IMu Documentation

Integrated Pest Management

Document Version 1

EMu version 4.3

EMu
Museum
Management
System

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SECTION 1

Integrated Pest Management (IPM)

EMu's integrated pest management enables institutions to record details about the type and location of traps used to capture pests, and what was found in a trap at a given date and time. A rich suite of reports for analysing pest trap data is provided, including a sophisticated visualisation tool for identifying and tracking infestations within your institution.

Two modules provide pest management support in EMu:

- Traps
  Records information about the type and location of traps used by an institution to capture pests.
- Trap Events
  Records information about what was found in a trap at a given date.

A comprehensive set of reports provides graphical data about the prevalence of pests within your institution.

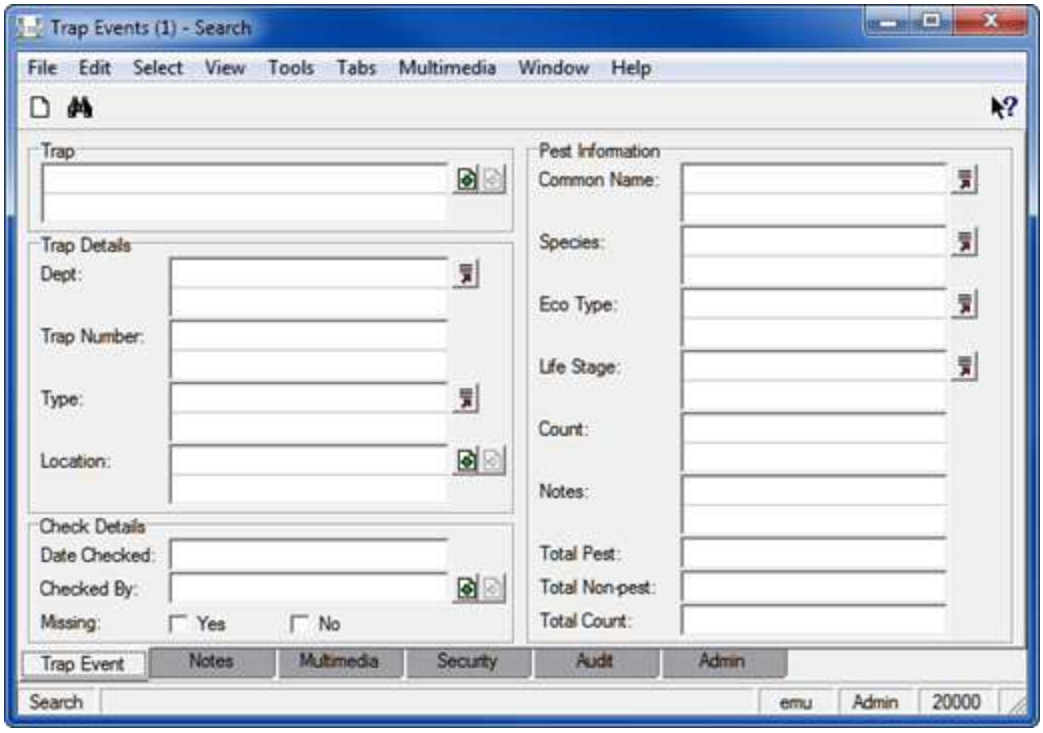
The two modules and a range of Excel Pivot Table reports are included in the EMu Art and EMu Museum clients by default. They are available to all other clients on request and at no additional cost.

EMu's Integrated Pest Management facility also includes a powerful, web-based tool for visualising your pest data on interactive maps and floor plans of your institution. This graphical, interactive IPM facility (variously called the IPM Report, Pest Mapper and Pest Viewer) is a separately licensed EMu option. Please contact KE Software for licensing information.

How to run an IPM report

To run an IPM report:

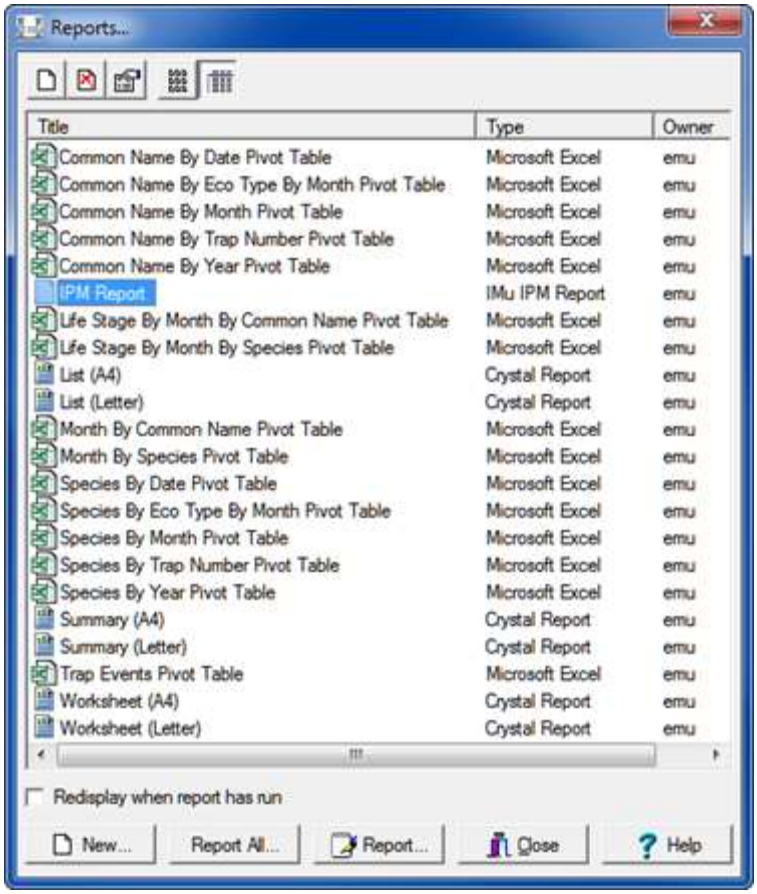
1. Search for records in the Trap Events module.
   Search by date range, trap, location and / or pest:



2. Run a report:
   Select **Tools>Reports** in the module Menu bar
   -OR-

   Click **Reports** in the Tool bar.
   The Reports box displays with a list of pre-configured Excel Pivot Table reports

and (if you have a licence for the IPM facility) the IPM Report:

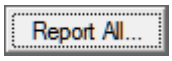


The `IPM Report` may be named differently in your EMu system.

3. Select a report, e.g. **Common Name By Date Pivot Table.**
4. Click

to generate the report using the current record or selected records

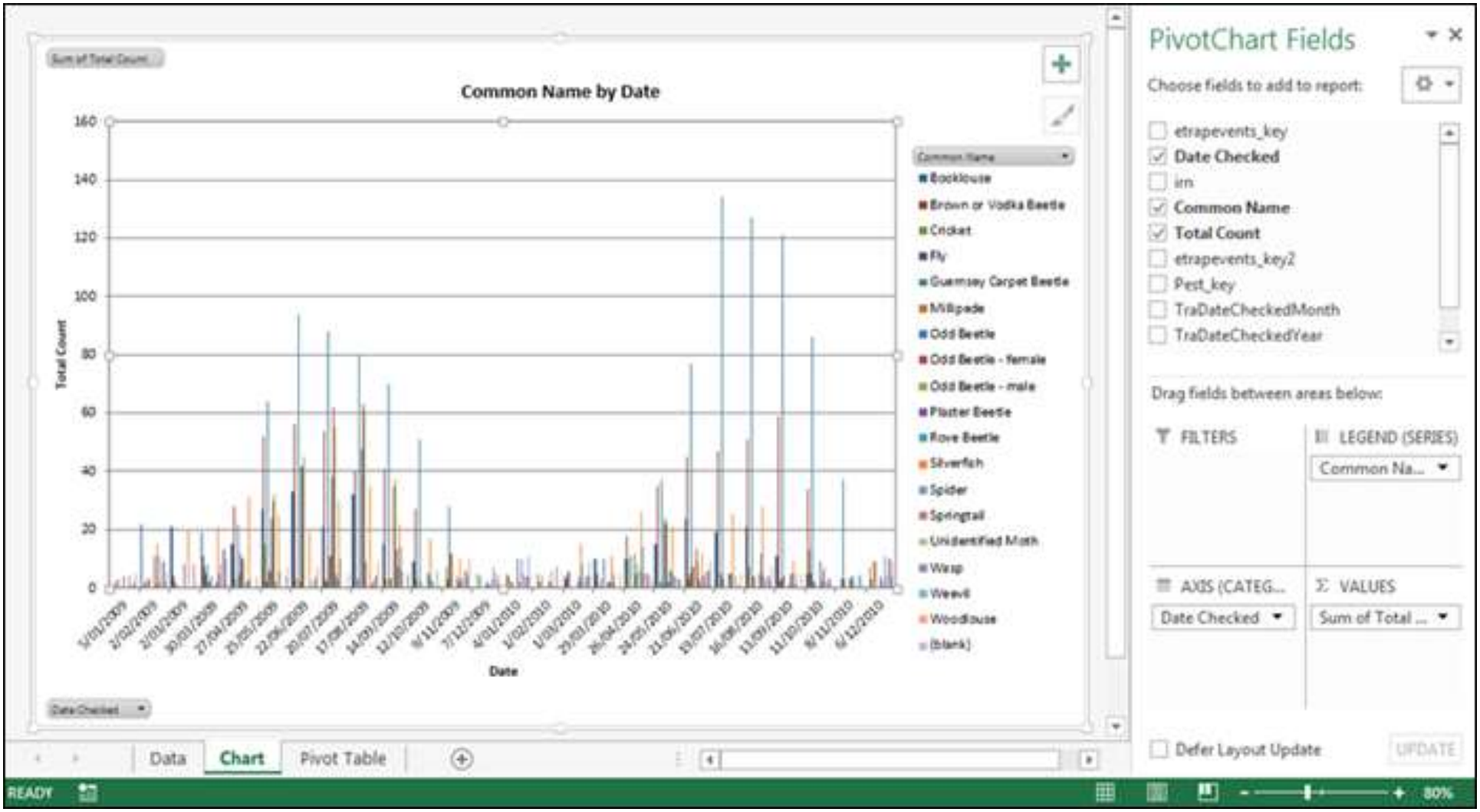
   -OR-

   Click 

to generate the report using all listed records.

   In this case, MS Excel will open with various tabs holding:

   - Raw data
   - A Pivot Table
   - A chart - a graphical representation of your data along with various filtering options:


Common Name by Date
Total Count
Date
Common Name
Cockroach
Brown or Vodka Beetle
Cricket
Fly
Guernsey Carpet Beetle
Millipede
Odd Beetle
Odd Beetle - female
Odd Beetle - male
Plaster Beetle
Rove Beetle
Silverfish
Spider
Springtail
Unidentified Moth
Wasp
Weevil
Woodlouse
(blank)
Date Checked
PivotChart Fields
Choose fields to add to report:
etrapevents_key
Date Checked
irn
Common Name
Total Count
etrapevents_key2
Pest_key
TraDateCheckedMonth
TraDateCheckedYear
Drag fields between areas below:
FILTERS
LEGEND (SERIES)
Common Na...
AXIS (CATEG...
Date Checked
VALUES
Sum of Total ...
Defer Layout Update
UPDATE
Data
Chart
Pivot Table
READY
80%

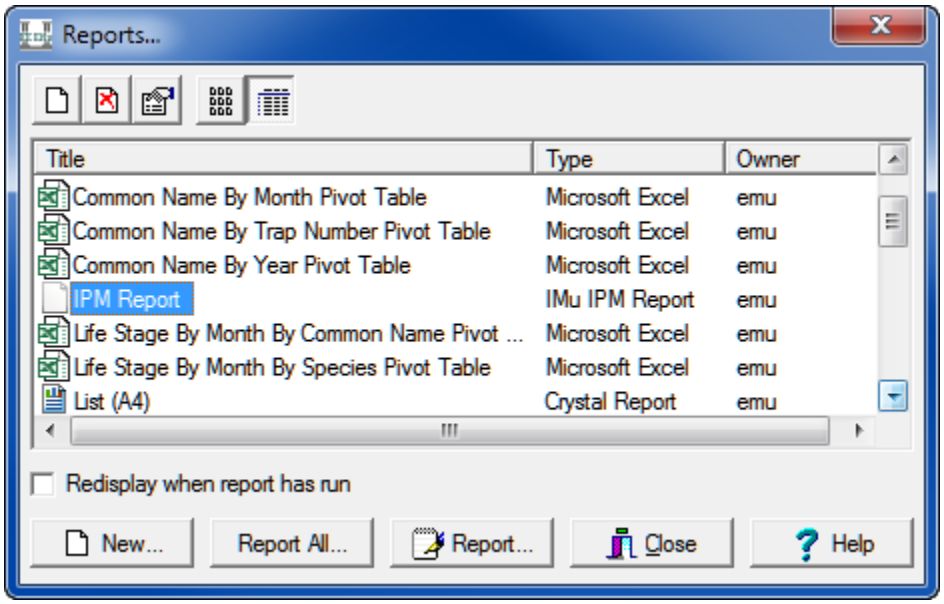
The IPM Report: a graphical, interactive visualisation tool

The Traps and Trap Events modules and a range of Excel Pivot Table reports are included in the EMu Art and EMu Museum clients by default. They are available to all other clients on request and at no additional cost.

EMu's Integrated Pest Management facility also includes a powerful, web-based tool for visualising your pest data on interactive maps and floor plans of your institution. This graphical, interactive IPM facility (variously called the IPM Report, Pest Mapper and Pest Viewer) is a separately licensed EMu option. Please contact KE Software for licensing information.

To run the IPM Report:

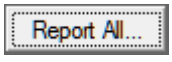
1. Search for records in the Trap Events module.
2. Select **Tools>Reports** in the module Menu bar
   -OR-
   Click **Reports** in the Tool bar.
   The Reports box will display:



3. Select **IPM Report**.

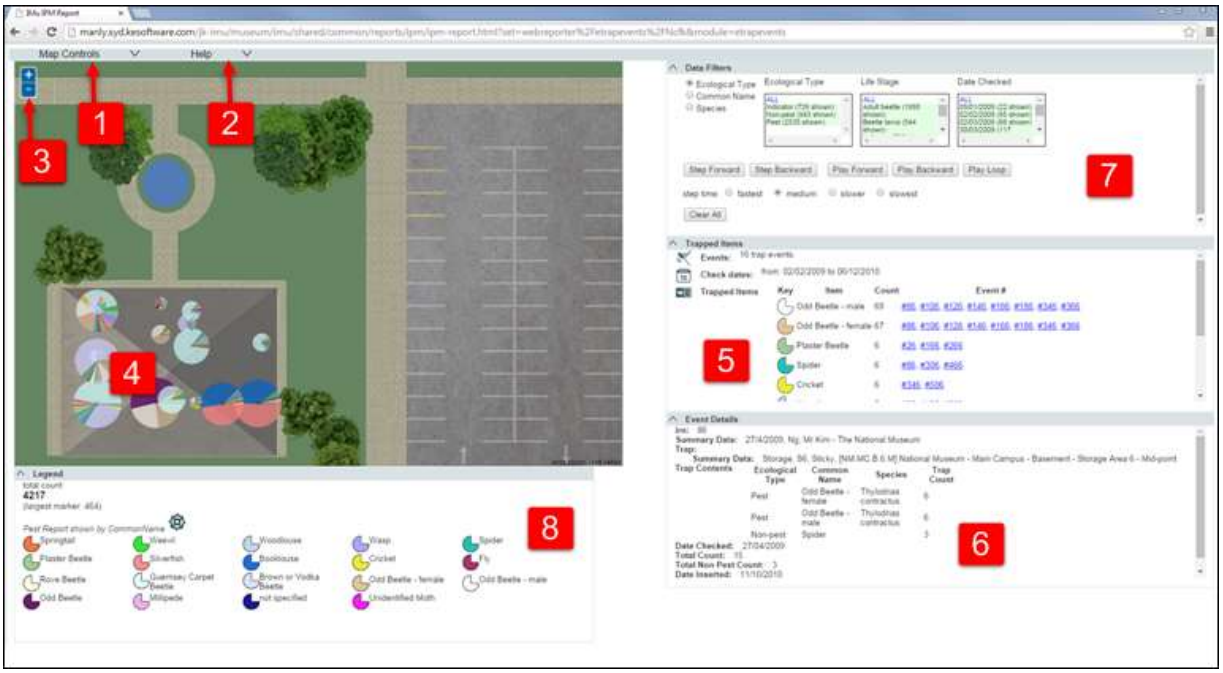
The `IPM Report` may be named differently (e.g. `Pest Viewer`, `Pest Mapper`) in your EMu system.

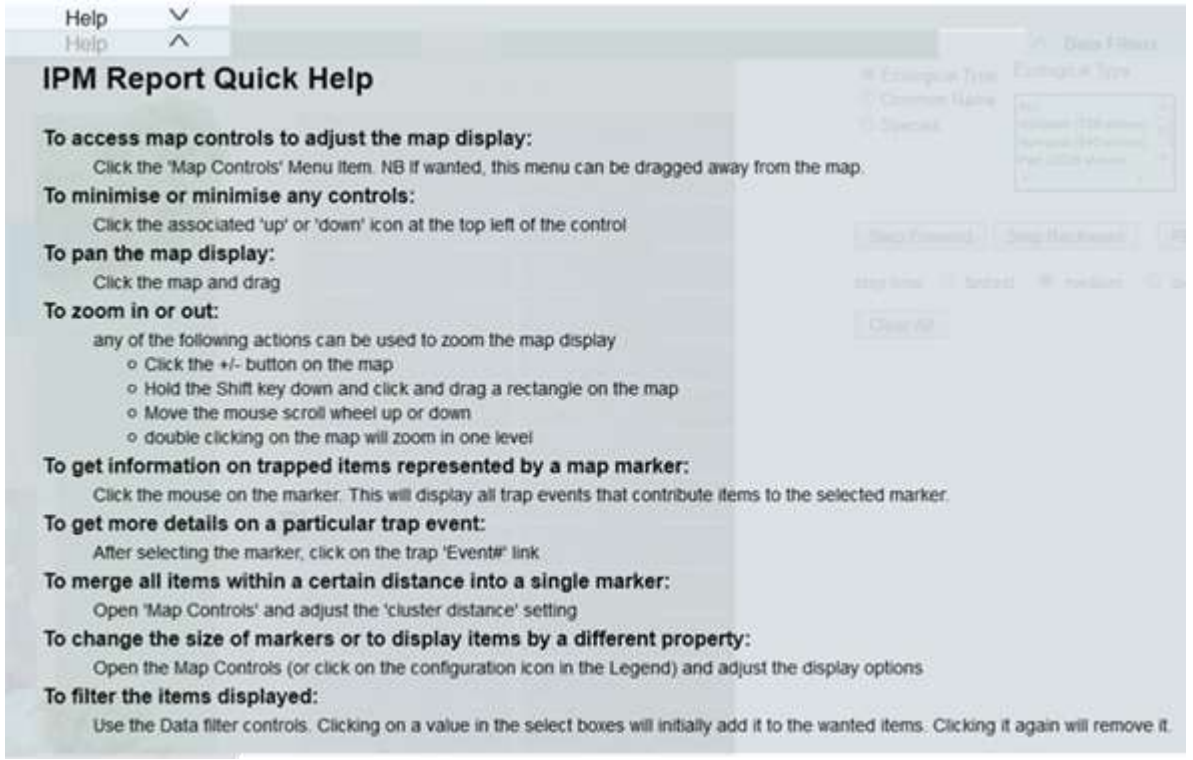
4. Click

to generate the report using the current record or selected records
   -OR-
   Click 

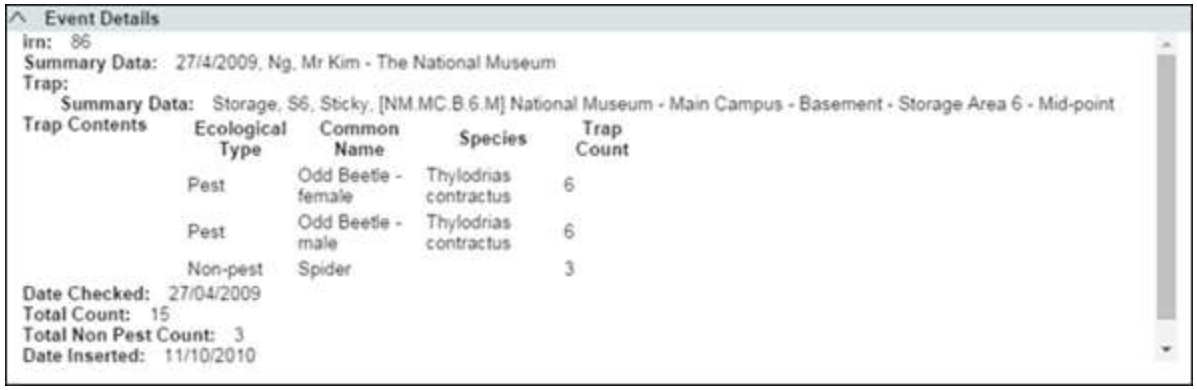
to generate the report using all listed records.

Your default web browser will open and display an interactive, graphical representation of your pest data mapped to ground and floor plans and various other views of your institution:



Ref	Name	Description
1	Map Controls	Click to display a drop list of options to customise the viewer and to select different views (different floor / ground plans). See *Map Controls* (page 10) for details.
2	Help	Click to display concise on-screen Help:  Click to collapse (hide) the on-screen Help.

Ref	Name	Description
3	Zoom in / out	Increase / decrease the zoom of the main map display. See the on-screen Help (2) for alternative methods for zooming in / out.
4	Graphical representation of an infestation	Click on a pie-chart to display infestation details to the right of the map in the Trapped Items panel (5).
5	Trapped Items	The Trapped Items panel only displays when a pie-chart is clicked (4). When a pie-chart is clicked, details of the infestation are displayed in the Trapped Items panel: Each **Event #** is the IRN of a record in the Trap Events module. Click an event (hyperlink), e.g. #86, to display details of the event in the Event Details panel (6).

Ref	Name	Description
6	Event Details	The Event Details panel only displays when an event (hyperlink) is clicked in Trapped Items panel (5). When an event (hyperlink) is clicked, details of the event display in the Event Details panel: 
7	Data Filters	Various filters to control what data displays on a view of your institution (map / elevation etc.) when: • Manually stepping forward / back along a timeline. • Playing forward / back an entire timeline. • Looping an entire timeline. See *Data Filters* (page 20) for details.
8	Legend	In this example, pest infestation data is graphically represented by Common Name: The Legend, which displays beneath the map, explains the colour coding used in the pie-chart:

Event Details

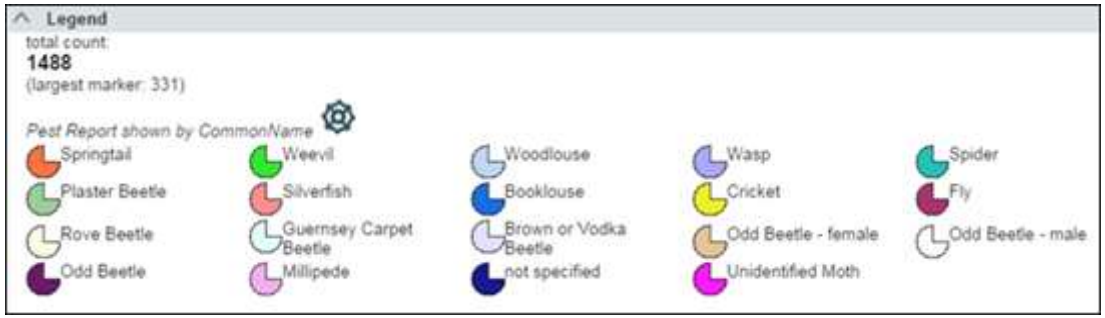
irn: 86
Summary Data: 27/4/2009, Ng, Mr Kim - The National Museum
Trap:
Summary Data: Storage, S6, Sticky, [NM.MC.B.6.M] National Museum - Main Campus - Basement - Storage Area 6 - Mid-point

Trap Contents

Ecological Type	Common Name	Species	Trap Count
Pest	Odd Beetle - female	Thylodrias contractus	6
Pest	Odd Beetle - male	Thylodrias contractus	6
Non-pest	Spider		3

Date Checked: 27/04/2009
Total Count: 15
Total Non Pest Count: 3
Date Inserted: 11/10/2010

Ref	Name	Description



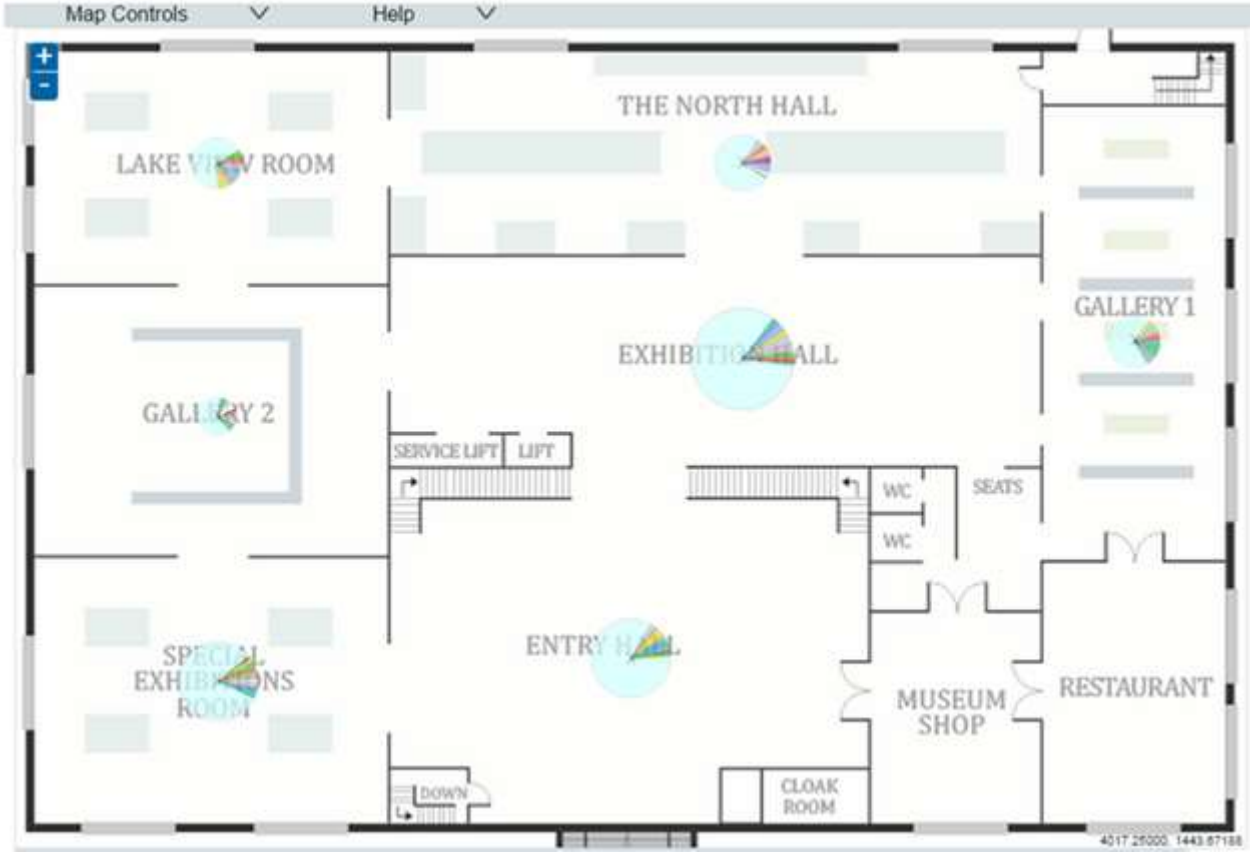
What displays in a pie-chart is determined by the option selected in the *Show by* drop list. See *Map Controls* (page 10) for details.

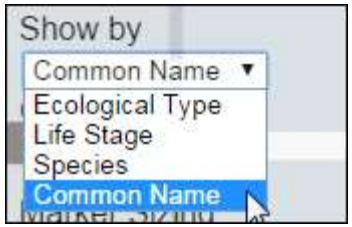
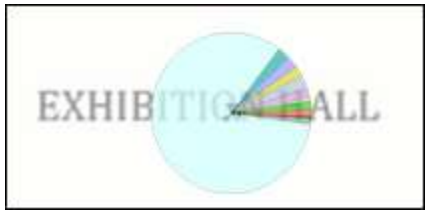
Map Controls

Your version of the IPM facility may have different options and / or labels.

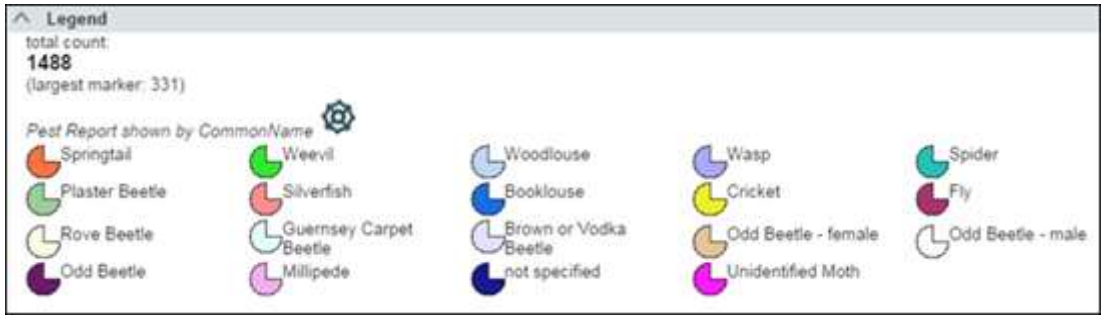
Ref	Control	Description
1	Select Site	Various Sites can be displayed, each with one or more Views (maps / floors / elevations, etc.) upon which your pest data is mapped. In the screenshot above, the `Main Site` is selected. It has six available Views. We select a different site, **Storage Section**, which has two available Views:
2	Views	Each Site has one or more Views (maps / floors / elevations, etc.) upon which your pest data is mapped. Select the radio button for one of the Views to map your pest data against that View. In this example we select **Ground Floor**: The Ground Floor map displays with your pest data mapped to it:

Ref	Control	Description



Ref	Control	Description
3	Layers	Hide / show various layers on each view: • **Pest Report** - hide / show the pie-chart representation of an infestation in each location. • **Pest Report Cluster Extent** - hide / show the extent of an infestation in each location. In theory, each incidence of a pest is represented by an X on the map; however, all incidence of pests in a location are represented by one X as they are caught in the same trap (making this layer of limited usefulness in visualising the extent of an infestation).
4	Show by	Your pest data can be presented graphically in various ways. For example:  In this case an infestation is graphed by Common Name:  In this case the Legend, which displays beneath the map, explains the colour coding used in the Common Name pie-chart:

Ref	Control	Description



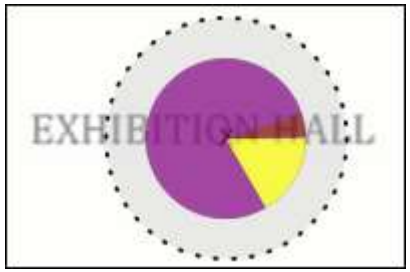
Selecting a different option from the *Show by* drop list changes the pie-chart representation of the infestation. In this case, **Life Stage** has been selected:

The Legend adjusts accordingly:

5	Cluster Distance	Move the slider to increase / decrease the area within which pests are recorded. The usefulness of this option depends on the view selected. As with the **Pest Report Cluster Extent** Layer (see above) this option has limited usefulness on a floor plan as all incidence of pests in a location are typically caught in the same

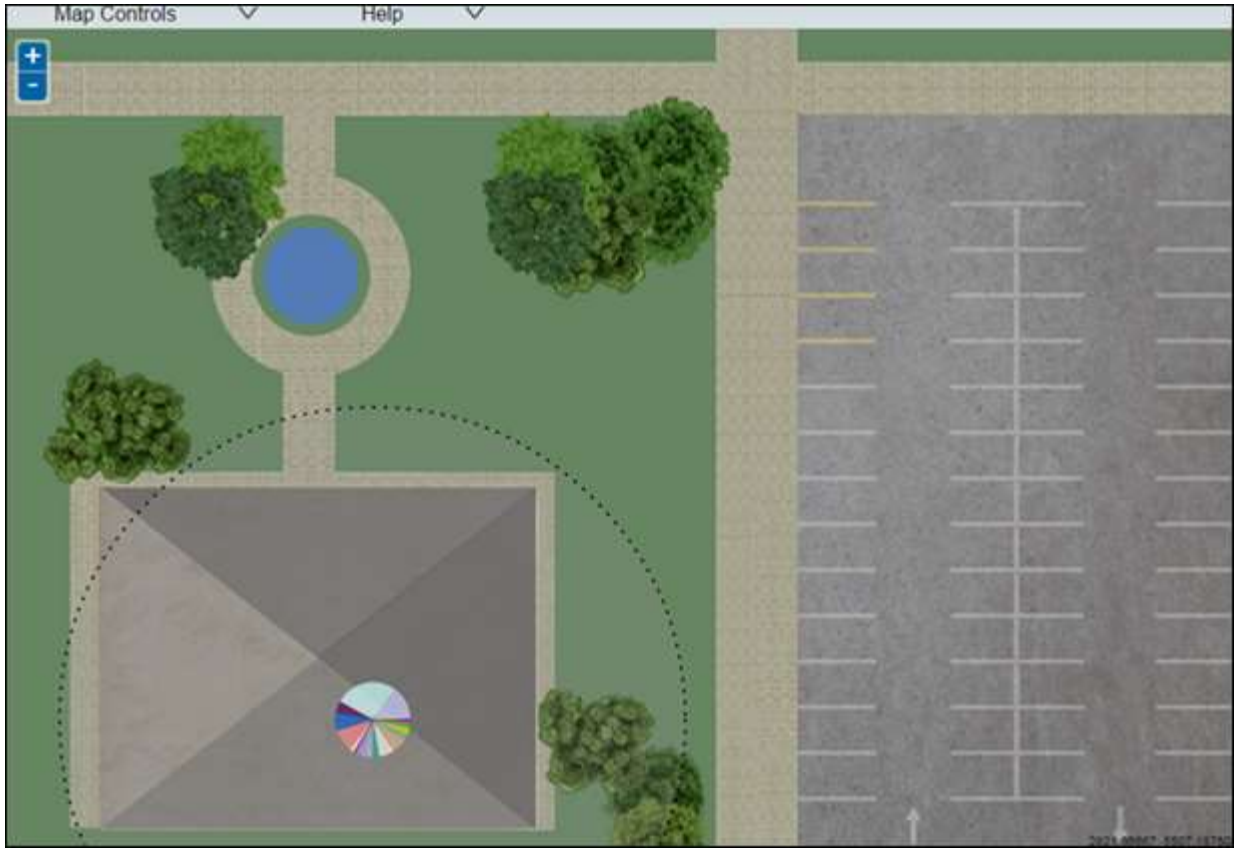
Ref	Control	Description

trap:



On a Site Plan or Elevation, the Cluster Distance is far more useful. Consider this example:

Ref	Control	Description

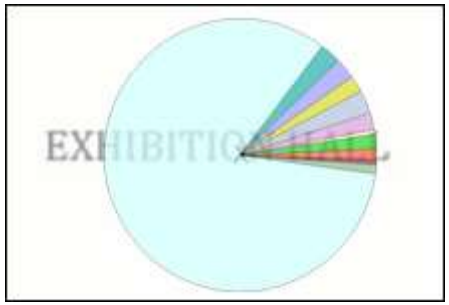


The radius of the Cluster Distance is large (indicated by the dotted line). The pie-chart presents details of all incidence of pests captured within the radius of the Cluster Distance. As we reduce the size of the Cluster Distance, we zoom in on the data for finer granularity:

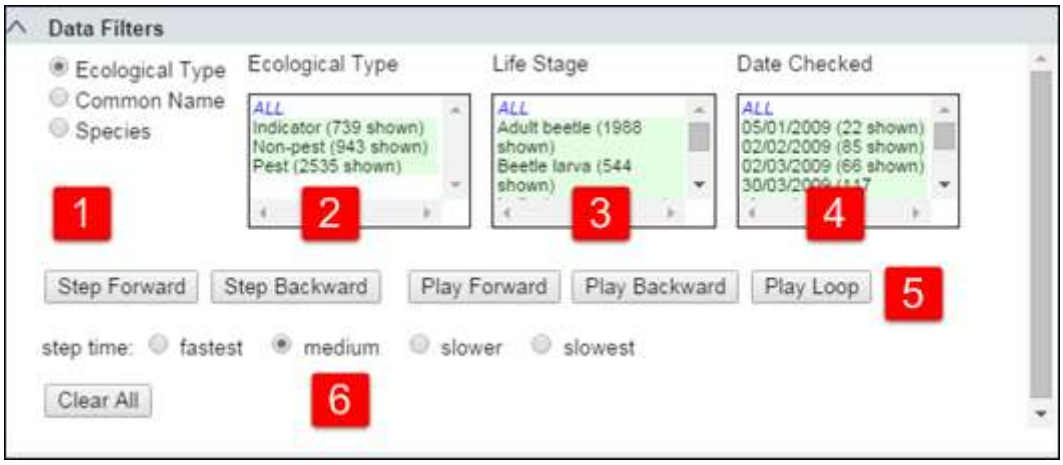
Ref	Control	Description

Reducing the radius further reveals all recorded incidence of pests:

Ref	Control	Description

Ref	Control	Description
6	Marker Sizing	Move the slider to increase / decrease the size of the pie-chart representation of the infestation: 
	^	Click to collapse (hide) the Map Controls.

Data Filters



Various filters to control what data displays on a view (floor plan / elevation / site plan) when:

- Manually stepping forward / back along a timeline.
- Playing forward / back an entire timeline.
- Looping an entire timeline.

Ref	Object	Description
1	Radio Button	Selecting a radio button determines which list displays at 2. In the screenshot above, the **Ecological Type** radio button is selected and the list in box 2 is of various ecological types. You would select the **Common Name** radio button to change box 2 to a list of pests by Common Name, and so on.
2	Pests / ecological types	Click **All** or select one or more item in the list to filter which pests / ecological types are tracked when the timeline is played.
3	Life Stage	Click **All** or select one or more item to filter which life stage of the pests / ecological types selected in box 2 are tracked when the timeline is played.
4	Date Checked	Click **All** or select a range of dates for your timeline.
5	Run	Options include: • Move through your timeline one step (date) at a time by clicking Step Forward / Step Backward. • Click Play Forward / Play Backward to run through the entire sequence of dates (as if animated). • Click Play Loop to run through the entire sequence of dates (as if animated) until Stop is clicked. The Stop button only displays when a timeline is being played.
6	Speed	Increase / decrease the speed at which the timeline is run.
	Clear All	Click to reset boxes 2, 3 and 4 to their default setting (**All**).

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