you're looking for.

Step 1: Run the Site Selection extract

- In IAPP Data Entry, click the Other | Site Selection Extract option:
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- Leave the **Jurisdiction** field at **--All--**
  ➔ Unless you are absolutely certain that the surveys you want are all on sites that have the Jurisdiction field entered correctly! There are still a lot of sites that have the default 'IAPP Conversion - Jurisdiction not Recorded' and if you select a specific jurisdiction from the list all others will be ignored.
- In the **Within Agency Administrative Area** module select the area to which you wish to limit the query's result:
  ➔ If you are a Regional Weed Committee and you want to roll up your results for a specific IPMA, then select that IPMA from the Agency list.
- Select the plant species you want (at this time, you can choose only one species in this extract)
- Click **Generate Extract**, and save the resulting Excel spreadsheet to your hard drive.

### Step 2: Create the pivot table and Chart

- Delete the extract criteria section at the top, and also get rid of any columns you're not interested in.
- Select the sheet and click Pivot Table from the Insert menu
- The Pivot Table appears in its own sheet, with the Pivot Table Field List at the right of the page
- Drag the fields of your choice to their respective row, column and value boxes

This is a very simple way to find out across which BEC zones your plant species are distributed:

➔ You could substitute the Jurisdiction field for the BEC zone field in the Row Labels box, to find out how many sites fall within which Jurisdictions. Etc, etc....

For additional examples of converting reports and extracts to pivot tables and charts, please see the factsheet "Create Custom Summaries and Charts".