

Corporate Responsibility – Swansea Litter Survey Protocol

January 2024

Introduction

This fieldwork will combine both the Strategic Management for Conservation (ACBA7007) module and the GIS and Remote Sensing modules. Together, the topic of corporate social responsibility (CSR) will be investigated, specifically related to the issue of littering in the Afon Tawe (River Tawe) estuary area. Utilising cloud-based mobile GIS, the users will identify and map the locations of litter in and around the Tawe estuary, recording the attributes of the litter identified. This data can then be subsequently analysed to help determine which industries, and where possible, which businesses, and subsequently consumers, produce the majority of litter in this area. By identifying these industries, the topic of corporate responsibility can be developed.

During this fieldtrip, cloud-based mobile GIS data will be captured using the Mergin Maps software. In groups combining the two cohorts, students will walk along both the Tawe river side, within the SA1 development, and the dune system to the west of the mouth of the Tawe, and capture the location and details of any litter found. Specifically, in addition to the GPS location, students will also attempt to capture attributes of the litter itself which can later be analysed in relation to the types of litter and the corporate origin (where brands can be identified). The resulting geospatial dataset (vector data points and associated attribute table) can then be analysed further.

Mergin Maps project

A GIS project, containing both contextual basemaps and point vector survey layer have been created in QGIS and uploaded onto Mergin Maps for this survey. The survey link, to the project “Litter_Sampling_Jan2024” has been shared with students, and can be accessed via the Mergin Maps mobile app.

To download the project:

1. Open the Mergin Maps app
2. Select ‘Projects’ in the lower menu bar
3. Select the ‘Download’ option next to the ‘Litter_Sampling_Jan2024’ project
4. Once downloaded, click on the project name to take you to the mapping page
5. To add a new record, click on the ‘Record’ icon
6. Either manually select a location on the map, or click on ‘GPS’ to use the current GPS position.
7. Click ‘Add’ to record a new point at the selected location
8. Complete the data entry table with the following protocol

Data capture protocol

To ensure a consistent data sample, adhere to the following protocol.

- Firstly, ensure you are stood over / next to the litter.
- While outside, check the GPS accuracy of the sample location by clicking on the GPS accuracy value (the value in metres above the 'Litter_survey_points' box. Ideally wait a few seconds to ensure that the GPS value is relatively stable and within an acceptable distance (ideally below 3 metres).
- Once 'Add' has been selected and the data entry table has popped up, complete all of the fields (where possible).
- The data fields are as follows:

Fid	Integer
Datetime	Date Time (YYYY-MM-DD HH:MM:SS)
Recorder	Textstring (3 char)
LitterType	Textstring (20 char)
LitterMaterial	Textstring (20 char)
LitterBrand	Textstring (20 char)
LitterSize	Integer

- Note, the FID attribute will be automatically assigned.
- The Datetime attribute can be entered manually, or selected from the diary symbol (recommended option)
- For the 'Recorder' option, the surveyor should enter their initials of their first, middle, and surname. For example, 'JFK' for John Fitzgerald Kennedy, or 'JKR' for Joanne Kathleen Rowling.
- For LitterType, select one of the below options:

LitterType
Food
Drink
Fishing
Industrial

- For LitterMaterial, select one of the below options:

LitterMaterial
Plastic
Metal
Paper / Card
Fabric
Other

- For LitterBrand, specify the brand if it is identifiable. For example, a Coca Cola, regardless of if it is regular or diet, would be 'Coca Cola'.
- For LitterSize, select the closest area to the closest centimetres squared in 10cm² intervals. For example, a plastic container 20cm by 40cm would be '800', whereas a coffee cup, roughly 15cm by 20cm would be '300'.