



CITIZEN SCIENCE RIVER/CREEK BANK LITTER AUDIT INSTRUCTIONS



PURPOSE

Reference sites are audited every 3 months and/or after unusually high flow events to track increase or decrease of litter items (particularly plastics) that are known to threaten wildlife and /or human health. River/creek bank audit results are correlated with audits on streets, school ground, river trawls, and on beaches in Port Phillip Bay catchments to identify pollution sources.

VICTORIAN CURRICULUM LINKS

- F-2** Use informal measurements in the collection and recording of observations (VCSIS052).
Use a range of methods, including drawings and provided tables, to sort information (VCSIS053).
- 3-4** Use formal measurements in the collection and recording of observations (VCSIS068).
Use a range of methods including tables and column graphs to represent data and to identify patterns and trends (VCSIS069).
- 5-6** Construct and use a range of representations, including tables and graphs, to record, represent and describe observations, patterns or relationships in data (VCSIS085).
Compare data with predictions and use as evidence in developing explanations (VCSIS086).
- 7-8** In fair tests, measure and control variables, and select equipment to collect data with accuracy appropriate to the task (VCSIS109).
Construct and use a range of representations including graphs, keys and models to record and summarise data from students' own investigations and secondary sources, and to represent and analyse patterns and relationships (VCSIS110).
- 9-10** Construct and use a range of representations, including graphs, keys, models and formulas, to record and summarise data from students' own investigations and secondary sources, to represent qualitative and quantitative patterns or relationships, and distinguish between discrete and continuous data (VCSIS137).
Analyse patterns and trends in data, including describing relationships between variables, identifying inconsistencies in data and sources of uncertainty, and drawing conclusions that are consistent with evidence (VCSIS138).

LOCATION

Any gently sloping section of riverbank or creek bank that enables safe work access. Paths adjacent to creek banks can be surveyed after unusually high flow events.

SAFETY

Before you start: Have first aid kit and gloves on-site. Check the entire site to note possible hazards. Beware of snakes that may be concealed by long grass often found on creek banks.

Warn all collectors: Don't put your fingers where you can't see them!
Do not collect syringes or broken glass.. Do not go on steeply sloping sites where there is a danger of falling into the water.

EQUIPMENT

50m tape measure, 50cm x 50cm (or 50cm x 1m) quadrat, compass, clipboard, datasheet, pen, gloves, collection bucket/s.



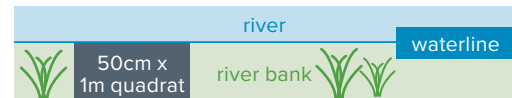


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DETAILED INSTRUCTIONS

1. The data is entered into the Port Phillip EcoCentre's 'Street2Bay' Litter Database.
2. Litter collected from 50cm x 1m quadrats is recorded in the correct column on the datasheet. The first quadrat is located upstream of the stormwater outlet; and the second is located at least 50m downstream of the stormwater outlet.
3. Each quadrat (50cm x 1m) is located on and above the existing waterline at an accessible point on the shoreline where litter is seen to be accumulating. Note: Quadrats can be moved up or down the bank to capture litter accumulated on the high flow strandline.
4. If more of a particular litter type is found in the downstream quadrat it's likely to have come from the stormwater outlet.
5. Note a permanent landmark at the top of the streambank to ensure repeated surveys of the same quadrat area.
6. Describe the permanent landmark (start point) the "Start landmark" field at top left side of the datasheet.
7. Use the 50m tape measure to ensure that the downstream quadrat is at least 50m below the stormwater outlet.
8. At the start landmark, use a compass to find the transect direction to the stream. Record the direction on the datasheet.
9. As you walk to the waterline look for the most recent high flow strandline (usually a trail of leaf litter along the bank).
10. Place the 50cm x 50cm quadrat on the shore to begin data collection. When all litter is collected, flip the quadrat on its end along the shoreline to extend the data collection zone to the required 1m quadrat length.



LITTER COLLECTION TIPS

To save time: Each collector should target a particular item, eg. 'cigarette butts' and collect and count 5 of them before telling the Data Recorder as they put the litter into the collection bag. All litter in audit area quadrats is to be collected, recorded, bagged, and responsibly disposed of.

Note: Do not record litter collected outside the quadrats on the data sheet.

DATA COLLECTION TIPS

Be sure to complete all details at the top of the datasheet. If weather conditions are poor, eg. windy or wet, litter items can be collected in a bucket to count later (under shelter).

The Quadrat 1 column is for data collected from UPSTREAM of the stormwater outlet.

The Quadrat 2 column for data collected from the DOWNSTREAM of the stormwater outlet.

If you run out of space in a quadrat column for a particular item, write the name of the item in one of the blank fields. Any unlisted items found can be recorded in the appropriate column under NOTES FOR EACH QUADRAT.

To save time and space, count one litter type at a time and record the total on the datasheet. If a second data record is needed for an item, put a comma after each entry so it's clear that 5,5 equals 10 (not 55).

FURTHER STEPS

Any questions to Neil Blake on 0409 138 565 or 9534 0670

Email your completed audits to: baykeeper@ecocentre.com

RELEVANT LINKS

[Port Phillip EcoCentre](#) | [CSIRO](#) | [LitterWatch Victoria](#) | [Beach Patrol Australia](#) |

[Yarra Riverkeeper](#) | [Werribee Riverkeeper](#) |

