Litter Intelligence Data Governance Working Group
Meeting Minutes

DATE: Wednesday 11 December 2019
TIME: 10:30 am - 12 pm

Attending: Amanda Valois, Camden Howitt, David Harris, Emma Hill, Krystle Harborne, Oliver Vetter, Sandy Britain, Shawn Elise Tierney
Apologies: Rick Leckinger

Meeting begins 10:33am

1. ACTIONS FROM MEETING

ACTION	Owner	Status
Share minutes of previous meeting to Litter Intel website.	Cam	Done! Here.
Update Keywords & Categories as decided (refer to Appendix A) - Circulate changes	SC	Done
Recirculate post-survey Quality Control Process & ask for comments	Shawn Elise	Done
Share paper on the implications of removing 'Monitoring Sites' and transferring existing metadata from sites to 'Survey Areas' and get quote from developers.	SC	
Brief developers on building Substrate recording at Survey level	Cam & Sandy	
Define what the required substrate fields would be for NIWA.	Cam & Amanda	
(PENDING ITEM BELOW) Share proposal on how to clarify the intended Quality Control Process to see if this aligns with best practice (Answer questions in Section 7, #1-6); Circulate for Comments	SC	
Discuss Operational considerations of Quality Control Process - what minimum & best practice looks like, how to select and to what extent we re-audit, what we do with data, etc	David, Oliver & Cam	Reached out to David.
Share actions & decisions of meeting along with meeting minutes	Shawn Elise	Done.
Propose to developers functionality of Recording of Zeros	Cam & Sandy	To brief
Determine directive for groups who have done surveys longer than 100m for how to proceed in future.	DGG	Pending the decision from DoC.
How to incorporate into the tech a text field to record Citizen Scientist's commentary on each survey.	Cam & Sandy	To brief & quote.

DISCUSSION

Actions covered; no further comments.

2. Review / Approve Minutes from Last Meeting: [Link here](#).

DISCUSSION
Amanda motions to approve minutes. David seconds. Minutes approved.

<mark>ACTION</mark>
Share minutes of previous meeting to Litter Intel website. (Cam)

3. Review of Current Methodology and Litter Categories:

1. **Category & Keyword Review:**

   [Refer to this document, Appendix A](#)

   Please review this spreadsheet and add in your comments in the column with your organisation name before the meeting.

   Note from Amanda: *I would like to add a discussion specifically on the current Litter Categories and how best to resolve differences with different items encountered in land/freshwater assessments.*

DISCUSSION

- Discussion on communicating changes to people about where items have shifted.
  - David: need to be clear about methodology. There will be a break in data when separating categories so there will be work to readdress. Data loses direct compatibility, which is ok, but involves more legwork to combine.
  - David is not concerned about this from a data quality point of view as long as we are clear about changes and when they are made. Goal is an increase in data granularity description.
  - Shifting categorisation is **not a data quality problem.**
- Discussion on Food Wrappers, Soft Plastics & Plastic Cigarette Packets
  - Agreement to move cigarette packaging from cigarette butts to soft plastic fragments
  - Amanda: "I have also been putting bubble wrap and shrink wrap in misc soft plastic"
  - David: "I agree with Food just including Food. Not including Cigarette

wrapping as cigarettes have the toxin impact and getting all data we can on cigarettes is useful.
- Discussion of glow sticks as a separate sub category.
    - So far, 237 items in this category so no change on this item for now.
    - When do we let people create sub categories (like baleage for farmers)?
    - Discussion of plastic construction items
        - Rename "Safety Related" to "Construction and Safety Related" and add caution tape as keyword
        - Include "pipe" as keyword in both "gardening" and "construction and safety related" and allow Citizen Scientists to make the best fit
        - David: "Think it's a good idea to include Construction items clearly. Construction safety = a good category name for the keywords."
    - How do we keyword "consumer plastic" that is used in packaging, such as, for example "blister pack"?
    - Sanitary Items
        - Value to separate biohazard items, such as nappies & bandages, from other sanitary items
        - Toothbrush to move to new category of Personal Care Items
- Sandy clarifies that we are aiming for a universal classification for all groups. Classification should be useful to all areas; groups can be more specific internally

DECISIONS

- New Category of Unidentifiable Soft Plastics PL07.01 (separate from Food Wrappers)
- Plastic Cigarette Packets - to move to soft plastic fragments from cigarette butts (would also include bubble wrap, shrink wrap
- Rename "Safety Related" to "Construction and Safety Related" and add caution tape as keyword
- Include "pipe" as keyword in both "gardening" and "construction and safety related"
- Toothbrush to move to new category of Personal Care Items

ACTION
Circulate changes as google spreadsheet.

2. Post-survey QC process.

 Draft process available here. Please review and add your comments to this document.

DISCUSSION

Would NIWA want to do a similar process? This is currently only relevant to SC but standardisation would be useful.

<mark>ACTION</mark>
Recirculate & ask for comments. (SET)

3. Discussion of integrating Littatrap monitoring in LI platform.

Following on from meeting with SC, NIWA, Healthy Waters, Stormwater 360 on Monday 2 December.

SKIP (postpone for future)

4. Final decision from DoC re minimum 10 items and what to do with existing sites that we have shortened/lengthened.

 Following discussion and action point from previous DGG meeting.

DISCUSSION

- Refer to Cam's email with Emma & Shane. See Appendix B
- Genuine zeros are helpful result but need to represent a true zero showing the litter load on the whole beach
- Out of 262 surveys, 17 have been extended past 100m. (6%) A few have been under 100m because of either a smaller beach or heavily littered.
- Minimum is 10 items as per DoC adapted methodology (not 10 categories)
- Consideration of additional surveys rather than lengthening survey area
  - Would there a gap between survey areas and does it need to be a certain size?
  - Would need to reset equipment & record data again.
  - Tech constraint of not being able to start a new survey until audit of existing one is completed.
  - Operational considerations - not always safe/possible to extend; Operational decision, "if you *can,* then extend to 300m"

- - Considerations: Operational first, data transparency 2nd, but consistently applied.
    - Variable measurements gives us an extra issue to deal with the data set.
  - David: "We are selecting a representative transect." David favours the 1 extension rule, it is easy to apply & understand and takes away the variety. "If there is a departure from the standard, this needs to be clear."

DECISION: Prefer extension over creating new areas. It's ok to record a survey with less than 10 items. If less than 10 items are found, and you can extend to 300m, do so. If you cannot extend to 300m, do not extend at all.

5. Integration of substrate recording at 'Survey' level.

Currently approved by Shane, pending feedback from David (Stats NZ), over email from Camden.

DISCUSSION

- Refer to recent email from Shane. See Appendix C.
- KNZB also records this info. (does BATK?)
- Amanda doesn't need CitScis to record data that already exists in other data sets.

==ACTION==

Brief developers on building Substrate recording at 'Survey' level. (Cam & Sandy)
Define what the required fields would be for NIWA. (Cam & Amanda)

6. Removal of 'Monitoring Sites' and transfer of existing metadata from sites to 'Survey Areas'.

Some background: Monitoring Sites are a relic of a previous requirement for 3 Survey Areas per Monitoring Site. At this stage they are not relevant and cause confusion and another level of administration for programme administrators (SC). Moving forward there are advantages to collecting data at the more precise Survey Area scale only, however current Monitoring Site meta data will need to be incorporated into our technology and our training, so that Citizen Scientists can collect it.

The question that follows on from this is: **Can we allow trained Citizen Scientists to set-up new 'Survey Areas' without SC having visited the site for additional 'site-specific' training.**

DISCUSSION

- The questions we need to answer are:
  - How much meta data do we need?
  - Can CitScis collect this data?
  - What tech is needed?
- NIWA has CitScis record data on survey area and Amanda then looks upstream for data on catchment area.

<mark>ACTION</mark>
SC to write-up a paper on the implication of removing monitoring sites, quote from developers and then propose to DGG

7. Clarifying the intended Quality Control process.

Interested in the Group's thoughts (and clarification from DoC / Stats) on the best process for quality control on our Citizen Scientist's data collection work. The wording in the original DoC I & M Toolbox document is:

*Quality assurance should assess **10% of the total number of transects** sampled per site over the course of the study. Quality assurance should involve the site being immediately **resurveyed** by a second surveyor following the scheduled clearance **to determine if any litter has been missed.** Any litter collected from the follow-up survey can be used to provide an estimate of the error level associated with the survey, and should then be added to that of the main collection (Sheavly 2007).*

However, the discussions we have had at meetings since this document was written have centred on **re-auditing** 10% of the surveyed litter, to come up with an 'error rate' for the citizen scientist-audited litter data. A few questions to help refine this process and make this as practical as possible:

a. Should we focus on quality control on the surveys (as per DoC I & M Toolbox), or focus on quality control at the 'Audit' stage (as per more recent conversations)?

b. If the latter, what % of survey data should be 'Re-Audited'?

c. How do we decide which survey data to 'Re-Audit'? Randomly? Only at sites with higher litter density?

d. Should we focus on all litter material classes or a smaller selection? All litter products or a smaller selection?

e. What should we do with the 'Re-Audit' data?

f. Any other thoughts/guidance?

DISCUSSION

- Amanda identifies 10% of the total material; (10% has been chosen arbitrarily)
- David: to measure data quality: re-audit; to measure data accuracy: re-survey. If there is a change, keep both sets of data. Publish clean data but keep raw data. Keep a record of errors present.
- **The objective is to determine the error rate, not to change the data submitted.** We always want to quantify sample error, non-sample error. Always looking to assess accuracy ie "3% mis-classification"
- Amanda thinks it's super important to publish this so we can see error rate against change over time.
- If this is an indicator in environmental reporting, error rate would be described & quantified.
- David: Both re-survey and re-audit would be nice to understand if (1) all litter has been removed from the survey area and (2) that the litter removed has been audited to a high degree of accuracy. .
- 450 surveys/year would mean 45 re-surveys. Amanda doesn't see a need by councils to do this yearly.
- Combine re-survey & re-audit
- David: we are looking for accuracy and extreme transparency for reporting
- Amanda: we should seek specific funding for analysing QA/QC data.
- Cam: good re-engagement opportunity but will have operational considerations; SC to design operational roll-out.
- David: pitch on good monitoring practice

==ACTIONS==

- David, Oliver & Cam to discuss Operational considerations, what minimum & best practice looks like, how to select and to what extent we re-audit, what we do with data, etc.
- Pending action above: SC to write up what we would like to do (including answer to questions a-f) and share with all members of DGG to review and see if that aligns with best practice.

8. Coastal Types vs Substrate Types

Potential of adding Riverine/Estuarine (in both urban and rural environments) to our existing 4 beach types (rural/open, rural/closed, urban/open & urban/closed coast).

The question is whether the Riverine/Estuarine sites could simply be classified as 'Closed Coast', and whether we can add 'Vegetated' as a Substrate type. This may avoid having to add a new 'Coastal Type', which will expand our workload from 108 sites to an additional 54 sites.

DISCUSSION

- Amanda: mangroves are traps for plastic so that data would be important
- Clarify that we would not be working in water. Would need to be clear on H&S around tides, timing, mud etc
- David: more aligning in substrate conversation is having a finer level of detail on the habitat...in that regard there is nothing conceptually problematic about going into a mangrove.
- This involves adapting UNEP methodology to localised approach, as they recommend.
- Worth the governance group to have time to consider that there is a reason for departure from standard UNEP.

9. Sieves for removing items under 5mm

There is $900 between the 5mm and 4.75mm. Is the Data Governance Group happy for us to go with the cheaper 4.75mm mesh sieves?

SUPPLIER	COUNTRY	APPROX. LEAD TIME	PRICE	Units	Price per unit	Delivery Cost	Total Price
Anping Tinguan Mesh (5mm)	China	?	854.44	50	17.08	663.26	1517.7
Banggood (4.75mm)	China	Approx. 3 weeks ish	617.96	50	12.36	included	617.96

DECISION: Approved by Amanda & seconded by David to use 4.75mm sieves instead.

4. Governance

1. Is using the government Open Data Policy specific enough for our purposes or should we be developing our own?

2. Decision from last meeting was to publish meeting minutes on LI website. Pending approval of previous minutes, at this meeting, SC will do so.

DISCUSSION

Group is in agreement to use the government Open Data Policy.

Group in agreement to publish previous meeting minutes. Motioned by Amanda, seconded by. Krystle.

ACTION:
Will send actions & decisions around with minutes.

5. New Business

Oliver raises a request to not limit our width to 10 metres for future agenda. SC to discuss internally & add to agenda.

Meeting ends at 12:06

Documents Referenced:

Appendix A: Keyword & Categories Document
Appendix B: E-mail from Shane & Emma on the minimum number of items & extended survey area
Appendix C: E-mail from Shane on recording substrates at survey level

List of Decisions:

Category & Keyword Review:
- New Category of Unidentifiable Soft Plastics PL07.02 (separate from Food Wrappers)
- Plastic Cigarette Packets - to move to soft plastic fragments from cigarette butts (would also include bubble wrap, shrink wrap)
- Rename "Safety Related" to "Construction and Safety Related" and add caution tape as keyword
- Include "pipe" as keyword in both "gardening" and "construction and safety related"
- Rename Toothbrush category to "Personal Care Items" and include the following keywords "hair ties, hair brush, hairbrush, hair brushes, hairbrushes, combs, toothbrushes".
- Rename "Strapping Bands" to "Strapping Bands & Tape"
- Rename "Toys, balls & party poppers" to "Toys & sports related"
- Rename "Other Cloth (including rags)" to "Miscellaneous cloth fragments"
- Rename "Wire, wire mesh & barbed wire" to Construction material"
- Remove "Float" as keyword from "Fishing Gear" (and add to "plastic buoys")
- In Plastic Sheeting: spelling of "pallet" instead of "palette".
- Keywords added as noted in Appendix A, column K. New or renamed categories are noted in Column L. Additional changes noted in Column M.

Minimum number of items & shortening/extending survey areas:
Prefer extension over creating new areas. It's ok to record a survey with less than 10 items. If less than 10 items are found, and you can extend to 300m, do so. If you cannot extend to 300m, do not extend at all.

Sieves:
Use 4.75mm sieves instead of 5mm