



**Litter Intelligence  
Data Governance Working Group  
MINUTES**

**DATE:** Wednesday 23 September 2020

**TIME:** 12 - 1:30 pm

**Attending:** Amanda Valois (NIWA), Camden Howitt (SC), David Harris (StatsNZ), Emma Hill (DoC), Rick Leckinger (BATK), Shawn Elise Tierney (SC) Heike Schiele (PPPC)

**Apologies:** Ben Knight (SC), Christine White (KNZB), Sandy Britain (SC)

Meeting begins 12:08pm

Review of Actions:

**ACTIONS FROM THIS MEETING**

ACTION	Owner	Status
Circulate TOR for signatures by members.	SET	
Methodology session for stormwater/freshwater monitoring	Heike/Amanda/Cam	In progress
Discuss how to go about survey verifications at next methodology catch up	Cam/Amand/Heike	In progress
Ask Developers to quote a "is this a re-audit?" tick box for ad-hoc to use for QAQC. Also explore the best way to link re-survey to original.	SET	
Share QAQC spreadsheet.	Amanda	
Circulate QAQC document for approval from everyone before operationalising.	SET	
Circulate ' <b>Proposal on survey area set up</b> ' methodology change over email for final comments and approval.	SET	
Invite everyone to Facebook Citizen Scientist group	SET	<a href="#">At this link</a>
Include in CitSci training to add dumping food or organic items in the comment field	SET	
Design new version of data sheet, update categories/keywords, and circulate.	SET	



Brief and quote edit audit data functionality with developers.	SET	
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## 2. Review of Working Group Terms of Reference

1. Available for review [at this link](#).

**ACTION:** Circulate TOR for signatures by members. (Shawn Elise)

## 3. Discussion on new DGG members from PPPC.

1. Will ratify new members or discuss the vote, depending on results from the [poll](#).

### DISCUSSION

- DGG voted YES to include PPPC in the group.
- Welcome to Heike & Heather from PPPC, who will share a seat. Heike introduces PPPC initiatives.

## 4. Review / Approve Minutes from Last Meeting

[LINK TO MINUTES HERE](#)

### DISCUSSION

- Amanda motions to approve minutes; Rick seconds.
- Cam clarifies that minutes, once approved, are added to the Litter Intelligence website.
- Heike is pleased to see the transparency and how everything links together.

## 5. Full QA/QC process.

1. SC has drafted our recommendations for full QA/QC processes. Please review the [document here](#) and add your comments prior to our meeting.
2. Discussion of any comments / questions. Once this is complete, we will publish this on the LI website.

### DISCUSSION

- Councils have requested QAQC from us.
- Need to develop an error rate.
- David from Stats: "We will want this to be shared. Open Data principle is very important to everyone. QAQC methods and practices are of critical importance to have trust and confidence in data, so we know how this was done so everything is visible."



- Rick points out that it is best to re-survey the same day
- Amanda has lots of QC info but the challenge is where to store it.
- Heike & Amanda are working to develop a methodology for Stormwater auditing with LittaTraps.
- SC has been working with NIWA and AKL Council funding to integrate freshwater and stormwater into the tech. We were not funded to develop the methodology.

**ACTION:** Invite Cam to sit in on methodology session and weigh on if the technology works with the methodology. (Heike/Amanda)

- Amanda points out that there are around 120 LittaTraps going out through Councils within the next few months. "If we have a standardised methodology from the outset we'll be looking really good."
- Discussion on verifications
  - Amanda wonders how we can operationalise this. Can we nominate others to verify?
  - Cam points out that this would form part of a formal monitoring programme and methodology, and so should be incorporated into this piece of work. We will build a Train the Trainer programme as well.

**ACTION:** Discuss how to go about survey verifications at next methodology catch up (Cam, Amanda, Heike)

- Process for Re-surveys and Re-audits: Look at 10% of survey areas and re-survey immediately after the fact.
- David: First level is site checking, then audit (classification/count/weight) checking. Re-do that independently.
- Look at possible collection errors built in to the material class level.
- As Amanda says, if we have that over a wide breadth of sites, we can have an idea on the differences there might be in that classification. We would want to show that the process works well for discerning the percentage of each material type."
- Useful to have that going all the time as part of the normal process so you again have some assurance of quality of data as time moves forward.
- David urges clarity with participants when we are present for re-audits.
- Clarification of Process: Run "Re-audits" on the same 10% of audits at the Survey Areas we are running 'Re-surveys' at.
- David: For purpose of transparency, we want original counts - 50 of those together, presented as across "# of sites, the difference in plastic category was x total" Don't need to release the individual data, but build up the summary picture.
- Overall goal is to say "from a re-audit we think there might be a x% difference in the 'plastic' count."



- Cam: We could use the ad-hoc feature for re-audit. Those don't automatically appear on the database and therefore are not double counted so long as they are not verified. But they will be available for us at the back end to download. That could create an opportunity to download and produce a report.
- David: Is there the possibility the system is able to create an audit capture? For simplicity sake, to make the labels as clear as possible.
  - Could explore a tick box that asks "is this a re-audit?"

**ACTION:** Ask Devs about a "is this a re-audit?" tick box for ad-hoc to use for QAQC. Also explore the best way to link re-survey to original.

- David: On an annual basis would be a real nice to have because it would give us an idea if the error rate changes over time.
- Amanda suggests bi-annual.

**ACTION:** Amanda to send her QAQC spreadsheet.

- Rick has not tried to calculate an error rate. Used to feedback to the team on if errors came from methodology, technology, training, etc. "We noticed where we were getting holes and adapted training."
- David: "If the data is to be used in a national reporting context we want to know the limitations. It would make the data even stronger to know the extra layer of its error rate."
- Discussion on Re-factoring the database:
  - Rick proposes to discuss another element of: how and when it is appropriate to re-factor the database because significant changes have been made to categories.
  - If something is specified in "other" and then a sub-category is created that captures that, Rick has moved it to the new category, so the database is live but more accurate to the latest set of categories. If he can't figure it out, he doesn't change it.
  - Quality Control issue as to if/when we do that - what would justify it.
  - Rick notes we must be methodical and that we don't want to do this very often.
  - David: Are the changes mainly from Other to specific categories?
  - Rick: Primarily driven by "other" to more specific categories.
  - David: In the context of long-term reporting it has less impact.
  - Rick: Right because sub-categories collapse. I never do a knee-jerk change, has to be thoughtfully applied. There are risks every time you re-factor.
  - To date SC has not re-factored the database or made changes to audit data. Included later is a proposal on a verification process on changing litter categories.



- David would be a big supporter of freshwater stormwater space to have QAQCs as well. If all the datasets can be related to each other this will be very useful to the country.
- Heike is keen to understand how this could apply to stream scenarios.
- Shawn Elise wishes to clarify if re-audit is done at material class level vs sub-categories.
- David notes that material class is the highest level to look at to start with. SC will progress re-audits based on this.
- Amanda often reports how counts and weights differ to each material class, and then top 3 contributors to that.

**ACTION:** Circulate QAQC document for formal approval from everyone. Then operationalise.

## 6. Review of Current Methodology and Litter Categories:

### 1. Methodology Change Proposals

- a. Proposal on survey area set up [at this link](#). Please review the proposal and add your comments prior to our meeting. Discussion of any comments / questions.
- b. Proposal to edit audit data after submission & verification [at this link](#). Please review the proposal and add your comments prior to our meeting. Discussion of any comments / questions.

DISCUSSION on a: Proposal on survey area set up

- Emma & David will email comments in writing.
- Rick notes that the proposal makes sense, and as someone with no investment in the outcome, it was really clear what was being proposed and easy to say “yes” to.

**ACTION:** Circulate ***‘Proposal on survey area set up’*** over email for final comments and approval.

DISCUSSION on b: Proposal to edit audit data after submission & verification

- We have not changed data after submission to date.
- Shawn Elise explains verification: call or email with lead data collector to confirm the size of area and audit data entered correctly. Size & location of area, number of collectors and time spent can be amended by SC staff. We do not edit audit data but do log any errors/omissions.



- Heike queries how have you overcome the unreliability of GPS system?
  - Cam: There is a function in the tech to describe start & end point.
  - SET: Memory of CitScis and using landmarks/description.
  - Rick: Most GPS will give you an error rate. I capture error rate at every site to make sure it is less than 5m.
- David: if you have found an error and can change it, definitely do. That's what we do with data that comes into the Environmental Reporting programme, the first step is cleaning so that removes mis-classification.
- No further comments: **Proposal Passed**. This will require technology changes which will need to be scoped and quoted before implementing.

**ACTION:** Brief and quote this functionality with developers.

## 2. Category & Keyword Review

- a. Categories and keywords have been renamed and moved based on the decisions made at the previous meeting.
- b. **Want to request any changes? Refer to this document** and add in your comments in the column with your organisation name before the meeting. Make sure you're on the first tab, aptly named "[Feedback on this tab](#)"
- c. Submission from PPPC: "As we are working towards National Standards, PPPC have reviewed current litter categories used in Palmerston North with a view to adjusting them to the agreed current standard. Most adjustments will be quite easy to be made. However, as we went through the process we found a number of categories that we would like to discuss some more at the next meeting as [this proposal](#)."

## DISCUSSION

- Voted "no" on splitting out glow sticks to their own category. All other suggestions passed.
- Discussion of recording organics, specifically food dumping, which has ramifications for pests.
  - Cam suggests recording its presence without auditing it.
  - Rick points out that it is litter according to the act and should be counted. He uses Other:Other for green waste.
  - Heike is mainly looking at food waste, with some green waste
  - Amanda would like people to comment if they are seeing dumping. Then we can review comments to see what else we can add.

**ACTION:** Include in our training to add dumping food or organic items in the comment field. Be specific!



**ACTION** Invite all to FB Citizen Scientist group

- Heike proposes for next agenda to discuss hazardous items.

### 3. Changes to Printed Data Entry Sheet

See at this links a proposal for a [Revised audit data sheet](#) and [Litter category list](#). The proposal is that we shift from the [existing audit data sheet](#) that contains the full litter category list (with spaces for data collectors to write down item counts & weights) to a separate data sheet & category list. Data collectors can refer to the category list when categorising litter and then they write down this info onto the blank litter audit data sheet.

This will allow multiple entries of the same litter category (which the current data sheet doesn't easily accommodate), more room/bigger cells for handwriting audit data into, and will allow the litter category guide to be of a bigger text size and potentially also allow thumbnail images/photos of each category to be added down the track.

The revision also includes the proposed addition of the category codes, eg PL01, to both of the new documents to aid data collectors in the correct categorisation of items, to make it quicker to enter the data into the app and to add an additional check and balance to the categorisation decision making process. This will also make it easier for our team to check in with people as to what litter category they are referring to in phone or email discussion about a categorisation decision. For example, when products/ items that occur in multiple material cases eg 'bottle tops and lids' are in both metal and plastic, if the data collector uses the category code it is immediately clear what item they are referring to.

### DISCUSSION

- Review of documents.
- Amanda, Rick & Heike use paper data sheets.

**ACTION:** Design new version of data sheet, update categories/keywords, and circulate.

### 7. Governance

1. Data Sharing & Collaborator Agreement is at final stages NIWA and Auckland Council. This covers off terms and principles of collaboration. After this we will create a more generic version and circulate.
2. Technology and methodology change [template is here for ease of access.](#)



## **8. Platform/Technology Updates:**

1. "Monitoring Sites" parent field has been removed so we just have the "Survey Area" structure. This was made to simplify data entry and analysis.
2. "Monitoring Groups" are now objects/entities in the Admin system. "Users" and "Survey Areas" can be assigned to these groups.
3. Data download changes:
  - a. All categories now included (categories with '0' items recorded previously did not appear).
  - b. Columns added for Total Survey Hours, Total Audit Hours, UNEP product category codes.
4. Artificial Intelligence image recognition software is now in the web app, allowing users to 'train' the model to better recognise item count and category during the audit process.

## **9. Platform Next Steps:**

1. Insights page redevelopment. MVP due for release early October.
2. Freshwater / Stormwater release.

## **10. General Business:**

1. None.