LitterWatch User Guide

Document control

Contact for enquiries

Please address any questions regarding this document to LitterWatch.Victoria@delwp.vic.gov.au.

Document History

Version	Date	Summary of Changes
1.0	July 2020	First version published
2.0	February 2022	Update title, as this guide now includes more than "How to enter litter surveys". Colours and pictures changed to match website. Addition of sections: Document control, Download data, Getting started, Membership, Training levels, Reporting areas, Download data, and Mapping. Changes to sections: Welcome, Logging in, Registering, Saved sites

This user guide is the most up to date guidance available. The information in this guide replaces any conflicting information in videos, quick reference guides, or other materials. This guide and other resources can be found on the LitterWatch resources page:
www.litterwatchvictoria.org.au/cb_pages/resources.php

Contents

Click on a section heading to jump to a particular part of the document.

OFFICIAL

OFFICIAL

Welcome

Welcome to LitterWatch Victoria. Litter is something that many dedicated community groups and other organisations invest significant time and resources to manage. Litter data collected provides valuable information and trends. If gathered consistently, stored centrally and easily shared it would help to identify where to focus future effort and investment. LitterWatch Victoria aims to bring together a public statewide dataset of litter in Victoria that can be easily visualised and is readily used for reporting, planning, policy making and engagement in response to the growing challenges of litter and plastic pollution.

Access the site at: www.litterwatchvictoria.org.au

This will take you to the homepage and from here you can navigate to the mapping portal, find out more about LitterWatch and search for published resources or log in to enter survey data.

This user guide will show you step by step how to add a litter survey, how to download data and how to use the information in the mapping portal.

On mobiles and other devices

All the same functionality is available on mobiles as on a computer. The main difference is the menu being hidden on mobiles and other devices to save space. To find the menu on your device click the menu icon which is three horizontal parallel lines in a rectangle and found on the top right-hand side.

This guidance material will show screenshots from both mobile phone devices and webpages, to demonstrate the slight differences as the pages are re-sized to fit smaller screens.

Getting started

LitterWatch Victoria (www.litterwatchvictoria.org.au) has five main pages: the homepage, about page, mapping portal, resources page and the log in area where you enter data. You don't need to register or log in to see the About, Mapping or Resources. See the menu on the homepage below.

You can navigate back to the homepage at any time by clicking on the LitterWatch logo in the top left.

Welcome to LitterWatch Victoria

Community groups and other organisations put in countless hours to reduce litter. They are cleaning up litter, collecting data and engaging others. We need this data to help understand litter trends and patterns. LitterWatch is bringing these data together for everyone to use. Read more

Registering

To add a survey, you will need to register as a user.

From the log in page, click **'Register'** in the menu.

Enter your details

Enter your relevant details in the boxes provided, making sure you read and understand the terms and conditions before registering. We ask for your first and last name, so that the administration team can update your user details when the LitterWatch training has been undertaken and to easily identify your survey if there are any questions.

Please add your current email address, postcode and a password of choice. You must have a strong password that is at least 8 characters long and contains at least 1 number, 1 letter and 1 special character.

Under **'Groups'**, please select from the drop-down menu any groups that you are a member of or associated with. The administrators of the groups need to approve your membership of the group and after you complete training will change your status to trained members.

If you are not affiliated with any group you can leave this blank. We recommend that you consider joining a group to have access to training and support, and to help them collect data. You can come back and edit your groups under your User Profile after you have logged in.

If you would like to have your group added to LitterWatch please get in touch by emailing Litterwatch.victoria@delwp.vic.gov.au.

Privacy

Your privacy

Please note, we will use the personal information you provide when registering to provide technical assistance and customer service. More information can be found on the terms and conditions page: https://www.litterwatchvictoria.org.au/cb_pages/disclaimer.php

Others' privacy

Make sure when entering any information into LitterWatch that you consider the privacy of others. You should not provide any information that may identify a particular person or private address.

Be careful when providing any information that could be construed as libelous, such as stating that a particular business, organisation or group of people are the source of litter. Information about the site, type of litter and other details can be provided so long as you are not providing your own interpretation of what these mean.

Logging in

To log in, use the same email address and password you used to register. Tick the **'Remember Me'** box, if you are on a personal device to save your email address and password for next time.

If your password isn't working or you have forgotten it, please click on the "Forgot Your Password?" link. Please contact your group administrator if the trouble persists.

You are now logged in!

User profile

In the menu you will see four items. Your **user profile (shown as your name)** shows a sub-menu that allows you to update your details and log out.

'Update details' to amend any personal details. You can view your training status and your group membership and whether it has been confirmed.
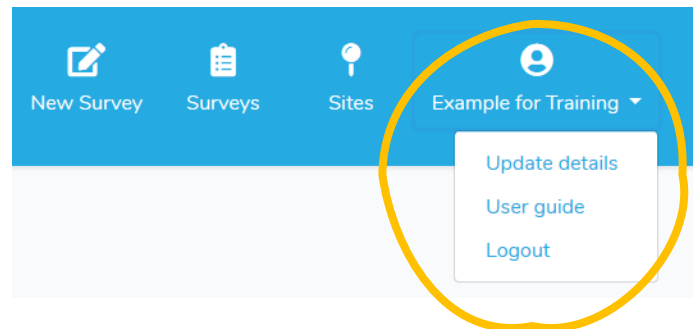
When confirmed your group membership will show a green tick. You can join another group by selecting from the dropdown menu and pressing the green **'Join group'** button.

For group administrators, you will receive email notification when a new user has registered in your group. Click on the appropriate link to approve (at the appropriate level) or reject.

Hello Kimberley

Example for Training (litterwatch.victoria@delwp.vic.gov.au) has asked to join CeRDI

Please use the links below to approve / reject and set the user's level of training.

- Example for is a Litter Watcher of CeRDI
- Example for is a Litter Inspector of CeRDI
- Example for is a Litter Champion of CeRDI
- Example for is not a member of CeRDI

If the link expires (6 days 23 hours 59 minutes from now), or you happen to click the wrong link, you can update the user's status by updating the user in the administration system.

You can also manage users in your groups through Administrator > Users. You can change group membership or training status here.

Membership

In each group you can either be a member or an administrator.

A member is a standard user of a group and as a group member can access the saved sites for your particular group.

An administrator is someone that is managing the group in LitterWatch their role includes:

- Approving members of the group.
- Providing assistance to members of the group.
- Changing the training status of group members.
- Updating group information.
- Adding and editing group sites – see Saved sites section.
- Adding and editing group reporting areas – see Reporting areas section.

OFFICIAL

- Being able to view, edit and delete all the surveys under the group – see Viewing surveys section.
- Downloading group litter data – see Download data section.

Please note, to provide this assistance group administrators can view the details their members used to register with LitterWatch.

Training levels

The training level of the user who completes the survey helps to understand the different data that has been entered into the system, more information can be found in the Interpreting the data sub-section.

Only Group Administators can change their group's users training levels. If you think your status is wrong please contact your group administrator.

There are three training levels:

Litter Watcher (level 1) for untrained users, either new or haven't undertaken a survey for 12 months.

Litter Inspector (level 2) for trained users that have had a refresher, other type of training in the last 12 months, or regularly enter litter data (at least 4 times a year).

Litter Champion (level 3) for trained users that are competent enough to train others, they will monitor or oversee monitoring regularly.

This will be updated by your group Administrator in the system or using the links in the email when you join.

Litter Inspectors and Litter Champions must be trained in the last 12 months or Group Administrators will be asked to move them to the Litter Watcher level.

Administrators will receive reminder emails when it has been more than 12 months since Litter Inspectors and Litter Champions in their group have been trained.

Saved sites

'Sites' on your menu takes you to the saved survey sites. Here you can see any saved sites that were created by yourself, created by administrators for everyone to view, or created for the group you belong to. Anyone can create these for themselves, but only group administrators can save sites for the whole group to see.

We recommend saving the sites you will audit <u>before</u> you enter any surveys. Surveys repeated at the same saved site within reporting areas are used to graph how the litter is changing across the whole reporting area. It will also save you time, as you won't have to redraw the area every time you do a survey.

For group administrators, it is important that you have defined your hotspot or reporting area in advance. Litter data recorded during surveys at saved sites are aggregated over the entire reporting area for graphing in the mapping portal.

Remember: the menu is always at the top right-hand side of the screen. On computers these will be words and icons, on mobiles a menu icon (three parallel lines) that opens the list of menu links.

Adding sites

Use the **'Add site'** button to add a site you return to for litter surveys.
Do this at the start to save yourself time when entering survey data later.

7

If you return to a site as part of your group, please get in touch with the group administrator to have these sites added so the whole group can use them.

When adding a site, you need to choose a name then choose what shape it will be on your map: point, line or polygon. Use the + and – arrows to zoom in and out of the map.

Once you choose the shape you can draw this where your site is on the map double click to finish the shape. More help on adding sites can be found in this user guide under Draw your site

Press save when you are finished, which will take you to the Sites page again with a green message to let you know it was successful. The sites you have added can be viewed, edited or deleted using the symbols under the Action heading.
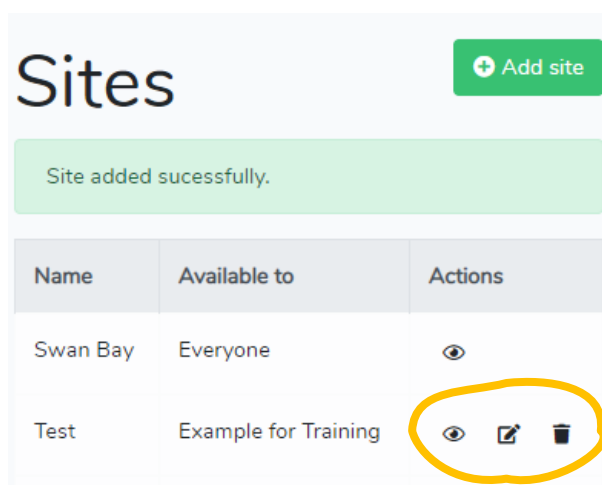
For group administrators, it is important that you have save your survey sites in advance. Litter data recorded during surveys at saved sites are then more easily searched for when data is downloaded.

Reporting areas

Reporting areas are what is used to graph results on the LitterWatch mapping portal. You can access the mapping portal via the homepage or with this link: https://map.litterwatchvictoria.org.au/. You don't need to register or log in to access the mapping area, anyone can view and save maps and results.

Further information about the mapping portal is found under the Mapping heading.

Surveys within reporting areas are shown in the graphs in the Mapping portal.

For group administrators, it is important that you draw your reporting area to capture all the surveys that might occur within it. If the survey is partially outside of the area it won't be shown in the graph.

New survey

To add your litter survey results, click on **'New Survey'** in the menu, this takes you to the new survey page. Here you will
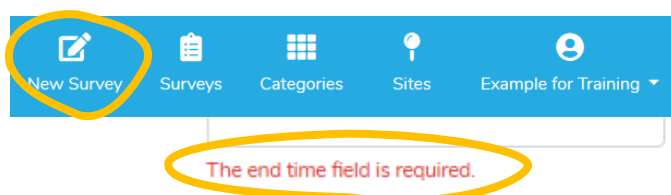
see several pages of questions and places to input the litter counts. Any field that is mandatory will have an Asterix (*). If you miss any mandatory fields you will be prompted to fix this before you can submit. This means you can choose what order you put the information in – such as waiting until the end to add "end time".
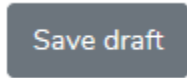
Save draft At any time, you can save the survey you have started by pressing the grey **'Save draft'** button at the bottom of the screen. Draft surveys can be found in the **Surveys Menu**.

There are four pages to the survey: About, Location, Litter and Confirmation. You can navigate between the pages using the blue **'Next'** and **'Previous'** buttons at the bottom of the screen, or the tabs at the top of the screen. The page you are currently in will be highlighted blue.

Previous **Next**

❓ About	✈ Location	🗑 Litter	📋 Confirmation

About

Survey method and area

Select your desired Survey method from the drop-down menu. Your choice will change the options under area and the litter items shown.

The current options are:

- "Hotspot" this is for all litter surveys and will show set area sizes (such as 50m2) and a "custom area" option. In the "custom area" you must input the 'Length' and **'Width'** of your survey site and you have the option of including a **'Name'** and **'Description'** or leave these blank.
- "Baykeeper Beach Audit" is the method developed by the Baykeeper at the Port Phillip EcoCentre and is also used by other groups. This method focuses on small litter items and requires nine $1m^2$ quadrats. When selected you will see an option for each of the nine quadrats. You must record separate surveys for each quadrat. If this doesn't sound like the method you're using, then please choose **'Hotspot'**.

Survey method *

Hotspot

Area *

Custom area

Length *

In metres

Width *

In metres

Name

Description

Email LitterWatch.Victoria@delwp.vic.gov.au if you are using a method that doesn't fit under these options to discuss what we can do.

For group administrators, you can define and add new survey methods under the Administrator menu Methods option. These will be subsequently available for all users in your group. Please note, methods are not spatially enabled, and can be applied in any geographic location.

➕ Add survey method

OFFICIAL
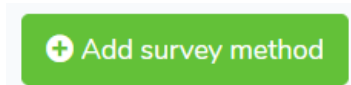
Survey effort

Survey effort is captured in LitterWatch as the time taken to survey and the number of surveyors.
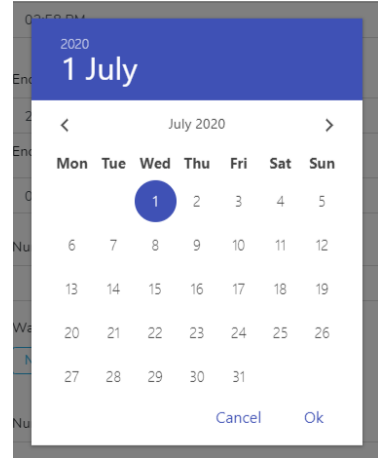
Please click on the **'Start date'** and **'End date'** boxes, this will open an in-built calendar. This allows you to select the year, month, day and time the survey was carried out.

Then fill in the **'Start time'** and **'End time'**. Like all the questions, you can leave the end time blank and fill this in at the end before you submit. You won't be able to submit the survey without filling this in.

Then fill in the '**Number of surveyors'**, these are surveyors that were present for the entire survey. If you are expecting to have multiple people undertaking only part of the survey consider splitting the survey, with part of the area surveyed at one time and the other part surveyed at another, or, try to estimate how many people were there for the full time, you will have to round up to a whole number.

We know some groups sort the collected litter separately to the survey which is why we have a question to capture this information too.

If you select yes two additional fields will appear asking the 'Number of sorters' and 'Time to sort' in minutes. The number of sorters can be different to the number of surveyors.

Still unsure what to answer? Here are some examples

A survey was undertaken between 9 and 11am. Knowing most people would only survey for an hour, Bindi splits the survey into two. Part of the area is surveyed by 5 people present from 9-10am, and the other half with 4 people present 10-11am which is entered as two separate surveys.

Pat has people arriving and leaving at different times during his 1-2pm survey, the time they sign in and out is recorded. He records the survey as 1-2pm (1 hour). He then sees that 2 people were there for the whole hour and 8 people were there for half an hour each. So, Pat puts a total of 6 people (2+(8*0.5)/1hour).

Survey code

The **'Survey code'** allows groups to report on promotional events or specific programs. If you have been provided with a code you can enter it here, if this is not relevant to you please leave this box blank.

Group

This will only show the groups you have been confirmed a member of. Select from the drop-down menu which group you were a member of when participating in conducting the survey. If you were conducting the survey yourself- not part of any group – please choose "Individual". Email LitterWatch.Victoria@delwp.vic.gov.au if the group you belong to isn't one of the options.
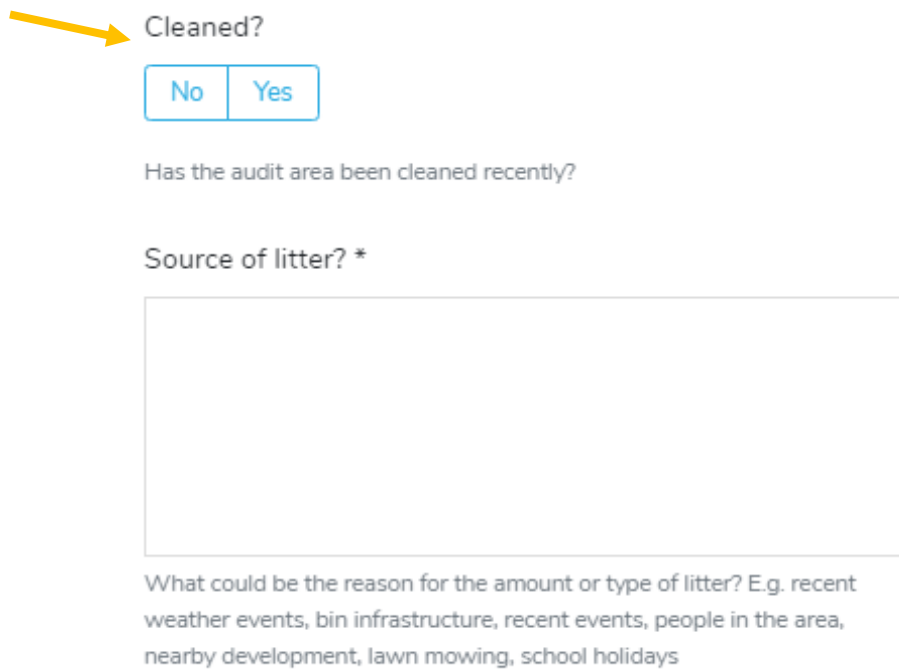
OFFICIAL

Sources of litter

There are two questions related to the source of litter. First, **'Cleaned'** has the survey area been cleaned recently. Can you see signs suggesting that the survey area has been recently cleaned i.e. there are markings from a beach cleaning machine or signs of a street sweeper? If you see these signs, select yes, otherwise select no. If you're unsure, please leave blank.

The second question is **'Source of litter'** please use this box to detail possible reasons to explain the source of litter, the amount of litter observed (more or less than expected) and the type of litter present.

Some examples are:

- Recent weather events (like rain or wind)
- Nearby stormwater drains if collecting litter near a waterway
- Nearby bins (or lack of)
- Recent public events (like sport races)
- People in the area (i.e. much quieter or busier than usual)
- Nearby development happening
- Lawn area mowed recently (more broken pieces)

Cleaned?

| No | Yes |

Has the audit area been cleaned recently?

Source of litter? *

What could be the reason for the amount or type of litter? E.g. recent weather events, bin infrastructure, recent events, people in the area, nearby development, lawn mowing, school holidays

Use the blue **'Next'** button or use the tabs to move to the next page of the survey.

Location

Draw your site

You can press the **'Locate me'** button to move to where you are on the map, shown as a green point. You can move this point by clicking on the map or use the grey bar to change the shape. Use the mouse scroll or buttons at the top left to zoom in and out and hold the left click on the mouse to move the map.

You can choose what your site will look like; a point, line or polygon:

- To add a **'Point'** left click once to add one site to the map (point will show as green).
- To add a **'Line'**, change the grey menu to line then left click as many times as you need to. When you are finished double click the last point of the line. The finished line will show as bright green.
- To add a **'Polygon'**, change the grey menu to line then click around the shape of your site as many times as you need to. When you are finished double click the last point. The finished polygon will be a bright green.

If you make a mistake you can click away from the shape you have made and start again.

Using saved sites

If you have saved sites or are part of a group that has saved sites you can use these instead of drawing a location (look under 'Sites' on your menu bar to check what sites you have access to).

Tip: If you cannot find a saved site, navigate back to the "About" tab and make sure you have selected your '**Group**' from the drop-down box.

Once you have drawn your site, a list of any applicable, nearby saved sites will appear on the right-hand side. Click on the site name to preview that site. If you wish to select the site, click on the tick symbol.
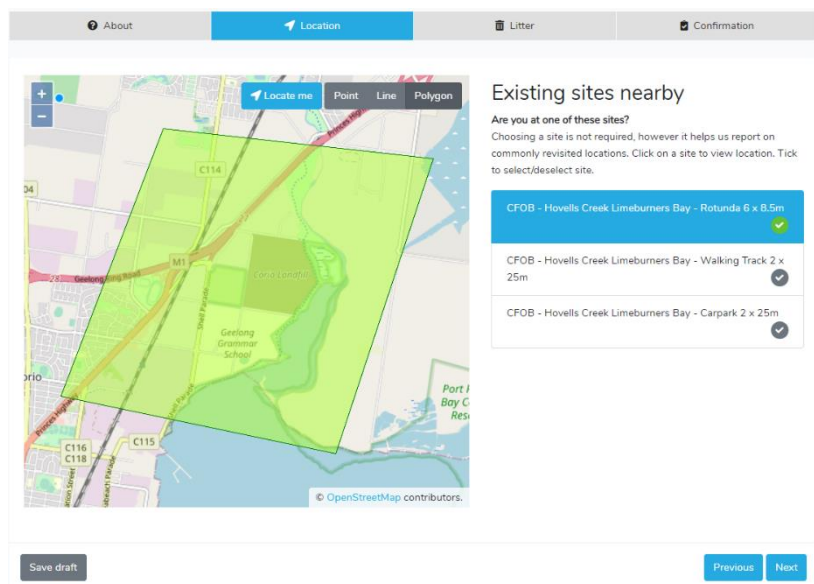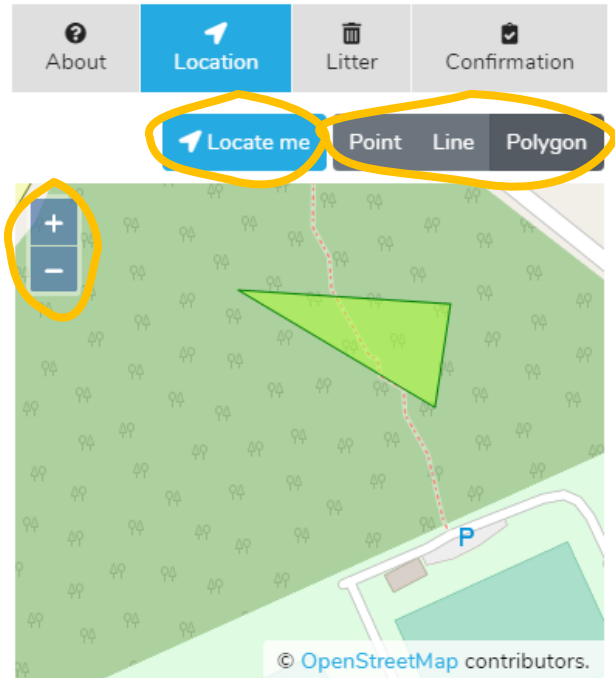
Use the blue **'Next'** button or use the tabs to move to the next page of the survey.

Litter

Survey coverage

It is important we know exactly how you have undertaken the survey to help interpret the data later.

The first question asks what percentage of the litter was recorded and collected (where relevant). For example, if you collect 10 bags of litter and only record the items from 5 of these bags it would be 50% complete. We recommend you undertake a complete survey (100%) so this data can be used in the automatic graphs in the mapping portal. We understand this might not be possible, you could try reducing the size of the area you survey to make it easier to do this!

The second question asks if you counted all the <u>different types</u> of litter items. If your audit was only targeting certain types of litter (such as cigarette butt surveys) select "No". This indicates that you did not record all litter types present.

Enter litter

Percentage of survey complete *

[slider] 100%
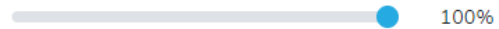
This is not about the type of litter, instead estimate how much of the litter that was collected did you record in LitterWatch (by volume).

Were all types of items recorded? *

[No | Yes]

If you select **Yes**, you will be required to provide data in at least the 5 top level material type categories (Plastic, Expanded Polystyrene, Glass, Metal, Other).
If you select **No**, please only put zero in the categories of litter you looked for but did not find.

If you were recording everything you found choose "Yes". This will mean you have to include a number in each litter material category (plastic, expanded polystyrene, glass, metal and other). This will be zero if you looked but didn't find those items in your survey area.

Still unsure what to answer? Here are some examples

Bindi in her survey area has collected two containers full of cigarette butts and didn't count any of the other litter found (although she did throw it in the bin!). She counts the number of butts in both containers. <u>She will answer "100%" for the **'Percentage of survey complete'** and "No" for **'Were all types of litter recorded'**</u>.

Eddie in his survey area is only recording plastic items. He collected ten bags of plastic items (the other rubbish wasn't recorded but was thrown in the bin!). Eddie had limited time, so just counted five of these bags. <u>They will answer "50%" for the **'Percentage of survey complete'** and "No" for **'Were all types of litter recorded'**</u>.

Pat has collected and recorded all the litter they found in the audit area. They collected ten bags and counted all the items in all ten bags. They <u>will answer "100%" for the **'Percentage of survey complete'** and "Yes" for **'Were all types of litter recorded'**</u>.

Litter categories

You can browse the full list of litter categories by clicking on the **'Categories'** menu item.

These were determined by comparing the datasheets currently used in Victoria, and some common internationally. The categories in LitterWatch are in a hierarchy made up of four levels.

Level 1 categories

There are five Level 1 litter categories grouped by material type: Plastic, EPS (Expanded Polystyrene), Glass, Metal, Other (mixed materials, ceramics, cloth, paper & cardboard, rubber, wood, organics).

Glass	Metal	Other
GLASS	METAL	OTHER (mixed materials, ceramics, cloth, paper & cardboard, rubber, wood, organics)

Plastic	Polystyrene
PLASTIC	EPS (Expanded Polystyrene)

Level 2 categories

Level 2 categories are grouped generally how they are used, to help identify source. The number of Level 2 categories varies between Level 1 categories. Plastic is of most interest to LitterWatch stakeholders so you will see some key items like plastic bags and cigarette butts are in their own categories at level 2.

For examples, these are the level 2 categories under plastic:

Plastic	Plastic	Plastic	Plastic
Bags	Balloons & balloon accessories (strings & sticks)	Beverage bottles (includes caps & labels)	Cigarette butts
Coffee cups & lids	Cutlery, stirrers & plates	Fishing items	Food & beverage other packaging (hard & soft)
Food wrappers (soft includes metallic type) chips, confectionary etc.	Industrial litter	Medical waste & sanitary items	Microplastics < 5mm
Other cigarette related litter	Other cups & lids	Other plastics (not EPS)	Straws
Syringes	Unidentifiable fragments (hard & soft)		

14

Level 3 categories

At level 3 some categories are split into another level of detail. For example, polystyrene food & beverage packaging is grouped like this:

Polystyrene Cups	Polystyrene Meat trays & similar	Polystyrene Plates	Polystyrene Takeaway containers (lidded)
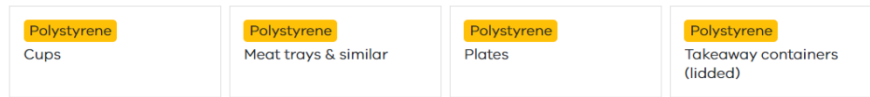
Level 4 categories

Level 4 is the last level of detail, where users can input information as free text. This is the second box after the count box. If you can't see this second box it means the category can be split into more detail. See "Other cigarette related litter" below, the grey tree symbol will take you to the next level of detail.

PLASTIC	0		
Cigarette butts		Notes/description e.g. xyz brand	
Other cigarette related litter			

Adding litter categories

How to search for a litter item

You have three options for finding litter categories to add how many were counted:
Browse, **Common items** and **Search**.

Q [   ]

⊞ Browse   ★ Common   Q Results

On your phone this will be a menu bar near the top of your screen (underneath the question asking if all types of items were recorded). On your computer or larger devices, these options will show on the left-hand side.
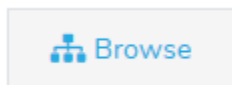
⊞ Browse — **Browse** allows you to click on the Level 1 category listed on the right-hand side. When you do this, a pop-up window will automatically open and display the full list of Level 2 categories under the Level 1 category you just selected.

★ Common — **Common** allows you to select from a pre-populated list of most commonly found litter items. As with the Browse option, a pop-up window will automatically open.
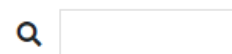
Q [   ] — **Search** for items by typing into the box beside the magnifying glass. When you do this, a pop-up screen will automatically open and list the best match for your search term.

↑ Previous — You can move up a level in the hierarchy by pressing **'Previous'**.

↺ Reset — Use the **'Reset'** button to navigate back to either the level 1 categories or the list of common items.
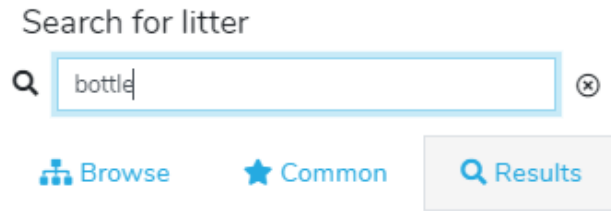
You can close the search screen and return to the main screen any time using the **'Close'** button.
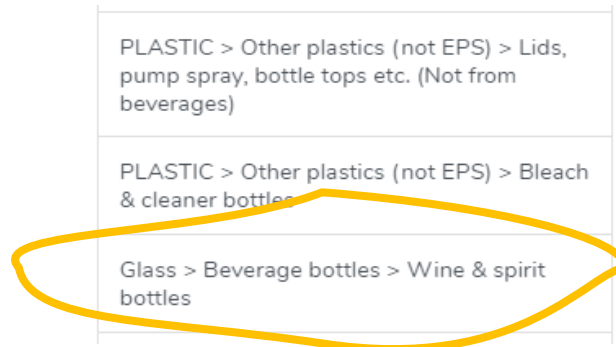
How to add a litter item

As you have seen above, you can look for litter categories in three different ways: browse the hierarchy, select it from the common items list or search. As an example, let's look for wine bottles using each method on a mobile phone size screen.

You can add items by searching, type a key word into the box beside the magnifying glass symbol. Let's try "bottle". As you type, the screen will change to the search results, showing the hierarchy that each item sits under.

For example, you can see Glass > Beverage Bottles > Wine & spirit bottles in the list.

Search for litter

bottle

Browse   Common   Results

PLASTIC > Other plastics (not EPS) > Lids, pump spray, bottle tops etc. (Not from beverages)

PLASTIC > Other plastics (not EPS) > Bleach & cleaner bottles

Glass > Beverage bottles > Wine & spirit bottles

Select the option you want, this will take you to where that category sits in the hierarchy. To add this category, press **'Add'** from the Selected litter details.

Selected litter details

Glass

Beverage bottles

Wine & spirit bottles

Add
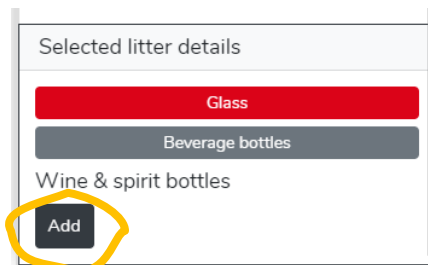
Or you can add an item by browsing the hierarchy, press the Browse button to step through the hierarchy which will take you to the list of Level 1 categories.

OFFICIAL

Here choose **'Glass'**.

This will take you to the screen showing the Level 2 categories, generating two options for glass here **'Beverage bottles'** and **'Other glass & unidentifiable pieces'**.
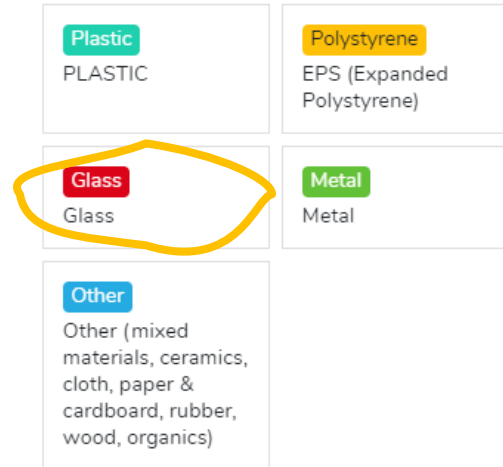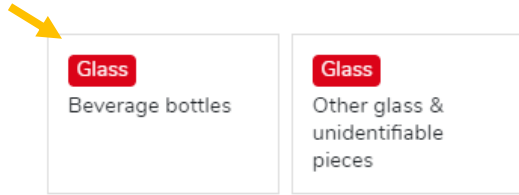
Click **'Beverage bottles'**.

This takes you to the list of Level 3 categories, which includes **'Wine & Spirit bottles'**, click here. Now this will show up in the "Selected litter details box" at the bottom of the screen. To finish your selection press **'Add'**.

Litter counts

When you have added categories, either by stepping through the hierarchy or by searching, they are added to your litter count screen. This appears on the left-hand side on most desktops and browsers (except on mobile phones) and will look something like this, with a list of the categories chosen sitting in their hierarchy. You'll notice that you can't change the count number next to 'PLASTIC' as this will auto-total as you add counts into the categories underneath.

When you add a new litter item, the new category row will flash green momentarily, this is to make it easier for you to locate this new category.

Litter item	Count	Description		
PLASTIC	0		🖧	❌
Cigarette butts		Notes/description e.g. xyz brand	📋	❌
Straws		Notes/description e.g. black	📋	❌
Bags			🖧	❌
METAL	0		🖧	❌
Aluminium beverage cans			🖧	❌

Input the number of items found in the box to the right of the category name, this will auto total up the hierarchy above for you. See what happens when we add 40 cigarette butts and 5 plastic straws ("black") and 3 plastic straws("blue"), you can type in whatever description you want.

Litter item	Count	Description		
PLASTIC	48		🖧	❌
Cigarette butts	40	Notes/description e.g. xyz brand	📋	❌
Straws	5	black Notes/description e.g. black	📋	❌
Straws	3	blue Notes/description e.g. black	📋	❌

❌ Use the red button with a white cross to remove any category. <u>A message box will pop up asking if you are sure. Be careful, if you press yes will permanently delete any count or description you have inputted for this category.</u>

This will not work when the five Level 1 categories are mandatory.

🖧 The grey tree symbol lets you classify that category in more detail, using sub-categories (Levels 2 to 4).

The blue button is available beside level 3 categories. Use this to copy the category, this lets you easily add details e.g. in the example above you could type in the 5 black and then use the blue button to add another blank line for straws.

Use the blue **'Next'** button or use the tabs to move to the next page of the survey.
Remember if you selected "Yes" for 'Were all types of litter recorded?' then all the five top level material type categories (Plastic, Expanded Polystyrene, Glass, Metal, Other) will become compulsory fields.

Confirmation

Finishing the litter survey

Finish the survey at the Confirmation screen, here you can review everything you have inputted and any mandatory fields you haven't filled in will show as "Not supplied". You will also be taken back to these screens if you try pressing submit without completing them.

Number of surveyors	*Not supplied*
Was the litter sorted separately to collection?	*Not supplied*

If your categories appear with a "Count value required" red message, but this was not an item you looked for or recorded, then use the red cross to delete it from your list. You can add zero values only if you looked for that item and did not find any.

Glass	0		
Beverage bottles	Count value required		

When that is all completed and you're happy that everything is correct, you can press the green **'Submit'** button.

Well done on submitting your survey. A green message will appear to let you know it has saved successfully. If anything goes wrong a red message will appear. If you need help contact your group administrator or email Litterwatch.victoria@delwp.vic.gov.au

View survey

Survey added successfully
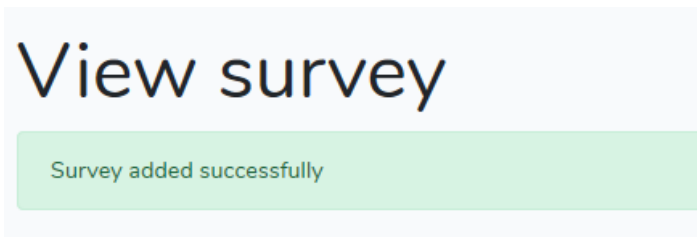
Viewing surveys

Well done on submitting your survey!

You can view all your draft and completed
surveys in the '**Surveys**' page. You can also view, edit and delete your surveys using the '**Actions**' icons.

Warning! Use the delete button with caution – You will see a message asking if you are sure you want to delete , if you say "OK" this is a hard delete and you will completely lose the data you inputted.
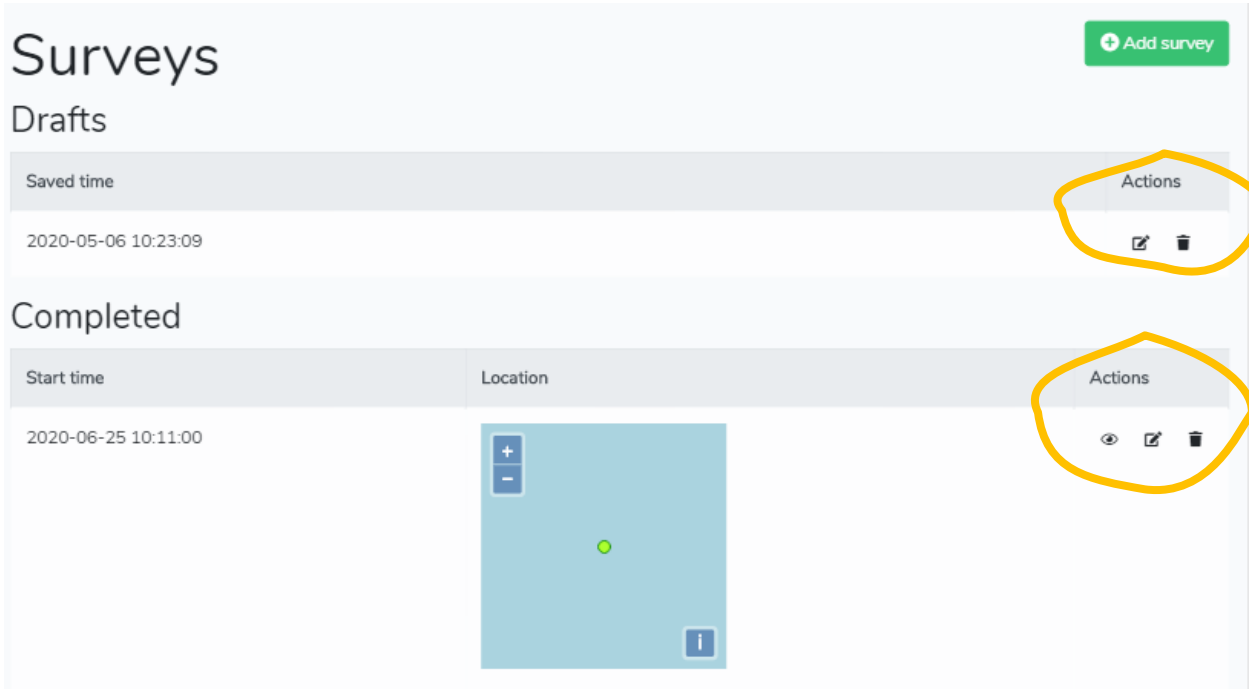
Download data

Data can be downloaded from LitterWatch Victoria in a CSV file, which can be used in MS Excel and other applications. You can find graphs and tables of your data in the LitterWatch mapping portal here: https://map.litterwatchvictoria.org.au/
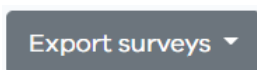
Click on the grey Export Surveys button.

A drop-down list will be displayed of all the data you have access to. You can choose to just export the data you have entered "Export my surveys". This will then send an email to you with a link to download the data.

Save the data somewhere on your computer to access and edit it.

20

Interpreting the data

The data fields supplied in the download are explained in table one below.

The full list of litter categories can be found on LitterWatch here: https://portal.litterwatchvictoria.org.au/litter_categories

Data Field/ Heading	Explanation
survey_number	A unique code for each survey. Each survey has a line per litter item counted. The data from columns A to Y are duplicated for each row.
source	This lets you know whether the data was entered directly into LitterWatch "survey" or if it is data that has been imported "import".
user_email	This is the email address of the person who inputted the data. You might use this to follow up any questions about the data inputted. Make sure to delete this for privacy reasons before sharing the data.
group_name	The group that the user was undertaking the survey under. See list of groups here: Portal - LitterWatch Victoria If undertaken by an individual not as part of a group this will be blank.
location	This is the location of the survey. It is a geometric object in the Well-Known-Text format (point, line or polygon).
center_lon	Longitude of the centre point using the packed DMS (degrees, minutes, seconds) with decimal point format.
center_lat	Latitude of the centre point, same format as above.
site_name	This is the name of the previously saved site that was selected for this survey. We recommend each group save sites before starting surveys to easily filter data later. This will be blank if the user identified the site themselves.
start_time	The time the survey started. The format is year-month-day T hour:minute:second+XX:00. The +10:00 etc. at the end is to convert back from local time to Greenwich Mean Time. This will change depending on daylight savings. If you are in AEST (Australian Eastern Standard Time) you can ignore the plus.
end_time	The time the survey ended. In the same format as above.
duration	How long the survey took in minutes.
num_surveyors	The number of surveyors involved in the survey.
complete_survey	Whether all types of litter were recorded. Some surveys are targeted towards particular items so don't count everything they find. Yes for a complete survey and no if not everything was counted.

	If this is "yes" then you can assume every category not listed is a zero, for "no" you have to assume the items not listed with a count were not looked for.
	NB. If it is not a survey where all types of items were completed you can't use this data to make statements such as "this (particular item) was xx percent of the litter found" because not all the litter was counted.
cleaned	This asks if surveyors think the area has been cleaned recently. They can answer "yes", "no", or "unknown".
litter_source	This a free text area, where surveyors can add any comments or notes to explain the amount of litter and the type of litter they found.
survey_method	There is a dropdown box of available methods to collect data. Refer to the user guide to find out more about each method.
area_length	This is the length of the area surveyed in metres.
area_width	This is the width of the area surveyed in metres.
area_description	This is an optional field free text field where surveyors may add information about the site surveyed.
survey_code	This is a code that a surveyor may enter for easy reference. It might be a code they have generated for a funding program etc.
training_level	This is the training level of the when they undertook the survey. As LitterWatch only launched in July 2020, this doesn't mean the users aren't trained and experienced in litter data collection just that they hadn't been trained in using LitterWatch yet.
sorted_separately	This is whether the litter was counted at the same time it was collected or whether it was sorted separately. If sorted separately we then ask how many people and how long it took to get a better idea of the total time for the survey. A "1" means yes sorted separately a blank means it hasn't.
num_sorters	This is the number of sorters. This will be blank if the litter was counted or sorted while they collected it.
sort_time	This is the time taken to sort and count the litter in minutes. This will be blank if the litter was counted or sorted while they collected it.
audit_percentage	This is the percentage of litter collected that was counted or audited. This is not about the type of litter, instead an estimate of the percentage of the litter collected that was counted or recorded in LitterWatch (by volume). The recommendation is to count 100% of the litter that is found and reduce the area size if this becomes difficult. **NB. Take care analysing any data that isn't 100 percent. If it is lower then the counts won't represent the area surveyed and needs more work before you can use it.**
l1_id	Litter is categorised into a four-level hierarchy. This is the unique number id for the level one category – this can be ignored by most users.
l1_name	Litter is categorised into a four-level hierarchy. This is the name of the level 1 litter category. Level one is the material type: Plastic, Polystyrene, Glass, Metal or Other (everything else).
l2_id	Litter is categorised into a four-level hierarchy. This is the unique number id for the level two category – this can be ignored by most users.
l2_name	Litter is categorised into a four-level hierarchy. This is the name of the level 2 litter category. Level 2 categories are grouped generally how they are used, to help identify source. If this is blank it means the user only identified litter to level 1.

l3_id	Litter is categorised into a four-level hierarchy. This is the unique number id for the level three category – this can be ignored by most users.
l3_name	Litter is categorised into a four-level hierarchy. This is the name of the level 2 litter category. Level 2 categories are split into more detail from the level two category. If this is blank it means the user only identified litter to level 1 or 2.
l4_id	This is not applicable so will always be blank.
l4_name	Litter is categorised into a four-level hierarchy. Level 4 is the last level of detail, where users input information as free text. If this is blank it means the user only identified litter to level 1, 2 or 3. **NB. This is free text so will not be the same across different users. This column provides additional detail on items users are particularly interested in. Recommend filtering by l3_name to see if any users have added additional detail to your item of interest, such as brand name, colour of item etc.**
count	This is the count of the litter item for this line.

Create your own graphs

The spreadsheet of data downloaded, might seem slightly overwhelming at first but you can easily sort and display information using a pivot table.

First, save the spreadsheet somewhere.

Now the date format includes daylight saving so to make this easier to use in your pivot table you will need to add two additional columns into the spreadsheet. Select column J and then right click your mouse to "insert". Call this column "start date reformat" then in the first box (J2) type (or copy and paste) this formula:

`=DATEVALUE(LEFT(I2,10))+TIMEVALUE(MID(I2,12,8))`

NB. If you have deleted user_email or any of the other columns you will need to change the "I"s in the formula to whatever column "start_time" data is in.

You then copy and paste or drag this formula so it appears in every row.

Now time to do the exact same thing for the "end_time" column, but with the updated formula of

`=DATEVALUE(LEFT(L2,10))+TIMEVALUE(MID(L2,12,8))`

Then, open a new sheet for your pivot table. Now from the Insert menu, choose PivotTable, this will open a box asking for the data to analyse.
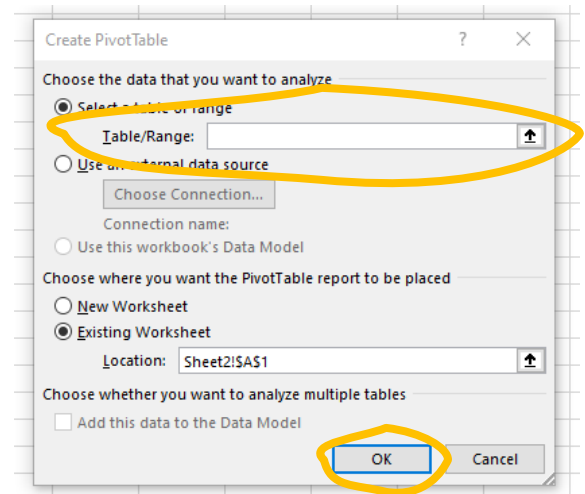
Choose 'select a table or range' and click into this first box.

Now go back to the first sheet and click on the "A" and hold your left mouse and drag across to AI.

It will show this formula: 'litterwatch-export-friends-of-m'!$A:$AI

Noting the name of sheet is the start of friends of the merri creek in this example.

Press 'OK'.

This will open a screen on the left-hand side with all the possible fields from the data.

Filters for all the fields you might want to use to filter the data.

Columns and **Rows** are what fields you want to display as columns or rows in the table.

**Values** choose "count" this is the number of litter items counted.

On the right is an example to see each litter category across time.

Now the start time displays as a time with a date.

Ticking the new "start date reformat" column will then give you the options of quarters, years, and months. You can move this in and out of the columns box to see how you want to sort your data.

So your pivot table could look something like this:

| Sum of count | Column Labels | | | | | | | | | |
Row Labels	<1/12/2014	2014	2015	2016	2017	2018	2019	2020	2021	Grand Total
⊟ Plastic		1134	2291	48728	160401	199099	53502	26376	55451	546982
Bags		1	12	746	1481	2874	585	643	660	7002
Balloons & balloon accessories (strings & sticks)			13	267	866	823	237	115	224	2545
Beverage bottles (includes caps & labels)				118	253	939	1012	1091	1889	5302
Cigarette butts		547	1140	2929	12292	19225	14789	7349	28414	86685
Coffee cups & lids					41	37	68	222	517	885
Cutlery, stirrers & plates		2			41	142	41	195	252	673
Fishing items				79	110	256	115	104	213	877
Food & beverage other packaging (hard & soft)		4	2	16	153	365	726	1125	1884	4275
Food wrappers (soft includes metallic type) chips, confectionary etc.		35	30	560	835	2929	1534	4953	5333	16209
Industrial litter		9	54	25	36	82	86	576	615	1483
Medical waste & sanitary items		7	4	3	3	48	198	431	474	1168
Microplastics < 5mm		2	0	7741	31966	43814	9902	2273	1071	96769
Other cigarette related litter		2	6	36	6	39	53	160	433	735
Other cups & lids					0	2	20	146	511	679
Other plastics (not EPS)		5	3	6	129	349	428	1847	1188	3955
Straws				707	1677	1726	428	540	689	5767
Syringes		0	1	12	38	34	13	44	28	170
Unidentifiable fragments (hard & soft)					806	2067	1955	4375	11035	20238
(blank)		520	1026	35483	109668	123348	21312	187	21	291565
⊞ Polystyrene		1	18	1401	12047	3175	601	2399	5162	24804
⊞ Glass		35	74	139	1493	1793	557	1254	2173	7518
⊞ Metal		21	145	1055	1971	3080	1203	2375	5299	15149
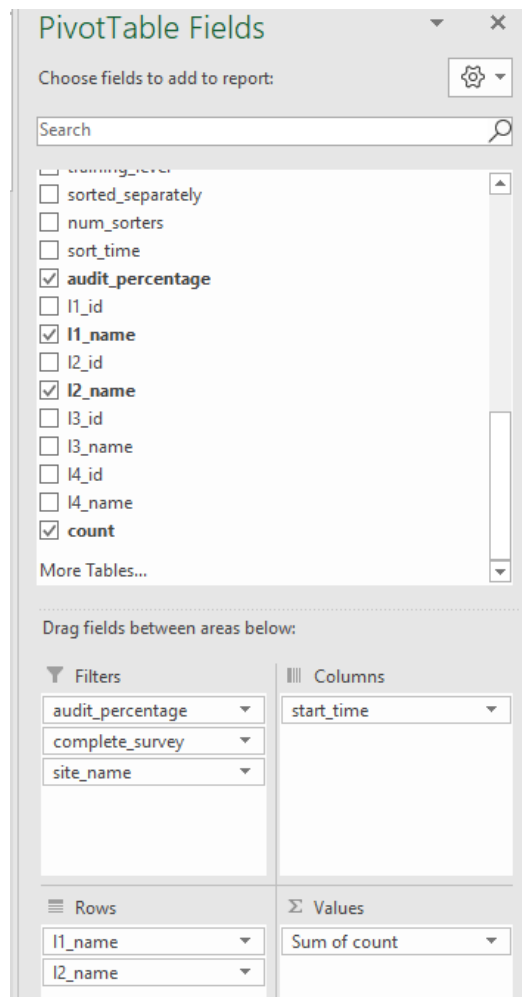
More information on how to use pivot tables can be found by searching for "excel pivot table" in a search engine.
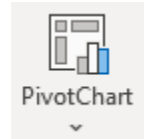
Now to use the pivot table to create graphs select Insert > PivotChart

This will provide a range of graph options, and you can use select data, filters, and the PivotChart Fields to create your graph. An example is the below:
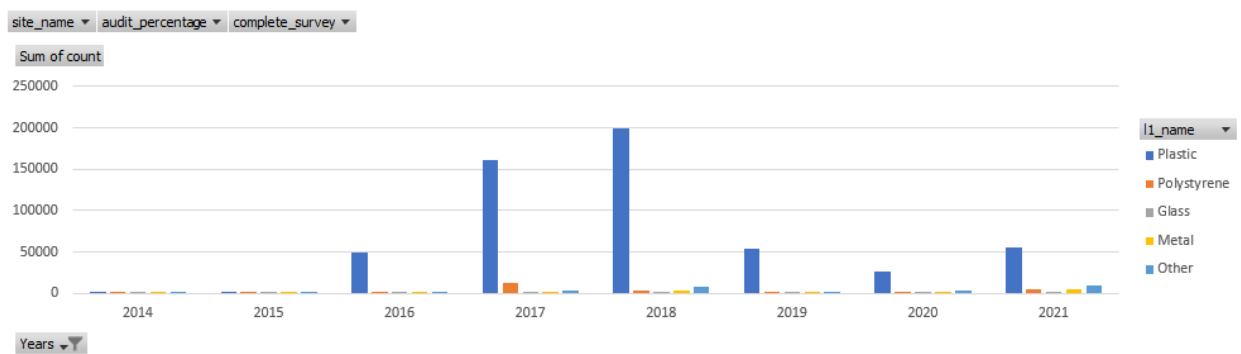
Please note, when you copy and paste this into another document all the grey boxes disappear to make things look neater.

Mapping

All the data entered into LitterWatch Victoria is available publicly via the LitterWatch mapping portal. You can access the mapping portal via the homepage or with this link: https://map.litterwatchvictoria.org.au/.

The top tool bar lets you navigate between different areas in the mapping portal.
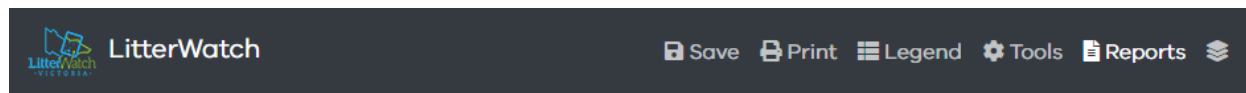
Save – to save the current map as a link that you can share to others via email, on social media, or on your own website.

Print – to save a pdf of the current map.

Legend – to open the legend of the current mapping layers selected.

Tools – This allows you to change the order of layers to them easier to view, search for an address, and measure an area.

Layers icon - To hide and show the list of layers on the left-hand side.

Find out more about all these in the Creating a map section below.

Reports – this opens the Analysis and Reporting tools on the right hand side, more information on this in the Analysing and Reporting section below.

Creating a map

You can download a map of the data available from LitterWatch Victoria. Turn on the layers of interest and then either save the link or download a pdf.

OFFICIAL

Map layers

The categories and layers available are found on the right-hand side. You can show and hide this menu using the **layers icon** in the top menu bar.

Contents of each folder can be expanded or hidden using the plus and minus symbols. Tick a layer to show it on the map.

Click the layer to highlight it and see the legend and toggle the transparency of the layer and if you can query using the layer.

If we highlight EPA littering records, the legend shows below. We can make the points on the map transparent by moving the transparency toggle to the left.

Query mode on, means if you click a point of that layer you can see further details. This is what would be shown if you clicked a point with the EPA littering records on.
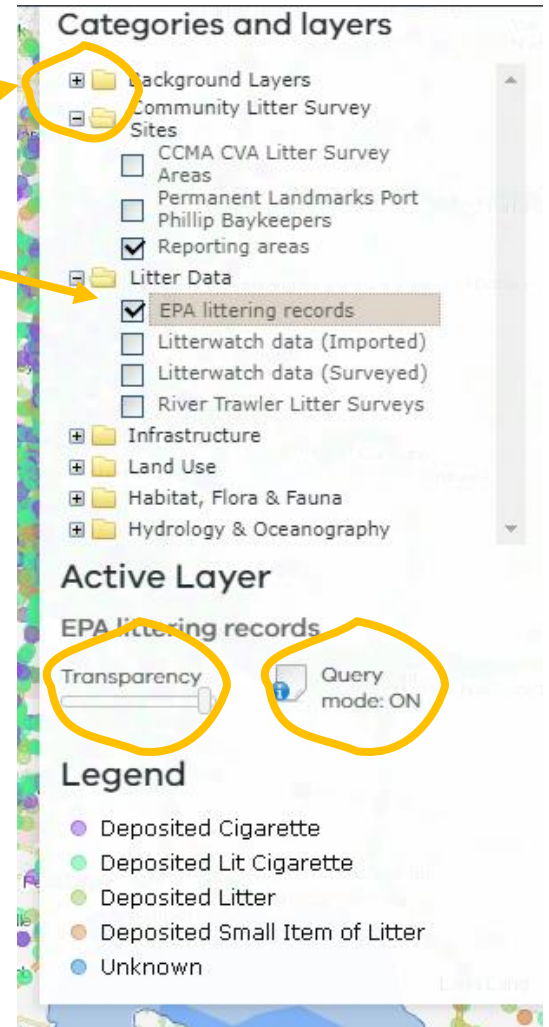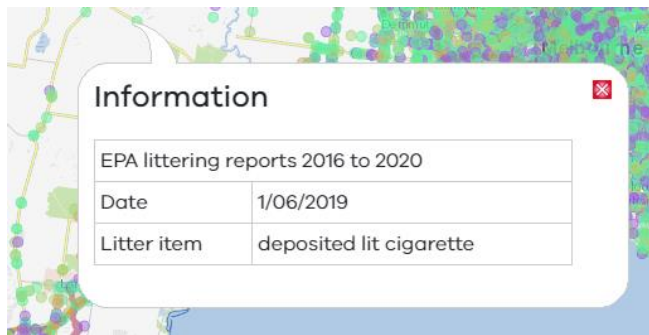
Some layers have further information about the source and the information being displayed.

This will be shown as a "i" in a grey circle next to the name. Click this for more information.

OFFICIAL
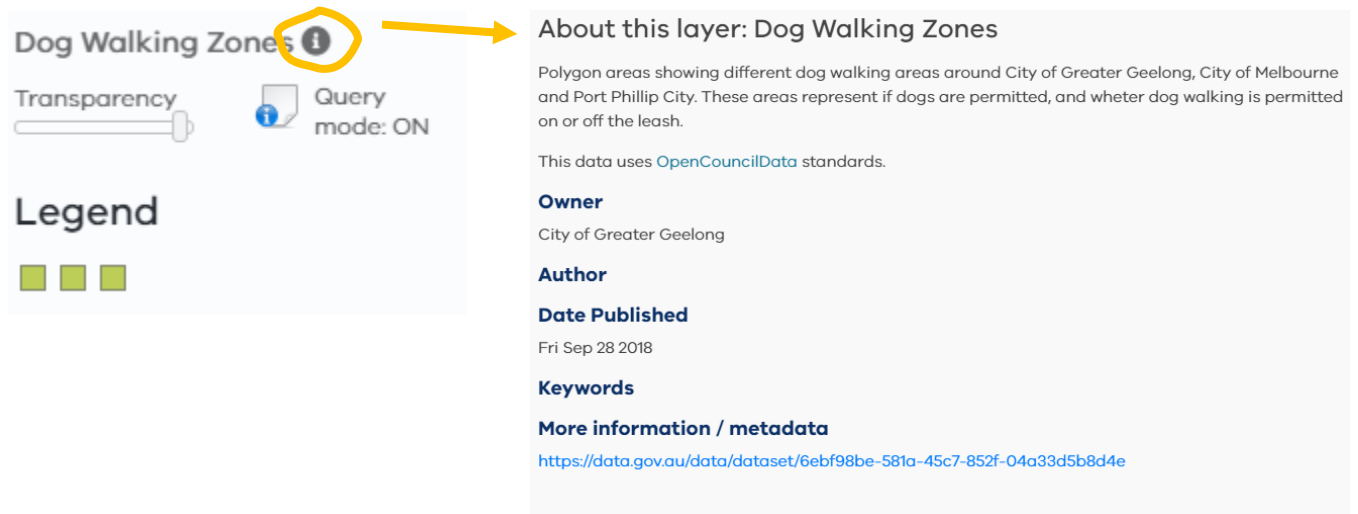
You can also turn on aerial imagery using this menu.

Litter data

The litter data folder holds the litter records.

EPA littering records are reports of littering from a car or vehicle.

Litterwatch data (imported) is data from before LitterWatch was live that has been bulk-imported into the system.

Litterwatch data (surveyed) is the data people have entered directly into LitterWatch, using the process explained in this user guide.

River Trawler Litter Surveys were undertaken by the Port Phillip EcoCentre in the Maribyrnong and Yarra Rivers. Because this data is from trawling the river, it is displayed as its own graphs on the left-hand side.
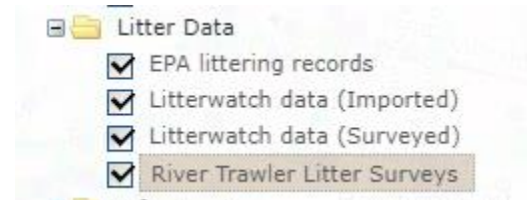
See more about how to view and download graphs in the [Analysing and Reporting section of this document](#).

Map tools

If you turn on multiple layers you can change which one is on top via **'Tools'** in the menu bar.

Drag the layers to change the order. The layer on top will overlay and hide parts of the layers below. In the example to the right, the Litterwatch data (Surveyed) are red points, and these are shown on top of the orange points of the LitterWatch data (imported) and the colourful points of the EPA littering records.

You can zoom to an address using the Address Search bar.

You can also measure distance using the three tools at the bottom.
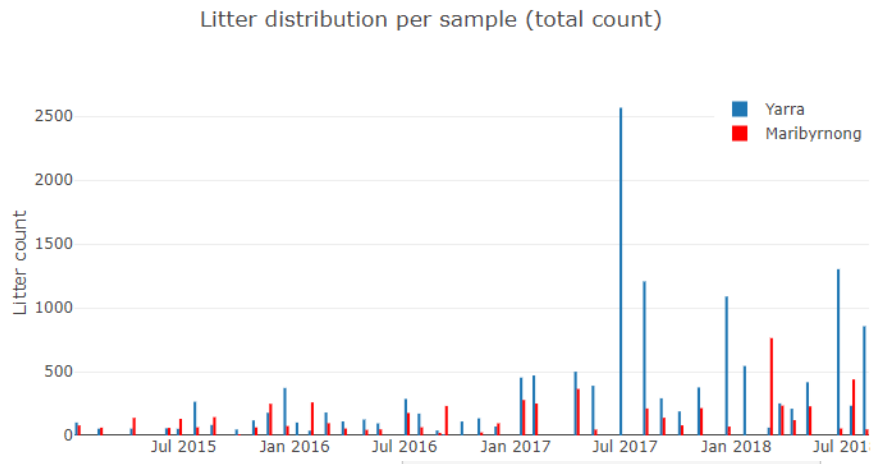
Select the hand tool to move around the map.

Select the middle ruler to measure lines. Single click on the map to start and change direction of the line, double click to finish. The measurement will be shown to the side.

measure: 11.455 km

The end ruler lets you measure area. Single click to start and to make your shape. Double click to end and the area will be displayed.

Measure: 199543.14 m² (19.95 Ha)

Click back on the hand to stop measuring.

These measurements will not be saved anywhere, so please write down any information you need.

Saving maps

When you have clicked on the layers you want shown and zoomed in to display the location on the map you are interested in, you can now save the map.

Use **'Save'** in the menu bar to save or share an online link of the current map. This will keep all the layers you have turned on and where you have zoomed in.

This is a quick short cut if there are some layers you want to look at another time, without needing to reselect them.

You can copy this link, or you can press the orange **'Share'** button at the bottom. This will let you share it via social media, emails and other applications.

You can print a pdf of the map using **'Print'** in the menu bar.

First, enter a Map title, which will display on the pdf, and choose what orientation and size. The press the **'Create PDF for printing'** button. The PDF will download to your computer.

The legends of the layers you have selected (ticked) will all show at the bottom of the page, so turn of any layers you don't need to see before creating the PDF.
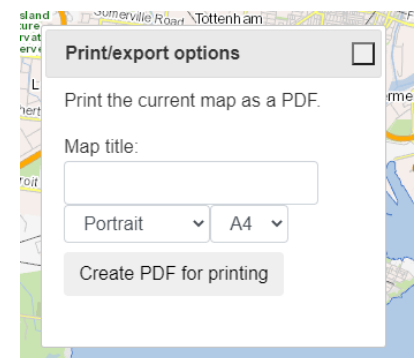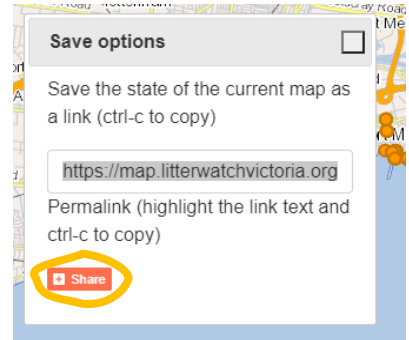
Analysing and Reporting

The Analysing and Reporting area can be opened via the **'Reports'** button on the tool bar or by selecting the 'Analyse and Graph data' link in the box on the left-hand side. The options and results of the analysis will display on the left-hand side.

Litter Reports

Litter reports can be run for Groups, Local Government Area (LGA) or by Catchment Management Area (CMA).

This will change the options available in the first drop down box.

Every time you change your selection press the blue **'Report'** button to update your results.

Let's look at the Group "Friends of Merri Creek".

Change the drop-down menu and press report.

This will display a graph and a table (you may have to scroll down to see this).

OFFICIAL

You can also display data from a single year or season, using the dropdown boxes at the top. Below, we have selected Summer 2021", make sure to press the blue **'Report'** button to update the graph.

If it looks like there is no data in your graphs, it may be because surveys were conducted in very small areas or in areas with clumped litter. You can exclude zero counts using the check box, make sure to press the blue **'Report'** button to update the graph.

This is now excluding all zero counts from the data graphed so will not be displaying the real data for the site. Make sure you make this clear when using the graph or table for reporting or communication purposes.
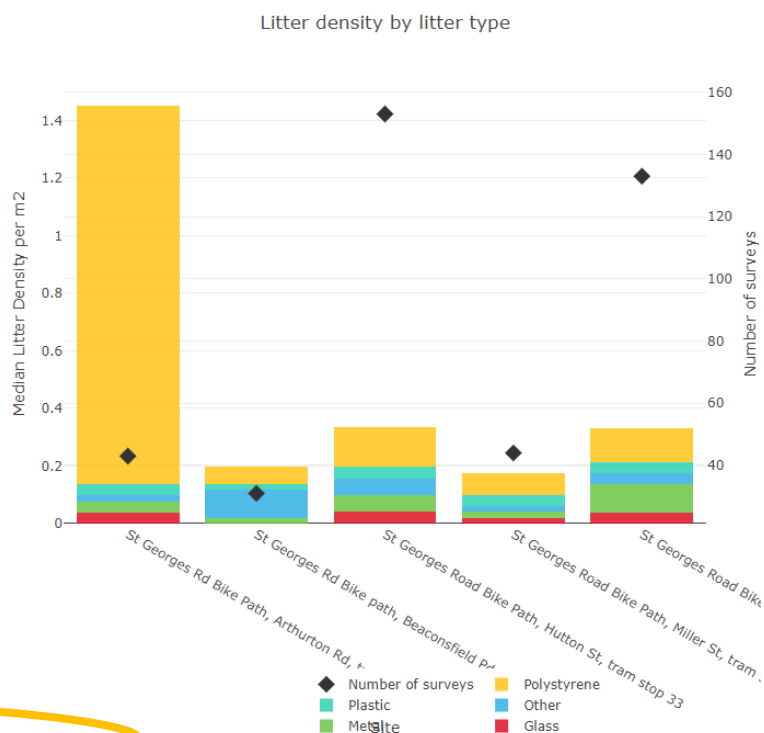
Graphs

The graph is Litter density by litter type. This displays the number of litter pieces per metre squared for each level 1 category: Polystyrene, Plastic, Other, Metal, Glass.

It will also display the number of surveys, shown by a black diamond and using the right axis.
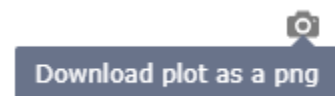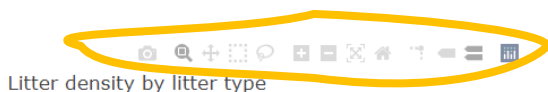
It will only show data for the Reporting Areas for the group.

See earlier in the document for more information on Reporting Areas.

To save this graph, hover your mouse over the graph which will display a menu at the top of the graph.
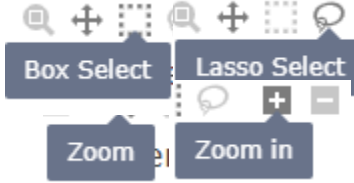

Hover over the menu buttons for more information.

The first one will download a picture file (png) of the graph.

You can save just part of the graph by selecting it using Box or Lasso Select.

This will highlight part of the graph and show the rest as transparent.

Zoom lets you draw a square to zoom in to the graph.

There are also plus and minus to zoom in and out.

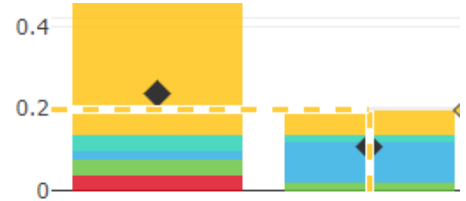Use Autoscale or Reset axes, to go back to the original size of the graph.

Pan lets you move up or down, left or right around the graph.

Toggle Spike Lines, lets you look at where data falls on the axis.

This will not display when you save graphs. Using the spike line we can see that the second bar shows a median of 0.2 items of litter per metre squared.

When you hover over a point on the graph you can view the actual numbers per category and surveys. This data won't display on the graph you save.

You can either view all the data for that Reporting Area (**Compare data on hover**).
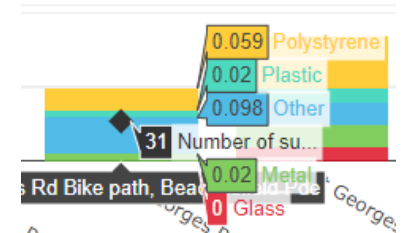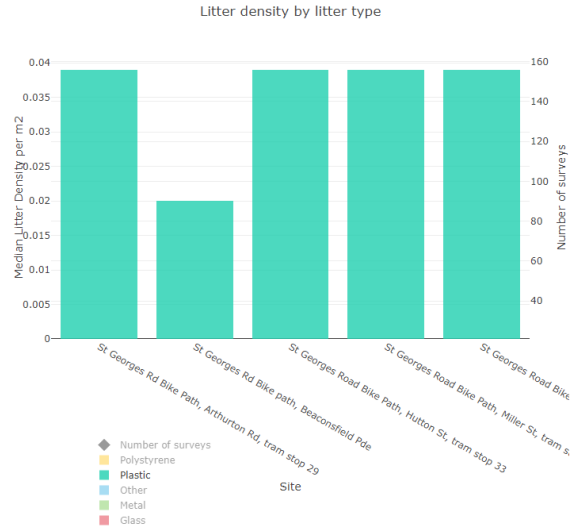
Or you can change this to just display data on the data you are hovering over (**Show closest data on hover**).

If you only want to see some of the data, you can turn it off and on using the legend.

Here I have selected just plastic, which will now give me a graph that looks like this.

OFFICIAL

Litter density by litter type

Table

Scroll down past the graph to see the table of top 5 litter items at the level 2 category on median per metre squared.

Top 5 litter items (level 2 categories)

#	Type	Litter	Density ⑦	Total
1	Plastic	Cigarette butts	0.59	524
2	Glass	Other glass & unidentifiable pieces	0.29	152
3	Plastic	Food wrappers (soft includes metallic type) chips, confectionary etc.	0.27	177
4	Plastic	Unidentifiable fragments (hard & soft)	0.16	189
5	Polystyrene	Other polystyrene	0.14	138

The table shows the # (ranked number from 1-5), the type (litter category type at level 1), and the litter item (litter category name at level 2), the density (median per metre squared) which is where the ranking comes from, and the total number of the litter item.

Note the total number may be higher for other items, but this table is ranked by median litter count per metre squared.

Changing the season, year, Group/location name and excluding zero count at the top will change this table as well as the graph.

To save the table you select and copy (either control+c on the keyboard or mouse right click and choose "copy") this will the paste as a table like the below.

Or you can use a tool to take a "snip" or screen shot or the table to use as a picture file (like the above).

Top 5 litter items (level 2 categories)

#	Type	Litter	Density	Total
1	Plastic	Cigarette butts	0.59	524

31

2	Glass	Other glass & unidentifiable pieces	0.29	152
3	Plastic	Food wrappers (soft includes metallic type) chips, confectionary etc.	0.27	177
4	Plastic	Unidentifiable fragments (hard & soft)	0.16	189
5	Polystyrene	Other polystyrene	0.14	138

Report by location

The report by location tool summarises information for a selected area from some of the spatial datasets compiled in LitterWatch. It provides administrative and background information for a particular site.

To generate a report for an area choose a drawing tool from the box; either draw a shape or click a point and a buffer will be used. Make sure to zoom in to get results for a particular area.

Here, I have drawn around a Reporting Area at Portarlington.

For this site you can view the Local Government Areas, Public land reserves, Planning zones, Planning overlays, Bioregions, EPA littering records and Suburb Population.

If there are multiple results you can view them by selecting the green button to open a new window.

Save this information by copying and pasting or selecting and printing to pdf. See the table of Public land reserves for this site below.

Name	Reserve type	Organisation	AREA Ha
PORTARLINGTON FORESHORE RESERVE	COASTAL RESERVE	COM Local	3.1036839737
PORT PHILLIP BAY COASTAL RESERVE (COM)	COASTAL RESERVE	COM	29.5643538583
		PARKS VICTORIA	0.0075937372
PORTARLINGTON PUBLIC RECREATION RESERVE	RECREATION RESERVE	COM Council	38.2219194927

OFFICIAL

PORTARLINGTON FORESHORE RESERVE	COASTAL RESERVE	COM Local	7.2886996793
		COM Local	10.7566159905
PORTARLINGTON FORESHORE RESERVE	COASTAL RESERVE	COM Local	4.2739796069
PORTARLINGTON PIER (ADDITION)	PORT AND COASTAL FACILITY	PARKS VICTORIA	10.7911920145
PORT PHILLIP BAY COASTAL RESERVE (COM)	COASTAL RESERVE	COM	4.0474640345
PORTARLINGTON FORESHORE RESERVE	COASTAL RESERVE	COM Council	0.6125851884
PORTARLINGTON PIER	PORT AND COASTAL FACILITY	COM PARKS VICTORIA	6.5851828615
PORTARLINGTON FORESHORE RESERVE	COASTAL RESERVE	COM Local	0.1438781619

Use the yellow **'Clear'** to clear the report.

Clear

Frequently Asked Questions

We have answered some of the commonly asked questions here. If you still have any questions, contact your group administrator or email LitterWatch.Victoria@delwp.vic.gov.au

Why are cigarette butts under plastic?

There are quite a few datasheets that include cigarette butts under paper, but the reality is most cigarette butts are now made of plastic (cellulase acetate), which is why they're under plastic in LitterWatch.

How should I count broken items or pieces?

If you can recognize what the item was, then record it as x1 of that item. For example, if there is broken glass you can clearly recognize as a broken wine bottle, then this should be recorded as x1 Glass> Beverage Bottle> Wine & spirit bottle, you can use the description box to record if it was broken and how many pieces if this is of interest. If these broken pieces aren't clearly an item that you can identify, they can be counted and recorded under Glass> Other glass & unidentifiable pieces> Unidentifiable broken pieces.

If you find a hard piece of plastic that clearly comes from a beverage bottle, that should be recorded under Plastic> Beverage bottles> Lid and lid rings only. If it is a hard piece of plastic that you can't tell what the item was record in the appropriate size class i.e. Plastic> Microplastics> Hard plastic pieces <5mm.

Broken items that can be identified are counted as a single whole item to ensure we don't lose important information about what the item was, and therefore where it may have come from.

What are microplastics?

Microplastics are tiny plastic particles, less than 5mm in length, that result from commercial product development or the breakdown of larger plastics. When deciding what size items are, use the longest length, i.e. if something was 10mm long and 2mm wide then it would not be a microplastic. Certain

OFFICIAL

community groups have dedicated methods for measuring microplastics e.g. Port Phillip EcoCentre (More details can be found https://ecocentre.com/).

How do I get involved with litter clean up groups?

Victoria has a strong history of environmental volunteering, with volunteers contributing enormously to improving our environment, our local communities and our economy. Check out the groups signed up to use LitterWatch Victoria: Portal - LitterWatch Victoria.

Find a map of Environmental Volunteering opportunities on DELWP's website here: https://www.environment.vic.gov.au/volunteering.